エチオピア連邦民主共和国

水灌漑電力省

エチオピア連邦民主共和国
アワシュ川中流域
地下水開発計画プロジェクト

ファイナル・レポート

データブック

平成27年12月

（２０１５年）

独立行政法人

国際協力機構（JICA）

国際航業株式会社

ファイナル・レポートの構成

要約

メインレポート

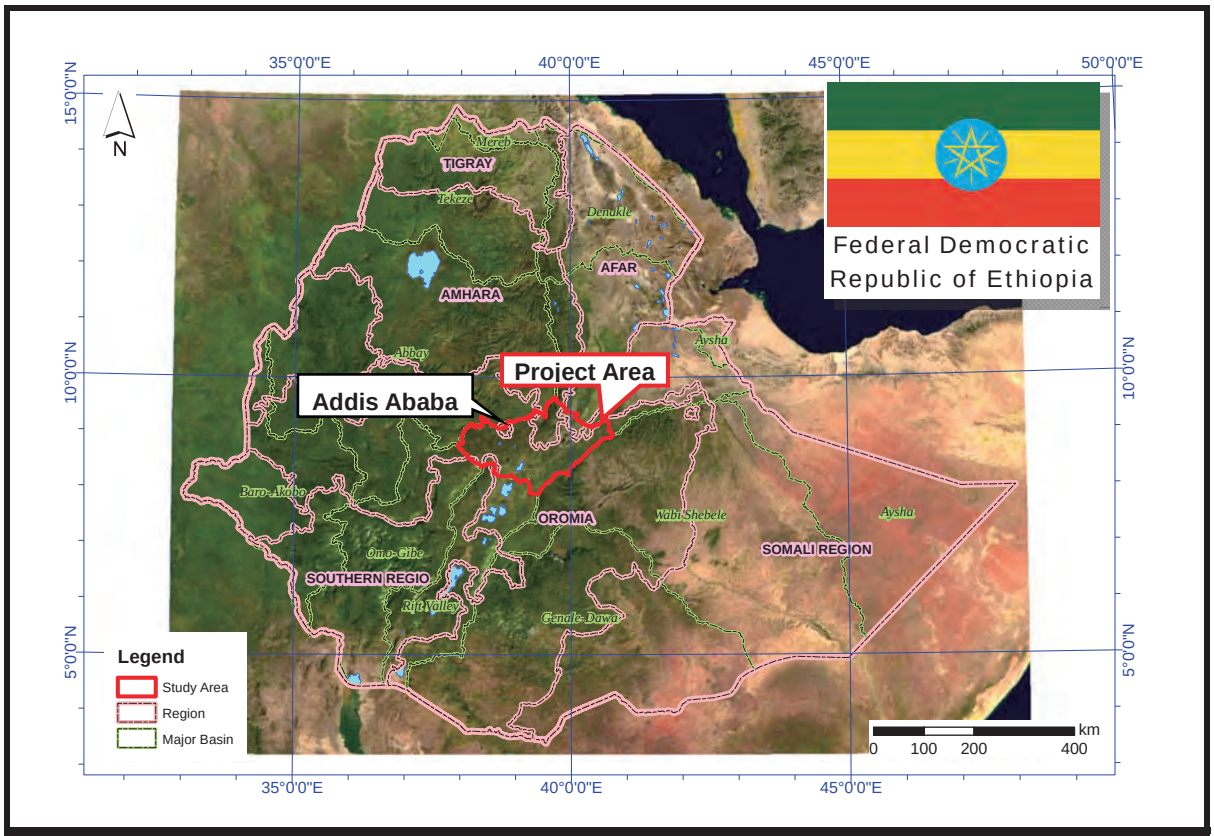
サポーティングレポート

データブック

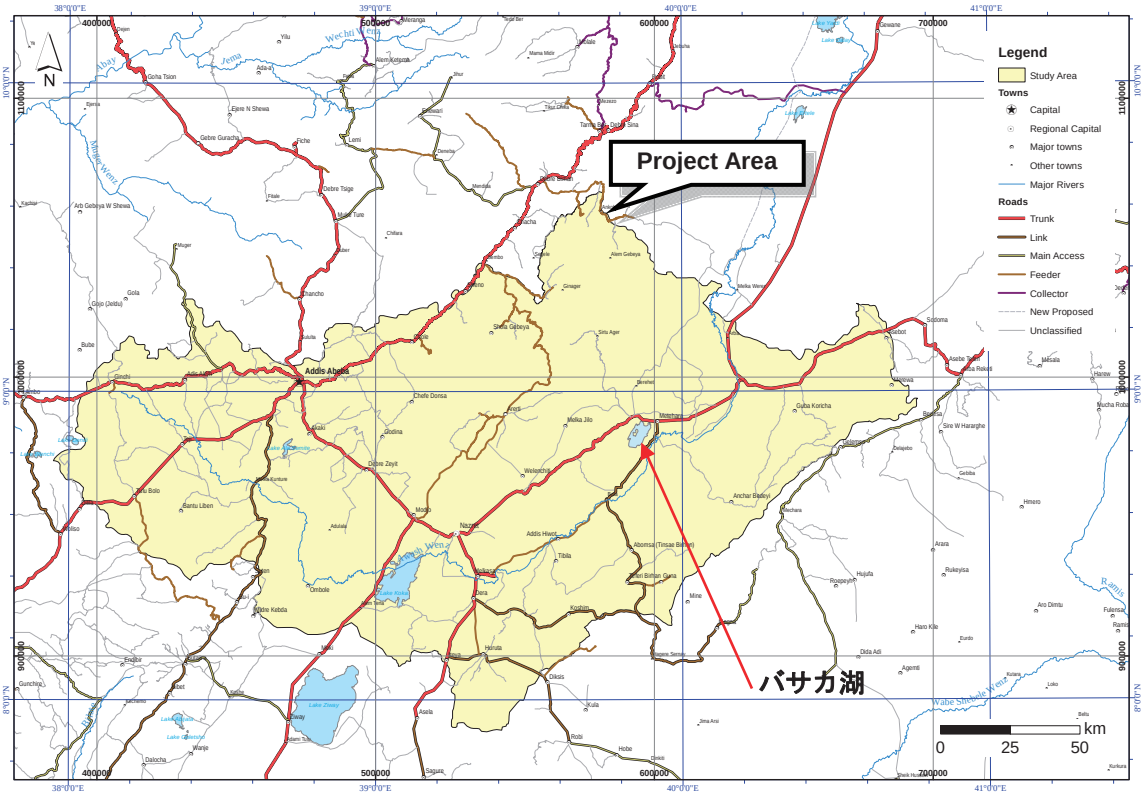
地質図および水理地質図

本報告書は、2015 年 7 月時点の物価水準並びに外貨交換レートに基づき作成されている。採用した外貨交換レートは下記のとおりである。

US$1.00 = ETB 20.6298 = ¥123.80



広域図



詳細図

調査対象地域位置図

データリスト

データ１：　気象水文

気温データ（月ベース）
相対湿度データ（月ベース）
日照時間データ（月ベース）
降雨量データ（月ベース）
蒸発量データ（月ベース）
10日平均流量データ
バサカ湖水位データ（月ベース）

データ２：　水質

エチオピア国飲料水質基準
水質試験結果
水質サンプルのヘキサダイアグラム
AAUによる同位体分析結果
IAEAによる同位体分析結果

データ３：　既存井戸データ

Arsiゾーン
East Shewaゾーン
West Hararge ゾーン
Nazret（Adama）
Amhara州

データ４：　物理探査

垂直電気探査（VES）結果
時間領域電磁探査（TEM）結果
比抵抗構造断面

データ５：　観測井掘削（新規井戸）

掘削地点の基本情報
電気検層データ
井戸柱状図
揚水試験記録紙

データ６：　モデル解析による揚水流量ごとの地下水位低下量予測

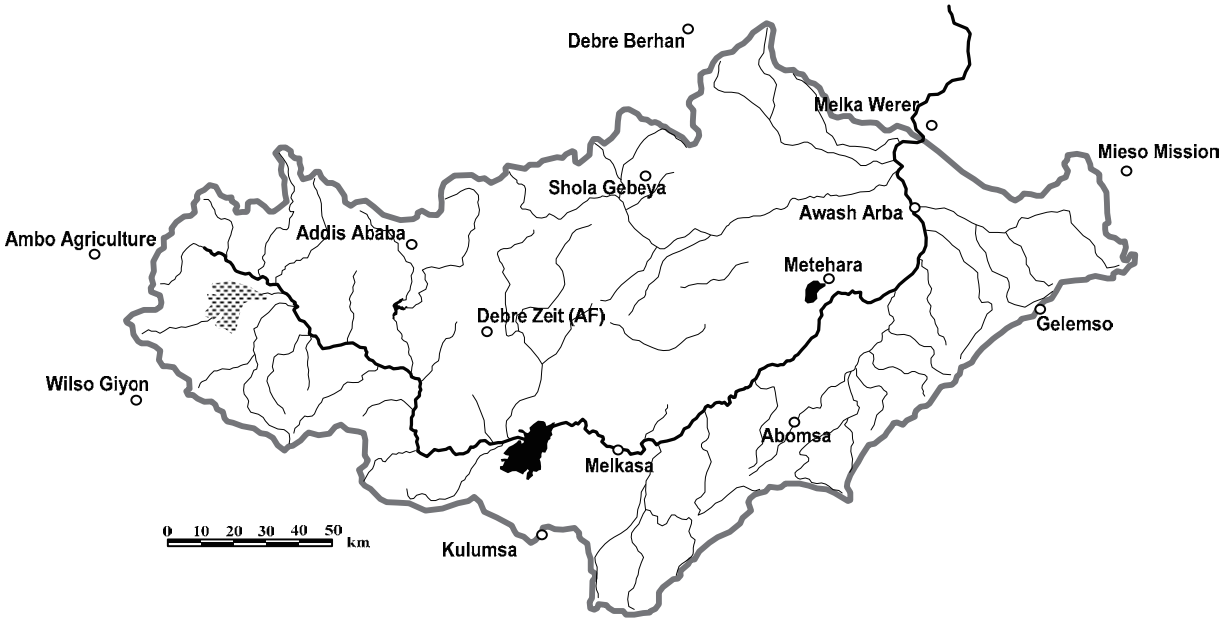
データ７：　小都市プロファイル

データ８：　概略給水計画平面図

データ 1

気象水文

気温データ(月ベース)


Debre Berhan
Melka Weren
Mieso Mission
Shola Gebeya
Awash Arba
Ambo Agriculture
Addis Ababa
Metehara
Debre Zeit (AF)
Gelemso
Wilso Giyon
Abomsa
Melkasa
0 10 20 30 40 50 km
Kulumsa

気温データ(月ベース)

(単位: °C)

観測所名	緯度	経度	標高	項目	年	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
Abomsa	08°28'00"	039°49'59"	1,630 m	Maximum	1977				27.9	28.2							
					1981	21.6		23.5		23.5	31.8	29.6	31.2	30.6		29.7	
					1982	29.4	28.7	29.0	29.2	29.3	32.1	31.8	31.0	31.0	31.0	31.1	31.2
					1985									29.4	30.1	30.2	30.1
					1986	31.2	31.2	29.7	29.1	32.0		30.0	30.2	31.5		28.7	28.6
					1987	29.0	30.6	29.0	27.4	28.7		30.3	30.5	31.4	31.5	30.1	28.8
					1988	27.9	30.2	32.0	29.7	31.3	30.4	27.3	26.1	25.7	26.5	26.4	25.5
					1989	24.9	25.3	28.0	25.6	29.4	29.9	27.5	26.9	26.3	27.0	26.4	24.6
					1990	26.1	24.8	24.7	26.3	30.1	31.3	27.7	26.9	26.8	27.4	27.2	25.8
					1991	27.6	27.2	28.7	28.7	29.8	31.0	27.1	26.2	27.7	28.0	26.7	25.7
					1992	25.3	24.9	29.9	29.4	29.8	30.8	27.2	25.7	25.3	25.6	25.5	
					1993	24.3	23.3	28.8	27.3	27.5	29.8	27.8	27.3		26.5	26.6	25.9
					1994						31.2	27.0	26.9	27.2	27.9	25.6	24.9
					1995	26.3	28.6	27.5	28.2	30.3	32.0	28.4	27.6	27.5	28.5	28.3	27.7
					1996	26.4	29.9	29.2	29.1	28.3	28.5	27.8	27.9	28.0	28.1	27.3	27.2
					1997	26.6	27.9	30.2	28.0	30.8	30.4	27.9	27.2	28.7	26.1	24.6	25.3
					1998	24.9	27.4	28.1	31.0	30.8	31.7	28.4	26.7	26.9	26.6	26.4	25.9
					1999	26.8	29.6	27.0	30.3	31.3	31.2	27.1	26.7	26.8	25.4	25.7	25.5
					2000	26.9	28.4	30.3	29.8	30.2		28.4	26.9	27.2		26.0	25.7
					2001	25.3	27.9	27.6	29.7	30.7	30.0	28.1	26.4	27.4	28.4	27.7	27.1
					2002	25.7	29.3	28.9	30.1	32.0	31.4	30.7	27.8	28.8	29.1		
					2003	25.8	29.4	29.7	29.6	32.4	30.8	27.4	26.5	27.2	28.2	27.5	25.2
					2004	27.2	27.1	28.4	27.3	31.1							25.8
					2005	26.2	29.7	29.8		28.4	30.4	27.5	28.1	28.1	28.3	27.5	26.6
					2006	27.6	29.4	28.6	28.2	31.2	31.4	27.8	26.4	26.9	27.5	26.7	24.7
					2007	26.3	28.6	30.7	29.0	31.2	29.7	27.5	26.4	27.1	27.7	26.7	26.0
					2008	27.1	27.3	31.4	29.7	30.2	30.2	28.2	26.8	27.5	27.3	24.8	25.6
					2009	26.0	28.6	31.0	29.5	32.2	32.5	29.1	27.3	28.8	27.6	28.0	26.0
					2010	26.6	27.1	26.8	29.5	29.8	31.4	28.6	27.9	27.4	28.9	27.5	26.0
					2011	27.9	28.9	28.8	31.7	30.7	31.0	29.6	28.0	27.1	28.3	26.8	25.7
					2012	27.1	28.9	32.2	30.4	31.4	32.0	28.3	27.5	28.2	28.7		
					2013	26.9	30.3	31.3	31.3	31.2	32.0	27.7					
				Minimum	1981	10.0		10.7		10.5	12.6	12.3	11.1	11.2	11.1	12.2	
					1982	11.4	12.2	15.5	16.6	17.0	17.2	17.2	17.0	17.0	16.8	16.1	16.8
					1985									15.2	15.0	16.0	15.1
					1986	15.2	14.7	14.8	16.2	17.6		16.4	16.5	16.2		15.7	14.1
					1987	14.7	14.9	15.6	15.3	15.3		15.6	15.4	16.7			13.7
					1988	14.7	15.9	17.0	17.4	18.4	17.8	17.3	16.1	16.4	15.1	12.0	12.4
					1989	13.0	14.3	15.7	16.6	17.2	17.3	16.5	16.1	16.2	14.8	13.6	15.2
					1990	13.8	15.8	15.8	16.0	17.5	17.2	15.9	16.4	16.4	14.6	13.4	12.2
					1991	14.8	15.6	16.9	17.4	17.8	18.5	16.8	16.4	16.8	15.3	12.9	14.2
					1992	14.7	15.7	16.6	17.2	17.9	18.1	16.4	16.4	15.6	14.8	13.3	
					1993	14.5	14.6	15.4	16.7	17.1	17.6	16.5	16.3		15.5	13.2	12.3
					1994						17.6	16.0	15.7	15.7	13.9	13.5	11.9
					1995	12.0	15.1	16.2	17.2	17.6	18.0	17.0	16.5	16.3	15.7	13.4	14.1
					1996	14.6	14.9	16.8	17.3	16.9	16.9	16.3	15.9	16.0	13.9	13.1	12.3
					1997	14.2	12.9	16.0	16.8	17.3	17.0	15.9	15.9	15.9	14.8	14.5	11.9
					1998	14.2	16.5	17.3	18.2	18.7	18.4	17.4	16.8	16.5	15.6	13.2	12.0
					1999	13.2	14.6	15.9	17.3	18.3	17.8	16.1	15.9	15.6	15.0	12.4	11.8
					2000	13.1	13.3	15.3	16.8	18.0	17.8	16.2	16.2	16.3		13.9	13.3
					2001	12.8	14.1	16.2	17.3	17.9	16.7	15.9	16.0	15.2	15.0	12.6	12.4
					2002	13.9	13.7	16.4	16.7	18.5	17.9	17.2	16.7	16.4	16.3		
					2003	13.8	15.6	16.7	17.5	18.4	17.1	16.6	16.2	16.3	14.4	14.0	12.9
					2004	15.3	14.3	14.7	16.8	17.8	17.0	16.2	16.5	15.9	14.1	13.7	13.7
					2005	14.1	14.8	16.9		17.6	17.7	16.6	16.4	16.5	14.7	13.6	11.7
					2006	13.6	15.4	15.8	17.3	18.2	17.9	16.7	16.5	16.4	15.9	14.0	14.3
					2007	13.9	15.6	16.2	17.2	18.4	18.0	16.8	16.0	16.3	14.3	13.1	11.9
					2008	13.6	13.2	14.8	17.5	18.1	17.6	16.6	16.6	16.6	15.5	13.3	11.9
					2009	13.7	14.6	16.3	17.5	18.4	18.9	17.0	16.6	17.0	15.3	14.0	15.3
					2010	13.8	16.2	15.9	18.1	18.3	18.2	17.0	16.8	16.2	15.6	13.6	12.9
					2011	13.7	15.0	15.5	18.0	17.9	18.1	17.2	16.9	16.5	15.9	15.1	12.6
					2012	13.6	13.6	15.6	17.5	18.2	18.3	16.4	16.2	16.5	13.9		
					2013	13.4	14.5	16.9	18.4	17.8	18.0	16.6					
Addis Ababa Obs	09°01'08"	038°44'51"	2,386 m	Maximum	1951	24.5	25.6	24.6	20.5	24.8	23.7	20.3	20.2	22.6	22.3	23.5	23.4
					1952	24.9	26.0	26.7	22.7	25.2	23.6	20.1	19.8	21.4	22.6	23.3	23.6
					1953	24.8	25.0	25.8	23.5	25.7	23.5	19.1	20.3	21.5	24.1	24.1	23.1
					1954	24.3	26.0	25.1	25.9	25.5	22.2	19.1	19.3	19.5	22.2	23.0	23.5
					1955	22.6	24.5	25.9	25.2	25.0	22.6	20.4	20.1	20.9	22.7	23.2	22.9
					1956	22.3	24.9	26.4	23.5	25.4	22.9	19.9	19.6	21.0	20.9	22.2	23.2
					1957	24.3	23.4	22.5	23.3	23.9	23.7	21.1	20.9	23.1	24.4	24.7	24.4
					1958	24.6	23.5	26.8	25.7	28.2	23.0	20.0	20.0	21.2	22.7	23.7	23.7
					1959	23.8	25.7	26.2	26.8	25.4	24.1	20.4	19.5	21.2	23.1	24.1	23.9
					1960	23.7	25.8	24.5	25.5	24.2	23.9	20.3	20.9	21.0	23.3	24.0	23.8
					1961	25.1	25.2	25.2	23.8	25.6	23.3	19.9	19.8	20.6	22.6	21.7	23.1
					1962	24.1	26.0	24.8	25.7	26.1	24.4	20.4	19.7	20.3	21.4	21.4	22.1
					1963		23.3	24.5	22.4	22.3	21.8	19.9	20.1	21.0	22.8	22.2	21.4
					1964	23.0	24.4	25.4	23.5	24.4	21.6	19.3	19.2	19.5	20.0	21.1	20.0
					1965	21.6	23.4	24.1	23.1	25.1	23.6	20.3	19.9	21.2	20.9	20.9	22.0
					1966	22.6	21.8	23.3	23.2	25.3	22.2	20.5	20.7	20.7	21.7	21.6	22.2
					1967	22.4	24.5	24.2	22.9	22.5	22.5	19.0	19.3	19.8	20.7	20.5	21.2
					1968	22.7	20.3	22.5	21.5	23.5	21.8	19.9	20.1	20.9	21.9	21.5	22.4
					1969	22.1	21.6	21.8	23.5	23.3	21.4	19.8	19.9	21.2	22.8	22.9	23.3
					1970	22.3	24.2	22.2	23.7	25.4	23.7	20.1	19.0	20.1	21.2	21.0	21.4
					1971	21.5	23.4	23.2	23.5	22.1	20.7	19.4	19.1	20.1	21.2	20.7	20.2
					1972	22.5	21.4	23.3	21.3	23.4	22.2	20.0	20.1	20.8	22.2	22.4	22.3
					1973	23.7	25.2	26.3	26.2	23.5	22.5	20.4	19.2	20.2	21.2	21.5	20.5
					1974	21.8	22.9		23.6	23.0	21.2	19.1	19.0	19.7	21.6	21.0	21.8
					1975	22.4	23.2	24.7	23.7	23.8	21.2	19.2	18.5	19.6	21.0	21.1	21.4
					1976	22.0	23.3	23.4	22.1	21.8	21.9	19.4	19.6	20.9	22.7	20.7	21.9
					1977	21.4	22.3	23.4	24.4	23.2	21.7	20.1	20.3	20.2	21.0	21.1	21.8
					1978	22.5	22.8	22.7	23.6	23.5	22.3	19.3	20.4	19.9	21.0	22.2	22.3
					1979	20.9	23.2	23.6	24.3	24.3	23.6	21.0	21.1	21.5	22.7	22.9	23.0

(単位: ℃)

観測所名	緯度	経度	標高	項目	年	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					1980	23.6	24.9	25.2	24.6	25.6	22.9	20.6	20.8	21.9	22.2	22.8	23.4
					1981	24.4	24.7	22.4	22.7	25.3	25.3	20.4	20.9	20.8	22.3	22.9	23.0
					1982	23.4	23.7	24.8	23.1	24.2	24.0	21.1	20.4	21.6	21.8	22.7	22.8
					1983	23.0	24.3	25.3	24.1	23.9	23.4	22.3	20.3	21.2	22.0	22.8	22.4
					1984	23.4	25.1	26.1	27.2	24.2	21.7	20.3	21.2	21.5	23.0	23.2	22.5
					1985	23.8	24.3	24.9	22.9	23.4	23.4	20.0	20.1	20.9	22.0	22.8	22.6
					1986	23.9	24.5	23.9	22.5	24.4	21.8	21.4	21.2	21.9	22.8	23.4	23.6
					1987	23.4	24.5	23.2	23.5	23.7	22.8	21.9		23.0	24.0	24.1	24.1
					1988	24.2	24.6	27.0	24.9	25.8	23.2	19.9	20.9	21.1	22.0	22.5	22.6
					1989	23.0	23.0	24.5	22.4	24.8	23.5	20.4	21.3	21.1	22.3	22.8	22.3
					1990	23.3	22.6	23.6	23.5	25.4	23.5	21.2	20.9	21.2	22.5	23.0	23.1
					1991	24.5	24.4	24.3	25.0			20.5	20.9	22.1	22.9	22.8	22.3
					1992	22.4	23.3	25.7	25.5	25.5	23.7	20.7	19.7	21.0	21.7	22.0	22.8
					1993	23.2	22.7	25.8	23.2	23.6	22.2	20.9	20.9	20.7	22.4	22.8	23.2
					1994	24.6	26.2	25.3	24.9	25.6	22.4	20.3	20.0	21.6	23.4	23.3	
					1995	24.7	25.5	25.5	23.5	25.2	24.4	20.4	21.0	22.1	23.8	24.6	24.0
					1996	23.2	26.7	24.7	24.5	24.3	21.7	20.9	21.3	22.0	24.0	23.8	24.1
					1997	24.2	25.5	26.5	24.4	26.8	24.6	21.8	22.0	23.6	23.3	22.6	24.1
					1998	24.4	25.7	25.4	26.8	25.4	24.8	21.5	21.4	21.8	22.2	23.1	23.1
					1999	24.4	26.6	25.2	27.2	26.2	24.7	21.2	21.5	22.5	21.9	23.0	23.5
					2000	24.9	26.1	27.3	25.7	25.3	23.0	21.6	20.5	21.5	22.2	23.0	23.8
					2001	24.5	25.9	23.7	25.4	24.5	22.5	21.6	21.2	22.6	23.9	24.0	24.3
					2002	24.0	26.2	25.1	25.7	26.2	24.2	22.6	21.2	22.3	24.2	24.3	23.5
					2003	24.4	26.3	25.3	24.6	26.7	24.0	21.0	21.0	21.6	23.5	23.4	22.8
					2004	24.5	24.9	25.7	23.7	26.1	23.1	21.3	21.4	21.8	22.5	23.5	23.7
					2005	23.8	26.5	25.8	25.6	24.0	23.7	21.4	22.1	21.4		23.3	23.7
					2006	24.6	25.6	25.4	24.3	25.1	23.5	21.5	21.2	21.8	23.8	23.8	23.5
					2007	24.4	25.2	26.6	24.8	25.8	23.7	21.5	21.1	21.9	23.2	23.6	23.5
					2008	24.9	24.9	26.5	25.8	25.1	22.7	21.1	20.8	22.0	22.8	22.0	22.6
					2009	23.2	24.8	26.6	25.2	25.8	25.5	21.3	21.3	22.9	23.0	23.9	22.2
					2010	23.8	23.8	23.5	24.1	24.1	22.8	20.4	20.9	21.3	23.5	22.5	22.8
					2011	23.5	25.3	24.6	26.1	25.3	23.6	21.9	20.9	20.9	23.3	22.7	23.2
					2012	24.9	25.7	26.9	24.5	25.9	24.4	21.3	21.4	22.2	23.4	24.6	23.4
					2013	24.2	26.5	26.5	25.8	24.8	22.9						
				Minimum	1951	5.3		11.2		10.8	9.5	10.5	10.6	10.5	10.0	7.9	7.5
					1952	6.3	8.8	10.8	11.3	11.6	10.3	10.4	10.5	9.8	7.9	6.1	7.0
					1953	6.8	9.2	10.4	11.7	11.2	10.7	11.0	10.5	9.5	7.5	6.3	7.2
					1954	5.0	8.7	10.6	10.3	11.5	10.1	10.1	9.9	9.1	7.3	6.3	6.0
					1955	8.8	6.9	9.7	9.9	9.9	9.0	9.1	9.3	8.9	6.6	5.9	6.1
					1956	6.8	5.9	9.2	9.4		9.2	9.9	9.5	9.9	8.5	4.7	4.7
					1957	5.4	7.9	9.6	9.8	9.7	8.9	9.6	9.7	8.8	7.2	6.9	5.0
					1958	9.2	9.1	9.8	10.4	10.7	10.4	10.6	10.1	9.8	7.6	5.9	7.1
					1959	8.0	8.1	9.6	10.7	10.5	9.8	10.3	10.0	9.6	8.5	6.3	6.1
					1960	5.8	7.8	9.7	9.5	10.5	9.6	10.1	9.9	9.4	7.3	6.5	7.4
					1961	6.5	6.7	9.0	10.1	9.9	8.9	9.5	9.3	8.7	6.7	6.3	5.4
					1962	4.7	5.5	8.8	9.6	10.3	9.3	10.0	10.2	9.6	6.5	6.7	6.7
					1963		8.3	8.2	10.9	10.2	9.4	10.0	9.9	9.8	8.8	8.7	8.0
					1964	7.6	8.0	10.0	10.0	10.5	9.6	9.8	9.8	9.2	8.2	6.5	7.6
					1965	8.2	6.8	9.4	11.1	10.8	9.9	9.7	10.7	10.2	8.7	8.5	7.1
					1966		10.6	10.4	11.9	11.7	10.4	11.1	10.9	10.7	9.2	7.6	6.3
					1967	5.9	9.4	11.2	11.2	11.8	10.6	11.0	10.4	10.4	8.6	8.7	5.6
					1968	6.2	10.2	8.7	10.9	11.0	11.0	10.8	10.8	10.6	9.0	7.8	7.6
					1969	10.1	10.4	11.6	12.0	12.1	10.9	11.2	10.9	10.7	9.4	8.4	6.8
					1970	10.5	10.0	11.1	11.7	12.0	10.9	10.4	10.2	9.6	8.9	6.0	6.2
					1971	8.2	7.8	10.4	11.1	11.5	10.7	10.3	10.4	10.5	9.4	8.2	7.3
					1972	8.7	10.0	10.7	11.9	11.7	11.3	11.4	10.9	11.0	9.6	8.8	8.5
					1973	9.1	9.8	11.8	13.2	12.4	11.1	11.3	10.9	10.8	8.9	7.1	5.5
					1974	7.7	8.7		10.6	11.4	9.9	9.9	10.4	9.9	8.8	5.6	6.4
					1975	7.6	10.0	11.7	12.1	12.8	11.0	10.9	11.4	11.0	9.2	7.1	7.1
					1976	8.2	10.4	11.3	11.1	11.5	10.6	11.3	10.8	11.1	10.8	9.6	8.8
					1977	10.4	10.3	10.6	11.8	12.0	11.5	11.1	11.3	11.1	11.1	9.0	7.9
					1978	8.0	10.7	11.2	11.9	11.7	11.2	11.3	11.1	11.1	9.5	7.9	9.1
					1979	10.6	10.7	11.5	11.9	13.1	11.6	11.7	11.7	11.7	10.8	8.8	9.1
					1980	9.9	11.3	12.6	12.5	13.1	11.9	11.5	11.5	11.8	10.8	9.4	7.9
					1981	9.9	10.4	12.3	12.4	12.7	11.9	11.7	11.7	11.4	10.3	9.0	8.7
					1982	10.4	11.7	11.7	12.3	12.7	11.6	11.3	11.3	11.7	10.3	10.1	10.0
					1983	9.1	11.7	13.1	13.0	13.1	12.4	12.0	12.4	11.8	10.7	9.7	8.7
					1984	7.9	8.3	12.4	12.5	13.1	11.5	11.2	11.4	11.2	10.0	8.5	7.3
					1985	8.2	8.3	11.0	11.2	11.2	10.5	9.8	9.9	10.1	9.3	7.9	7.5
					1986	7.0	10.5	10.4	11.3	11.7	10.8	10.4	10.3	10.0	9.0	8.4	8.4
					1987	7.8	10.1	11.9	12.3	12.4	11.9	11.8	11.9	12.5	11.0	9.3	9.2
					1988	10.2	12.5	11.9	12.8	12.5	11.7	12.1	11.7	11.5	10.5	7.8	7.8
					1989	7.8	9.9	11.5	11.8	12.0	11.2	11.3	11.2	11.3	10.2	8.9	10.5
					1990	9.1	11.9	11.4	11.9	12.4	10.9	11.4	11.1	11.3	9.5	9.2	7.7
					1991	10.4	11.6	12.4	13.0	13.3	12.3	12.0	11.9	11.6	9.7	8.3	8.9
					1992	10.0	11.2	12.4	12.4	12.7	11.3	11.0	11.8	10.9	10.1	8.8	9.2
					1993	10.0	10.8	11.0	12.2	12.3	11.4	11.3	11.3	11.0	10.1	8.2	7.5
					1994	7.8	9.2	11.9	12.1	12.1	11.2	11.5	11.1	10.6	9.3	8.5	7.0
					1995	7.4	10.4	11.4	12.6	12.3	11.4	11.7	11.8	10.6	10.0	8.5	9.2
					1996	9.9	9.8	11.9	11.5	12.2	11.5	11.4	11.2	10.9	9.0	8.2	7.8
					1997	10.3	7.9	11.7	11.5	11.6	12.0	11.0	11.1	11.4	11.0	10.0	8.1
					1998	10.6	12.0	12.7	12.8	13.2	12.0	12.1	12.0	11.2	10.6	7.7	
					1999	8.5	9.6	11.4	12.0	12.2	11.2	10.9	10.9	10.9	9.5	7.3	7.2
					2000	7.4	8.2	10.2	12.1	11.7	10.6	11.0	11.0	11.3	12.3	12.1	8.9
					2001	8.5	9.2	11.7	11.9	11.8	10.8	11.1	11.6	10.6	10.1	7.8	8.4
					2002	8.7	10.2	11.7	12.3	12.9	11.4	11.3	13.0	14.5	12.8	8.7	10.4
					2003	9.7	10.9	11.3	12.4	13.3	11.7	11.7	11.8	11.4	9.3	8.4	7.7
					2004	10.3	8.9	10.3	12.2	12.2	11.3	11.0	11.3	10.9	8.9	7.8	8.1
					2005	8.3	9.3	11.8	12.5	12.5	11.4	11.3	11.4	11.3		7.9	6.3
					2006	8.6	10.8	11.5	12.2	11.8	11.0	10.7	10.8	10.1	10.4	8.4	8.6
					2007	8.7	10.3	10.9	11.9	11.9	11.1	11.5	11.0	10.6	9.6	8.3	6.9
					2008	8.8	8.6	10.2	11.9	12.5	11.5	11.3	11.2	11.3	10.5	8.9	8.1
					2009	9.0	10.0	11.9	12.0	12.8	12.3	11.6	11.6	11.9	10.5	8.7	10.7
					2010	9.6	12.2	12.3	13.3	13.3	12.0	11.6	12.2	11.7	11.2	9.5	8.9
					2011	9.8	9.6	11.4	13.4	13.2	12.2	12.0	12.0	11.9	10.0	10.5	8.0

(単位: °C)

観測所名	緯度	経度	標高	項目	年	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					2012	8.7	9.4	11.0	13.0	13.4	12.4	12.0	11.8	11.1	10.9	9.6	9.0
					2013	9.6	10.7	12.9	13.0	13.0	12.1						
Ambo Agriculture	08°59'05"	037°50'23"	2,068 m	Maximum	1954	26.7	27.9	27.4	28.1	27.3	23.3	21.7	21.6	22.1	24.3	25.2	25.8
					1955	25.5	28.2	28.9	27.4	27.0	24.1	21.2	21.2	22.5	24.8		24.8
					1956	25.6	27.8	28.7	26.2	26.5	23.4	20.6	21.1	23.1	22.9	23.5	25.4
					1957	27.7	26.6	24.1	25.6	26.3	24.1	21.9	21.7	24.2	26.9	27.0	26.7
					1958	27.0	26.9	28.9	28.3	33.4	31.4	32.1	25.3	25.8	26.7	27.6	27.5
					1959	29.0	30.1	32.6	34.5	34.3	32.7	32.1	29.9	29.1			
					1960		27.7	27.6		26.5	24.4	22.2	22.3	22.4			27.0
					1961	26.5	27.0	27.5	26.0	28.8							
					1983										24.5	25.1	25.3
					1984					26.1	22.3	21.7	22.2		25.3		
					1985	27.1	27.8					20.8	21.4	22.7	24.5	25.7	26.0
					1986	27.2	27.4	26.0	25.5	27.0	22.8	21.9	21.7	23.0	24.8	25.9	26.1
					1987	26.6	27.5								26.6	27.2	
					1988								21.0				
					1989					26.6			22.6	22.4	23.8	25.0	25.6
					1990	26.7	25.3	26.6	27.3	27.5	24.3	22.3	22.1	23.4	25.5	26.5	
					1991	27.8	27.6	27.3									
					1993	26.7	26.3	28.7	26.8	26.6	25.3	24.4	24.1	24.3	25.7	27.5	26.3
					1997								25.3	26.2		26.7	27.8
					1998	27.7	29.0	28.6	30.0								
					1999		29.6	28.3	28.7	28.0	25.0	21.4	21.9	23.7	24.2	25.3	25.9
					2000	27.0	28.3	29.7	27.1	26.8		22.6	21.9	23.5	24.8	25.3	25.8
					2001	26.7	28.5	26.6	28.1	26.9	23.0	22.3	22.3	24.3	26.2	26.2	26.7
					2002	26.1	28.2	27.7	28.5	29.3	25.2	23.9		24.3	26.5	27.0	26.8
					2003	27.4	28.7	28.3	27.4	28.9	24.8	22.3	22.3	23.3	25.7	26.3	26.1
					2004		28.0	28.1	27.4	28.2	24.9	22.4	22.8	23.6	25.2	26.7	26.1
					2005	27.0	30.1	29.2	28.4	27.0	25.3	22.4	23.2	24.3	25.7	26.4	26.7
					2006	27.9	29.2	27.8	26.5	26.5	24.4	22.6	22.2	23.8	25.9	26.3	26.6
					2007	27.4	27.6	28.9	27.9	26.9	23.9	22.0	22.0	23.4	25.7	26.3	26.5
					2008	28.0	28.7	30.1	29.0	26.6	24.3	22.5	22.3	24.2	26.0	24.9	26.5
					2009	27.2	28.5	29.8	28.7	29.2	27.0	22.9	23.1	25.5	26.2	27.1	26.6
					2010	28.0	29.4	28.8	28.8	27.4	25.3	22.7	22.1	23.9	27.4	27.0	26.4
					2011	27.4	29.7	27.8	29.3	27.3	25.2	23.6	22.8	24.4	27.0	26.3	27.3
					2012	29.0		30.2	28.7	29.0		22.3	22.4	23.0	26.0	26.9	26.7
					2013	27.6	29.4	29.7	29.6	26.4	24.7	22.4	21.8				
				Minimum	1954	9.3	12.7	13.4	12.9	12.3	11.7	11.9	11.7	10.9	10.0	9.9	10.0
					1955	11.9	10.8	11.6	13.0	11.9	11.3	11.8	12.2	11.6	10.4		11.1
					1956	10.9	11.5	13.5	13.5	11.8	11.3	12.1	11.9	11.2	11.3	8.8	9.5
					1957	9.8	11.4	12.2	12.6	12.0	10.7	11.6	11.7	11.0	11.5	11.9	11.1
					1958	13.2	12.0	13.4	13.5	12.8	12.4	13.0	12.5	12.4	10.3	10.3	11.2
					1959	12.1		12.8	12.9	12.5	11.3	12.3	12.2	11.4	11.3	9.6	10.1
					1960	10.0	11.8	11.9	11.7	11.9	10.8	11.6	11.9	10.5	10.5	9.5	
					1961	10.0	11.5	12.0	11.5	10.0							
					1983										13.6	10.3	9.4
					1984			13.1	13.8	13.4	12.4	11.4	11.1	10.7	10.3		
					1985	11.9	12.2					11.7	11.5	10.4	9.5	9.8	10.6
					1986	10.1	12.9	12.6	12.7	12.7	12.1	12.1	11.7	10.7	9.2	10.5	11.4
					1987	11.4	12.9	13.3	13.4	13.5	11.7		12.2	10.1	10.3	11.6	11.5
					1988	12.6	13.0	13.6	13.2	11.6		12.7	11.9	11.9		9.3	9.5
					1989		11.5	11.8	11.8	11.4	11.2	11.7	11.6	8.9	7.8	7.9	12.3
					1990	11.2	12.4	13.3		12.3	11.9	11.9	11.9	11.1	9.7	10.6	
					1991	12.8	12.3	13.0									
					1993	10.9	10.6		12.5	12.7	11.6	11.8	11.3	11.2	10.9	11.9	11.4
					1997								11.1	10.1	10.6	11.0	10.3
					1998		12.5	13.3	14.0							8.5	8.7
					1999	9.6	11.0	12.4	12.0	10.8	11.0	12.1	11.4	10.3	10.8	7.8	9.8
					2000	11.0	12.0	14.2	13.1	11.6	11.1	11.8	11.9	11.5	10.9	10.3	9.7
					2001	10.3	11.9	12.9	13.1	12.3	12.0	12.0	12.7	9.8	10.3	9.9	10.9
					2002	11.5	12.5	11.9	12.7	13.0	12.1	12.1		11.5	10.7	11.6	12.5
					2003	11.3	12.7	13.4	13.0	11.2	11.8	12.8	12.9	11.2	9.4	11.2	10.4
					2004	12.6	12.4	13.9	13.5	11.9	12.2	12.0	11.9	11.1	10.6	10.4	11.9
					2005	11.0	12.6	12.9	14.1	12.6	11.3	11.8	11.6	11.5	9.4	9.0	9.0
					2006	11.9	12.6	12.3	13.1	10.9	11.5	12.6	12.7	11.5	11.5	11.8	12.3
					2007	12.6	11.9	13.0	13.5	13.5	12.8	12.6	12.5	12.3	10.1	11.4	10.3
					2008	12.6	13.1	13.8	14.0	12.7	12.6	12.2	11.8	11.3	11.2	11.3	11.6
					2009	12.3	13.3	13.9	14.4	13.0	12.3	12.9	13.1	10.8	11.5	11.0	12.8
					2010	12.7		12.6	14.5	14.1	16.1	13.9	15.3	15.4	14.8	13.4	13.2
					2011	13.0	14.5	14.5	15.1	14.9	14.3	13.1	13.4	14.3	13.9	13.5	12.4
					2012	12.2	12.9	14.1	13.9	13.9	12.8	12.8	12.9	12.1	10.6	11.4	11.7
					2013	11.9	13.3	15.0	13.7	13.6	13.6	13.4	13.1				
Awash Arba				Maximum	2008			39.7	36.0		37.5	35.1	34.3	35.8	34.2	30.3	31.1
					2009	30.5	33.1	35.0	35.1	37.3	39.7	37.4	36.4	37.1	34.6	34.7	32.8
					2010	32.4	33.4	32.8	36.1	37.5	39.4	36.0	35.4	35.5	37.0	33.8	32.4
					2011	32.9	34.9	35.5	38.0	37.5	39.0	36.8	33.9	35.1	37.1	35.7	
					2012												33.3
					2013	32.9	35.4	37.0	37.7								
				Minimum	2008			15.2	20.0		21.9	17.9	16.9	18.3	15.5	12.3	9.9
					2009	11.3	13.3	15.9	14.0	13.8	15.7	15.2	13.9	15.7			18.7
					2010	17.2	18.9	19.3	22.2	23.2	25.4	22.3	22.1	21.5	20.2	17.2	11.5
					2011	15.3	16.9	16.9	20.2	20.9		23.2	21.6	22.0	19.0	19.5	
					2012												17.0
					2013	16.2	17.7	21.0	23.0	23.9	25.4						
Debre Zeit(AF)	08°44'00"	038°57'00"	1,900 m	Maximum	1951	25.6	25.8	25.3									
					1952						28.8		25.3	24.7	25.3		25.2
					1953	26.6	27.7	28.2	27.1	29.1	27.7	23.3	23.7		26.6	26.5	24.9
					1954	26.3	28.3	28.3	28.6	29.7	27.0	23.0	22.8	23.5	24.3	25.4	25.6
					1955	25.7	26.9	28.8		29.0	27.1	24.5	23.6	24.4	25.9	26.6	26.5
					1956	25.8	27.9	29.3	28.2	28.9	27.3	23.1	24.1	24.4	24.1	23.7	24.4
					1957	26.3	26.1	25.8	26.5	27.5	27.3	24.3	23.6	26.4	27.2		
					1958	25.8	24.8	28.3	28.7	30.4	26.6	22.9	23.2	24.8	25.8	25.7	26.2
					1959	27.4	27.8	28.4	29.5	29.4	28.4	23.5	23.2	24.6	26.0	25.5	25.4
					1960	25.2	27.5	27.4	28.5	27.7	27.6	24.0	24.0	24.9	26.3	25.7	25.5

(単位: ℃)

観測所名	緯度	経度	標高	項目	年	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					1961	26.4	26.9	27.2	27.0	29.3	26.4	22.7	23.0	24.7	24.9	24.1	25.2
					1962	26.0	27.0	27.3	29.4	29.2	27.4	25.1	24.5	24.5	24.8	25.2	26.0
					1963	25.2	27.5	28.9	26.5	27.2	27.7	24.4	23.6	25.3	26.6	25.5	25.0
					1964	25.8	28.1	29.7	27.2	28.0	26.3	23.3	23.6	23.9	24.7	25.2	24.1
					1965	26.0	27.1	28.0	27.7	29.6	29.1	24.8	23.8	25.7	25.4	25.0	25.8
					1966	27.1	26.0	27.4	27.1	29.3	27.6	25.0	24.2	25.1	26.2	25.5	26.7
					1967	25.7	27.3	27.5	27.1	27.5	27.3	23.4	24.0	24.4	24.8	24.1	24.1
					1968	26.0	23.8	26.5	26.4	28.2	27.0	24.7	24.3	25.7	25.9	25.6	25.8
					1969	26.1	25.4	26.4	28.4	28.2	26.5	24.2	24.0	25.8	27.2	26.2	26.1
					1970	25.3	27.7	26.8	28.5	29.5	28.4	24.8	23.2	25.0	26.4	25.3	25.2
					1971	25.5	27.7	27.9	28.4	27.1	25.8	23.7	23.8	24.8	26.2	24.6	23.7
					1972	26.1	25.5	27.0	26.1	27.9	27.1	24.2	24.2	25.4	27.3	27.7	27.5
					1973	27.7	29.3	30.3	30.7	28.6		24.7	23.6	24.6	25.5	25.6	24.5
					1974	26.6	26.9		28.1	27.4	26.4	23.4	23.6		27.1	24.9	25.5
					1975	26.2		28.9	27.7	28.4	25.7	22.9	22.2	23.7	25.1	24.6	25.0
					1976	25.7	27.3	27.9		26.8	26.9		23.3	25.2	26.7	24.7	25.5
					1977	24.6	25.8	27.4	27.5	27.2	26.3	23.6	23.8	24.7		24.5	25.1
					1978	25.8	26.3	27.1	28.2	28.4	26.9	22.9	24.2	24.7	25.6		25.2
					1979	24.4	26.8	27.2	28.3	27.9	27.0	23.9	24.1	25.0	26.2	26.2	26.1
					1980	26.2	28.2	29.1	28.6	29.2	27.2	24.0	23.9	25.0	25.7	25.9	26.0
					1981	27.1	27.3	25.9	25.7	28.8	29.1	24.4	23.9	24.2	25.4	25.5	25.6
					1982	25.8	26.0	27.9	26.8	27.6	27.5	24.4	23.0	25.0	24.6	25.3	25.3
					1983	25.9	27.1	28.2	26.9	27.6	27.0	25.5	23.5	24.8	25.6	26.3	26.0
					1984	26.3	27.4	29.1	30.1	28.0	26.0	24.1	24.5	25.0	26.6	26.5	25.4
					1985	26.5	26.8	28.5	26.7	27.0	27.3	23.7	22.9	24.4	25.9	26.2	25.7
					1986							24.2	24.6	25.0	26.5	26.6	25.9
					1987	25.7	27.1	26.7	26.9	27.0	26.3	26.3	25.3	26.8	27.5	26.8	26.4
					1988						27.3	23.2	23.7	24.3	25.4		
					1989	25.4	26.5	28.0	26.5		27.7	24.1	24.0	24.6	26.0	26.1	25.2
					1990	26.5	26.3	26.7	26.5	29.0	27.6	24.6	23.9	24.8	26.8	26.8	26.2
					1994		27.8	28.4	28.9	29.6	26.9	23.8	23.1	24.4	26.0	25.0	25.5
					1995	26.4	28.6	28.5	27.8	29.9	29.2	24.4	23.9	25.0	26.2	26.1	26.4
					1996	26.0	28.7	28.0	27.8	27.2	24.2	24.0	24.2	25.5	26.5	25.6	25.7
					1997	26.1	27.3	29.0	27.2	29.7	27.7	24.8	25.2	26.9	25.9	25.3	25.9
					1998	26.6	27.8	28.5	30.1	29.6	28.9	24.7	23.6	25.3	25.8	25.8	25.4
					1999	26.9	28.8	27.8	29.6	30.1	28.0	23.7	24.3			25.1	25.4
					2000	26.7	28.2	29.7	29.4	29.1	27.5	24.8	23.8	25.0	25.2	25.5	25.8
					2001	26.5	29.2	27.8	29.1	28.4	26.8	24.6	23.7	26.9	27.6	26.9	27.6
					2002	27.2	29.9	29.3	30.4	31.4	29.1	26.8	25.1	26.4	27.9	27.3	26.3
					2003	26.9	28.9	28.9	27.8	30.2	27.6	23.6	24.0	25.0	26.6	26.3	24.7
					2004			27.5	26.5	29.6	26.7	24.0	24.1	25.4	25.5	25.6	25.4
					2005	26.2	29.0	27.9	28.7	27.1	27.2	23.8	25.0	25.6	26.9	25.9	25.9
					2006	27.1	28.3	27.8	27.3	29.1	28.0	24.6	24.1	23.6	26.7	26.2	25.6
					2007	26.7	28.1	29.3	28.6	28.7	26.6	24.0	24.0	24.6	25.6		
					2008	26.8	26.7	29.3	28.7	29.1	26.6	24.5	23.4	25.0	26.5	25.2	26.0
					2009	26.3	27.9	29.7	29.2	30.2	30.1	25.4	24.5	26.3	25.9	26.8	26.0
					2010	26.6	27.0	27.1	28.0	27.3	27.9	24.0	24.5	25.6	27.7	26.6	26.2
					2011									24.4	26.3	26.1	25.9
					2012	27.1	28.8	28.7	29.9	28.7		25.6	23.5				
				Minimum	1951	7.1	10.3	13.3									9.1
					1952					11.8	11.4	12.5	8.9	11.3	9.8	8.1	8.9
					1953	9.0	10.6	12.5	13.7	12.4	12.3	13.3	13.1	11.4	10.2	10.0	9.1
					1954	8.1	11.1	12.7	13.4	12.2	12.0	10.9	12.3	12.1	9.4	9.2	8.1
					1955	10.6	9.4	11.4		11.5	11.2	11.9	12.0	11.8	9.9	9.6	10.0
					1956	9.8	8.7	12.4	13.1	12.3	12.1	12.6	14.8	11.8	11.0	7.8	8.7
					1957	9.1	10.4	12.3	13.0	12.8	10.2	12.6	12.6	11.0	10.4	9.8	8.7
					1958	11.1	12.5	12.5	14.3	12.9	12.9	13.6	12.9	12.8	10.2	8.5	10.3
					1959	11.3	12.0	12.4	13.6	13.6	12.4	13.5	12.8	12.4	11.5		8.6
					1960	8.7	10.1	13.2	13.1	13.5	12.2	13.0	12.9	12.4	10.5	9.0	10.2
					1961	9.6	11.3	12.7	13.5	12.8	12.5	13.4	12.9	12.8	11.1	12.0	8.7
					1962	7.6	9.0	12.0	12.5	12.6	12.1	12.9	13.1	13.3	9.8	10.6	10.2
					1963	10.0	12.0	13.0	13.9	13.2	12.2	13.2	13.2	12.2	10.6	11.1	10.2
					1964	11.3	12.8	13.8	13.7	12.0	11.2	12.9	12.4	12.1	11.0	9.1	8.4
					1965	10.1	10.0	11.8	13.9	12.8	12.7	12.6	13.0	12.2	10.9	10.9	9.4
					1966	10.5	13.0	12.8	13.9	13.2	12.1	12.4	13.3	11.2	11.3	10.5	7.8
					1967	8.0	11.8	13.6	13.4	12.7	12.1	12.8	12.5	12.6	10.6	11.1	6.3
					1968	7.3	12.4	10.7	13.4	12.7	12.6	12.0	12.4	12.4	10.8	9.7	9.1
					1969	11.9	11.1	12.6	12.7	12.7	11.3	12.9	13.0	12.2	10.5	10.5	7.8
					1970	12.0	11.8	13.7	13.7	13.3	12.6	13.6	13.2	12.5	11.0	7.2	7.0
					1971	9.8	9.4	12.0	12.6	12.4	12.1	12.8	11.6	11.2	9.6	8.6	7.2
					1972	8.3	10.1	10.0	11.7	11.0	10.6	11.7	11.2	10.2	9.1	8.0	8.1
					1973	8.6	9.4	12.1	14.2	12.8		12.2	11.6	11.5	8.8	7.9	5.8
					1974	8.9	10.2		12.3	12.6	12.1	12.4	11.9			6.8	7.3
					1975	8.0		12.7	12.8	12.7	12.1	12.3	12.9	12.1	9.6	8.6	7.6
					1976	8.0	12.0	12.5		12.5	11.9		12.7	12.0	11.6	10.1	9.0
					1977	9.7	10.0	12.5	12.7	12.8	12.2	12.9	12.2	11.1		9.2	8.3
					1978	7.9	11.3	12.8	13.8	12.1	11.7	13.7	13.1	12.1	10.6		9.4
					1979	11.5	10.9	12.2	12.9	13.0	12.4	12.6	12.7	12.3	10.5	8.1	9.2
					1980	9.0	10.3	12.9	13.0	12.2	12.3	13.3	12.3	11.9	10.8	9.8	7.6
					1981	9.8	11.2	13.6	13.3	12.5	11.7	12.9	12.6	12.2	9.5	8.4	6.0
					1982	9.7	11.3	10.8	11.6	13.1	11.8	12.3	13.1	12.3	10.8	10.8	10.6
					1983	9.8	12.7	13.8	13.6	14.3	12.4	13.3	13.9	12.9	10.7	9.1	8.2
					1984	7.8	7.8	12.1	13.4	13.4	13.0	12.8	12.9	12.0	9.6	9.8	8.1
					1985	8.5	9.8	12.4	12.8	12.3	11.6	11.8	11.9	11.2	9.2	9.2	8.9
					1988						13.6	14.4	13.6	13.2	11.2		
					1989	9.2	11.4	13.1	13.7		12.7	13.5	13.3	12.7	10.8	9.7	12.0
					1990	10.0	13.8	13.6	13.2	12.6	11.2	13.5	13.6	13.2	10.4	9.8	8.6
					1994		10.8	13.5	14.4	13.9	13.1	13.7	13.3	12.4	10.4	9.8	9.1
					1995	9.2	12.2	13.9	14.7	14.1	12.6	13.6	13.9	12.1	11.6	9.8	11.5
					1996	11.8	11.4	14.3	13.7	13.7	13.7	13.2	13.7	12.5	10.7	9.8	8.9
					1997	11.9	10.2	13.9	13.9	13.8	14.1	13.8	13.8	13.3	13.3	12.6	9.9
					1998	12.8	14.1	14.7	15.2	14.5	13.8	14.5	14.3	13.5	12.2	8.4	7.6
					1999	9.8	10.2	13.5	14.3	13.7	13.2	13.4	13.5			8.1	8.5
					2000	9.0	10.3	12.5	14.3	13.3	13.0	13.7	13.7	13.4	11.6	10.5	9.9
					2001	10.2	11.1	13.7	13.8	14.1	13.3	13.9	14.5	12.6	11.9	9.8	10.1

(単位: ºC)

観測所名	緯度	経度	標高	項目	年	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					2002	11.4	11.8	14.3	14.4	13.7	14.2	14.3	14.1	13.3	12.2	10.8	12.6
					2003	11.4	13.0	14.0	15.1	14.1	14.1	14.2	14.4	13.7	11.2	11.4	10.0
					2004			10.5	11.9	9.9	11.9	13.1	13.0	11.9	8.4	7.3	8.3
					2005	8.1	8.0	12.1	12.3	13.1	12.2	13.0	13.6	12.6	8.2	7.4	3.9
					2006	7.9	10.3	10.5	12.1	11.2	12.5	13.5	13.8	12.2	10.6	8.4	10.5
					2007	10.0	11.8	11.7	13.2	13.2	13.3	13.8	13.6	12.8	7.1		
					2008	9.0	10.1	9.3	12.7	12.5	13.2	12.9	12.9	12.0	9.0	7.8	5.1
					2009	8.4	9.2	11.5	12.6	12.1	12.4	13.7	13.8	11.7	9.2	5.5	10.0
					2010	7.8	12.2	11.9	13.3	13.5	12.0	13.6	13.8	12.3	8.9	6.9	6.1
					2011									11.7	7.4	9.1	4.7
					2012	7.5	7.5	10.6	12.5	13.3	13.1	13.4	13.6	11.6	6.9	6.1	
Gelemso	08º48'34"	040º31'30"	1,739 m	Maximum	1986							24.9	26.2	26.1	26.7	26.7	25.4
					1987	26.1	28.1	26.7	25.7	25.4	26.3	26.7	26.8	27.0	26.7	27.6	27.5
					1988	27.3	29.3	30.5	28.1	28.4	27.6	25.8	25.2	24.9	25.2	26.0	25.5
					1989	24.5	26.0	27.7	24.6	26.8	26.5	24.8	26.2	25.5	25.5	26.1	24.7
					1990	25.8	25.9	26.0	26.0	27.4	28.3	26.8	26.3	26.6	26.7	26.8	25.3
					1991	27.5	27.4	26.8	26.0								
					2001							26.8	25.0	25.7	25.4	26.5	27.0
					2002	25.8	28.7	28.3	28.0	29.1	28.7	28.5	27.3	26.8	27.2	27.7	25.4
					2003	26.8	29.3	29.3	28.0	28.7	27.3	25.9	24.7	26.2	27.1	26.3	24.7
					2004	26.7	27.1	27.8	26.5	28.7	27.9	26.9	26.4	25.8	24.5	25.7	24.9
					2005	25.8	29.2		27.7	26.1	26.9	26.0	26.9	26.4	25.3	25.9	25.2
					2006	26.6	28.2	27.1	25.6	27.2	27.9	26.1	25.3	25.2	25.3	25.7	24.0
					2007	25.3	28.2	29.2	26.5	28.2	27.7	26.6	25.4	25.8	25.9	25.6	25.2
					2008	27.0	26.8	30.0	27.6	27.0	26.7	26.4	25.7	26.8	26.4	24.0	24.8
					2009	25.3	25.8	29.5	27.1	28.5	29.2	27.5	27.0	27.2	25.4	26.6	24.8
					2010	26.1	26.0	25.0	26.1	27.4	27.6	25.3	25.7	25.3	27.2	25.8	25.4
					2011	26.8	28.1	28.4	29.8	27.4	27.7	26.5	25.7	25.7	26.5	25.5	24.8
					2012		27.5	29.3					26.2				
					2013					26.8	26.9	25.4	25.4				
				Minimum	1986							14.3	13.2	13.1		4.7	5.2
					1987	5.3	6.1	13.9	12.5	13.8	14.7	14.9	15.1	14.7	13.4	11.1	12.7
					1988	14.8	14.4	15.5	15.7	14.5	15.1	15.8		14.2		10.2	12.2
					1989	14.3	13.6	14.6	14.8	13.4	13.8	13.6	13.7	13.9	11.1	11.7	13.8
					1990	12.4	14.7	14.2	14.2	14.7	14.3	14.7	14.8	14.7	12.6	12.5	13.3
					1991	13.9	15.2	15.8	14.7								
					2001							14.9	12.5	12.7	11.5	7.5	9.9
					2002	13.0	10.0	12.9	13.4	14.8	14.0	14.8	15.1	13.7	10.7	8.1	12.1
					2003	11.6	13.1	12.6	14.2	13.7	14.6	15.0	15.1	14.4	10.5	12.3	12.1
					2004	13.3	12.3	13.4	14.9	13.2	15.1	14.6	14.7	14.3	12.6	11.2	12.1
					2005	12.6	10.9		13.7	15.3	15.5	15.0	15.3	14.8	11.5	10.5	10.3
					2006	11.0	12.1	14.3	14.3	14.4	14.9	15.5	15.1	14.9	13.5	10.7	14.1
					2007	13.3	13.9	13.6	14.7	15.4	15.0	14.9	15.1	14.7	10.5	9.4	10.8
					2008	11.1	13.3	12.2	15.1	15.0	14.9	15.2	14.6	14.3	9.3	12.1	11.1
					2009	11.3	10.9	13.3	15.0	14.0	14.8	15.0	15.2	14.6	12.5	9.8	13.7
					2010	11.8	12.9	14.1	15.1	15.5	15.9	15.2	15.6	14.6	9.1	7.1	9.5
					2011	11.3	13.2	13.8	16.1	15.5	15.8	14.9	15.2	14.4	10.5	11.5	
					2012	13.3	11.7	12.9	15.3	14.6	15.1		15.0				
					2013					15.3	15.1	14.8	14.7				
Kulumsa	08º00'35"	039º09'19"	2,211 m	Maximum	1971	22.3	23.9	24.5	24.0	22.6	22.2	20.2	20.2	20.0	22.7	21.5	20.7
					1972	22.9	21.7	24.2	23.2	24.4	23.4	20.7	20.4	21.0	23.4	23.0	23.0
					1973	24.0	25.7	27.3	28.2	24.5	23.1	20.8	19.8	20.9	21.7	23.0	21.4
					1974	22.6	23.9	22.2	25.1	23.9	21.9	19.6	20.9	20.4	22.7	22.4	22.6
					1975	23.3	24.7	26.8	24.5	25.8	22.1	20.5	19.7	20.5	22.3	22.5	22.7
					1976	23.6	24.7	25.2	24.7	23.6	23.3	23.5	21.8	23.2	25.3	24.9	25.3
					1977	23.4	25.3	26.3	26.6	25.7	24.0	23.1	23.4	23.9	23.6	22.8	
					1978	24.1	23.6	24.5	27.4		25.7	25.4	26.0	25.6	27.0	26.9	26.8
					1979	26.3	27.4	28.4	28.5	26.1	24.6	22.3	22.0	22.2	25.3	26.3	26.2
					1980	26.3	27.6							22.4	23.6	25.0	24.5
					1981	25.5	25.6	23.5	22.8	26.0	26.5	21.9	21.5	21.0	23.2	23.5	23.4
					1982	23.9	24.5	26.3	24.7	25.0	25.7	22.4	20.8	21.5	21.1	21.8	22.9
					1983	22.6	24.1	25.0	24.4	24.3	24.2	22.9	21.6	21.8	22.4	23.9	23.2
					1984	23.1	24.4	26.7	28.1	24.5	23.0	21.9	21.7	22.3	25.0	23.7	22.7
					1985	24.9	25.0	27.0	23.7	24.4	25.0	21.0	20.6	21.3	23.4	24.2	24.0
					1986	24.0	24.3	25.4	23.8	24.9	21.5	20.9	21.7	21.1	23.2	24.0	23.1
					1987	23.1	25.0	23.9	23.8	23.2	22.9	22.9	21.4	22.4	24.1	24.1	23.9
					1988	23.3	23.6	26.1	24.9	25.3	23.2	20.4	20.4	20.6	21.7	22.2	21.9
					1989	22.0	22.4	24.2	21.8	24.2	22.9	20.5	20.3	20.4	22.1	22.0	21.5
					1991	23.7	23.8	23.6	24.3	25.0	24.5	19.9	20.1	21.6	22.6	22.6	21.9
					1992	21.6	21.4	25.6	25.3	25.5	24.3	20.7	19.9	20.5	21.4	21.5	21.4
					1993	21.6	21.5	25.3	23.3	23.0	22.2	20.8	20.7	21.1	21.7	22.8	22.4
					1994	23.4	24.6	25.2	25.7	25.1	22.9	20.5					
					1995											23.7	22.8
					1996	21.8	25.4	24.1	23.6	22.9	21.4	21.2	20.4	21.0	22.6	22.5	22.3
					1997	22.9	23.7	25.1	22.9	24.5	23.2	21.3	21.1	22.5	21.5	21.4	21.7
					1998	22.1	24.0	25.0	26.0	24.9	24.2	21.4	20.8	20.8	21.8	21.6	21.7
					1999	23.0	25.7	24.1	25.9	25.3	23.5	20.5	20.7	21.5	20.7	21.1	21.5
					2000	23.1	24.3	25.9	25.1	24.0	23.1	20.6	20.4	21.2	21.6	21.8	21.8
					2001	22.2	24.3	22.6	24.5	23.8	21.8	21.3	21.1	22.0	23.4	22.7	22.9
					2002	21.6	24.6	24.8	25.4	26.3	24.3	23.9	21.8	22.6	24.2	24.1	22.6
					2003	23.2	25.7	24.8	24.3	26.5	23.2	20.7	21.0	21.2	23.3	22.9	21.3
					2004	23.9	23.9	25.4	23.9	26.5	23.7	21.5	21.7	21.6	21.5	22.8	22.0
					2005	23.4	25.7	25.1	25.6	23.3	23.4	21.2	22.1	22.1	23.2	23.0	22.8
					2006	24.1	26.0	24.5	23.2	24.8	23.7	21.3	21.0	21.3	22.8	22.5	21.6
					2007	23.0	24.4	26.2	25.0	25.4	22.6	21.3	20.7	21.6	22.6	22.2	22.1
					2008	23.5	24.0	27.0	25.9	24.3		20.9	20.6	22.1	23.2	21.3	22.7
					2009	22.8	24.4	26.5	25.6	26.6	25.6	22.0	21.4	22.8	22.7	23.7	22.4
					2010	23.7	23.8	23.2	24.5	24.0	23.6	21.4	21.5	21.4	23.8	23.6	23.1
					2011		25.3	24.3	26.4	24.2	24.0	22.2	21.0	21.4	23.3	22.9	22.0
					2012	23.7	24.9	26.4	24.9	25.8	24.5	21.0	20.9	21.2	23.2	23.9	23.2
					2013	23.6	25.9	26.3		24.1	23.8	21.3	20.9				
				Minimum	1971	7.1	7.5	9.2	11.6	11.9	11.5	11.1	11.1	10.7	11.0	9.0	8.7
					1972	7.9	10.0	10.4	12.0	12.3	11.8	11.8	11.4	11.1	11.5	10.2	9.2
					1973	9.0	9.9	11.5	14.0	12.5	11.8	11.6	11.3	11.2	10.9	9.1	7.7

(単位: ºC)

観測所名	緯度	経度	標高	項目	年	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					1974	7.6	8.2	10.9	12.3	12.1	11.2	11.1	11.5	11.1	10.8	7.8	7.5
					1975	7.8	9.2	11.3	12.1	12.5	11.3	11.1	11.3	10.9	10.5	8.9	6.8
					1976	7.5	9.6	10.8	12.0	12.0	11.1	11.2	10.6	10.5	11.0	9.3	7.7
					1977	9.9	9.5	10.6	12.1	12.0	11.1	11.3	11.1	10.8	11.6	9.8	8.2
					1978	8.1	9.9	11.0	12.2		11.7	11.2	11.0	10.6	9.9	9.1	8.1
					1979	9.4	9.7	11.0	11.6	12.1	11.7	11.2	11.2	11.0	10.8	8.6	8.6
					1980	8.4	9.8	11.6	12.7	12.4	11.8	11.2	11.0	10.5	10.2	8.9	7.0
					1981	7.6	9.1	11.3	11.9	11.9	10.8	10.9	10.7	9.9	10.7	8.2	6.7
					1982	7.9	9.4	10.0	10.8	11.8	10.3	10.3		9.8	10.0	9.0	8.2
					1983	7.0	9.6	10.9	11.2	11.4	10.4	11.0	11.3	9.9	9.6	8.0	7.8
					1984	6.7	6.5	9.4	12.0	11.6	10.6	10.2	10.4	9.8	8.7	7.5	6.5
					1985	7.0	8.6	9.6	11.3	10.5	10.0	10.0	9.7	9.6	9.0	8.2	7.0
					1986	6.7	9.7	10.0	11.2	10.8	10.4	9.9	9.7	9.4	9.9	8.4	7.6
					1987	7.4	9.0	10.8	10.6	11.4	10.4	10.3	10.2	11.1	11.2	7.5	8.8
					1988	9.1	10.5	11.7	12.0	11.0	11.1	11.6	11.0	10.6	10.5	7.6	7.6
					1989	7.7	8.6	10.4	10.4	11.1	11.3	11.8	11.3	11.3	11.4	10.5	10.3
					1991	9.9	11.4	12.0	13.1	13.6	12.5	12.1	11.8	11.2	11.4	8.7	9.6
					1992	10.2	11.4	11.9	12.7	12.9	12.1	11.9	12.1	11.0	11.6	9.5	10.5
					1993	10.3	10.2	10.5	12.6	12.4	11.8	11.9	11.3	11.2	11.2	10.1	8.1
					1994	8.1	10.3	11.8	13.2	12.3	12.0	11.7					
					1995											11.3	8.9
					1996	10.3	9.8		12.3	12.4	12.2	12.0	11.7	11.1	10.9	9.2	8.2
					1997	9.8	9.2	11.2	11.9	12.2	11.2	11.4	11.1	10.7	11.5	10.3	9.2
					1998	9.5	10.5	11.4	11.8	11.3	10.9	10.9	10.7	10.2	10.5	8.1	8.4
					1999	8.0	8.7	11.8	12.7	12.1	12.2	11.8	11.8	11.4	11.6	11.1	9.1
					2000	8.5	9.7	10.6	13.5	12.2	12.2	12.6	12.2	11.6	12.2	10.7	9.1
					2001	10.0	10.4	9.5	10.1	9.5	8.8		9.7	8.5	8.9	7.4	6.0
					2002	7.9	6.7	8.7	10.4	9.6	9.5	9.3	9.2	8.5	9.1	8.2	8.3
					2003	7.3	8.4	8.7	9.4	9.6	9.2	9.2	9.4	8.4	9.6	7.6	6.4
					2004	7.8	7.3	8.7	10.5	9.4	8.9	8.8	9.2	8.9	8.1	8.2	7.0
					2005	7.2	7.0	9.3	10.1	10.4	9.1	9.2	9.0	9.2	9.3	8.1	5.0
					2006	6.2	7.8	9.1	9.7	9.5	9.3	9.5	9.2	8.7	8.9	8.5	8.0
					2007	7.4	8.8	8.4	9.5	9.8	9.6	9.4	8.5	8.2	8.7	7.5	6.1
					2008	6.1	6.8	7.7	10.1	9.6	8.8	8.9	8.7	8.7	9.2	6.8	4.6
					2009	5.8	6.1	8.4	10.1	10.0	9.0	9.6	9.2	9.2	7.7	7.0	7.4
					2010	6.2	9.4	9.0	9.9	9.9	9.1	9.4	9.5	8.2	9.3	6.2	5.8
					2011	5.9	7.3	8.6	9.4	10.0	9.3	9.1	9.1	8.1	9.0	9.2	6.4
					2012	8.3	9.5	11.3	13.0	12.6	12.0	12.4	12.2	11.1	12.4	11.0	9.7
					2013	9.7	10.4	12.6	12.4	9.4	9.4	9.3	11.0				
Meiso Mission	09º14'00"	040º45'00"	1,332 m	Maximum	1952									31.5	36.5	30.9	
					1953	29.8	30.9	33.2					29.4	30.2	31.5	29.6	
					1968									30.2	30.4		25.3
					1969				30.0		32.4		30.5		31.2	28.0	
					1972					32.8		31.5	29.8	29.5			25.8
					1973	26.2	29.9	34.8	34.2	34.0	33.0	31.3	29.2		31.2	29.6	22.5
					1974	30.0	33.5	29.8	32.0			25.1	27.8				
					1991	29.4	29.2	30.3	31.3				29.4	30.4	30.6	29.1	27.7
					1992	27.4	27.2	30.9	31.2	31.5	32.5	30.8	28.7	28.6	29.7	28.6	28.5
					1993	26.9	25.2	30.9	29.2	30.1	32.8	31.6	29.3	31.0	30.3	30.2	28.5
					1994	29.5	30.3	31.6	31.3	33.0	33.5	29.7	29.3	29.5	31.0	28.0	27.4
					1995	28.7	31.2	30.4	29.8	33.8	34.5	31.0	31.1	31.4	32.3	30.3	29.1
					1996	28.0	30.4	31.4	31.6	31.2	31.1	29.9	30.7	31.0		31.7	28.3
					1997	29.8	30.4	32.4	31.0	34.6	32.7	31.3	31.2	33.4		28.5	27.0
					1998	27.5	29.2	30.3	33.1	33.9	35.1	31.1	29.7	29.2	29.3	28.9	28.3
					1999	28.7	31.4	28.8	32.4	33.6	33.6	30.0	29.5	29.9	27.6	28.4	27.8
					2000	29.0	30.4	32.0	32.1	33.5	33.8	31.7	30.0	29.7	29.0	28.2	27.8
					2001	27.3	30.0	29.9	33.0	33.9	33.1	32.0	28.8	29.5	31.1	29.9	29.0
					2002	27.2	30.7	31.6	32.4	35.1	34.5	33.7	31.7	31.4	32.4	30.9	27.7
					2003	28.7	31.7	32.2	32.1	34.7	33.3	31.4	29.8	30.2	32.1	30.5	28.1
					2004	29.7	29.8	30.6	30.5	34.9	34.0	32.1	31.4	30.9	29.9	30.2	29.1
					2005	29.4	32.2	31.5	32.0	30.8	32.5	30.0	31.0	31.0	31.1	30.1	28.6
					2006	29.3	30.9	30.9	30.0	32.9	34.2	31.9	29.7	30.7	30.4	29.8	27.3
				Minimum	1952											8.9	
					1953	7.8	11.3	14.0					14.6	15.4	10.9	9.5	
					1968									15.8	14.4		10.0
					1969				14.8		17.1		15.6		15.2	13.0	
					1972					16.9		15.9	14.7	14.8			11.7
					1973	12.6	14.6	17.2	16.5	17.0	16.4	15.6	13.9		15.8	14.9	9.7
					1974	15.1	17.6	15.1	16.3			12.0	13.6				
					1991	12.2	15.3	16.5	15.9				17.7	16.8	13.0	9.9	10.8
					1992	13.5	15.2	16.0	16.9	17.4	18.0	17.8	17.3	16.1	14.0	11.4	13.9
					1993	14.3	14.1	12.8	17.1	16.8	17.6	17.7	17.3	16.8	15.3	11.1	9.0
					1994	10.0	12.0	16.1	17.3	17.4	17.9	17.8	17.2	15.4	12.3	11.5	9.2
					1995	9.1	12.1	15.7	17.2	17.2	18.0	17.9	17.7	17.0	15.2	11.2	12.3
					1996	13.4	11.8	16.3	16.5	16.9	16.8	17.0	16.8	16.2		7.3	8.4
					1997	10.9	8.2	14.7	16.2	18.3	17.4	17.1	16.9	16.2	14.4	13.9	9.7
					1998	12.1	13.7	15.2	16.3	16.9	17.1	16.6	17.5	17.0	15.3	9.7	8.2
					1999	10.5	12.5	15.5	16.2	17.1	17.7	17.4	17.3	16.0	14.7	9.3	8.5
					2000	8.5	10.0	13.6	16.1	17.6	18.1	17.7	17.3	17.0	14.1	11.8	9.7
					2001	9.5	11.7	16.1	16.3	17.5	18.2	18.4	17.7	16.2	14.7	10.8	10.8
					2002	12.8	11.6	16.2	16.7	18.7	18.5	18.8	18.4	17.1	14.3	11.9	15.1
					2003	12.9	13.8	16.0	17.7	17.3	18.5	18.4	18.0	17.2	13.3	12.2	10.7
					2004	13.9	12.6	13.6	17.5	17.2	18.4	18.1	18.5	16.5	13.6	11.5	11.7
					2005	12.1	12.2	16.7	16.4	17.8	18.4	17.7	17.9	17.0	13.3	11.0	8.2
					2006	12.1	14.5	15.4	17.0	16.9	18.4	18.5	17.9	17.4	15.7	12.1	12.8
					2007	12.7	14.7	15.8	17.6	18.6	18.8	18.1	17.8	17.3	12.6	10.8	
					2008	11.5	11.1	12.2	17.6	18.2	18.2	18.2					
Melka Were	09º25'00"	040º20'00"	740 m	Maximum	1974	31.9	32.9		36.4	36.4	36.7	33.5	34.0	35.0	35.5		
					1979									28.1	28.4	29.0	29.3
					1980						38.8	35.2	35.6	36.3			
					1981	33.4	33.7	32.5	33.3	37.8	39.9	35.2	34.0	35.2	35.2	33.6	31.8
					1982	32.0	32.9	35.5					33.2			31.1	
					1983	30.4		34.6	35.4	36.9	38.1		33.3			33.2	30.9
					1984	31.2	32.8	36.9	38.4	36.5	37.3	35.6	36.1	35.1	34.9	33.3	31.1

(単位: ºC)

観測所名	緯度	経度	標高	項目	年	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					1985	32.1	31.9	36.2	33.4	35.8	38.2	34.3	32.8	34.1	34.5	32.7	31.1
					1986	31.4	34.3	33.4	34.1	36.6	35.9	34.0	35.1	34.8		33.1	30.9
					1987	31.0	33.5	33.0	34.4	34.9	38.2	38.1	34.4	36.3	34.8	32.6	32.1
					1988		34.1	36.2	36.1	38.4	38.4	33.6	32.1	33.6	33.3		30.7
					1989	30.0									33.9		
					1990	31.5	29.8	32.0					33.5	34.6	34.1	33.0	31.1
					1991	32.7	33.0	34.1	35.2		37.9	34.2	33.1	21.1	33.7		
					1998								32.2	34.1	33.9	32.6	31.6
					1999	32.3	35.5	33.7	37.4	38.4	38.4	33.7				31.6	30.9
					2000	32.0	33.5	35.6	35.8	37.9	39.1	21.8	32.7	34.5	33.2	32.0	31.5
					2001	30.4	33.2	34.4	37.2								
				Minimum	1974	15.1	16.4		18.0	20.7	22.1	20.8	21.2	20.3	16.3		
					1979									24.3	25.2	26.4	25.7
					1980						24.5	22.0	21.5	22.1			
					1981	15.5	17.6	21.0	20.9	21.7	25.4	22.8	21.7	21.5	18.3	15.5	13.9
					1982	18.5	19.7	19.7					20.2			17.4	
					1983	15.1		21.2	21.3	22.1	23.2		21.1			14.9	14.4
					1984						23.6	21.6	22.2	20.5	15.7	17.4	16.1
					1985	15.2	15.3	19.6	20.8	21.3	24.9	21.4	21.1	20.6	17.9	15.3	14.3
					1986	12.4	19.9	18.9	21.0	21.2	23.1	21.2	21.6	20.6		15.5	16.0
					1987	15.1	16.9	21.1	19.6	20.8	24.9	24.8	21.8	21.6	19.1	14.1	15.0
					1988		20.1	18.2	20.5	21.1	24.5	22.3	20.7	20.8	17.6	11.8	13.2
					1989	15.0									16.8		
					1990	15.4							21.3	21.1	16.6	15.1	13.0
					1991	17.2	18.9	20.5	20.1		22.9	21.8	20.5	21.1	16.5		
					2000								21.1	21.0	17.9	15.3	13.7
					2001	13.8	15.1	20.0	19.5								
Melkasa(IAR)	08º24'00"	039º19'00"	1,540 m	Maximum	1977	25.8	25.8	29.2	29.3	29.1	27.2			27.0	27.4	25.8	26.7
					1978	27.8	27.7	28.8	30.8	31.2	30.2		26.0	27.1	27.5	27.6	26.6
					1979	25.4	27.9	29.1	30.8	29.7	29.0	26.0	26.4	27.2	28.3	28.1	27.6
					1980		30.1	31.5	31.0	31.9	29.5						27.6
					1981	29.2	28.7	27.6	27.8	31.9	32.5	27.1	25.9	26.0	28.6	27.9	27.1
					1982	28.0	28.1	30.3	29.6	29.9	30.8	27.0	24.9	27.2	26.6	26.1	25.9
					1983			29.6	29.7	30.0	29.9	27.9	25.7	27.4	28.6	28.5	27.0
					1984	27.1	28.9	31.8	32.8	29.9	28.5	26.6	26.9	27.2	29.6	29.1	26.8
					1985	28.5	28.3	31.2	28.5	29.5	30.5	25.6	24.7	26.7	28.6	28.5	
					1986	27.6	29.0	28.8	28.9	31.3	28.2	26.3	27.1	27.2	29.3	29.3	27.7
					1987	27.2	29.8	29.0	29.8	28.8	30.2	29.1	27.1	29.2	30.4	29.9	29.0
					1988	28.4	30.3	32.4	31.1	32.5	30.3	25.7	26.1	26.7	28.3	28.3	27.6
					1989	27.5	27.5	30.4	28.7	31.7	31.2	26.7		27.6	28.7	28.9	27.7
					1990		27.4	27.8	29.0	32.1	31.4	27.3	25.9			29.1	28.4
					1991	29.7	29.4		30.3							28.2	
					1993	26.6	26.5	31.0	29.7	29.5	29.4	26.3	26.4	27.2	28.9	28.8	
					1994	28.6	29.9	31.0	31.4	31.7	29.7		25.3		28.9	27.1	27.6
					1995	28.0	30.2	29.5	29.1	31.7	32.1	27.6	25.7	27.1	29.2	29.3	28.5
					1996	27.5	30.3	29.9	29.6	29.5	28.1	28.0	26.9	27.3	29.2	28.2	28.2
					1997	28.0	29.1	31.4		31.7	30.1	26.3	26.3	29.6	28.4		
					1998					31.9	32.0	27.3	25.7	27.0	27.3	28.5	28.1
					1999	28.8	31.7	29.4	32.3	32.4	30.7	25.5	25.9	27.4	26.5		
					2000	28.9	30.1	31.4	31.1	30.9	30.2	25.8	25.6	26.8	27.1	27.7	27.6
					2001	27.1	29.5	28.9	31.2	30.5	28.5	26.4	25.8	28.2	30.0	28.4	28.2
					2002	26.8	30.4	30.2	30.8	32.4	31.0	29.7	26.9	28.3	30.3	29.3	27.3
					2003	27.9	30.5	30.6	29.4	33.0	30.1	25.9	25.6	26.6	29.2	28.5	26.2
					2004	28.2	28.4	29.5	29.1	32.7	30.4	26.7	27.0	28.3	27.8	28.2	27.7
					2005	28.1	31.0	30.7					27.2	28.0	29.5	28.7	27.9
					2006	29.1	30.5	29.8	29.0	31.2					29.0	28.5	26.9
					2007	27.7	29.8	31.3	30.0	32.3	29.4	27.2	25.9	27.2	28.5	28.0	27.6
					2008	29.1	29.0	32.3	31.2	31.1	30.0	26.5	26.3	27.7	28.2	26.2	27.2
					2009	27.8	30.2	32.3	31.3	32.6	32.3	28.1	26.7	30.0	28.6	29.2	27.4
					2010	28.3	28.2	28.3	31.0	30.5	30.4	26.2	24.3	27.6	29.9	28.7	
					2011			30.3	32.8	31.6	31.0	27.6	26.2	26.7	28.6	27.9	27.2
					2012	28.6	29.9	32.0	30.7	32.7	31.4	25.4	25.2	27.0	28.5	29.5	28.4
					2013	27.7	30.7	31.9		31.8	30.9	26.1	26.3	28.3			
				Minimum	1977	13.8	11.2	14.7	14.1	14.2	14.1			15.8	15.0	13.5	12.7
					1978	11.4	13.4	15.0	15.8	15.7	16.4		14.6	14.2	13.0	11.1	11.7
					1979	14.3	13.5	14.0	15.2	15.1	15.2	14.5	14.3	14.0	11.2	10.2	12.0
					1980		14.9	16.2	15.7	16.1	15.3						8.7
					1981	12.8	13.9	17.0	16.2	16.1	17.4	16.0	15.6	14.9	12.0	10.9	10.7
					1982	14.5	15.8	16.1	16.2	16.2	16.9	15.8	15.3	14.3	11.8	13.0	12.6
					1983			17.1	16.7	16.8	16.4	15.9	15.5	15.4	11.8	10.8	10.6
					1984	9.5	9.8	15.4	16.7	16.5	16.3	15.6	15.9	14.2	12.1	14.0	12.4
					1985	12.1	13.4	16.5	16.1	16.3	17.0	15.2	15.0	14.5	12.6	12.4	
					1986	9.8	15.6	15.2	16.8	16.5	16.4	15.5	15.2	14.2	11.2	11.3	11.3
					1987	11.4	12.9	16.3	14.7	15.9	17.1	16.6	16.0	14.5	12.8	9.7	11.3
					1988	13.7	16.3	15.2	16.4	16.1	16.9	16.8	15.8	15.4	11.8	7.0	9.4
					1989	9.8	14.2	14.5	15.9	14.2	15.5	16.0		14.4	10.4	9.4	14.2
					1990		16.1	14.1	14.4	15.4	16.5	15.9	15.7			10.0	9.4
					1991	12.9	15.0		15.2							10.0	
					1993	14.3	12.8	12.4	15.9	15.3	16.9	15.5	15.3	15.0	12.5	11.7	
					1994	9.6	12.1	16.0	16.5	15.8	17.4		14.8		11.3	11.7	9.9
					1995	9.2	14.6	15.2	15.3	15.0	16.6	16.6	16.2	14.2	12.0	9.9	14.2
					1996	14.3	12.3	16.0	15.1	15.2	16.7	16.6	16.2	14.9	10.0	10.8	9.6
					1997	13.4	11.8	15.9		14.7	15.3	14.5	14.1	13.2	13.9		
					1998					14.8	15.2	14.0	13.8	12.8	11.0	5.4	4.7
					1999	8.2	8.9	11.5	10.8	11.7	12.4	11.5	11.0	10.0	8.7		
					2000	5.1	6.0	13.6	14.1	15.5	16.5	15.9	15.8	14.8	12.3	10.4	9.4
					2001	9.6	11.8	15.5	14.9	16.7	16.4	16.2	15.7	13.5	12.3	10.5	11.4
					2002	12.4	12.8	15.8	15.4	17.2	17.5	16.6	15.8	15.0	12.4	11.4	15.1
					2003	12.1	13.4	15.3	15.9	14.0	16.6	16.2	16.2	15.0	11.7	12.6	10.8
					2004	15.1	12.7	13.4	15.5	14.7	16.9	15.8	16.1	15.1	12.5	11.6	12.6
					2005	11.8	13.1	15.6	15.0	15.8	16.9	16.5	16.1	15.5	11.9	11.3	8.1
					2006	13.3	15.5	14.7	15.4	15.7	16.9	16.4	15.6	15.2	13.4	11.6	12.9
					2007	13.5	14.8	14.7	16.1	16.7	17.2	16.7	15.6	15.7	9.5	10.9	7.2
					2008	12.1	12.4	11.7	17.0	16.5	16.7	15.9	15.9	15.4	12.1	9.9	8.2

(単位: ºC)

観測所名	緯度	経度	標高	項目	年	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					2009	11.1	13.9	15.5	15.4	15.0	16.8	15.6	15.5	15.0	12.2	9.4	14.4
					2010	12.5	15.1	15.6	16.1	17.3	17.5	16.5	16.6	15.2	11.0	10.8	
					2011				10.7	11.0	11.5	10.3	10.4	8.8	4.5	6.7	7.1
					2012	10.1	9.8	13.4	16.1	15.1	17.4	16.1	16.1	15.3	10.0	9.5	10.9
					2013	10.1	11.7	15.9		17.1	17.3	16.0	16.2	14.7			
Metehara (NMSA)	08°51'31"	039°55'08"	944 m	Maximum	1984											32.8	30.7
					1985	32.2	31.7	35.5	33.6	34.5	36.7	32.7	31.4	33.7	33.9	32.6	30.8
					1986	30.9	33.6	34.4	34.4	36.5	34.9	32.8	33.6	34.5	33.9	33.1	31.1
					1987	30.3	33.6	33.2	33.6	33.7	36.9	36.4	33.3	35.7	34.7	33.1	31.8
					1988	31.0	33.8	35.6	35.4	37.3	37.0	32.1	31.7	32.7	33.2	31.6	30.3
					1989	29.7	30.7	33.4	31.1	35.8	36.1	32.7		33.8	34.2	32.4	30.1
					1990	31.2	29.6	30.9	32.7	37.0	37.7	32.7	32.7	33.6	34.1	32.7	30.8
					1991	32.6	32.2	34.6	34.1	34.9	36.7	32.3	31.3	33.9	33.8	31.8	31.0
					1992	30.4	29.8	35.1	35.3	36.0	36.6	32.8	30.9	32.3	32.7	31.8	31.5
					1993	30.2	28.9	34.9	33.5	33.6	36.8	33.1	33.1	34.2	33.9	32.7	31.3
					1994	31.4	33.0	35.3	36.5	36.3	36.3	32.1	31.7	32.3	33.5	31.0	30.1
					1995	31.1	33.4	32.5	34.8	36.9	37.7	33.2	32.4	33.5	34.6	33.0	32.5
					1996	31.6	34.2	34.4	34.3	34.3	34.7	32.3	32.4	34.1	34.3	31.9	31.1
					1997	31.3	32.1	35.3	34.1	36.8	36.3	33.1	33.3	36.0		30.3	30.3
					1998	29.9	32.9	33.9	36.9	37.0	38.1	34.3	31.5	33.8	32.9	32.3	31.0
					1999	31.9	34.8	32.8	36.2	37.2	36.9	31.9	32.0	33.6	31.9	31.3	30.4
					2000	31.8	33.2	35.1	35.7	36.8	37.3	33.2	31.2	33.7	32.7	31.7	31.1
					2001	30.1	32.9	33.7	35.9	37.9	36.4	33.0	31.3	34.9	34.8	32.7	31.7
					2002	30.9	33.9	34.5	36.3	38.3	37.8	36.6	33.6	35.4	35.3	33.5	31.3
					2003	31.3	34.8	35.6	35.8	38.1	36.8	32.9	31.6	33.6	35.2	33.1	30.9
					2004	32.3	32.5	34.1	33.3	37.8	36.9	33.3	33.1	34.7	33.4	32.6	31.3
					2005	31.6	35.0	34.9	35.8	34.4	36.6	32.2	33.5	35.0	34.9	33.2	31.7
					2006	32.7	34.0	34.3	34.9	37.3	37.9	33.7	31.7	34.4	34.4	32.5	29.9
					2007	31.1	34.0	35.3	34.9		36.6	33.6	31.0	33.0	33.9	31.9	31.0
					2008	32.4	32.0	36.1	36.0	36.0	36.1	32.8	32.0	34.7	34.2	30.2	31.0
					2009	31.2	33.9	36.5	36.1	37.9	38.7	34.8	32.6	36.1	33.7	33.5	31.5
					2010	31.9	32.5	33.0	35.9	35.8	37.2	33.4	32.2	33.7	35.6	33.2	31.5
					2011	32.7	34.7	34.3	37.2	36.6	37.3	35.0	32.8	33.1	34.6	32.8	31.3
					2012	32.5	33.9	36.1	36.3	37.4	37.2	32.8	31.8	33.7	34.1	33.6	31.9
					2013	31.5		36.2	36.9	37.3			32.2				
				Minimum	1984											15.1	13.6
					1985	13.1	13.9	17.9	18.7	18.4	20.8	18.4	17.8	18.0	15.5	13.3	12.3
					1986	9.8	18.4	17.6	19.9	19.8	20.9	19.4	19.7	18.6	15.6	13.8	13.6
					1987	13.6	15.0	19.3	17.2	18.7	22.9	22.1	20.2	20.2	17.8	12.7	13.6
					1988	16.7	18.8	17.9	20.0	19.1	22.3	20.6	19.4	19.4	16.7	10.0	12.1
					1989	13.0	15.9	17.8	18.7	16.0	19.7	19.9		19.0	15.2	14.5	18.0
					1990	14.7	18.8	17.6	17.6	20.2	22.6	20.0	19.9	19.8	15.1	14.7	12.2
					1991	16.4	18.2	19.5	18.7	19.2	21.7	20.4	19.8	19.5	15.7	12.8	13.6
					1992	16.9	19.1	20.5	20.3	19.8	21.5	20.3	19.9	18.6	16.8	15.0	16.8
					1993	17.3	16.3	15.5	19.7	19.4	21.9	20.3	20.3	20.6	18.3	14.3	12.2
					1994	11.9	14.8	20.1	20.8	19.9	21.8	19.6	19.5	18.5	15.4	14.3	
					1995		17.4	18.7	19.7	19.8	21.1	21.2	20.0	18.9	17.0	13.2	17.1
					1996	17.7	15.2				21.4	20.2	20.1	19.9	15.4	13.4	11.7
					1997	16.0	12.8	19.1	19.4	19.5	20.6	20.1	20.3	20.1		18.6	14.4
					1998	18.1	19.6	20.1	20.4	21.2	23.2	21.4	19.9	20.3	17.8	12.6	10.0
					1999	14.1	14.8	18.9	18.7	19.5	21.1	18.9	19.2	19.6	17.6	12.6	12.0
					2000	12.1	12.1	16.5	19.3	20.7	22.4	19.8	19.7	19.7	16.9	14.7	12.7
					2001	13.5	14.9	19.0	18.2	21.0	22.2	20.0	20.1	18.6	17.9	13.9	14.3
					2002	16.6	15.7	20.1	20.0	20.5	22.3	21.8	20.0	19.1	17.7	14.4	18.0
					2003	16.0	17.1	19.3	20.5	19.2	21.2	20.4	19.6	20.0	16.3	16.0	14.0
					2004	18.2	15.4	16.1	19.3	18.3	21.9	20.3	20.6	19.9	16.7	15.5	15.8
					2005	15.4	15.7	19.3	18.6	20.3	21.7	20.3	20.2	20.9	16.2	14.5	10.5
					2006	15.7	18.2	17.8	19.3			20.6	20.5	20.2	18.8	15.6	16.2
					2007	16.7	17.9	17.3	19.3		22.4	20.7	19.6	20.3	15.6	14.7	10.5
					2008	14.1	14.3	13.3	18.9	20.2	21.4	20.0	19.8	20.3	16.6	13.8	11.0
					2009	13.5	16.0	17.9	19.4	19.4	21.7	20.9	20.3	20.0	17.5	14.0	18.1
					2010	15.2	18.3	18.0	20.5	21.6	22.5	20.9	20.5	19.7	15.9	14.7	12.1
					2011	14.6	15.9	16.3	20.6	20.8	21.2	20.9	20.0	20.4	14.7	16.8	11.5
					2012	13.3	14.0	16.1	20.7	19.4	22.2	19.8	19.6	19.9	14.5	14.3	13.8
					2013	14.0		19.6	20.4	21.5			20.4				
Shola Gebeya	09°13'05"	039°33'00"	2,500 m	Maximum	2006	19.8	21.1	20.6	20.5	22.2	21.8	18.5	17.8	18.4	19.3	18.7	18.2
					2007	18.8	20.7	22.0	20.8	22.2	21.1	18.2	17.8	18.4	18.7	18.8	18.8
					2008	20.0	20.3	22.2	21.5	21.5	20.6	19.0	18.1	19.1	19.4	18.2	18.5
					2009	19.2	20.8	22.0	21.6	22.8	23.4	18.7	18.3	19.5	18.7	19.4	
					2010	19.3	19.9	19.5	20.3	20.7	21.7	18.7	20.7	18.7	19.5	19.0	18.8
					2011	19.7	21.3	20.4	22.1	21.8	21.8	19.1	18.3	18.4	19.4	19.3	19.1
					2012	20.1	21.6	22.5	20.6	22.5	21.7	18.6	17.9	19.3	19.5	20.4	19.7
					2013	19.9	21.7	22.0									
				Minimum	2006	8.0	9.7	10.3	11.0	11.9	11.0	10.7	10.5	10.2	9.6	7.2	7.7
					2007	7.6	9.9	10.8	11.3	11.9	11.3	10.4	10.1	10.1	8.1	7.2	5.6
					2008	8.2	7.3	9.2	10.4	11.5	10.7	10.0	10.3	10.3	8.2	7.0	6.1
					2009	8.0	9.2	11.0	10.7	11.0	11.4	10.7	10.7	10.2	8.8	7.1	
					2010	6.7	9.4	9.2	9.9	10.4	11.3	10.5	10.4	10.2	9.0	7.1	6.9
					2011	7.5	8.2	9.7	11.4	11.5	10.8	10.6	10.5	10.1	7.9	7.9	5.3
					2012	6.5	7.2	9.4	10.5	11.8	10.6	10.6	10.5	10.1	8.5	7.2	7.3
					2013	7.1	8.7	11.0									
Woliso Giyon	08°33'00"	037°59'00"	2,058 m	Maximum	1953					27.2	24.2	20.1	21.4	22.7	25.5	25.6	
					1954	27.6	29.1	28.5	28.7	27.9	22.8	19.9	20.4	21.6		23.3	
					1985	26.1		28.9	26.3	24.9	23.4	20.3	20.2	22.9	25.5	25.8	26.1
					1986	26.5	25.6	25.8	25.3	25.4	23.0	21.2	22.5	23.3	25.3	26.5	26.2
					1987	26.7	27.5	25.9	25.9	24.8	23.3	22.9	22.6	24.8	26.4	27.2	27.2
					1988	27.1	26.9	29.5	28.5	28.3	23.7	19.5	20.9	21.7	23.9	25.0	25.1
					1989	25.4	26.0	26.4	25.3	26.3	23.4	20.7	21.5	22.5	24.6	25.2	25.1
					1990	26.3	24.9	26.3	26.5	26.6	22.8	21.5	21.3	22.4	24.9	26.1	25.9
					1991	26.9	27.0	26.8				20.5	20.8	22.9	24.9	25.5	25.0
					1992	25.3	25.5	27.6	27.1	26.8	23.3	20.5	19.9	22.3	23.7	24.3	24.9
					1993	25.4	25.7	28.5	24.8	24.7	22.2	20.4	21.4	22.3	24.6		
					1994					26.5	22.3	20.8	21.0	22.7	25.6	26.1	26.4
					1995	27.3	27.9	28.0	26.1	26.1	24.4	20.6	21.4	23.5	25.7	26.5	26.2

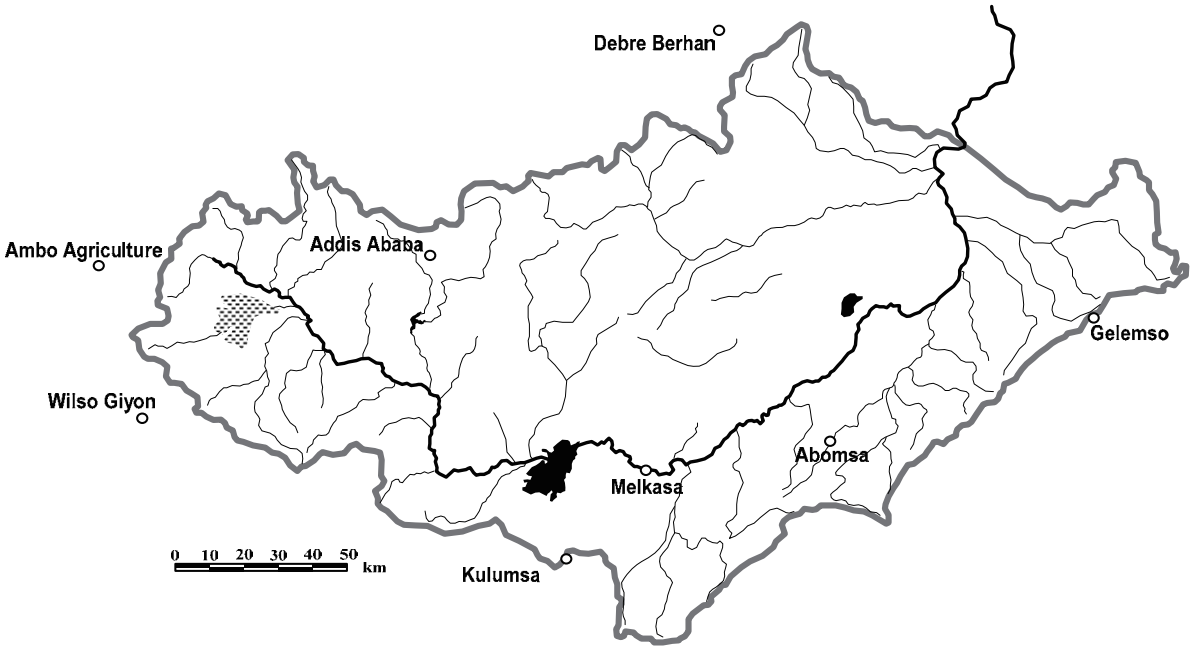
(単位: ºC)

観測所名	緯度	経度	標高	項目	年	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					1996	25.3	28.5	27.0	26.3	25.1	22.3	21.1	21.6	23.1	25.1	25.6	26.1
					1997	26.1	27.9	28.6	26.5	27.6	23.8	21.2	21.9	24.8	24.7	25.2	26.5
					1998	26.4	27.8	27.4	29.1	26.5	23.7	21.1	21.2	22.4	24.0	25.0	25.4
					1999	26.5			29.4	26.9	23.5	20.4	21.4	22.9	22.9	24.3	25.4
					2000	26.7	27.8	29.3	27.1	26.1	23.6	21.4	21.4	22.5	24.2	24.7	25.6
					2001	26.3	27.9	25.9	28.4	26.2	22.5	21.1	21.2	23.5	25.2	25.7	26.1
					2002	25.9	28.0	27.1	28.0	27.8	23.6	22.4	21.7	23.6	26.3	26.4	25.9
					2003	26.5	28.7	28.1	26.7	28.8	24.1	20.6	21.3	22.4	25.4	25.5	
					2004		27.2	27.8	26.5	27.8	23.1	21.4	21.9	22.7			
					2005				28.4	26.0		21.3	22.1	23.1	25.3	25.2	25.8
					2006	26.8	28.1	26.8	25.9	26.4	23.1	21.3	21.2	22.9	25.8	26.1	26.0
					2007	26.9	27.7	29.2	27.8	27.0	23.1	21.5	21.4	22.3	25.0	25.4	25.7
					2008	27.2	27.7	29.6	28.2	25.9	23.2	20.9	21.1	23.4	25.1	24.4	25.7
					2009	26.1	27.9	29.4	28.4	28.2	26.3	22.3	21.8	23.8	24.9	26.1	25.2
					2010	26.9	26.8	27.2	27.1	25.4	23.7	21.3	21.9	23.9	26.7	26.2	25.9
					2011	26.6	28.5	27.3	28.9	26.8	23.5	22.2	21.5	22.8	25.9	25.7	25.6
					2012	27.4	28.3	29.1	27.1	27.9	23.5	21.2	21.8	23.0	25.9	26.8	26.4
					2013	27.1	28.6			25.4	23.3	21.5	21.5				
				Minimum	1953					12.0	11.7	11.4	11.4	10.3	11.1	11.3	
					1954	10.5	13.0	13.3	13.3	11.8	11.7	11.6	10.8	9.7	10.7	10.7	9.8
					1985	11.2			11.4	11.4	8.6	10.4	10.5	10.6	10.7	10.5	11.2
					1986	10.3	10.8	11.8	11.0	10.3	11.3	12.6	12.2	11.7	12.0	12.9	13.2
					1987	13.1	14.2	14.6	14.6	14.5	13.4	13.1	12.9	12.0	10.9	12.8	13.2
					1988	14.0	13.7	15.0	15.2	13.1	13.0	13.2	12.6	12.2	11.9	11.9	12.0
					1989	12.0	13.5	12.8	13.4	12.2	12.0	12.3	12.0	11.2	11.2	12.1	12.9
					1990	12.1	12.9	13.2	13.3	12.5	11.9	11.6	11.5	10.9	11.7	12.5	11.8
					1991	12.9	12.7	13.7				12.4	12.1	10.9	11.1	11.7	12.0
					1992	12.6	12.5	13.2	13.6	13.0	11.1	11.0	11.2	9.7	10.5	10.3	11.6
					1993		12.6	13.3	13.4	13.1	12.7	12.6	12.1	11.1	11.3		
					1994					12.7	12.4	12.8	12.9	12.1			
					1995	13.0	13.9	13.9	14.3	13.4	12.1	13.0	13.1	11.5	12.5	11.6	
					1996		14.2	14.0	14.0	13.1	13.3	13.3	12.8	12.1	12.0	12.5	12.9
					1997	13.7	13.8	15.1	14.4	13.0	13.0	12.9	12.9	12.7	13.5	13.6	13.3
					1998	14.1	14.6	15.2	15.5	10.5	9.2	9.5	9.8	8.7	8.9	9.7	11.9
					1999	12.3			14.4	12.5	12.5	12.3	12.2	11.9	12.5	11.0	10.7
					2000	9.2	11.5	13.1	14.3	12.7	12.3	12.4	12.7	12.6	12.3	12.6	12.9
					2001	12.9	14.3	13.8	15.1	13.0	12.6	12.1	13.2	11.5	11.8	12.5	13.5
					2002	13.2	14.1	12.8	12.5	12.6	12.7	12.9	12.9	11.6	12.7	13.5	13.5
					2003	12.6	14.8	14.7	12.7	12.1	12.8	12.9	13.3	12.5	13.0	13.4	12.5
					2004	14.2	14.1	14.6	14.7	13.2	12.9	13.1	13.0	12.5	12.6	13.2	13.3
					2005	13.3	14.8	14.6	15.4	14.1	13.1	13.2	13.2	13.2	12.4	12.6	12.2
					2006	13.4	28.1	14.0	14.2	13.0	12.6	13.3	13.0	12.3	13.3	13.6	14.0
					2007	13.6	14.6	15.3	14.5	13.3	13.5	12.9	13.2	12.5	12.3	13.6	12.5
					2008	14.1	14.3	15.0	14.4	12.7	13.1	12.2	12.8	11.8	13.0	12.7	13.0
					2009	13.2	14.8	15.1	14.0	12.8	12.3	13.2	13.2	12.5	12.9	13.1	14.5
					2010	13.7	15.0	15.0	14.9	14.7	13.7	13.1	13.4	12.5	13.1	13.7	13.0
					2011	13.8	13.8	14.6	14.7	13.8	13.6	13.1	13.1	12.5	13.0	13.2	12.8
					2012	13.6	14.0	15.2	14.4	13.9	13.1	12.8	12.8	12.2	12.6	12.9	12.8
					2013	13.4	14.3			14.1	13.5	12.7	12.7				
Debre Berhan	09º38'00"	039º30'00"	2,750 m	Maximum	1957												20.6
					1958	18.9	19.6	21.6	21.8	23.3	23.4	19.0	20.3		21.4	20.6	
					1959	20.3	18.9		25.9	27.2	26.9	19.2	24.8	24.1	20.3	17.9	16.9
					1960	20.6	20.3		25.7		27.0	26.4	24.7	27.9			
					1964									18.1			
					1965				16.3			19.6					
					1966								18.0	18.2	18.8	18.8	19.1
					1967	19.4	21.1	20.2	20.1	19.6	20.9	17.3	17.1	17.9	17.9	17.6	18.8
					1968	19.6	17.8	19.1	18.8	19.4	19.6	17.7	17.8	18.0	18.1	18.2	18.0
					1969	18.3	18.6	18.7	18.8	19.5	19.8	18.2	18.3	18.4	18.7		
					1977			21.6							19.8		19.2
					1978			20.6	20.9	20.9	22.4	17.9	18.6		18.7	18.8	18.8
					1979	18.3	19.2	19.7	19.7	20.2	21.1	18.8	18.2	18.9		18.9	20.0
					1980		20.3	20.8	21.6	22.3	19.4	18.0	18.2	18.4	18.0	18.5	18.7
					1981	19.8		18.9	19.1	21.2	22.1				18.5	19.1	18.9
					1982	18.8	19.3	20.1	19.3	20.1	22.3	20.6	18.1	18.8	17.7	18.8	19.3
					1983	18.7	20.9	21.0	20.9	20.8	21.4	21.4	18.4	19.3	18.8	19.5	19.3
					1984	20.0	21.3	22.0	23.5	21.0	20.3	19.3	20.2	18.4	19.1	19.4	18.6
					1985	19.4	19.8	20.4	18.9	19.7	21.7	18.7	18.4	18.2	18.1	18.6	18.5
					1986	20.4	19.9	19.1	19.0	20.9	19.3	18.6	18.1	18.3	18.5	19.0	19.5
					1987	19.5	20.9	19.5	19.7	19.5	21.9	22.4	19.5	19.8	19.5	19.8	20.1
					1988	20.3		21.5	20.6	22.1	22.1	17.0	17.6	18.0	17.4	17.9	18.3
					1989	19.0	18.5	19.7	18.1	20.4	21.4	18.8	17.2	18.2	18.0	18.7	18.0
					1990	19.0	18.5	19.9	20.1	22.6	23.0	18.6	18.9	18.4	18.2	18.5	18.8
					1991	23.3	22.7	22.7	22.1		22.5	18.0	17.8	19.0	18.2	18.6	18.3
					1992	18.1	18.9	21.7	21.5	21.6	22.6	18.3	16.6	17.5	17.3	17.3	18.7
					1993	18.9	18.7	20.6	19.4	19.9	21.9	18.5	18.9	18.4	18.0	18.2	18.9
					1994	19.7	20.9	20.4	21.5	22.0	21.4	17.4	17.6	18.1		19.3	19.8
					1995	20.2	20.8	21.3	20.8	22.1	23.4		18.7	19.4	19.2	19.8	19.7
					1996	19.1	21.8	20.7	21.2	20.1	19.2	18.5	18.6	19.6	18.9	18.7	18.4
					1997	19.2	20.1	21.2	19.9	21.4	21.1	18.0	18.3	19.3	18.3	18.8	19.8
					1998	19.8	21.0	20.9	22.2	22.4	23.3	17.8	17.7	18.7	18.6	18.4	18.4
					1999	19.3	21.5	20.5	21.8	22.6	22.4	17.1	18.1	18.6	17.9	17.8	18.6
					2000	19.7	20.5	21.5	20.8	21.8	22.7	18.3	17.7	18.5	18.4	18.5	19.4
					2001	19.9	20.8	19.2	21.2	22.2	21.5	17.9	17.6	19.6	19.9	19.6	19.3
					2002	19.5	21.2	20.7	21.4	23.0	22.8	21.5	17.5	18.6	19.6	19.8	19.3
					2003	20.3	21.4	21.2	20.8	21.8	22.5	18.0	18.3	19.0	19.4	18.5	19.4
					2004	20.7	20.4	21.0	20.4	23.1	21.2	18.7	18.7	19.1	18.6	19.5	19.6
					2005	20.1	22.1	22.0	21.3	20.4	21.6	18.3	18.9	19.3	19.0	18.8	18.9
					2006	20.0	21.0	20.5	20.0	21.9	22.6	19.0	18.0	18.6	19.6		19.1
					2007	19.9	20.6	21.8	20.8	22.7	21.2	18.0	18.2	18.7	19.0	18.6	18.7
					2008	19.4	20.2	22.0	20.8	21.3	21.2	18.9	19.0	19.4	19.2	18.4	19.1
					2009	19.3	20.3	21.5	21.7	22.4	23.6	17.9	18.7	19.9	18.8	19.7	18.5
					2010	19.8	20.9	20.4	20.8	21.3	22.7	18.7	18.1	19.0	19.8	19.2	19.2
					2011	19.5	21.6	20.1	21.9	21.2	22.2	19.1	18.2	18.8	19.4	19.4	19.4

(単位: ℃)

観測所名	緯度	経度	標高	項目	年	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					2012	20.3	21.3	22.1	20.6	21.4	22.3	18.4	18.3	19.4	19.8	20.5	20.2
					2013	20.6	21.9	22.0	22.2	21.9	22.0	17.6					
				Minimum	1957												7.4
					1958	9.9	10.6	11.5	11.2	12.2	12.4	11.3	10.9		12.5	9.1	
					1959	7.0	5.3		15.0	16.3	15.0	10.5	11.1	9.8	8.2	7.8	8.0
					1960	8.7	9.7		12.3		13.4	12.6		18.2			
					1964									7.2			
					1965				4.6	6.1		8.6					
					1966								8.8	7.7	5.7	5.2	3.7
					1967	3.0	6.8	8.1	8.4	8.1	8.3	8.8	8.3	7.6	3.2	3.4	0.8
					1968	4.6											4.0
					1969	3.8	2.4	3.0	3.6	7.9	8.0	3.9	1.2	5.3	5.3		
					1977			5.4							-0.5		-1.8
					1978			1.3	-1.2	0.2	0.5	0.8	0.5		-1.6	-1.4	3.6
					1979	6.7	7.2	7.6	6.9	8.6	7.6	7.4	8.1	6.8		3.1	5.7
					1980		6.4	8.5	7.6	8.2	6.8	9.8	10.3	8.2	3.2	1.3	1.7
					1981	4.3		8.5	7.0	6.6	9.2				3.0	0.9	1.4
					1982	1.4	2.1	5.9	8.3	7.0	5.9	8.1	8.9	7.2	3.5	3.7	4.2
					1983	3.8	7.8	9.3	8.9	8.8	6.3	8.2	10.1	6.9	2.4	2.4	1.3
					1984	0.9	0.9	6.8	5.6	8.0	7.9	8.4	7.8	6.8	1.0	3.5	3.7
					1985	5.3	4.8	7.0	7.9	8.1	7.4	8.3	8.4	7.0	4.5	4.3	4.9
					1986	3.8	7.4	7.6	8.6	7.7	8.6	8.3	8.0	6.1	4.5	4.3	5.0
					1987	5.0	6.9	8.8	8.0	8.7	7.7	8.5	8.9	7.6	5.5	4.2	5.2
					1988	6.8		13.5	8.2	7.0	6.6	9.7	9.0	7.9	3.9	-1.2	0.9
					1989	0.3	6.2	7.4	8.0	5.5	6.3	8.7	9.2	9.4			6.7
					1990	3.1	9.2	7.1	6.8	5.5	5.9	8.6	8.9	7.3	2.0	2.1	0.2
					1991	5.3	6.1	8.4	7.7		7.4	9.0	8.8	7.1	1.6	1.7	0.8
					1992	6.8	7.9	8.5	7.3	6.5	6.9	7.9	9.0	7.0	3.6	3.9	4.2
					1993	5.8	6.9	5.8	8.2	6.8	6.5	8.8	8.6	7.8	4.5	1.5	2.5
					1994	3.6	5.1	8.7	8.0	7.1	7.1	8.6	7.8	6.7		0.8	2.5
					1995	2.8	7.5	6.7	8.7	6.4	6.7		9.2	7.0	2.7	1.2	5.8
					1996	6.3	4.6	7.4	7.1	8.0	7.9	8.2	8.5	6.4	1.4	2.1	3.2
					1997	6.1	2.2	8.2	7.0	6.7	8.5	8.6	8.1	7.1	6.1	4.3	2.3
					1998	7.7	8.4	9.3	9.6	7.7	7.2	9.3	9.5	7.3	3.7	-1.0	-2.1
					1999	2.2	3.1	5.9	5.2	5.8	6.3	8.6	8.6	6.2	4.6	-1.2	1.8
					2000	1.0	3.4	4.8	7.0	7.1	5.7	8.6	8.1	6.8	3.3	1.7	1.0
					2001	1.5	4.5	8.3	6.0	8.2	8.0	9.2	9.2	6.4	3.3	2.9	4.6
					2002	5.0	6.3	8.4	7.6	7.7	7.6	9.1	9.1	7.5	3.1	2.8	7.2
					2003	5.3	6.9	7.9	9.5	7.0	8.0	9.4	9.6	8.1	3.0	2.7	1.6
					2004	5.0	4.4	5.6	8.9	6.7	8.1	9.2	9.0	7.0	3.3	2.7	5.2
					2005	5.3	7.3	8.3	9.2	9.2	7.8	9.2	9.2	8.3	3.9	2.0	1.7
					2006	5.9	8.0	7.5	8.5	7.4	8.2	9.8	9.8	7.4	5.4		4.7
					2007	6.6	7.5	7.7	8.5	8.1	9.0	9.6	9.2	7.5	3.4	3.9	1.0
					2008	5.4	5.0	5.5	7.7	8.6	8.5	8.6	9.2	7.0	4.2	4.0	4.6
					2009	6.3	7.6	8.1	7.4	7.0	8.4	9.3	9.3	6.5	4.9	3.1	7.3
					2010	6.4	9.3	9.2	9.2	9.2	8.1	9.1	9.3	7.2	3.7	4.1	4.8
					2011	6.5	4.6	7.4	8.8	7.9	7.6	8.7	8.7	7.5	3.4	4.8	2.0
					2012	3.8	3.5	6.0	8.4	7.5	7.6	8.7	7.9	6.5	1.8	1.9	3.7
					2013	3.6	5.2	8.6	7.5	7.3	7.9	8.7					

相対湿度データ(月ベース)



相対湿度データ(月ベース)

(単位: %)

観測所名	緯度	経度	標高	年	時刻	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
Abomsa	08°28'00"	039°49'59"	1,630 m	1988	06:00				76	60	70	81	86	82	74	64	71
					09:00				70	44	56	71	77	74	62	49	61
					12:00				55	35	44	59	65	66	52	40	49
					15:00				46	32	42	51	60	65	50	34	42
					18:00				50	40	47	56	64	69	58	37	44
				1989	06:00	71	78	74	84	61	70	78	84	79	74	71	85
					09:00	63	73	68	75	50	56	69	74	66	57	59	81
					12:00	51	63	54	66	40	47	60	61	61	51	49	70
					15:00	42	53	46	61	37	40	52	58	60	49	42	60
					18:00	45	54	50	64	43	45	59	66	67	57	46	67
				1990	06:00	75	89	83	79	72	68	82	85	80	71	75	74
					09:00	66	84	75	71	59	51	72	76	68	55	59	63
					12:00	53	74	70	62	48	41	59	62	61	49	56	60
					15:00	44	66	67	60	44	36	50	56	61	48	53	57
					18:00	46	75	72	64	49	39	54	66	69	55	58	60
				1991	06:00	80	81	76	71	70	67	82	80	82	69	63	68
					09:00	69	75	69	61	57	54	73	76	65	53	53	61
					12:00	65	63	55	48	46	43	61	64	52	43	40	51
					15:00	53	56	51	44	43	36	53	57	49	43	39	43
					18:00	57	58	56	53	52	39	59	65	61	49	40	47
				1992	06:00	83	86	73	73	74	71	79	88	86	85	81	
					09:00	79	82	68	64	57	57	71	80	72	66	64	
					12:00	69	71	51	54	52	45	56	68	65	57	55	
					15:00	58	61	42	51	48	42	49	59	62	53	51	
					18:00	58	65	43	50	52	45	58	66	72	63	59	
				1993	06:00	86	84	70	83	82	73	81	82		78	77	73
					09:00	78	76	55	73	68	61	69	66		66	69	52
					12:00	66	69	47	59	60	52	57	58		60	60	45
					15:00	62	67	42	56	57	50	54	54		58	57	44
					18:00	63	70	42	63	65	54	58	62		61	60	46
				1998	06:00		78	81	71	68	72	77	82	81	77	70	70
					09:00		76	75	60	57	53	70	76	70	64	56	55
					12:00		64	62	51	49	43	54	63	62	57	46	44
					15:00		57	59	47	44	38	51	60	63	56	44	40
					18:00		59	62	49	50	44	59	69	73	67	48	45
				1999	06:00	74	65	80	68	67	78	90	88	88	88	71	76
					09:00	66	57	74	58	58	73	86	81	79	76	53	59
					12:00	53	44	64	48	49	64	80	81	78	74	45	48
					15:00	47	38	57	44	50	62	76	78	76	76	42	41
					18:00	51	40	61	48	53	65	78	80	85	81	47	44
				2000	06:00	69	58	59	67	71	65	82	83	82		84	80
					09:00	55	48	53	55	57	57	70	76	70		64	66
					12:00	45	38	41	44	48	44	58	68	59		57	60
					15:00	39	32	35	41	45	39	52	62	58		52	51
					18:00	41	33	34	46	51	39	57	66	67		56	53
				2001	06:00	80	71	85	75	75	73	83	83	82	77	73	79
					09:00	67	62	74	58	59	58	71	75	67	58	53	63
					12:00	58	52	60	51	49	49	60	68	59	50	43	54
					15:00	51	45	55	49	46	46	52	63	58	50	38	47
					18:00	53	47	59	54	54	52	59	69	69	58	45	52
				2002	06:00	84	71	81	76	67	73	75	82	79	71		
					09:00	73	57	68	61	49	57	62	72	66	62		
					12:00	60	45	53	49	40	46	49	60	58	48		
					15:00	54	37	48	42	37	43	42	57	54	46		
					18:00	58	43	56	53	45	51	51	63	63	48		
				2003	06:00	78	68	71	77	53	66	75	75	72	67	64	76
					09:00	69	61	63	64	44	54	69	72	66	52	57	64
					12:00	59	50	52	53	32	43	60	65	59	45	45	54
					15:00	51	41	45	49	31	40	53	58	58	41	41	48
					18:00	55	43	51	56	37	45	62	69	68	45	46	54
				2004	06:00	77	64	62	77	56	67	77	83	79	78	72	78
					09:00	76	58	53	68	46	56	69	72	65	61	58	69
					12:00	61	48	43	58	36	46	55	60	58	49	47	59
					15:00	53	41	39	56	32	40	51	59	59	49	43	51
					18:00	58	44	42	63	38	49	56	62	67	54	45	53
				2005	06:00	76	63	76	70	78	70	80	80	80	70	68	64
					09:00	68	54	67	58	65	59	73	69	66	52	54	52
					12:00	56	44	55	48	56	49	61	58	56	44	44	40
					15:00	48	37	48	43	51	46	54	51	53	42	40	35
					18:00	50	39	51	49	59	49	56	58	67	44	42	36
				2006	06:00	73	76	74	75	69	69	81	84	80	78	74	82
					09:00	65	69	64	65	52	54	75	79	71	65	60	75
					12:00	51	56	53	55	41	44	61	71	63	55	49	63
					15:00	43	44	47	51	39	39	54	63	61	53	44	59
					18:00	46	46	52	57	47	44	58	70	68	59	46	62
				2007	06:00	84	79	69	78	69	70	80	87	80	73	76	68
					09:00	75	69	58	67	55	61	70	80	69	58	60	56
					12:00	62	56	47	55	46	51	59	67	62	46	48	46
					15:00	52	46	40	50	41	44	53	61	60	43	43	40
					18:00	53	47	45	53	48	49	58	66	67	50	47	43
				2010	06:00	70	78	81	78	78	73	82	83	84	72	78	
					09:00	63	73	72	67	67	61	72	76	72	57	66	
					12:00	54	62	61	56	58	49	60	64	63	49	53	

(単位: %)

観測所名	緯度	経度	標高	年	時刻	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					15:00	47	55	56	54	51	44	54	57	61	44	49	
					18:00	45	58	59	58	55	45	56	62	70	49	50	
				2011	06:00		66		64	73	73			80	69		72
					09:00		60		54	61	60			71	55		60
					12:00		47		42	48	47			62	46		48
					15:00		38		34	44	39			61	43		44
					18:00		36		42	48	40			67	45		46
				2012	06:00		59	53	74	65	64	83					
					09:00	63	54	48	64	53	53	72					
					12:00	53	44	36	51	41	42	58					
					15:00	44	33	31	45	38	35	52					
					18:00	44	33	30	48		37	53					
				2013	06:00	73	61	69	74	72	69	81					
					09:00	66	53	62	61	60	57	73					
					12:00	56	44	50	51	50	44	64					
					15:00	48	35	42	45	46	37	55					
					18:00	49	36	43	47	52	41	59					
Kulumsa	08°00'35"	039°09'19"	2,211 m	1972	09:00			62	74	65	73	91	87	78	55	60	63
					12:00			51	65	53	62	81	81	72	52	49	52
					18:00			51	64	54	55	75	80	73	57	54	55
				1973	09:00	63	47	47	52	72	77	86	88	84	61	51	52
					12:00	50	38	38	42	59	65	78	84	79	58	44	43
					18:00	48	36	36	42	56	57	70	82	79	62	50	48
				1974	09:00	61	63	74	53	70	78	88	84	85	66	55	62
					12:00	51	51	66	46	57	69	81	76	79	59	48	49
					18:00	53	59	62	45	57	59	75	74	81	71	56	63
				1975	09:00	63	70	65	71	67	80	88	90	84		51	53
					12:00	51	58	56	60	52	70	81	83	79		46	45
					18:00	66	70	58	56	51	68	75	83	82		52	53
				1976	09:00	57	59	61	65	77	75	86	85	77	58	65	60
					12:00	46	49	53	54	69	64	79	79	69	50	60	50
					18:00	49	52	51	52	59	57	73	80	74	59	65	55
				1977	09:00	79	61	63	70	74	82	87	85	82	72	65	63
					12:00	69	50	52	61	66	73	80	78	75	66	56	54
					18:00	73	50	55	59	55	70	75	76	75	71	63	62
				1978	09:00	57	76	73	64		78	90	91	91	96	60	63
					12:00	48	64	63	51		64	82	85	83	91	53	55
					18:00	48	65	64	54		63	82	89	92	96	61	61
				1979	09:00	77	69	67	62	71	78	78	83	86	65	53	63
					12:00	66	58	59	52	58	66	66	78	76	59	44	52
					18:00	71	60	59	57	62	59	59	77	79	65	52	56
				1980	09:00	63	60	60	64	76	81	90	88	85	75		
					12:00	52	48	48	54	65	72	79	77	77	67		
					18:00	55	48	49	54	61	64	73	76	77	72		
				1981	09:00	50	58	80	74	66	66	86	85	82	61	55	66
					12:00	40	47	68	68	58	56	78	78	79	55	47	50
					18:00	40	43	68	68	49	45	69	74	77	61	50	64
				1982	09:00	68	69	56	72	68	72	84	87	80	76	76	72
					12:00	57	59	49	63	60	60	75	81	73	67	67	63
					18:00	58	63	54	59	56	52	68	77	74	81	77	74
				1983	09:00	74	75	72	76	75	79	88		85		69	61
					12:00	58	63	61	66	68	72	77	82	77		62	54
					15:00						64	72	77			60	52
					18:00	70	64	66	67	68	66	73	76	79		68	58
				1984	09:00	57	48	50	52	77	81	85	86	78	66	61	66
					12:00	48	39	41	43	70	73	75	79	71	57	53	58
					15:00	43	33	40	42	64	63	71	70	67	50	50	55
					18:00	53	40	44	47	64	66	69	72	69	56	60	60
				1985	09:00	63	63	65	78	78	76	89	89	82	67	66	74
					12:00	53	52	53	69	69	65	79	79	76	58	56	61
					15:00	46	47	48	66	61	61	71	73	71	56	56	56
					18:00	56	52	53	69	67	65	74	80	78	64	63	65
				1986	09:00	62	80	73	82	79	86	89	81	81	63	60	62
					12:00	51	66	61	71	66	77	78	70	75	56	51	51
					15:00	49	62	59	65	61	71	73	66	70	55	50	48
					18:00	59	64	66	70	62	74	76	74	75	62	60	59
				1987	06:00											67	72
					09:00	60	58	73	68	79	77	78	84	76	64	49	53
					12:00	48	47	64	62	67	71	71	75	70	55	41	45
					15:00	44	44	61	58	62	64	65	69	65	51	40	41
					18:00	52	52	70	65	70	70	70	75	68	60	46	49
				1988	06:00	78	80	65	80	87	91	86	91	93	80	64	73
					09:00	68	68	52	69	71	81	85	88	85	68	51	62
					12:00	55	56	44	58	62	66	77	80	78	61	44	53
					15:00	51	55	41	54	49	58	72	73	76	57	42	44
					18:00	59	56	41	55	49	63	75	77	78	64	48	51
				1989	06:00	71	76	74	88	73	80	88	89	91	70	70	87
					09:00	63	68	65	78	63	76	85	86	85	60	58	78
					12:00	51	55	53	69	52	66	79	79	77	52	51	65
					15:00	44	55	50	66	45	57	70	73	72	49	49	60
					18:00	51	58	53	67	46	55	74	78	75	54	52	70
				1990	06:00	76	89	85	80	81	83	91	92	92	70	77	67
					09:00	62	83	73	70	67	74	88	89	86	56	59	57
					12:00	50	69	65	60	56	63	78	82	77	53	49	50
					15:00	45	66	66	60	48	54	70	77	74	49	48	46

(単位: %)

観測所名	緯度	経度	標高	年	時刻	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					18:00	49	70	72	63	49	57	71	79	77	56	56	51
				1993	06:00												74
					09:00												60
					12:00												49
					15:00												46
					18:00												52
				1994	06:00	61	70	78	75	87	85	92					
					09:00	53	53	62	62	72	82	91					
					12:00	42	40	50	49	54	70	81					
					15:00	39	35	45	45	46	60	73					
					18:00	43	43	50	48	48	63	74					
				1995	06:00											69	80
					09:00											53	68
					12:00											44	55
					15:00											40	54
					18:00											47	64
				1996	06:00	86	69	79	83	88	91	88	90	92	77	74	74
					09:00	78	61	74	75	80	87	88	90	85	62	59	55
					12:00	66	53	64	67	73	75	82	83	79	58	49	45
					15:00	61	51	62	64	73	69	77	79	78	57	46	41
					18:00	70	55	66	66	72	74	80	83	81	63	53	51
				1997	06:00	78	61	76	86	78	85	87	88	85	84	89	83
					09:00	71	53	66	76	74	78	86	83	76	74	75	71
					12:00	58	48	55	70	66	65	77	76	70	70	73	63
					15:00	51	41	51	69	61	59	71	72	67	70	74	64
					18:00	58	45	54	71	65	60	73	77	69	77	84	71
				1998	06:00	88	89	84	85	88	87	93	92	79	81	67	62
					09:00	80	73	74	71	73	77	88	92	94	70	56	51
					12:00	71	63	64	59	66	65	77	84	86	64	51	46
					15:00	68	58	62	58	54	58	70	76	79	61	48	41
					18:00	75	64	69	59	55	56	72	81	75	69	49	45
				1999	06:00	71	59	82	73	84	89	91	92	91	85	65	73
					09:00	59	49	71	59	71	80	90	87	84	77	54	59
					12:00	49	37	60	46	55	66	80	78	74	71	49	50
					15:00	44	32	55	42	47	60	71	74	67	68	47	47
					18:00	50	35	59	47	49	59	75	74	74	75	54	52
				2000	06:00	65	55	62	71	90	86	87	90	92	83	79	77
					09:00	54	47	50	59	77	76	87	86	84	74	66	64
					12:00	46	38	38	48	65	68	79	80	78	68	57	55
					15:00	41	32	34	48	60	58	71	74	72	63	56	50
					18:00	45	37	38	51	48	59	74	79	79	72	64	58
				2001	06:00	78	69	85	76	89	91	92	92	90	79	70	75
					09:00	66	59	77	65	78	85	90	89	81	64	56	60
					12:00	55	49	66	56	69	75	80	81	75	55	46	52
					15:00	48	45	62	48	60	70	70	74	68	51	44	48
					18:00	55	48	66	55	65	71	74	80	72	57	50	53
				2002	06:00	83	70	83	73	87	89	88	90	90	66	59	81
					09:00	77	58	72	64	74	78	81	85	81	53	48	74
					12:00	68	47	60	52	58	64	65	75	69	45	41	63
					15:00	63	41	50	45	43	59	58	71	63	42	38	60
					18:00	67	43	56	50	46	55	64	75	71	49	43	66
				2003	06:00	77	66	76	81	77	92	92	93	91	64	73	76
					09:00	68	55	66	71	65	85	89	89	84	55	60	65
					12:00	55	47	55	62	47	71	82	82	75	48	51	58
					15:00	47	42	52	56	37	62	73	75	74	45	48	54
					18:00	55	43	56	60	39	64	80	82	79	52	53	61
				2004	06:00	83	70	61	84	75	86	88	91	92	77	73	79
					09:00	74	60	53	75	61	77	86	86	83	66	62	66
					12:00	61	50	45	65	48	64	77	78	73	60	52	56
					15:00	54	43	40	60	42	58	68	69	68	56	48	52
					18:00	61	48	47	67	39	60	71	76	71	62	54	60
				2005	06:00	76	65	82	77	88	90	91	94	91	72	69	63
					09:00	67	53	70	65	78	81	86	87	84	59	56	52
					12:00	54	44	60	52	70	70	76	74	75	50	46	43
					15:00	45	38	54	49	66	60	69	70	69	46	43	38
					18:00	56	44	57	52	65	62	72	75	76	52	49	43
				2006	06:00	78	74	78	85	85	88	95	92	94	83	74	83
					09:00	66	63	65	75	70	81	89	88	85	71	62	71
					12:00	52	50	53	66	58	68	80	81	77	60	54	63
					15:00	44	44	49	61	50	63	72	73	71	56	50	59
					18:00	49	46	55	62	55	60	76	77	77	65	54	68
				2007	06:00	89	83	70	82	88	90	91	93	91	71	72	65
					09:00	75	68	57	67	73	85	86	89	84	58	60	56
					12:00	59	56	47	58	59	74	80	83	74	52	51	46
					15:00	52	50	42	53	51	66	73	78	70	51	48	42
					18:00	59	57	47	56	57	69	75	81	80	58	55	50
				2010	06:00	75	83	79	90	90	92	89	91	93	72	74	72
					09:00	62	71	70	77	81	84	86	89	83	59	60	57
					12:00	51	62	62	69	74	71	78	79	79	53	50	46
					15:00	48	57	57	66	67	67	72	74	74	48	46	44
					18:00	54	60	64	66	70	69	76	77	79	55	53	50
				2011	06:00	75	68	68	73					94	66		71
					09:00	60	53	58	60					85	54		58
					12:00	49	43	50	51					81	46		51
					15:00	45	35	45	47					75	44		45

(単位: %)

観測所名	緯度	経度	標高	年	時刻	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					18:00	52	40	49	51					82	50		53
				2012	06:00	69	61	59	87	81	76	89					
					09:00	58	50	48	76	64	64	82					
					12:00	48	42	39	62	53	57	77					
					15:00	43	36	34	52	43	58	78					
					18:00	49	41	38	56	46	85	89					
				2013	06:00	85	87	84									
					09:00	62	55	67									
					12:00	53	43	44	78	85						74	
					15:00	55	47	46	56	65	64	78	81		58	57	
					18:00	59	55	48	54	58	64	77	80		64	61	
Gelemso	08°48'34"	040°31'30"	1,739 m	2010	06:00	70	86	91	93	89	93	92	91	95	93	90	75
					09:00	56	72	71	78	75	77	81	79	80	67	59	53
					12:00	48	58	61	62	58	59	67	68	68	52	51	44
					15:00	44	56	63	61	56	55	60	63	64	46	47	42
					18:00	46	59	65	67	60	62	67	66	76	53	52	45
				2011	06:00	80	70	67	74		90			95			71
					09:00	53	50	49	60		75			77			54
					12:00	44	41	41	46		58			66			46
					15:00	41	37	38	42		52			63			41
					18:00	45	39	40	46		59			76			42
				2012	06:00	76	67	61	88	90	89		92				
					09:00	55		42	71	70	72		76				
					12:00	45	40	33	55	50	55		65				
					15:00	42	35	29	51	47	52		61				
					18:00	46		30	57	55	61		70				
				2013	06:00					95	94	96	96	96	96	96	
					09:00					77	77	81	82	71	71	74	
					12:00					64	65	69	70	64	61	63	
					15:00					61	57	64	63	70	55	60	
					18:00					71	67	72	74	81	66	69	
Addis Ababa Obs	09°01'08"	038°44'51"	2,386 m	1949	06:00									79	58	63	76
					12:00									81	51	54	60
					18:00									82	59	57	59
				1951	06:00	49				64	70	82	83	74	71	58	58
					12:00	43				55	62	75	78	68	62	52	52
					18:00	41				57	64	79	84	72	70	57	58
				1952	06:00	49	54	57	72	55	72	83	86	75	59	54	58
					12:00	44	43	47	66	46	58	73	78	68	54	49	49
					18:00	45	41	46	72	49	64	79	83	75	55	50	48
				1953	06:00	53	56	57	74	59	74	83	82	76	59	59	65
					12:00	42	46	47	62	46	62	76	72	68	53	48	58
					18:00	43	43	47	65	49	69	79	79	72	55	54	58
				1954	06:00	56	60	64	59	58	77	85	84	84	70	68	70
					12:00	47	49	52	48	47	70	79	77	78	64	64	61
					18:00	51	46	52	52	48	74	82	87	87	70	64	65
				1955	06:00	79	64	58	58	59	74	85	87	83	56	54	70
					12:00	64	43	44	46	47	66	71	77	72	49	44	57
					18:00	68	47	45	55	46	68	79	84	80	58	52	61
				1956	06:00	89	81	74	80		88	92	94	97	95	82	86
					12:00	58	42	46	59		59	74	74	72	68	48	47
					18:00	59	44	45	61		64	80	82	82	74	59	51
				1957	06:00	81	84	88	91	89	89	96	97	88	83	79	83
					12:00	43	51	59	86	57	62	77	77	63	49	49	44
					18:00	42	49	64	68	60	66	86	87	68	56	54	50
				1958	06:00	87	86	80	84	71	91	91	94	96	84	80	87
					12:00	55	58	48	56	44	69	80	81	76	63	54	61
					18:00	55	56	50	55	45	70	85	86	84	68	57	58
				1959	06:00	91	90	76	82	88	88	95	94	95	86	79	85
					12:00	61	61	53	53	61	61	76	78	76	66	51	52
					18:00	61	56	56	54	60	65	81	84	80	69	55	59
				1960	06:00	84	76	87	83	88	88	92	92	95	81	77	86
					12:00	48	42	55	52	62	60	75	73	72	47	41	49
					18:00	49	45	61	55	66	62	81	80	78	57	52	55
				1961	06:00	75	81	82	88	78	90	94	95	96	82	87	87
					12:00	42	46	48	59	50	61	76	78	72	56	59	53
					18:00	44	48	50	63	52	66	83	83	80	65	66	62
				1962	06:00	83	75	82	81	78	88	92	90	92	80	84	83
					12:00	46	39	53	49	49	58	72	73	72	52	56	56
					18:00	49	38	54	50	50	61	76	79	79	54	60	56
				1963	06:00		77	74	88	86	83	87	87	91	84	85	87
					12:00		49	41	60	62	66	74	73	67	42	52	56
					18:00		48	39	65	64	67	78	79	74	46	58	58
				1964	06:00	90	85	75	80	76	86	90	90	90	85	77	89
					12:00	56	47	47	61	49	65	76	75	73	57	43	56
					18:00	53	49	42	55	53	65	80	79	78	62	47	62
				1965	06:00	84	71	65	85	66	89	95	89	88	81	87	86
					12:00	50	36	40	54	37	55	78	57	63	54	55	46
					18:00	46	36	38	60	39	58	79	62	66	59	57	50
				1966	06:00	79	87	83	86	72	90	92	93	83	80	76	74
					12:00	45	61	51	54	39	62	72	72	61	49	46	39
					18:00	43	61	55	60	39	66	76	76	67	54	51	43
				1967	06:00	73	74	79	86	82	83	91	93	91	82	88	84
					12:00	42	41	49	54	57	57	75	77	71	54	57	46

(単位: %)

観測所名	緯度	経度	標高	年	時刻	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					18:00	38	38	45	59	59	62	78	77	77	58	64	55
				1968	06:00	74	92	82	89	80	89	92	91	91	77	81	81
					12:00	39	66	49	63	50	65	73	71	68	46	47	44
					18:00	42	70	50	67	50	65	74	80	75	48	49	47
				1969	06:00	87	87	85	82	83	92	93	93	89	76	77	73
					12:00	57	58	59	55	58	72	76	76	66	44	44	38
					18:00	58	63	66	60	62	79	82	82	72	47	48	41
				1970	06:00	88	79	90	81	75	91	94	94	91	83	73	76
					12:00	57	47	62	52	45	60	72	76	70	53	42	44
					18:00	62	47	66	54	47	64	79	82	75	54	42	46
				1971	06:00	80	68	72	79	85	90	93	94	90	80	83	75
					12:00	52	40	45	53	63	68	73	74	69	52	52	52
					18:00	51	35	46	50	68	71	75	80	71	52	53	53
				1972	06:00	78	87	78	86	76	83						
					12:00	48	56	47	63	46	57	73	71	61	43	45	48
					18:00	48	59	44	65	51	58	78	74	66	45	47	47
				1973	12:00	45	36	34	37	53	63	71	76	69	50	46	45
					18:00	43	34	32	37	52	66	74	81	76	57	46	43
				1974	12:00	47	47		40	52	63	73	75	70	47	38	41
					18:00	41	42		41	52	65	78	78	79	49	40	39
				1975	12:00	40	48	44	55	51	64	78	85	74	50	42	43
					18:00	38	44	44	55	53	68	81	83	79	57	44	43
				1976	12:00	47	47	48	53	58	57	73	73	61	43	57	46
					18:00	41	42	46	58	56	63	77	79	63	46	58	46
				1977	12:00	62	51	50	50	56	62	72	72		62	54	49
					18:00	60	52	51	50	60	66	76	79		68	58	48
				1978	12:00	44	54	56	50	52	60	76	73	68	54	44	45
					18:00	44	55	56	49	48	66	77	77	76	58	47	48
				1979	12:00	53	52	51	44	48	57	68	67	64	45	39	45
					18:00	59	50	50	48	51	63	76	72	68	48	45	45
				1980	12:00	46	43	46	50	42	58	69	70	62	47	41	40
					18:00	47	42	46	51	44	65	77	75	69	51	44	42
				1981	12:00	39	46	62	57	42	47	70	71	68	47	43	41
					18:00	38	45	65	62	42	49	74	74	79	50	46	48
				1982	12:00	55	57	47	60	47	54	67	74	60	53	58	50
					18:00	53	56	47	61	56	57	78	76	68	61	63	57
				1983	12:00	54	55	51	58	97	59	68	73	66	52	46	46
					18:00	53	52	52	62	97	61	73	80	72	57	49	48
				1984	12:00	38	33	37	33	49	63	68	65	57	36	44	45
					18:00	39	33	38	33	56	67	75	72	65	37	45	47
				1985	09:00	55	57	52	70	67	71	84	83	70	54	52	55
					12:00	42	39	40	58	54	55	71	70	62	46	45	42
					15:00	36	33	38	53	46	53	71	71	62	49	37	38
					18:00	40	36	39	58	54	59	74	78	67	48	42	43
				1986	09:00	57	68	62	73	63	74	78	80	72	60	52	62
					12:00	48	50	53	63	52	64	63	69	63	45	40	44
					15:00	46	46	49	60	47	59	61	68	64	44	36	38
					18:00	50	52	54	64	57	68	72	75	69	47	40	46
				1987	09:00	61	59	73	65	72	72	77	81	68	64	53	59
					12:00	43	46	60	56	58	61	67	70	58	51	44	45
					15:00	37	40	58	54	55	60	68	68	60	48	40	40
					18:00	42	45	63	58	62	67	77	71	63	53	47	48
				1988	09:00	70	66	51	66	54	70	83	83	76	60	48	55
					12:00	56	53	37	54	45	60	74	72	69	52	40	41
					15:00	48	43	33	50	40	57	75	67	70	48	37	37
					18:00	55	48	34	59	41	65	80	78	79	55	44	46
				1989	09:00	65	63	63	73	50	68	79	79	74	55	52	70
					12:00	47	49	50	56	40	55	70	69	66	45	43	57
					15:00	41	44	44	55	38	52	73	66	67	44	38	50
					18:00	48	47	49	61	39	62	81	75	71	51	46	58
				1990	09:00	60	76	67	67	59	70	81	82	73	55	57	52
					12:00	47	62	55	55	46	59	69	70	67	48	50	40
					15:00	41	57	47	49	45	58	64	72	66	45	45	37
					18:00	47	68	53	59	49	63	77	79	72	51	53	45
				1991	09:00	63	71	71	61	59	71	87	85	72	54	53	62
					12:00	48	57	56	47	43	57	77	73	62	44	43	48
					15:00	41	50	52	42	38	55	75	71	64	41	40	42
					18:00	47	56	56	47			84	80	67	46	50	49
				1992	09:00	74	76	64	66	59	71	83	86	74	64	61	68
					12:00	57	60	50	51	45	59	72	78	65	54	50	56
					15:00	50	54	43	46	43	60	69	77	68	52	44	49
					18:00	58	58	45	52	50	66	76	83	74	57	53	58
				1993	09:00	73	72	54	72	70	79	83	84	80	64	56	55
					12:00	55	58	42	63	59	68	71	72	69	54	47	43
					15:00	49	51	39	56	59	68	70	74	72	54	46	39
					18:00	59	59	41	67	67	78	80	84	79	61	50	48
				1994	09:00	53	56	64	68	60	76	88	83	76	54	63	60
					12:00	41	40	51	52	48	68	75	77	66	43	55	47
					15:00	38	35	46	52	45	66	73	76	63	44	49	41
					18:00	42	38	52	58	51	76	82	85	76	48	60	50
				1995	09:00	58	67	73	78	63	73	87	87	78	58	57	66
					12:00	42	51	54	65	50	58	78	77	66	47	44	53
					15:00	38	45	45	60	47	58	74	75	66	45	42	49
					18:00	44	49	56	70	55	63	81	83	74	53	51	55
				1996	09:00	75	61	73	71	71	80	84	87	78	60	63	56

(単位: %)

観測所名	緯度	経度	標高	年	時刻	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					12:00	59	44	57	58	60	73	73	71	68	45	49	43
					15:00	52	42	52	58	56	77	73	74	73	44	44	41
					18:00	59	45	60	65	63	79	81	80	80	52	53	48
				1997	09:00	71	55	62	69	58	73	83	81	65	67	71	62
					12:00	58	41	47	55	44	57	69	68	56	55	57	49
					15:00	50	36	42	50	41	51	72	65	55	49	52	43
					18:00	56	39	46	56	45	61	75	73	62	58	62	55
				1998	09:00	71	74	70	64	67	72	82	86	77	69	53	51
					12:00	56	55	57	51	56	60	71	76	68	60	44	39
					15:00	49	47	50	48	53	61	70	72	70	60	42	34
					18:00	56	51	57	55	60	67	80	82	77	69	50	42
				1999	09:00	57	46	68	50	55	68	84	84	72	71	53	55
					12:00	45	34	52	38	42	55	73	67	63	59	43	46
					15:00	37	30	46	36	45	55	65	71	62	62	39	42
					18:00	43	30	50	40	49	62	79	77	68	69	48	49
				2000	09:00	53	46	50	61	66	74	81	82	77	65	58	58
					12:00	41	34	39	47	54	63	67	73	70	54	49	44
					15:00	37	30	32	44	50	62	68	74	70	54	45	40
					18:00	41	34	37	53	55	71	75	81	79	62	53	47
				2001	09:00	65	59	69	56	69	75	82	82	67	58	53	55
					12:00	46	44	56	48	58	64	70	74	58	47	43	44
					15:00	41	36	52	46	60	62	68	68	61	47	38	39
					18:00	47	39	58	51	68	76	75	78	65	52	44	43
				2002	09:00	70	59	70	61	61	70	80	78	73	54	54	70
					12:00	52	43	56	49	53	59	67	70	61	42	42	55
					15:00	43	37	49	46	44	60	65	69	58	42	40	49
					18:00	50	39	50	46	49	68	76	76	62	45	43	54
				2003	09:00	63	60	62	68	49	73	86	85	78	52	54	61
					12:00	48	44	48	55	38	59	73	73	69	43	45	46
					15:00	41	37	43	51	35	57	73	74	67	40	39	41
					18:00	44	39	45	57	40	63	80	80	72	43	44	47
				2004	09:00	70	59	55	71	54	74	84	82	71	62	58	64
					12:00	53	44	43	58	43	60	69	69	62	50	42	48
					15:00	44	37	39	54	39	57	68	71	65	48	38	41
					18:00	47	38	44	58	42	65	74	79	65	51	44	47
				2005	09:00	69	55	67	61	68	73	83	80	74	58	55	48
					12:00	49	40	51	47	56	62	70	67	65	45	42	37
					15:00	42	33	43	45	51	55	68	67	64	47	38	32
					18:00	44	36	47	52	59	61	73	75	69	49	43	36
				2006	09:00	59	62	62	67	62	71	84	83	74	61	55	68
					12:00	45	47	52	55	48	60	72	73	66	50	46	52
					15:00	38	43	45	50	49	61	69	72	66	50	42	48
					18:00	39	45	47	60	54	68	78	79	72	54	48	54
				2007	09:00	69	66	59	67	64	77		87	75	54	53	52
					12:00	53	49	48	54	50	64		72	65	44	42	39
					15:00	45	42	41	51	50	64		69	70	43	39	35
					18:00	48	44	46	54	54	71		79	73	48	43	41
				2011	09:00										49	63	54
					12:00										40	53	42
					15:00										38	50	39
					18:00										42	56	43
				2012	09:00	52	48	46	64	55	67	83	81	78	49	53	57
					12:00	40	34	34	52	40	57	70	71	64	42	43	45
					15:00	33	28	31	51	38	55	69	67	65	42	38	49
					18:00	38	30	31	57	41	59	81	76	76	45	41	45
				2013	09:00	57	48	59	59	62							
					12:00	45	39	49	50	53							
					15:00	40	34	44	47	50							
					18:00	43	37	48	53	53							
Ambo Agriculture	08°59'05"	037°50'23"	2,068 m	2010	06:00	75	73	71	83	87	86	93	92	88	82	82	79
					09:00	59	61	59	65	71	75	84	81	76	68	71	66
					12:00	43	44	39	42	52	60	71	71	62	43	49	44
					15:00	36	41	39	43	53	64	71	74	63	43	45	41
					18:00	40	46	45	55	62	75	80	81	75	51	57	51
				2011	06:00	82	73			84				89	80	81	75
					09:00	64	58			66				76	55	65	58
					12:00	42	37			51				59	42	49	41
					15:00	38	37			45				57	38	44	34
					18:00	46	36			58				75	50	54	42
				2012	06:00		73	76	81	74	90	94					
					09:00	52	53	57	67	56	75	87					
					12:00	35	33	35		40	59	74					
					15:00	29	28	31	40	36	60	70					
					18:00	34	32	36	47	39	65	74					
				2013	06:00	71	57	68	76	90	93	95	96	95	84	82	
					09:00	59	48	57	62	73	81	89	88	81	69	62	
					12:00	41	35	38	41	54	65	76	76	65	53	49	
					15:00	35	28	33	35	56	61	70	74	62	50	44	
					18:00	35	29	34	41	63	68	76	79	75	59	51	
Debre Berhan	09°38'00"	039°30'00"	2,750 m	1965	06:00				72	50		76					
					12:00				61	32		57					
					18:00				69	47		65					
				1980	06:00		20	24		28							
					09:00					34							

(単位: %)

観測所名	緯度	経度	標高	年	時刻	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					12:00		39	38		32							
					18:00		36	31		31							
				1981	06:00			90	88	86	84				88		81
					12:00			71	61	43	41				52	46	49
					18:00			80	67	49	46				53	58	58
				1982	06:00	88	88	87	87	91	87	93	97	95	94	96	93
					12:00	63	67	65	65	54	48	64	84	79	74	70	68
					18:00	70	73	72	68	56	49	66	87	82	83	79	75
				1983	09:00	65	75	80	78	76	65	74	83	77	64	54	57
					12:00	49	53	61	60	62	46	56	80	67	59	53	49
					15:00	50	53	62	62	61	44	55	79	66	61	53	52
					18:00	68	64	74	71	67	50	62	81	70	68	64	67
				1984	09:00	49	42	53	49	65	78	81	73	74	52	59	62
					12:00	42	35	47	41	54	63	68	66	67	49	57	52
					15:00	45	38	39	39	54	63	70	69	65	45	54	51
					18:00	59	43	46	43	61	67	78	75	71	54	65	66
				1985	09:00	60	56	58	73	59	57	86	87	73	58	54	52
					12:00	50	46	49	59	54	40	74	75	68	55	50	49
					15:00	50	46	47	62	54	40	73	75	67	52	46	49
					18:00	63	58	52	69	61	45	75	80	75	61	58	60
				1986	06:00			66									
					09:00	53	73	58	72	57	75	83	84	70	55	52	56
					12:00	42	56	52	60	49	61	73	74	69	52	48	49
					15:00	41	58	61	63	48	61	71	74	65	52	47	48
					18:00	56	71		70	61	64	77	77	73	58	58	65
				1987	06:00			75									
					09:00	59	58	63		69	60	75	85	69	62	49	55
					12:00	50	48	63		60	46	56	71	60	55	46	47
					15:00	49	50	75		58	43	52	67	58	55	43	45
					18:00	60	56			68	52	58	76	72	66	58	62
				1988	09:00	63	69	48	71	49	61	86	87	79	63	48	51
					12:00	49	60	39	55	40	49	80	78	72	63	48	52
					15:00	50	56	39	57	41	51	78	78	69	58	48	47
					18:00	64	64	47	68	49	53	77	82	77	69	65	61
				1989	09:00	58	61	71	71	47	60	81	82	74	56	55	76
					12:00	48	53	57	62	42	45	69	72	73	55	55	75
					15:00	48	52	54	65	40	42	66	68	72	56	55	71
					18:00	70	60	60	75	51	50	74	77	76	62	64	81
				1990	09:00	60	80	72	67	47	58	83	80	80	55	62	48
					12:00	62	73	60	58	41	41	72	71	70	52	54	46
					15:00	61	71	60	56	39	42	72	69	68	51	53	51
					18:00	68	81	70	66	42	43	76	74	73	62	62	57
				1991	09:00	61	69	74	60	57	66	90	91	92	86	97	82
					12:00	50	56	61	55	46		79	86	98	92	100	78
					15:00	50	54	61	50	45	49	82	88	99	91	100	79
					18:00	61	67	69	58	51	62	83	88	88		99	84
				1992	09:00	77	95	85	84	66	58	84	88	77	71	69	72
					12:00	66	92	80	84	63	48	68	81	74	66	70	61
					15:00	67	91	79	84	62	49	69	82	73	66	66	62
					18:00	81	90	83	88	67	50	74	81	75	69	74	70
				1993	06:00											85	72
					09:00	76		57	76	67	66	91	84	82	65	57	48
					12:00	63		50	65	58	47	80	73	69	58	55	46
					15:00	63		48	61	54	47	71	67	64	57	53	47
					18:00	77		58	71	65	54	79	74		70	64	60
				1994	06:00	68	68	81	83	77	82		96	88		82	80
					09:00	49	48	66	60	51	69	87	90	75		64	55
					12:00		41	58	51	40	50	77	81	67		54	49
					15:00		42	57	48	39	49	79	82	63		51	47
					18:00	53	52	65	52	46	55	81	86	70		65	60
				1995	06:00	81	86	89	88	89	87	95	95	95	93	89	90
					09:00	52	70	70	72	59	58	91	91	73	57	54	68
					12:00	46	55	56	63	49	47	78	78	59	51	52	58
					15:00	45	49	54	58	45	40	71	72	55	50	53	49
					18:00	60	64	68	69	55	54	84	84	70	65	63	68
				1996	06:00	92	85	95	89	92	96	94	96	95	91	90	82
					09:00	69	51	73	60	69	79	83	87	74	54	56	57
					12:00	59	42	59	52	59	66	73	77	61	51	54	53
					15:00	55	38	54	47	52	58	66	72	55	48	52	51
					18:00	72	55	70	56	61	69	74	76	68	58	60	64
				1997	06:00	88	78	89	96	91	95	98	97	92	93	95	86
					09:00	69	53	66	69	56	72	89	86	65	66	70	54
					12:00	58	46	52	58	46	55	79	75	56	59	57	49
					15:00	54	44	48	54	42	48	70	68	54	57	56	49
					18:00	68	56	59	67	55	60	79	76	63	69	69	64
				1998	06:00	91	92	91	88	90	90	97	98		96	92	86
					09:00	70	69	68	64	60	60	89	94		71	53	46
					12:00	56	57	55	52	52	42	79	86		63	49	43
					15:00	57	52	52	54	49	40	76	79		62	51	45
					18:00	70	69	63	65	59	46	80	85		74	61	56
				1999	06:00	89	76	91					98	97	96	92	81
					09:00	59	47	65	49	49	67	92	90	76	70	53	54
					12:00	50	37	51					79	67	61	46	52
					15:00	48	34	55					71	63	61	46	52
					18:00	62	42	65	46	49	52	81	78	68	68	54	63

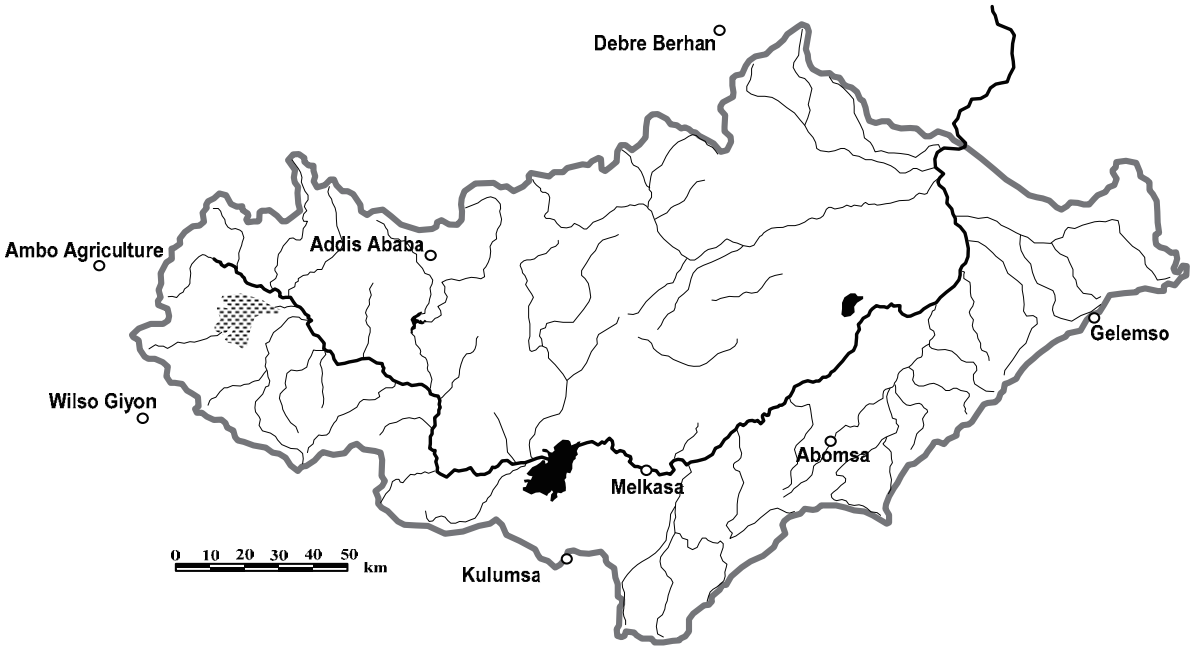
(単位: %)

観測所名	緯度	経度	標高	年	時刻	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
				2000	06:00	78	78	79	91	87	89	97	98	94	95	87	80
					09:00	51	46	65	68	54	66	90	95	79	66	60	55
					12:00	42	40	61	55	43	45	77	82	66	56	52	45
					15:00	40	40	59	51	43	39	73	73	62	57	55	48
					18:00	50	44	63	57	49	45	73	77	64	62	66	64
				2001	06:00	85	80	88	82	88	90	94	94	91	93	86	82
					09:00	65	56	78	55	63	70	88	88	74	58	53	56
					12:00	46	45	61	47	48	49	76	79	63	50	46	48
					15:00	46	41	61	46	46	46	72	76	59	47	44	44
					18:00	62	46	69	53	54	52	77	79	62	53	49	52
				2002	06:00	84	74	87	89	82	85	92	92	89	87	83	86
					09:00	67	55	70	60	51	65	80	87	74	55	57	72
					12:00	51	45	57	47	38	43	65	79	67	49	55	64
					15:00	51	40	52	46	37	43	61	74	63	48	52	59
					18:00	62	51	59	51	44	46	64	75	69	54	61	71
				2003	06:00	80	82	86	85	78	84	92	93	92	86	80	73
					09:00	69	61	66	69	52	67	88	87	80	55	56	58
					12:00	50	47	57	59	45	50	78	79	70	48	50	47
					15:00	47	47	50	54	43	42	70	69	61	46	46	46
					18:00	59	54	54	61	48	48	74	77	70	53	54	62
				2004	06:00	84	75	74	87	77	86	93	92	90	86	86	85
					09:00	72	63	56	70	50	71	88	85	75	60	55	64
					12:00	56	54	47	61	40	58	79	74	64	51	47	53
					15:00	53	53	44	53	35	54	70	68	55	47	43	49
					18:00	65	60	49	63	41	61	76	72	66	58	54	65
				2005	06:00	88	78	89	82	93	91	93	94	93	90	86	77
					09:00	72	58	71	68	77	75	88	88	82	64	59	52
					12:00	53	46	54	58	62	59	79	78	70	54	49	45
					15:00	48	38	46	55	59	51	69	67	61	51	43	40
					18:00	67	51	62	61	70	58	78	73	68	56	53	51
				2006	06:00	81	85	79	88	83	93	93	95	93	88	90	
					09:00	64	66	68	67	59	89	89	91	79	61	60	
					12:00	51	52	58	57	48	77	77	79	68	53	52	
					15:00	45	46	51	54	41	65	65	72	63	50	47	
					18:00	58	58	61	61	49	71	72	77	72	58	57	
				2007	06:00	86	84	74	88	85	86	94	94	93	87	82	
					09:00	68	65	59	70	59	70	87	87	79	54	56	
					12:00	52	50	47	58	43	54	75	76	70	45	49	
					15:00	46	46	42	52	41	50	73	71	62	42	47	
					18:00	62	56	46	60	46	57	75	74	66	48	57	
				2013	06:00	81	70	82	92	85	84	95					
					09:00	54	49	63	66	61	63	90					
					12:00	41	37	46	48	45	44	80					
					15:00	41	34	46	49	44	42	73					
					18:00	53	45	56	59	49	48	80					
Melkasa (IAR)	08°24'00"	039°19'00"	1,540 m	1965	09:00					56	64	74	78	80	66	67	67
					18:00					37	40	55	60	57	48	48	50
				1966	09:00	70	87	82	84	84	88	89	90	84	70	70	70
					18:00	52	74	70	69	67	77	83	82	80	62	58	59
				1967	09:00	76	75	81	85	87	87	90	92	91	82	85	80
					18:00	65	61	71	76	77	80	91	89	97	83	88	83
				1968	09:00	77	92	84	87	85	87	90		86	73	82	87
					18:00	81	93	75	87	78	81	87		87	73	75	82
				1977	06:00	88	94	90	84	94	94			94	88	89	82
					12:00	69	92	78	56	71	82			93	79	54	52
					18:00	65	92	77	59	70	77			94	83	57	52
				1978	06:00	74	82	89	77	82	82		90	91	81		
					12:00	45	55	49	42	60	50		69	59	46		
					18:00	39	50	49	42	57	46		64	65	49		
				1979	06:00	86	79	77	71	85	85	91	93	93	84	70	77
					12:00	61	48	47	39	48	53	67	65	58	44	37	46
					18:00	63	51	48	37	52	48	61	64	64	48	37	43
				1980	06:00		74	69	74	78	84						71
					12:00		42	42	44	43	54						37
					18:00		38	38	42	34	46						38
				1981	06:00	66	78	88	89	82	81	90	91	95	83	76	72
					12:00	38	48	61	53	49	47	62	68	67	43	41	41
					18:00	34	39	54	57	40	37	59	66	73	48	42	
				1982	06:00	85	83	73	83	81	81	87	90	92	91	91	90
					12:00	53	57	46	51	53	47	61	72	60	53	58	58
					18:00	51	56	45	52	59	40	54	67	63	59	59	55
				1983	06:00			83	86	85	84	88	89	93	87	77	78
					12:00		59	55	52	53	52	63	69	63	47	43	47
					18:00		51	51	54	57	50	57	69	64	46	44	44
				1984	06:00	75	66	63	58	80	87	88	89	87	65	73	78
					12:00	42	35	36	32	54	56	62	65	58	34	41	49
					18:00	38	34	33	31	48	51	56	61	59	33	41	46
				1985	06:00	72	66	67	86	85	81	91	93	93	80	74	
					12:00	44	41	38	57	49	49	72	67	60	41	41	
					18:00	40	38	37	53	49	37	59	69	62	43	40	
				1986	06:00	74	84	80	86	85	88	90	92	95	83	77	81
					12:00	41	53	51	56	47	58	66	63	61	45	48	49
					18:00	38	49	49	53	43	54	58	64	65	44	47	45
				1987	06:00	76	72		86	85	86	85			86	81	78
					12:00	46	45	60	52	58	55	60			47	43	45

(単位: %)

観測所名	緯度	経度	標高	年	時刻	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
					18:00	41	40		53	57	50	52			46	41	45
				1988	06:00	87	86	70	83	81	89	89	90	90	87	85	86
					09:00			56	73	66	70	83	84	79	67	65	62
					12:00	60	51	44	55	45	54	69	72	66	49	45	48
					15:00			40	52	37	43	60	66	63	47	42	40
					18:00	52	47	41	51	39	47	60	63	68	44	43	41
				1989	06:00	86	83	83	89	85	84	90		91	91	83	90
					09:00	65	68	70	73	64	67	79		78	60	59	69
					12:00	52	55	50	54	45	48	68		62	46	46	59
					15:00	44	47	41	49	40	47	59		58	43	43	50
					18:00	43	46	49	58	43	46	65		68	50	46	60
				1990	06:00		92	91	91	87	90	91	93			85	88
					09:00		84	73	72	62	66	80	82			55	61
					12:00		66	58	55	47	50	62	68			40	47
					15:00		56	55	52	40	41	53	60				45
					18:00		67	64	61	47	42	56	62				48
				1991	06:00	89	90		87								
					09:00	69	75		65								
					12:00	54	57		51								
					15:00	47	47		44								
					18:00	50	46		47								
				1993	06:00	87	90		85	89	86	87	89	90	87	83	
					09:00	77	73		66	70	73	83	78	74	69	58	
					12:00	61	57		51	56	52	68	64	59	49	45	
				1994	06:00	76	74	77	77	79	83		90		82	84	84
					09:00	58	67	60	59	65	71		79		60	65	67
					12:00	43	47	46	43	44	56		68		41	48	49
				1995	06:00	81	82	89	87	83	80	86	87	88	79	76	82
					09:00	62	67	69	71	54	65	77	79	74	53	55	62
					12:00	48	51	53	53	44	52	60	67	55	42	45	51
					18:00	43	45	54	54	42	47	59	70	58	41	40	48
				1996	06:00	86	74	84	88	83	84	85	88	85	85	80	81
					09:00	69	54	69	67	69	75	74	80	74	53	52	60
					12:00	51	44	51	53	53	57	56	66	62	41	45	47
					18:00	48	39	47	52	51	56	53	65	66	43	49	45
				1997	06:00	83	72	82		81	86	91	92	93	91		
					09:00	71	57	66		61	74	84	84	74	71		
					12:00	56	44	50		44	57	73	70	57	53		
					18:00	53	42	45		42	51	64	71	64	61		
				2005	06:00	83											
					09:00	68											
					12:00	50											
					18:00	47											
				2006	06:00						84						
					09:00						70						
					12:00						53						
					18:00						49						
				2013	06:00	88	79	79		88	88	93	93	93			
					09:00	71	56	65		69	70	85	83	79			
					12:00	58	43	46		55	55	71	70	61			
					15:00	51	37	41		42	44	63	62	54			
					18:00	54	38	44		45	53	67	68	62			
Woliso Giyon	08°33'00"	037°59'00"	2,058 m	2010	06:00	67	74	70	80	94	92	96	94	94	75	61	65
					09:00	59	68	62	68	82	83	91	90	82	59	54	58
					12:00	45	54	46	53	66	71	78	78	72	42	42	46
					15:00	38	46	41	50	63	64	74	75	66	37	38	39
					18:00	41	52	48	58	72	75	82	82	78	45	44	46
				2011	06:00		58							94			63
					09:00		50							83			56
					12:00		37							74			43
					15:00		31							70			35
					18:00		29							80			37
				2012	06:00	64	58	54	84	79	94	95	96				
					09:00	57	51	45	68	65	84	92	88				
					12:00	41	37	35	54	46	71	81	78				
					15:00	33	28	30	49	39	64	76	74				
					18:00	32	27		56	44	74	80	76				
				2013	06:00	70	59			92	96	94	94		80		
					09:00	58	49			82	82	91	88	79	65		
					12:00	47	38			69	73	78	78	71	53		
					15:00	39	33			59	67	73	73	67	51		
					18:00	40	32			69	74	80	82	76	60		

日照時間データ(月ベース)

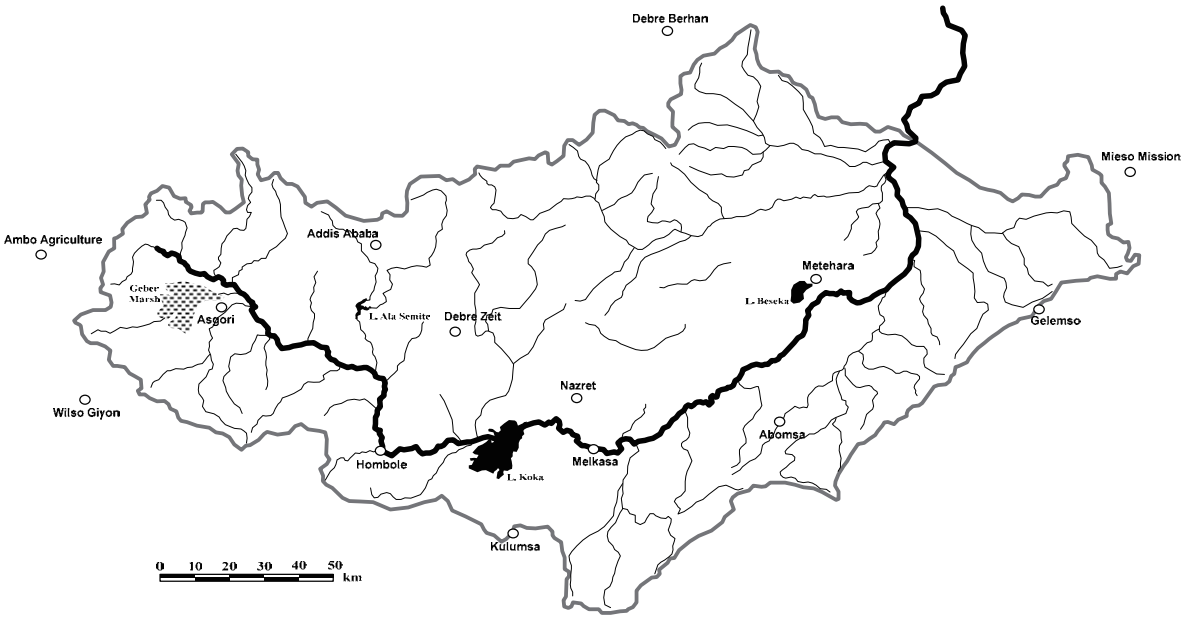


日照時間データ(月ベース)

(単位: 時間/日)

観測所名	緯度	経度	標高	年	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
Abomsa	08°28'00"	039°49'59"	1,630 m	2010			5.2	6.9	7.0	7.1	6.0	6.4	5.5	6.6	8.4	
				2011		9.3		8.5	7.0	8.6			6.1	8.1		10.5
				2012	8.6	9.0	7.3	6.6	8.3	5.6	6.2	6.3				
Addis Ababa Obs	09°01'08"	038°44'51"	2,386 m	2011										9.4	6.8	9.5
				2012	9.9	10.0	8.9	5.1	7.3	4.2	2.2	2.7	4.1	8.3	9.6	9.2
				2013	8.7	9.8	7.1	6.8	5.7							
Ambo Agriculture	08°59'05"	037°50'23"	2,068 m	2010	8.7	5.3	6.2	5.8	4.5		2.4	2.2	4.8	8.5	8.4	7.2
				2011	8.4	9.7			6.5				3.5	9.7	8.1	10.0
				2012	9.9	9.9	7.8	6.7	7.4	4.7	2.8	3.1	4.4	8.9		
				2013	8.6											
Debre Berhan	09°38'00"	039°30'00"	2,750 m	2010	9.1	5.2	6.7	5.9	6.6	5.9	4.0	4.2	5.4	6.7	8.2	
				2011				8.6	7.3		4.5	4.5	5.7	8.6	7.3	
				2012	10.1	9.6	8.4	6.0								
Gelemso	08°48'34"	040°31'30"	1,739 m	2010	9.3	5.1	4.5	6.2	6.4	5.1	4.2	4.6	4.4	5.6	6.9	8.2
				2011			8.5	7.6		6.8			4.5			9.5
				2012		9.7	9.5	6.4	7.5	6.5		6.4	5.4			
Kulumsa	08°00'35"	039°09'19"	2,211 m	2010	8.5	5.5	6.5	5.9	5.8	6.7	4.3	4.9	1.8	8.0	8.1	8.4
				2011	8.2	9.3	7.5	7.9					4.7	9.0		9.2
				2012	9.4	9.7	8.5	6.6	8.6	6.9	4.7	5.0				
				2013		9.4										
Melkasa (IAR)	08°24'00"	039°19'00"	1,540 m	1977	6.4		8.4	8.1	8.1	8.3		6.5	6.7	6.1	8.9	9.3
				1978	9.4	6.9	8.0	8.3	7.8	8.0	5.8	7.4	7.0	8.8	9.3	
				1979									7.2	8.8	10.4	9.7
				1980	9.0	9.9	8.9	9.0	9.3	8.3	6.5	8.0	7.3	8.8	9.6	10.0
				1981	10.0	9.0	5.0		9.7	9.5	6.9	7.1	6.9	9.3	10.0	9.7
				1982	6.8	6.4	8.5	7.4	8.4	8.6	6.7	6.4	6.4	6.8	7.1	7.4
				1983	7.7	7.0	7.9	7.1	7.0	8.2	7.7	4.7	6.7	8.1	9.5	8.3
				1984	9.2	9.8	9.6	9.9	7.3	7.4	7.7	7.8	6.8	9.9	9.8	9.0
				1985	9.4	8.7	8.1	6.3	8.1	7.9	5.8	6.6	8.2	8.7	9.7	9.0
				1986	9.8	7.8	8.3	6.5	9.1	6.5	6.7	7.3	8.1	8.4	10.2	9.5
				1987	9.6	8.8		8.7	7.7	8.8	9.1	6.8		9.1	10.2	9.6
				1988	9.2	8.9	9.1	7.1	10.3	8.8	5.2	7.6	7.4	3.9	10.6	10.2
				1989	9.5	8.9	7.8	10.0	10.3	8.6	7.5	8.2	7.5	9.4	10.0	8.3
				1990	9.7	6.0	7.9	8.2	9.2	9.2	7.2	7.3	6.7	9.7	9.6	10.2
				1991	9.4	8.8	8.6	9.2			6.0	6.0	7.8	9.1	9.4	8.6
				1992	7.5	7.9	8.9	8.4	9.9	8.5		6.5	8.1	9.2	9.3	8.8
				1993	7.4	7.2	10.3	7.5	8.8	8.6	6.9	8.5	7.1	8.1	10.2	9.9
				1994	10.1	9.8	8.7	7.9	9.4	7.5	6.6	6.8	7.7	9.9	8.9	10.1
				1995	10.4	9.2	8.4	7.4	9.4	9.7	6.9	8.4	7.5	9.2	10.4	9.7
				1996	8.7	10.4	8.4	8.2	8.2	6.9	7.4	7.7	7.4	10.0	9.4	10.5
				1997	7.8	10.7	9.6		10.1	8.6	7.3	8.0	8.9	7.5	8.9	10.0
				1998	7.5	8.1	7.8	9.2	8.9	9.6	7.3	6.9	7.4	8.4	10.6	10.6
				1999	9.5	10.7	7.4	9.6	9.2	9.1	6.6	8.1	8.1	7.6	9.9	10.4
				2000	10.6	10.2	9.8	8.8	8.9	8.4	6.8	7.3	6.8	8.0	9.4	9.8
				2001	9.3	9.9	6.8	10.0	9.0	8.7	7.8	6.3	8.9	8.6	10.1	9.6
				2002	8.4	9.9	7.8	8.9	9.5	9.0	8.3	7.1	7.3	9.2	10.2	7.0
				2003	8.8	9.4	8.2	7.7	9.6	8.4	6.0	5.6	7.2	9.8	9.7	9.4
				2004	8.3	9.3	8.2	8.2	9.8	7.8	7.1	7.2	7.9	8.8	10.1	9.1
				2005	8.8	10.0	8.8	8.9	7.3	8.1	6.6	8.4	7.1	9.4	9.4	10.3
				2006	9.6	9.2	8.0	7.6	8.9	7.9	6.8	5.6	7.2	7.5	10.0	8.3
				2007	8.9	9.0	10.0	8.4	8.9	7.8	6.8	5.9	6.9	8.9	9.6	10.3
				2008	9.6	9.7	10.2	8.4	8.0	8.5	7.2	6.8	7.9	8.3	9.1	10.1
				2009	8.4	10.1	9.6	8.4	9.4	9.2	7.3	7.4	8.1	8.2	9.7	7.1
				2010	9.2	6.4	7.8	7.4	7.5	8.3	6.3	6.3	7.3	9.9	9.1	8.8
				2011	9.8	10.1	8.6	8.8	8.0	8.1	7.2	6.5	6.6	10.0	8.5	10.1
				2012	9.9	9.8	9.3	7.3	8.9	7.5	5.9	5.5	7.0	8.9	10.2	9.7
				2013	8.9	9.9	8.5	8.3	8.1	7.8	5.2	6.6	7.7			
Woliso Giyon	08°33'00"	037°59'00"	2,058 m	2013									5.3	7.7		

降雨量データ(月ベース)


Debre Berhan
Mieso Mission
Ambo Agriculture
Addis Ababa
Metehara
Geber Marsh
Asgori
L. Ala Semite
Debre Zeit
L. Beseka
Gelemso
Nazret
Wilso Giyon
Abomsa
Hombole
Melkasa
L. Koka
Kulumsa
0 10 20 30 40 50
km

降雨量データ(月ベース)

* エチオピア国立気象局の日雨量データを基に計算したもの。

(単位: mm)

		Abomsa	Addis Ababa Obs	Ambo Agriculture	Asgori	Debre Zeit (AF)	Gelemso	Hombole	Kulumsa	Mieso Mission	Melkasa (IAR)	Metehara (NMSA)	Nazret	Woliso Giyon	Debre Berhan
Y	M														
1983	1		18		9	0	85	9	6		0		5		32
	2		22		80	10	0	45	16		40		43		5
	3		49		62	63	22	55	128		56		34		114
	4		117		124	105	225	178	89		46		79		58
	5		237		102	210	327	175	213		204		188	205	129
	6		109		90	149	155	300	65		23		25	163	29
	7		199		237	129	448	234	145		175		215	217	241
	8		245		202	345	317	429	183		137		221	357	313
	9		161		86	89	303	151	97		125		72	297	72
	10		26	45	10	23	104	29	13		10		14	43	2
	11		0	23	0	0	0	0	4		0		0	19	0
	12		9	0	6	0	0	0	0		1		0	10	
1984	1		0	0	0	0	0	0	0		0		0	0	0
	2		8		0	0	0	0	0		0		0	2	0
	3		9	12	21	19	0	18	10		14		4	34	27
	4		8	8	1	0	92	13	2		1		0	17	0
	5		128	120	104	109	236	139	151		81		173	298	95
	6		221	187	184	81	58	376	84		38		85	184	91
	7		296	255	326	221	185	267	80		155		203	248	237
	8		296	98	225	217	159	148	156		153		148	278	108
	9		142	101	85	85	238	152	131		99		67	149	93
	10		0	7	0	0	27	0	11		11	0	0	0	0
	11		4		0	0	6	0	0		0	0	0	1	0
	12		16		15	4	9		17		16	2	20	1	0
1985	1		14	0	22	4	38		9		6	6	3	0	17
	2		0	0	0	0	0		9		0	0			0
	3		18		20	15	101		15		14	30	23	6	27
	4		96		65	64	249		85		43	77	183	94	59
	5		84		52	111	150		57		81	109	67	112	83
	6		112		122	74	32	83	56		27	12	8	151	16
	7		270	136	356	307	236	779	135		280	167	399	306	315
	8		328	239	340	293	111	601	96		262	154	327	309	377
	9	170	206	110	101	130	77		108		79	42	174	197	88
	10	0	58	28	7	1	23	0	26		3	4	0	43	7
	11	10	3	5	0	0	25	0	1		1	1	0	3	6
	12	0	1	9	0	0	6	0	1		0	0	0	0	0
1986	1	0	0	5	0		0	59	0		0	0	0	0	0
	2	71	36	62	63		15		157		56	42	97	60	75
	3	106	88	50	77		76	33	85		68	43	41	43	99
	4	98	198	104	143		130	63	124		56	28	6	130	53
	5	42	125	84	109		169	34	81		26	14	54	131	27
	6		180	197	201			134	115		107	55	152	293	142
	7	125	180	224	238	82	149		108		149	64	263	257	271
	8	81	273	178	255	117	110	115	73		90	67	98	145	275
	9	86	128	115	91	121	157	111	120		78	51	20	108	116
	10		36	33	9	11	70	0	49		11	4	0	29	11
	11	0	0	0	0	0	3	0	12		0	0	0	0	0
	12	14	0	1	3	0	21	0	16		3	7	0	2	0
1987	1	0	1	2	0	0	0	0	2		0	0	0	0	5
	2	15	63	38	27	61	19	44	22		13	24	11	26	19
	3	288	249	149	130	138	149	157	109		89	72	80	208	108
	4	113	82	120	135	90	67	13	151		44	78	81	94	52
	5	146	241	185	140	165	237	115	159		149	75	260	126	100
	6		93	129	100	65	42	0	49		6	0	0	171	0
	7	15	197	147	157	83	81	66	60		102	54	162	270	32
	8	222	254	245	252	156	70	82	116		228	110	243	251	310
	9	34	115	65	42	81	170	57	88		61	8	31	114	48
	10	30	21	14	4	5	75	0	6		3	3	0	12	19
	11	0	1	2	0	0	0	0	3		0	0	0	0	0
	12	0	0	53		0	8	0	12		0	0	0	0	6
1988	1	34	10	86	4	8	23	0	64		35	14	34	22	11
	2	67	53	233	46	16	39	16	79		14	30	31	29	48
	3	3	5	9	2	6	36	0	25		2	12	7	10	17
	4	94	145	32	113	45	157	73	114		30	24	51	35	83
	5	12	17	36	9	38	80	13	60		26	8	9	43	16
	6	79	106	147	75	104	65	38	83		71	12	50	195	16
	7	183	278	214	293	151	110	183	134		189	157	185	367	286
	8	211	299	169	257	237	244	212	123		186	136	171	374	290
	9	179	230	172	177	121	176	156	136		132	104	187	262	153
	10	59	60		16	17	139	0	56		14	18	53	111	12
	11	0	0	0	0	0	0	0	0		0	0	0	0	0
	12	6	0	0	0	0	1	0	0		5	12	0	0	0
1989	1	0	1	25	2	1	0	0	0		0	0	0	23	2
	2	50	76	5	78	12	17	40	50		16	28	30	31	41
	3	61	76	40	87	35	86	109	70		35	105	22	92	98

(単位: mm)

		Abomsa	Addis Ababa Obs	Ambo Agriculture	Asgori	Debre Zeit (AF)	Gelemso	Hombole	Kulumsa	Mieso Mission	Melkasa (IAR)	Metehara (NMSA)	Nazret	Woliso Giyon	Debre Berhan
Y	M														
	4	119	154	66	67	47	273	65	178		62	120	95	121	43
	5	28	1	53	8	0	29	0	25		2	8	0	47	1
	6	90	121	182	114	59	96	54	132		84	82	55	223	41
	7	137	358	219	239	184	114	148	116		148	49	183	225	211
	8	192	325	172	200	172	102	208	180		272	93	281	242	177
	9	121	188	135	115	135	141	90	87		66	28	80	148	68
	10	49	15	52	11	21	131	12	32		11	6	6	41	19
	11	11	0	0	0	0	6	0	5		0	0	0	0	0
	12	34	8	43	5	3	71	4	41		7	13	4	39	31
1990	1	7	1	20	0	0	8	0	0		0	1	1	11	0
	2	347	156	115		128	112	204	161		103	221	184	127	62
	3	186	59	78	37	58	155	69	101		59	58	83	35	21
	4	184	106	20	116	93	191	80	155		81	63	115	85	60
	5	42	20	89	17	37	68	55	31		12	2	13	93	1
	6	22	89	185	173	76	58	79	97		3	1	12	170	2
	7	221	219	316	348	231	100	332	181		127	146	338	195	321
	8	116	269	197	307	185	207	159	110		222	77	169	379	217
	9	107	184	95	89	106	98	88	120		98	82	154	156	169
	10	8	16	3	25	0	27		23		14	2	7	9	1
	11	3	6	0	0	0	0	0	6		0	0	0	0	0
	12	4	0			0	11		1		0	0	0	0	0
1991	1	2	0	13	2		19	0	10	11	0	0	0	13	5
	2	70	75	59	25		57	40	43	104	47	54		48	8
	3	100	107	52	64		175	146	185	51	111	56	111	76	65
	4	45	35		5		78	15	11	58	10	47	14	4	21
	5	58	61		45			4	93	60	56	53	28		0
	6	70	221		214			81	63		131	15	80	162	64
	7	171	249		253			250	158		236	137	322	232	216
	8	185	263		346			358	124	196	235	132	233	250	388
	9	46	126		116			69	86	66	89	50	89	139	87
	10	21	3		4			9	11	23	8	12	14	5	6
	11	1	0		0			0	0	0	0	0	0	0	0
	12	5	50		2			16	12	25	2	0	2	11	6
1992	1	47	20		54			18	27	7	6	26	41	43	30
	2	52	34		55			96	96	20	9	50	28	108	27
	3	6	20		20			4	5	16	0	0	0	55	19
	4	146	41		78			65	66	87	43	76	48	95	80
	5	47	52		59			39	29	87	11	17	9	57	19
	6	51	109		136			92	68	36	105	62	68	202	13
	7	142	249		309			231	109	42	154	90	241	240	308
	8	170	295		330			312	174	37	247	158	217	355	268
	9	198	209		115				105	71	98	62	166	124	93
	10	159	70		71			54	82	18	47	50	45	91	42
	11	20	0		0			0	36	31	4	6	0	8	1
	12	55	3		1			0	15	4	58	2	4	9	2
1993	1	190	11	0	26			3	21	80	40	44	16	21	4
	2	38	67	36	150			72	72	118	46	60	52	39	43
	3	0	16	11	0			0	13	2	0	0	0	10	0
	4	204	158	182	211				148	137	162	140	103	191	117
	5	83	97	121	81				153	44	86	57	75	193	61
	6	20	208	178	100				49	5	56	24	64	250	9
	7	118	274	269	292				112	77	251	105	345	215	409
	8	128	427	215	300				145	97	126	104	142	294	168
	9	111	243	121	79				128	71	58	42	79	251	115
	10	120	62	25	14				59	23	40	22	20	77	43
	11	5	0	0	0				0	0	0	0	0	13	0
	12	8	5	0	5				31	0	11	57	0	0	1
1994	1	0	0		0				0	0	0	0	0	1	0
	2	0	0		0	0			13	0	0	0	0	0	0
	3	31	82		61	31			35	56	36	7	3	88	96
	4	63	82		88	20			67	50	30	21	49	64	0
	5	143	63		90	20			43	49	29	55	27	81	23
	6	117	123		162	75			161	10	100	39	70	125	93
	7	290	309		290	233			120	248	308	248	230	407	282
	8	133	225		295	187			134	90	88	132	172	199	223
	9	76	142		169	109			106	113	85	40	174	116	102
	10	19	1		0	0			1	3	21	0	14	0	
	11	126	15		14	10			33	39	19	13	36	3	37
	12	8	0		0	0			15	0	23	2	51	0	0
1995	1	0	0		0	0			0	0	0	0	0	0	0
	2	22	69		27	2			34	12	29	44	37	23	29
	3	148	42		57	8			164	98	73	82	47	41	19
	4	112	174		149	34			140	105	115	44	127	141	68
	5	64	68		67	6			65	26	10	11	33	132	26
	6	31	103		122	93			79	19	54	29	47	133	23
	7	107	190		232	188			120	93	159	47	203	211	
	8	172	315		277	170			142	102	194	144	251	255	234

(単位: mm)

		Abomsa	Addis Ababa Obs	Ambo Agriculture	Asgori	Debre Zeit (AF)	Gelemso	Hombole	Kulumsa	Mieso Mission	Melkasa (IAR)	Metehara (NMSA)	Nazret	Woliso Giyon	Debre Berhan
Y	M														
	9	86	136		145	80			74	60	84	58	88	92	60
	10	14	0		5	0			2	4	2	1	15	26	5
	11	0	0		0	0			0	0	0	0	0	0	0
	12	7	52		30	12			46	23	14	0	3	16	2
1996	1	67	28		82	16			42	47	27	28	27	70	21
	2	3	5		0	0			4		0	0	0	0	3
	3	144	107		133	103			133	247	152	97	112	146	75
	4	80	128		109	55			59	37	56	35	65	113	10
	5	143	122		117	105			183	230	71	81	115	114	129
	6	121	259		189	262			135	80	95	27	120	279	138
	7	108	266		218	164			130	249	125	205	220	332	328
	8	214	339		353	276			99	170	167	101	250	269	253
	9	136	294		186	90			88	70	140	53	94	112	24
	10	23	0		11	0			1		0	2	0	3	0
	11	9	0		10	6			4	0	5	8	8	9	3
	12	0	0		0	0			0	0	0	0	0	0	0
1997	1	28	39	29	16	28			6	4	14	31	14	12	30
	2	7	0	0	0	0			0	0	0	0	0	0	4
	3	72	25	31	41	27			218	102	46	13	75	62	41
	4	106	51	83	82	75			113	154	22	44	29	98	82
	5	15	39	60	44	14			35	8	3	12	7	34	26
	6	71	104	132	129	122			116	41	112	35	94	192	97
	7	244	273		180	236			135	104	231	140	193	284	272
	8	140	194	183	179	172		128	109	109	154	54	241	201	201
	9	100	114	59	61	71		48	61	39	67	23	76	64	35
	10	234	62	94	65	100		22	94	361	140	129	117	78	90
	11	110	50	22	53	11		3	26	74	15	15	32	31	
	12	0	2	2	0	0		0	0	0	0	0	0	0	
1998	1	109	55	74	69	32		18	28	14	16	1	12	58	23
	2	32	21	10	70	51		26	25	33	57	18	26	53	13
	3	130	49	41	31	14		52	52	62	51	77	105	61	15
	4	38	49	31	81	77		44	69	26	49	34	20	84	49
	5	71	154		80	42		38	92	36	40	15	49	179	43
	6	52	124		167	78		66	84	27	20	5	55	158	14
	7	109	285		315	206		225	78	114	257	78	197	259	337
	8	176	260		313	294		284	187	96	326	136	221	280	289
	9	194	214		52	98		57	120	162	99	54	145	160	71
	10	87	127		20	93		62	106	89	132	78	133	84	5
	11	2	0		0	0		0	35	10	0	0	0	6	0
	12	0	0	0	0	0		0	0	0	0	0	0	0	0
1999	1	26	3	8	4	1		3	5	0	8	0	9	9	7
	2	1	0	0	0	0		0	1	3	0	0	0	0	0
	3	162	29	40	69	37		9	73	131	21	74	35	29	27
	4	5	16	20	9	0		4	25	11	0	6	1	18	3
	5	22	24	99	66	10		1	61	18	3	16	19	152	11
	6	82	120	108	137	177		94	104	34	125	17	74	195	49
	7	276	287	196	255	299		201	112	158	249	136	283	286	362
	8	204	305	133	199	259		189	110	151	177	151	194	351	365
	9	145	88	96	131	49		42	71	73	63	16	66	202	52
	10	230	75	120	59	94		117	185	126	146	76	165	176	60
	11	4	0	1	0	0		0	0	11	0	2	3	0	1
	12	0	0	0	0	0		0	0	0	2	0	0	0	0
2000	1	5	0	0	0	0			0	0	0	0	0	0	0
	2	0	0	0	0	0			0	0	0	0	0	0	0
	3	11	18	9	0	9			0	7	9	2	20	4	26
	4	88	50	52		50			75	83	40	21	16	110	47
	5	67	110	94	63	65			147	129	78	37	52	101	37
	6	13	145	121	112	77			158	57	78	30	61	120	46
	7	119	245	186	238	244	99	194	151	15	263	136	355	327	352
	8	201	306	192	168	187	242	158	83	141	180	153	269	250	318
	9	66	251	131	144	139	59	116	120	114	65	47	134	172	105
	10	165	46	84	1	41	34	17	35	138	81	47	86	23	29
	11	46	21	21	8	23	11	0	27	79	43	12	58	16	19
	12	25	0	15	0	3	6	0	2	0	17	9	13	13	7
2001	1	4	0	0	1	0		0	1	1	0	0	0	11	0
	2	25	12	13	13	5		16	22	5	7	14	6	8	34
	3	170	211	61	103	166		117	186	113	97	93	108	83	71
	4	36	25	70	23	22		64	12	24	27	26	29	31	19
	5	122	168	178	128	104		124	189	79	138	13	177	85	65
	6	56	216	149	184	80		159	148	61	103	20	51	153	35
	7	210	428	198	254	242	99	188	98	184	221	155	217	326	407
	8	281	246	243	128	143	242	103	179	279	162	83	145	176	260
	9	82	132	111	56	64	59	27	87	125	51	15	108	110	32
	10	18	14	42	6	38	34	0	11	1	1	7	2	32	4
	11	3	0	5	0	0	11	0	6	0	1	0	0	6	0
	12	21	0	11	0	0	6	0	0	24	12	2	7	0	3
2002	1	38	15	79	28	9	18		103	24	43	3	21	25	18

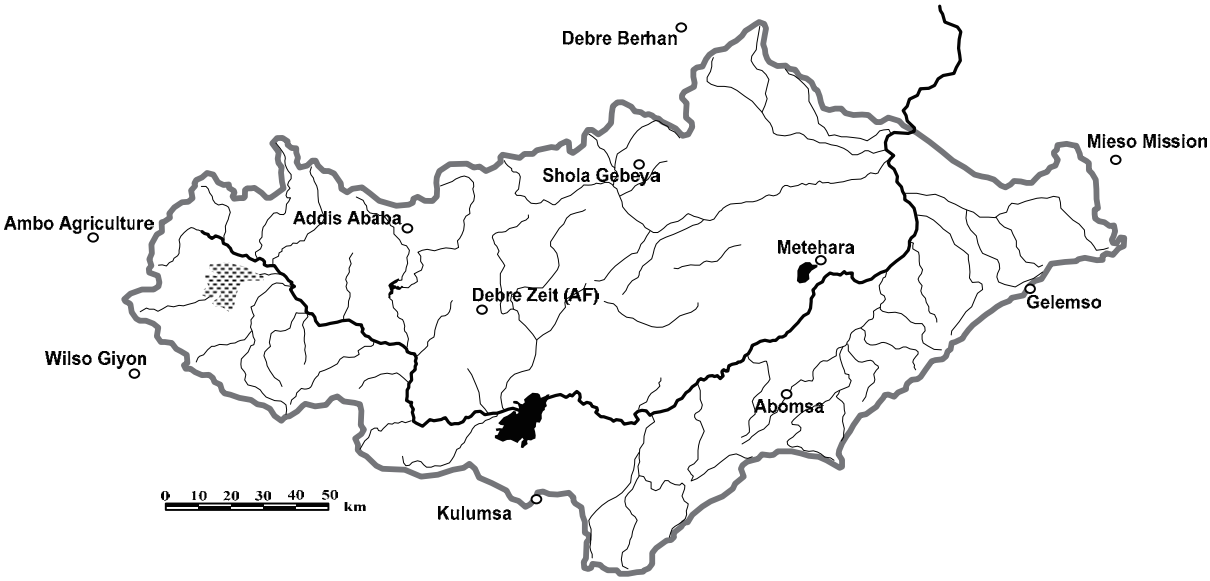
(単位: mm)

		Abomsa	Addis Ababa Obs	Ambo Agriculture	Asgori	Debre Zeit (AF)	Gelemso	Hombole	Kulumsa	Mieso Mission	Melkasa (IAR)	Metehara (NMSA)	Nazret	Woliso Giyon	Debre Berhan
Y	M														
	2	0	21	17	41	0	0		68	0	10	0	11	26	28
	3	103	90	56	48	48	29		50	53	58	73	24	82	61
	4	37	56	56	41	35	93	32	71	83	58	19	51	59	46
	5	18	63	40	52	11	75	38	49	5	50	9	23	59	18
	6	49	173	178	97	109	78	48	68	28	24	10	50	243	29
	7	66	257	191	258	179	98	221	45	73	75	43	130	270	214
	8	125	216	151	253	178	119	48	168	81	158	81	206	263	295
	9	52	109	40	93	58	82	17	47	53	46	17	65	60	109
	10	0	0	3	0	0	53	0	2	12	6	0	1	0	3
	11		0	0	0	0	0	0	0	0	2	0	0	0	0
	12		17	17	21	21	58	16	38	54	21	21	35	27	8
2003	1	9	11	42	45	38	17	15	16	6	18	5	47	27	16
	2	6	53	100	25	55	1	15	43	4	24	19	69	6	36
	3	74	63	55	65	64	56	58	94	37	128	34	151	83	60
	4	62	99	154	120	100	141	151	128	143	75	14	89	142	86
	5	0	20	9	44	21	40	14	20	25	6	0	4	18	4
	6	50	152	209	170	81	115	108	117	110	52	30	75	189	100
	7	218	292	134	265	278	230	326	122	108	190	119	236	333	334
	8	130	233	143	272	286	190	161	97	183	188	186	280	200	289
	9	85	193	79	108	120	88	29	83	160	161	31	123	112	74
	10	16	1	9	2	6	3	0	18	0	2	0	0	21	0
	11	7	2	1	1	4	10	0	0	9	2	3	5	14	0
	12	69	55	0	11	35	20	18	21	26	54	16	49	32	7
2004	1	35	25	39	31		57		56	18	52	35	29	55	24
	2	1	20	17	5		0	0	2	0	2	3	3	34	10
	3	128	50	35	45	68	52	29	26	75	94	84	77	49	30
	4	151	140	109	172	120	149	145	84	142	73	142	53	94	113
	5	2	30	27	25	2	47	0	25	3	2	0	2	49	6
	6	63	142	137	152	134	43	101	103	38	54	21	63	216	100
	7	134	239	204	184	173	111	120	106	119	204	90	114	282	335
	8	160	273	215	174	209	195	148	97	120	140	124	227	234	301
	9	126	164	139	74	74	167	60	156	115	110	39	77	172	79
	10	60	77	19	57	23	132	12	71	63	68	16	59	39	14
	11	14	0	0	0	10	23	0	1	13	20	5	13	8	12
	12	32	0	9	0	0	23	0	3	1	5	0	2	0	0
2005	1	53	46	25	29	22	15		48	4	23	19	73	63	34
	2	0	52	0	2	0	11		45	9	2	0	6	0	5
	3	78	83	87	77	122			109	93	85	47	90	75	29
	4		161	48	58	77	138	65	129	71	100	54	41	105	50
	5	100	134	58	141	87	227		70	98	95	76	71	70	76
	6	38	180	166	149	97	49	81	64	76	81	36	50	188	91
	7	174	246	158	164	168	166	188	63	186	118	146	144	230	311
	8	155	315	187	147	187	98	196	87	97	232	138	165	255	228
	9	103	163	98	123	153	155	45	85	108	130	22	68	157	107
	10	22		19	11	0	56		19	3	5	0	6	50	1
	11	48	4	10	0	3	54		26	18	12	5	5	16	2
	12	0	0	0	0	0	0		0	0	0	0	0	0	0
2006	1	0	1	0	0	5	3		5	9	11	1	18	2	17
	2	39	11	5	12	109	25	45	16	26	45	29	88	59	24
	3	166	133	151		0	156	112	83	58	59	34	65	91	61
	4	47	79	72		52	155	59	131	168	95	33	89	91	38
	5	22	75	158		32	46		62	38	35	10	28	102	20
	6	52	150	110		108	94	90	81	53	61	27	59	214	35
	7	221	356	210		329	119	215	162	147	209	142	174	303	433
	8	176	244	299		141	196	120	100	276	217	65	225	325	224
	9	96	239	77	79	123	165	90	81	62	139	23	129	175	60
	10	93	54	18	3	78	124	0	77	13	24	38	10	21	9
	11	1	0	19	0	5	0	0	2	8	0	1	1	18	
	12	50	8	0	1	16	69	20	7	50	34	65	29	0	26
2007	1	17	51	49	9	6	0	40	27		49	9	23	22	2
	2	41	19	54		0	6	4	60		41	44	32	53	30
	3	85	60	40		0	71	43	49		75	105	82	21	9
	4	105	74	39		58	195	27	90		88	23	102	24	72
	5	86	120	132		92	55	114	155		100	25	65	155	14
	6	59	175	275		77	66	180	121		62	7	63	226	93
	7	122	262	233		327	142	135	131		171	124	226	249	310
	8	222	381	218		155	240	159	96		239	158	344	236	415
	9	125	148	112		123	152	107	80		200	70	138	177	129
	10	24	25	11		13	88	16	20		31	5	26	8	5
	11	14	0	0	0		4	0	7		10	17	8	0	6
	12	0	0	0			0	0	0		0	0	0	0	0
2008	1	5	0	0		0	1	0	1		0	0	10	0	0
	2	2	13	0	0	0	0	0	2		0	0	0	1	2
	3	1	0	1	1	0	4	0	0		1	0	0	5	0
	4	75	49	19	61	41	85	0	42		74	26	80	43	35
	5	86	94	157	103	48	237	57	81		98	62	70	127	69
	6	42	89	162	140	56	79	69	51		46	12	71	178	66

(単位: mm)

		Abomsa	Addis Ababa Obs	Ambo Agriculture	Asgori	Debre Zeit (AF)	Gelemso	Hombole	Kulumsa	Mieso Mission	Melkasa (IAR)	Metehara (NMSA)	Nazret	Woliso Giyon	Debre Berhan
Y	M														
	7	194	277	308	283	226	128	240	159		334	197	353	326	398
	8	176	361	260	190	254	267	203	233		211	96	302	263	235
	9	102	257	84	74	149	122	91	102		122	15	100	160	77
	10	143	88	65	23	3	23	0	79		93	49	38	51	10
	11	49	79	102	65	45	88	133	66		75	58	70	88	55
	12	0	23	3	0	0	0	0	0		0	0	0	0	1
2009	1	68	21	27	31	41	32		20		53	85	63	17	47
	2	0	3	23	2	0	7		11		0	0	0	2	0
	3	49	28	29	1	14	26		36		0	11	3	43	8
	4	56	81	61	26	28	142		50		48	16	2	38	31
	5	29	59	48		17	74		62		53	14	22	64	15
	6	22	83	96		38	59		58		52	31	50	78	14
	7	148	350	286		125	113		159		152	55	156	234	423
	8	182	388	272		244	118		202		139	87	113	290	273
	9	55	113	65		46	137		95		34	37	34	107	31
	10	165	46	56		68	97	93	68		100	70	133	84	37
	11	15	4	2		1	63	0	1		1	3		0	1
	12	5	65	42		21	35		27		48	37		25	25
2010	1	0	3	22		0	0	0	5		0	0	0	9	0
	2	148	80	48	89	36	135	61	127		123	32	97	49	25
	3	44	56	76	92	87	164	96	101		90	49	92	28	56
	4	76	98	34	104	130	249	132	107		32	39	27	88	119
	5	152	74	127	58	37	189	75	95		115	124	68	180	52
	6	73	271	166	158	101	48	96	116		107	17	101	229	35
	7	152	314	316	273	198	160	165	148		210	146	228	307	242
	8	158	206	235	150	205	117	128	86		294	101	243	359	329
	9	129	238	116	99	126	188	138	124		114	69	165	148	54
	10	0	2	0		0	0		3		0	0	0	0	0
	11	0	26	23		0	14		4		5	13	18	0	9
	12	2	15	24		0	0		4		3	0	0	28	4
2011	1	0	14	55	15		0	0	8		0	0	0	5	0
	2	18	13	7			0	0	26		2	0	0	1	7
	3	61	44	90			19	47	133		38	28	10	36	77
	4	27	23	120			33	45	58		46	0	18	68	39
	5	130	66	186			209	41	121		38	30	69	132	111
	6	107	182	359			60	69	65		102	60	55	189	73
	7	59	181	456			210	190	114		126	59	215	235	357
	8	177	341	387			186	174	154		218	198	156	284	312
	9	219	146			152	218	104	167		188	80	192	159	79
	10	4	0	0		0	2	0	0		0	0	0	0	0
	11	109	42	0		2	43	14	4		52	5	30	30	4
	12	0	0	0		0	0	0	0		0	0	0	0	0
2012	1	0	0	0	0	0	0	0	1		0	0	0	0	0
	2	0	0	0	0		0	0	3		0	0	0	0	0
	3	38	16	40	1	85	3		28		48	17	0	33	30
	4	84	74	57	61	29	79	61	101		37	28	78	78	97
	5	47	50	24	42	68	81	30	74		18	49	17	61	58
	6	37	69	143	135		103	56	76		22	7	33	174	56
	7	250	324	277	211	240		412	198		431	162	509	187	352
	8	285	298	168	230	287	231		188		210	99	313	196	395
	9	77	216	173	84	74			272		155	31	130	216	92
	10	11	2	53		2			4		3	0	1	2	0
	11		0	0		0			4		1	0	1	3	0
	12		10	18					13		0	0	4	6	0

蒸発量データ(月ベース)


Debre Berhan
Mieso Mission
Shola Gebeya
Ambo Agriculture
Addis Ababa
Metehara
Debre Zeit (AF)
Gelemso
Wilso Giyon
Abomsa
0 10 20 30 40 50 km
Kulumsa

蒸発量データ(月ベース)

* エチオピア国立気象局の日蒸発量データを基に計算したもの。

(単位: mm)

Station =>		Abomsa	Addis Ababa	Ambo Agriculture	Debre Zeit	Debre Berhan	Gelemso	Kulumsa	Metehara	Mieso Mission	Shola Gebeya	Woliso Giyon
Elevation =>		1,630 m	2,386 m	2,068 m	1,900 m	2,750 m	1,739 m	2,211 m	944 m	1,332 m	2,500 m	2,058 m
Y	M											
1964	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9		225									
	10		193									
	11		212									
	12		133									
1965	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											
	11											
	12											
1966	1		37									
	2		122									
	3		179									
	4		151									
	5		291									
	6		125									
	7		66									
	8		63									
	9		121									
	10		190									
	11											
	12		218									
1967	1		237									
	2		233									
	3		230									
	4		140									
	5		169									
	6		155									
	7		61									
	8		52									
	9		59									
	10		185									
	11		142									
	12		167									
1968	1											
	2											
	3		194									
	4		112									
	5											
	6											
	7		68									
	8											
	9											
	10											
	11											
	12											
1969	1		162									
	2		130									
	3		163									
	4											
	5		181									
	6		80									
	7		58									
	8		61									
	9											
	10		242									
	11		234									
	12		256									
1970	1		165									
	2		224									
	3		151									
	4		203									
	5		268									

(単位: mm)

Station =>		Abomsa	Addis Ababa	Ambo Agriculture	Debre Zeit	Debre Berhan	Gelemso	Kulumsa	Metehara	Mieso Mission	Shola Gebeya	Woliso Giyon
Elevation =>		1,630 m	2,386 m	2,068 m	1,900 m	2,750 m	1,739 m	2,211 m	944 m	1,332 m	2,500 m	2,058 m
Y	M											
	6		141									
	7		82									
	8		55									
	9		82									
	10		189									
	11		220									
	12		199									
1971	1		179									
	2		243									
	3		247									
	4		191									
	5		143									
	6		94									
	7		68									
	8		60									
	9		84									
	10		179									
	11		164									
	12		260									
1972	1		327					179				
	2		209					111				
	3		308					202				
	4		144					125				
	5							222				
	6		222					161				
	7		53					93				
	8		92					90				
	9		152					126				
	10		272					234				
	11		271					223				
	12		297					211				
1973	1		335					244				
	2		346					284				
	3		669					409				
	4		502					388				
	5		336					211				
	6		152					159				
	7		88					119				
	8		58					93				
	9		122					92				
	10		237					204				
	11		263					231				
	12		326					236				
1974	1		348					226				
	2		320					223				
	3											
	4		426					308				
	5		350					200				
	6		167					119				
	7		74					100				
	8		57					112				
	9		101					73				
	10		319					218				
	11		348					254				
	12		354					226				
1975	1							224				
	2							201				
	3							251				
	4							187				
	5							251				
	6							143				
	7							114				
	8							91				
	9							92				
	10											
	11							244				
	12							229				
1976	1		273					236				
	2		267					212				
	3		292					238				
	4		193					207				
	5		175					184				
	6		105					176				
	7							118				
	8		56					107				
	9		99					130				
	10		201					246				
	11							199				
	12		173					229				

(単位: mm)

Station =>		Abomsa	Addis Ababa	Ambo Agriculture	Debre Zeit	Debre Berhan	Gelemso	Kulumsa	Metehara	Mieso Mission	Shola Gebeya	Woliso Giyon
Elevation =>		1,630 m	2,386 m	2,068 m	1,900 m	2,750 m	1,739 m	2,211 m	944 m	1,332 m	2,500 m	2,058 m
Y	M											
1977	1							128				
	2							192				
	3							212				
	4							182				
	5							188				
	6							135				
	7							124				
	8							107				
	9							112				
	10							191				
	11							193				
	12							222				
1978	1							265				
	2											
	3							190				
	4							266				
	5											
	6							237				
	7							159				
	8							125				
	9							105				
	10							169				
	11							225				
	12							215				
1979	1							163				
	2							173				
	3							222				
	4							228				
	5							206				
	6							178				
	7							143				
	8							136				
	9											
	10							216				
	11							246				
	12							208				
1980	1							223				
	2							230				
	3							226				
	4							224				
	5							293				
	6							167				
	7							169				
	8							144				
	9							132				
	10							293				
	11							318				
	12							302				
1981	1							357				
	2							287				
	3							143				
	4							172				
	5							319				
	6							248				
	7							152				
	8							146				
	9							118				
	10							253				
	11							301				
	12							283				
1982	1							208				
	2							142				
	3							291				
	4							204				
	5							262				
	6							210				
	7							157				
	8							140				
	9							125				
	10							201				
	11							168				
	12							190				
1983	1							259				
	2							187				
	3							174				
	4							157				
	5							161				
	6							179				
	7							174				

(単位: mm)

Station =>		Abomsa	Addis Ababa	Ambo Agriculture	Debre Zeit	Debre Berhan	Gelemso	Kulumsa	Metehara	Mieso Mission	Shola Gebeya	Woliso Giyon
Elevation =>		1,630 m	2,386 m	2,068 m	1,900 m	2,750 m	1,739 m	2,211 m	944 m	1,332 m	2,500 m	2,058 m
Y	M											
	8							173				
	9							148				
	10			86				266				
	11			96				236				
	12			132				255				
1984	1							277				
	2							326				
	3							362				
	4							359				
	5							197				
	6							156				
	7							168				
	8							132				
	9							163				
	10							328				
	11							271				
	12							231				
1985	1		170					276	391			
	2		163					289	382			
	3		212					333	508			
	4		113					209	268			
	5		143					235	276			
	6		119					268	410			
	7		58					179	231			
	8		72					126	199			
	9		84		119			123	218			
	10		156		207			259	354			
	11		161		192			279	365			
	12		167		192			301	358			
1986	1		160	292				325	343			
	2		117	206				185	285			
	3		152	241				264	334			
	4		99	168				161	342			
	5		134	188				229	395			
	6		82	77				149	284			
	7		73	55				161	233			
	8		68					194	255			
	9		85					136	270			
	10		152					303	390			
	11		166	264				283	424			
	12		138	244				266	338			
1987	1		137	237				282	389			
	2		134	135				239	415			
	3		91	149	155			177	308			
	4		116	165	195			231	293			
	5		105	131	235			178	293			
	6		82	60	116			164	364			
	7		64	47	136			183	348			
	8		63	41	100			154	269			
	9		97	84	170				338			
	10		136	150	277				446			
	11		155	195	309			210	429			
	12		148	217	234			205	320			
1988	1		130	207	211			154	231			
	2		124	157	245			131	276			
	3		205	257	424			263	373			
	4	218	122	193	247			150	283			
	5	346	179	167	320			200	400			
	6	270	88		141			113	354			
	7	223	75	23	70			104	272			
	8	138	52	33	63			64	162			
	9	117	57	47	76			54	156			
	10	190	131		193			142	264			
	11	228	152		220			203	290			
	12	198	155		239			178	261			
1989	1		126			157		176	290			
	2		142			155		142	243			
	3		140			149		169	282			
	4		92			97		89	152			
	5		177			201		199	307			
	6		98			143		137	332	375		
	7		57			73		93		326		
	8		70			80		70		252		
	9		92	48		96		66	224	205		
	10		154			122		200	308	301		
	11		164	76		135		200	368	243		
	12		99	92		94		104	246	152		
1990	1	180	139	122				188	323	220		
	2	70	79	62				68	139	102		

(単位: mm)

Station =>		Abomsa	Addis Ababa	Ambo Agriculture	Debre Zeit	Debre Berhan	Gelemso	Kulumsa	Metehara	Mieso Mission	Shola Gebeya	Woliso Giyon
Elevation =>		1,630 m	2,386 m	2,068 m	1,900 m	2,750 m	1,739 m	2,211 m	944 m	1,332 m	2,500 m	2,058 m
Y	M											
	3	85	130	102		156		99	190	140		
	4	138	119	105		132		128	230	192		
	5	240	150	108		224		170	375	312		
	6	291	94	63		210		141	435	367		
	7	161	67	35		62		89	268	289		
	8	149	54	39		72		62	250	281		
	9	144	69	39		74		58	226	207		
	10	233	153	101		142		212	346	274		
	11	203	127	121		154		177	328	268		
	12	227	149			177		209	303	265		
1991	1		143			175		188	314	235		
	2		103			145		130	220	172		
	3		114			155		127	271	213		
	4		156			203		207	240	242		
	5		178					208	279	285		
	6		103			169		146	313			
	7		55			48		77	245			
	8		65			42		62	161	246		
	9		107			87		80	183	246		
	10		157			129		193	299	302		
	11		152			167		197	299	281		
	12		143			132		183	264	187		
1992	1	129	115			115		114	220			
	2	93	124			120		81	171			
	3	238	150			186		195	334			
	4	219	145			120		177	231			
	5	268	151			201		203	295			
	6	311				208		140	321			
	7	208				80		90	262			
	8	140				40		59	164			
	9	119				69		73	178			
	10	165	140			107		129	240			
	11	169				135		143	253			
	12	138				141		130	235			
1993	1	123	147			145		112	212			
	2	100	116			134		101	147			
	3	277	205			233		240	332			
	4	144	101			103		107	227			
	5	106	106			129		110	204			
	6	229	54			155		95	316			
	7	223	53			66		102	254			
	8	173	56			68		62	223			
	9	168	57			73		51	232			
	10	154	106			109		127	254			
	11	209	130			132		202	288			
	12	208	141			185		206	283			
1994	1		164			221		258	276			
	2		150		212	209		239	266			
	3		139		252	161		204	294			
	4		128		255	164		247	282			
	5		163		271	218		217	314			
	6		67		152	142		119	330			
	7		47		101	47		79	187			
	8		51		102	43			172			
	9		74		121	87			175			
	10		144		266				294			
	11		104		212	128			224			
	12		138		222	146			237			
1995	1		143		204	177			259			
	2		121		205	150			247			
	3		115		186				209			
	4		68		164				214			
	5		126		237				337			
	6		99		153				334			
	7		43		87				269			
	8		39		79	48			202			
	9		77		97	92			182			
	10		128		214	127			340			
	11		123		276	123		218	289			
	12		104		174	135		143	255			
1996	1		145		130	109		118	220			
	2		125		197	199		227	287			
	3		115		157	140		144	229			
	4		68		171	171		147	216			
	5		126		151	129		125	226			
	6		96		79	94		85	278			
	7		42		90	79		88	227			
	8		39		98	58		61	193			
	9		63		104	104		67	198			

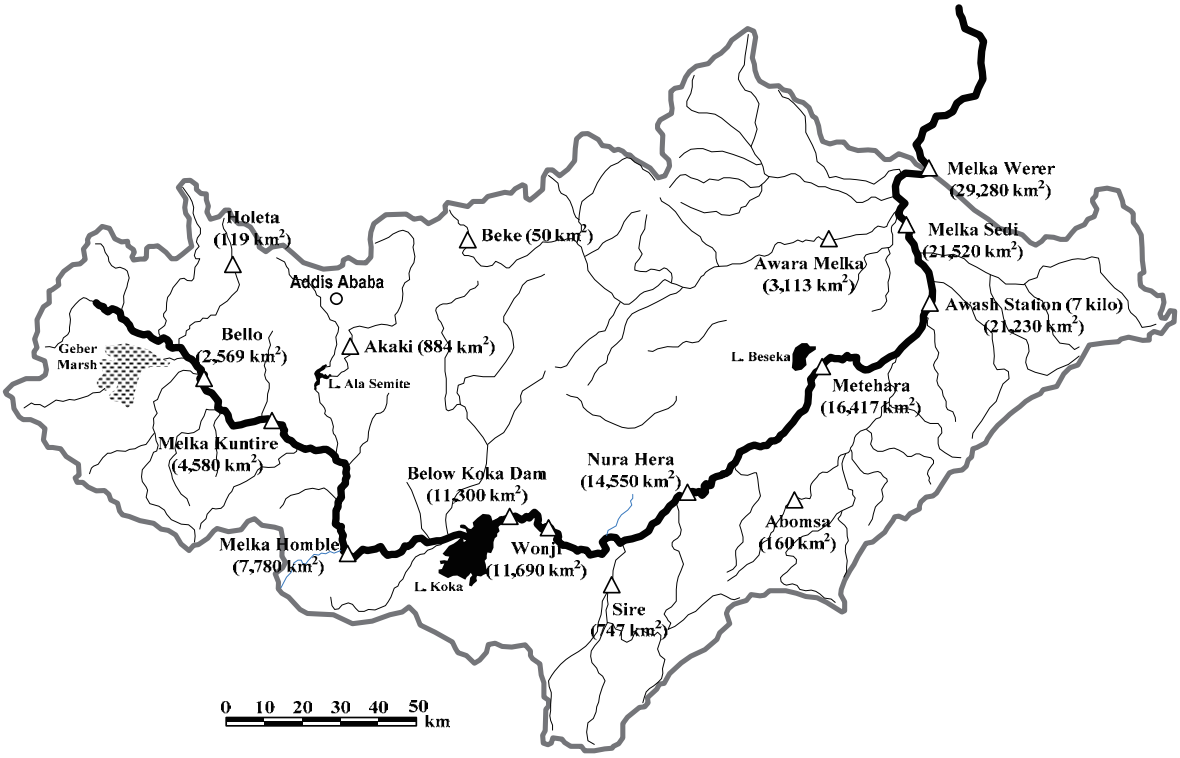
(単位: mm)

Station =>		Abomsa	Addis Ababa	Ambo Agriculture	Debre Zeit	Debre Berhan	Gelemso	Kulumsa	Metehara	Mieso Mission	Shola Gebeya	Woliso Giyon
Elevation =>		1,630 m	2,386 m	2,068 m	1,900 m	2,750 m	1,739 m	2,211 m	944 m	1,332 m	2,500 m	2,058 m
Y	M											
	10		128		234	148		218	279			
	11		121		197	158		190	234			
	12		101		213	181		215	274			
1997	1		108		186	143		141	220		141	208
	2		149		245	170		250	272		221	350
	3		155		224	150		169	278		200	271
	4		109		164			131	227		145	160
	5		168		288			191	315		251	180
	6		111		164			107	276		147	97
	7		55		81			81	204		63	
	8		57		100			67	179		65	58
	9		107		127			103	214		136	120
	10		109		148			125	168		121	171
	11		97		129			111	122		80	173
	12		122		164			167	219		103	245
1998	1		109		143			102	135		110	196
	2	146	113		154			119	142		118	189
	3	173	123		201			142	184		156	225
	4	258	135		214			168	257		179	227
	5	280	111		205			161			212	137
	6	320	89		183			130	296		204	63
	7	224	60		88			92	266		71	41
	8	141	46		72			61	151		41	44
	9	114	55		81			56	151		65	49
	10	154	77		104			125	150		94	143
	11	206	130		142			205	205		152	361
	12	280	141		166			235	209		187	459
1999	1	262	136		179			198	248		170	405
	2	347	178		204			250	275		235	
	3	212	116		166			143	184		157	
	4	348	158		232			234	280		280	326
	5	390	148		219			185	279			158
	6	339	96		133			126	224		191	76
	7	212	51		84			88	171		62	45
	8	171	55	42	74			70	152		60	46
	9	148	65					70	151		84	
	10	134	76					95	166		96	74
	11	226	127		161			216	185		168	251
	12	228	137		152			187	237		173	287
2000	1	278	171					217	256	287	194	346
	2	333	181	338		248		273	250	306	234	409
	3	376	191	360	280			287	301	345	264	409
	4	281	140	184	230			207	255	259	209	234
	5	291	111	172	180			140	244	277	257	121
	6	341	71		131			125	265	369	176	81
	7	246	58		70			84	215	311	84	47
	8	197	44		78			75	156	235	62	45
	9	158	56		108			52	149	159	99	64
	10	163	109		162			121	137	157	121	124
	11	176	119		196			137	167	154	139	198
	12	197	136		246			178	176	214	168	250
2001	1	200	128	207	212	179		171	163	192	145	218
	2	226	147	246	267	185		183	198	208	192	262
	3	176	108	178	165	111		108	173	167	135	165
	4	250	163	239	254	192		191	207	243	233	258
	5	259	99	157	194	161		107	246	287	206	123
	6	267	71	80	167	146		90	243	315	151	68
	7	199	60		127	48		81	164	266	84	50
	8	146	56	52	126	44	109	71	132	176	57	44
	9	139	98	86	154	95	92	90	155	137	115	85
	10	192	141	153	266	116	110	191	244	218	202	152
	11	223	153	219	279	135	186	208	238	232	193	233
	12	179	161	243	283	161	233	188	210	189	191	281
2002	1	150	122	201	220	144	273	137	171	167	139	228
	2	260	167	236	281	192	266	194	231	233	206	273
	3	220	127	196	251	144	209	146	201	223	175	191
	4	265	158	247	285	170	203	195	250	244	193	255
	5	338	152	212	258	223	160	169	284	336	252	159
	6	343	84	86	192	176	154	133	235	329	199	79
	7	317	62	62	162	139	168	134	263	266	131	61
	8	217	61	54	123	56	137	83	208	278	80	46
	9	197	93	101	151	79	137	93	231	242	108	84
	10	264	167	259	294	133	182	248		348	212	233
	11		167	272	309	159	290	252		308	217	312
	12		107	227	206	116	177	128		162	126	222
2003	1	202	136	248	243	145	279	166		207	167	260
	2	257	155	292	251	162	297	205		252	190	296
	3	282	164	267	260	171	256	182		279	235	261
	4	256	118	220	253	134	199	154		251	175	213

(単位: mm)

Station =>		Abomsa	Addis Ababa	Ambo Agriculture	Debre Zeit	Debre Berhan	Gelemso	Kulumsa	Metehara	Mieso Mission	Shola Gebeya	Woliso Giyon
Elevation =>		1,630 m	2,386 m	2,068 m	1,900 m	2,750 m	1,739 m	2,211 m	944 m	1,332 m	2,500 m	2,058 m
Y	M											
	5	415	195	299		251	173	258		359	344	310
	6		93	118		179	118	105	285	298	166	97
	7		47	57	103	49	97	78	199	264	60	50
	8		48	54	94	52	80	65	131	140	56	49
	9		58	66	113	80	103	59	130	100	80	59
	10		153	211	280	149	194	224	251	217	202	264
	11		161	244	263	147	256	192	228	192	166	277
	12		140	246	213	152	260	166	165	165	141	308
2004	1		131	218		140	174	135	151	162	148	223
	2		166	282		180	312	205	203	221	179	250
	3		186	311		206	317	236	244	235	217	299
	4	170	104	180	172	119	121	116	156	144	129	167
	5	387	184	235	309	243	178	240	273	315	342	226
	6	282	81	98	161	164	166	120	268	225	159	83
	7		56	60	103	62	143	90	245	205	78	61
	8		69	54	81	61	117	77	212	214	73	61
	9		82	69	112	90	99	75	202	137	119	81
	10		133	186	218	127	182	173	247	153	169	216
	11		156	236	236	144	205	200	272	173	164	289
	12		144	239	229	145	212	168	238	173	139	
2005	1		130	222	205	135	253	164	227	183	157	
	2		168	339	301	202	276	217	271	230	242	
	3		135	242	230	162	187	156	255	176	192	
	4		131	253	267	162	201	183	270	207	202	
	5		104	181	147	122	88	113	180	141	159	
	6		85	100	172	163	117	107	263	198	170	
	7		52	58	89	59	116	86	163	206	71	56
	8		56	51	95	58	135	76	146	174	82	62
	9		66	21	99	81	111	72	197	152	127	66
	10		137	133	246	122	142	203	297	211	208	222
	11		147	218	271	138	252	223	271	200	198	292
	12		164	297	291	196	336	249	275	269	212	385

10日平均流量データ


Melka Werer
(29,280 km²)
Melka Sedi
(21,520 km²)
Awash Station (7 kilo)
(21,230 km²)
Holeta
(119 km²)
Beke (50 km²)
Awara Melka
(3,113 km²)
Addis Ababa
Bello
(2,569 km²)
Akaki (884 km²)
Geber
Marsh
L. Ala Semite
L. Beseka
Metehara
(16,417 km²)
Melka Kuntire
(4,580 km²)
Nura Hera
(14,550 km²)
Below Koka Dam
(11,300 km²)
Abomsa
(160 km²)
Melka Homble
(7,780 km²)
Wonji
(11,690 km²)
L. Koka
Sire
(747 km²)
0 10 20 30 40 50
km

10日平均流量データ

* 水灌漑電力省の日流量データを基に計算したもの。

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
1965	1	1																
		2																
		3																
	2	1																
		2																
		3																
	3	1																
		2																
		3																
	4	1																
		2																
		3																
	5	1																
		2																
		3																
	6	1																
		2																
		3																
	7	1																
		2																
		3																
	8	1																
		2										140.39						
		3										160.16						
	9	1										161.06						
		2										72.03						
		3										24.98						
	10	1										13.55						
		2										12.95						
		3										7.21						
	11	1										3.83						
		2										2.37						
		3										1.84						
	12	1										1.81						
		2										3.46						
		3										2.89						
1966	1	1										1.09						
		2										0.81						
		3										1.66						
	2	1										3.93						
		2										12.96						
		3										4.53						
	3	1										2.51						
		2										1.44						
		3										0.92						
	4	1										1.44						
		2										7.18						
		3										10.00						
	5	1										1.79						
		2										0.78						
		3										0.51						
	6	1										0.59						
		2										8.51						
		3										13.38						
	7	1										34.75						
		2										61.69						
		3										86.78						
	8	1										168.44						
		2										195.74						
		3										142.08						
	9	1										154.15						
		2										134.71						
		3										59.36						
	10	1										14.35						
		2										11.80						
		3										6.66						
	11	1										2.96						
		2										2.78						
		3										2.21						
	12	1										1.88						
		2										1.61						
		3										1.35						
1967	1	1										1.08			0.79			
		2										0.87			0.79			
		3										0.91			0.82			
	2	1										1.64			0.79			
		2										1.51			0.71			
		3										1.06			0.69			
	3	1										0.84			0.75			
		2										0.87			0.71			
		3										0.94			1.18			
	4	1										3.45			1.50			
		2										9.43			1.22			
		3										6.80			2.24			
	5	1										10.48			3.31			
		2										23.70			3.56			
		3										4.36			1.73			

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	6	1										1.23			1.24			
		2										3.82			1.08			
		3										17.74			1.97			
	7	1										36.64			4.33			
		2										70.42			11.02			
		3										70.72			10.19			
	8	1										115.15			12.32			
		2										123.48			19.61			
		3										163.36			21.00			
	9	1										102.57			23.64			
		2										68.37			11.82			
		3										56.15			30.27			
	10	1										38.17			48.70			
		2										31.13			5.70			
		3										16.51			2.53			
	11	1										9.53			1.95			
		2										30.85			9.20			
		3										15.48			8.03			
	12	1										4.94			2.66			
		2										2.83			1.64			
		3										2.08			1.40			
1968	1	1				36.49					5.82	1.45			1.23			
		2				42.60					5.31	0.75			1.12			
		3				38.34					5.09	1.55			1.02			
	2	1				45.00					6.22	2.76			1.44			
		2				61.84					13.63	7.39			4.29			
		3				71.53					10.17	3.70			3.12			
	3	1				47.97					7.41	2.76			2.25			
		2				44.55					7.52	2.05			1.46			
		3				46.26					7.56	1.39			2.50			
	4	1				46.44					16.94	10.96			3.34			
		2				72.46					24.02	30.29			11.78			
		3				160.28					65.25	19.88			19.38			
	5	1				79.78					17.10	6.49			6.86			
		2				49.65					6.88	2.70			1.41			
		3				45.24					5.25	1.76			0.79			
	6	1				44.85					5.40	8.90			1.64			
		2				38.91					6.89	6.66			0.79			
		3				58.76					16.93	11.88			5.38			
	7	1				55.23					40.95	29.36			6.72			
		2				74.99					78.21	63.66			6.02			
		3				85.47					166.63	108.81			8.32			
	8	1				79.76					246.22	124.37			7.99			
		2				86.81					149.28	90.64			10.57			
		3				110.50					128.65	64.52			8.98			
	9	1				69.24					83.89	68.07			0.00			
		2				78.79					136.37	70.62						
		3				88.16					84.05	51.98						
	10	1				67.25					39.09	29.72			11.52			
		2				42.40					16.11	14.68			2.73			
		3				37.98					9.67	6.78			1.88			
	11	1				34.29					8.68	3.45			1.49			
		2				43.07					8.07	2.12			1.32			
		3				88.99					8.08	2.35			1.69			
	12	1				60.65					8.48	3.60			1.28			
		2				39.98					7.39	2.33			1.11			
		3				35.98					7.45	1.84			1.08			
1969	1	1	2.09			37.26			25.68		9.66	5.45			1.38			
		2	3.40			47.91			24.18		7.88	3.85			1.10			
		3	2.43			47.11			30.08		8.67	2.62			1.31			
	2	1	1.10			48.72			31.44		7.15	1.90			1.14			
		2	2.79			75.23			34.56		14.92	2.85			2.60			
		3	8.33			71.77			34.37		18.27	10.09			6.44			
	3	1	2.26			81.06			32.12		22.75	6.60			12.95			
		2	1.98			54.88			32.99		16.24	13.48			7.07			
		3	8.30			98.21			33.36		14.36	8.08			9.56			
	4	1	3.75			54.30			34.77		9.68	3.73			2.71			
		2	1.24			47.87			28.26		4.10	2.09			1.44			
		3	2.16			49.52			34.50		27.68	8.58			1.77			
	5	1	4.50			61.84			32.82		30.09	10.82			4.94			
		2	1.13			47.10			28.66		12.62	7.62			1.66			
		3	1.05			39.59					6.74	4.74			1.18			
	6	1	0.98			42.55					12.23	13.11			2.20			
		2	0.57			40.77					30.49	14.53			1.93			
		3	3.72			47.15					44.93	33.55			4.08			
	7	1	6.68			61.24					107.10	62.56			10.54			
		2	19.61			69.86					131.18	83.76			7.68			
		3	55.09			112.39					237.15	124.37			21.05			
	8	1	132.01			157.36					416.06	178.47			47.39			
		2	140.97			227.51					363.31	184.59			23.57			
		3	135.02			294.19					236.02	181.48			21.28			
	9	1	89.95			284.04					214.16	142.11			17.70			
		2	66.58			244.87					138.89	109.11			14.54			
		3	53.66			82.39					36.67	48.96			4.63			
	10	1	50.12			53.62			45.03		15.59	12.76			2.91			
		2	46.50			36.62			37.23		9.52	9.91			2.09			
		3	44.31			35.27			37.68		7.28	7.99			1.51			
	11	1	43.51			36.54					6.68	7.05			1.16			
		2	41.98			32.26					7.30	6.46			0.97			
		3	41.98			36.63			29.29		10.02	5.64			1.15			

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	12	1	40.83			34.95					5.49	4.77			0.81			
		2	40.29			30.87			28.15		5.44	3.40			0.73			
		3	39.35			28.87			23.79		5.45	1.45			0.69			
1970	1	1	1.66			27.30			16.28	51.40	5.74	0.98			0.63			
		2	3.49			32.40			22.71	49.21	6.58	0.68			1.13			
		3	3.05			36.90			26.07	55.97	7.65	1.65			1.82			
	2	1	1.79			35.64			27.78	64.14	5.99	2.33			1.02			
		2	1.27			39.41			18.09	71.66	5.50	4.26			0.80			
		3	2.49			39.61			24.98	63.60	6.72	4.37			1.69			
	3	1	5.79			59.38			25.27	62.48	26.69	6.94			3.42			
		2	13.57			114.74			33.96	78.88	37.41	5.55			9.21			
		3	1.27			78.60			43.85	84.12	9.37	14.47			2.82			
	4	1	1.06			69.31			41.52	86.92	7.61	7.16			2.86			
		2	1.90			72.43			49.08	91.84	7.75	3.82			4.48			
		3	0.57			59.58			42.22	82.57	8.18	1.37			1.81			
	5	1	1.61			50.62			20.30		7.37	0.83			6.37			
		2	0.71			36.14			13.33		3.23	0.71			3.50			
		3	0.48			39.41			23.38		2.44	1.26			1.69			
	6	1	0.27			39.54			37.28		2.90	2.33			1.12			
		2	0.66			39.57			31.55		4.54	8.07			1.27			
		3	0.55			37.82			26.65		11.94	4.40			2.09			
	7	1	2.78			40.69					105.56	25.55			2.54			
		2	42.96			57.54					274.62	147.34			5.23			
		3	107.70			80.53			37.81	54.48	162.67	157.36			23.17			
	8	1	161.86			111.07			38.49	54.30	274.58	194.87			23.58			
		2	176.93			184.94			112.35	107.62	393.17	181.74			34.52			
		3	139.62			301.04			259.83	351.46	278.75	175.60			26.70			
	9	1	127.58			290.05					248.80	168.48			17.38			
		2	97.17			274.39				60.28	134.75	88.65			10.99			
		3	44.31			74.75				55.33	53.37	67.43			13.02			
	10	1	34.61			52.58			37.09	57.40	27.51	54.33			5.52			
		2	23.68			34.74			34.60	52.18	14.27	40.05			2.08			
		3	19.42			34.86			32.33	51.67	9.99	15.19			1.04			
	11	1	16.57			34.81			29.17	45.88	8.17	5.09			0.92			
		2	15.15			29.58			27.74	46.99	7.47	2.89			0.57			
		3	13.53			30.58			34.52	51.23	6.80	2.69			0.49			
	12	1	11.95			27.85			32.72	48.91	6.38	2.29			0.43			
		2	11.25			29.88			31.08	51.28	6.31	1.99			0.39			
		3	9.03			28.64			30.02	49.11	6.63	1.76			0.40			
1971	1	1	14.04			27.79			27.56	47.37	6.68	2.41			0.41			
		2	11.19			32.09			28.73	50.04	6.77	2.05			0.30			
		3	10.22			30.55			29.12	50.76	7.16	1.80			0.37			
	2	1	10.98			26.40			36.47	40.82	6.94	1.74			0.35			
		2	9.89			31.82			30.83	34.13	2.04	1.22			0.30			
		3	9.09			29.20			30.48	36.61	2.02	0.70			0.30			
	3	1	8.70			62.16			33.81	38.54	2.11	1.18			0.28			
		2	8.02			115.18			27.39	31.72	1.85	0.64			0.30			
		3	10.68			27.74			31.11	32.33	1.96	0.64			0.49			
	4	1	15.30			33.17			28.15	29.18	5.08	0.69			1.79			
		2	17.86			31.21			27.52	27.72	5.93	2.62			1.95			
		3	9.39			26.97			30.08	30.66	3.37	4.94			0.58			
	5	1	19.10			29.61			31.50	31.33	5.29	6.55			3.44			
		2	11.03			57.91			67.85	65.05	4.67	3.40			2.55			
		3	18.56			64.42			60.57	57.72	6.87	11.72			1.58			
	6	1	10.19			50.95			58.53	53.77	25.84	28.90			2.02			
		2	27.49			77.30			57.45	56.89	43.86	28.36			3.39			
		3	36.74			82.40			63.52	64.94	53.23	61.23			8.59			
	7	1	44.28			82.09			69.61	69.22	111.69	61.88			5.74			
		2	105.64			109.13			82.60	74.49	174.99	179.71			5.47			
		3	138.12			115.63			70.62	66.73	218.28	187.67			8.65			
	8	1				134.16			93.64	82.09	298.35	186.93			7.51			
		2				154.91			135.70	122.39	418.11	263.38			7.09			
		3				254.47				290.43	377.59	140.85			12.43			
	9	1	25.97			343.67				240.25	267.26	172.99			9.29			
		2	10.18			277.53				115.79	385.65	146.19			7.09			
		3	2.80			96.30				45.87	168.35	80.91			5.53			
	10	1	1.59			35.10				32.17	35.90	33.65			1.08			
		2	0.81			28.10				30.32	11.53	14.30			0.58			
		3	0.49			23.75				31.14	7.45	5.43			0.33			
	11	1	0.20			21.63			31.66	28.66	5.93	3.48			0.19			
		2	0.50			32.07			33.41	31.20	5.86	2.37			0.34			
		3	0.22			23.24			36.77	26.69	5.57	4.15			0.16			
	12	1	0.10			23.56			33.02	30.02	5.14	4.88			0.10			
		2	0.10			25.41			30.75	29.44	4.68	3.52			0.08			
		3	0.27			29.65			30.90	30.80	4.05	6.58			0.13			
1972	1	1	0.18			33.77			30.74	28.09	3.67	2.42			0.15			
		2	0.13			29.12			26.09	27.74	3.16	1.66			0.09			
		3	0.08			35.79			22.44	28.61	7.57	1.56			0.07			
	2	1	0.42			47.12			24.82	24.77	8.89	4.32			0.27			
		2	0.19			42.64			24.22	26.41	9.40	6.69			0.90			
		3	0.30			27.49			31.96	27.59	9.27	3.74			0.29			
	3	1	0.12			26.99			30.67	28.24	8.74	2.63			0.28			
		2	0.23			55.58			59.70	54.07	12.33	4.72			0.76			
		3	0.08			65.53			69.24	60.62	9.44	3.02			0.41			
	4	1	0.35			65.69			81.76	67.98	10.20	1.99			0.82			
		2	0.67			88.13			98.84	76.18	16.30	6.00			3.09			
		3	1.32			104.23			104.48	105.91	12.49	7.62			2.71			
	5	1	0.04			104.70			113.71	98.56	9.21	6.76			0.86			
		2	0.42			90.70			97.34	84.74	6.58	3.50			0.35			
		3	0.14			79.73			92.97	79.19	9.47	3.69			0.43			

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	6	1	0.01			85.14				79.27	4.99	1.67			0.34			
		2	0.00			58.26				48.55	6.25	1.66			0.25			
		3	0.70			47.64				31.97	22.34	7.29			1.67			
	7	1	3.72			52.26				28.95	31.97	21.99			4.03			
		2	10.90			91.54				58.22	83.07	83.47			7.65			
		3	43.94			81.04				42.53	125.77	99.26			4.36			
	8	1	70.65	193.26		97.15			67.04	63.30	159.93	98.04			4.79			
		2	41.48	171.48		86.60			40.41	40.68	138.35	94.34			13.88			
		3	43.96	152.20		89.10			36.54	35.53	155.86	78.51			19.65			
	9	1	22.76	129.39		65.82			36.56	34.31	75.42	46.10			13.78			
		2	16.43	119.99		54.90			34.56	31.40	55.33	43.73			9.44			
		3	6.04	84.14		62.59			36.77	28.70	38.45	19.58			9.31			
	10	1	2.39	36.54		45.60			34.88	34.99	12.06	7.40			2.31			
		2	1.70	28.50		30.73			34.72	46.07	6.79	3.59			1.81			
		3	1.23	24.68		29.34				29.09	3.92	2.27			1.16			
	11	1	0.97	19.09		26.21				31.16	3.23	1.89			1.00			
		2	0.92	20.37		26.83				38.60	3.11	1.90			0.88			
		3	0.92	19.07		26.99				37.49	2.71	1.89			0.88			
	12	1	0.82	22.82		32.68				33.98	2.54	1.73			0.75			
		2	0.91	22.30		27.31				32.75	2.44	1.35			0.70			
		3	0.81	23.74		31.89				27.55	2.42	1.01			0.65			
1973	1	1	1.49	18.12		25.92			31.79	29.23	3.42	2.99			0.62			
		2	0.99	19.74		27.49			31.89	31.82	3.49	2.43			0.64			
		3	0.76	23.66		27.80			32.43	32.37	3.09	1.63			0.58			
	2	1	0.60	20.25		25.28			31.14	31.02	2.81	1.13			0.58			
		2	0.46	12.86		16.77			27.74	27.70	2.90	0.79			0.59			
		3	0.41	12.73		18.15			25.02	25.17	2.85	0.56			0.59			
	3	1	0.35	12.00		16.39			20.19	20.32	2.72	0.45			0.55			
		2	0.28	11.32		12.33			20.35	20.47	2.33	0.38			0.54			
		3	0.18	10.90		13.00			20.13	20.24	2.31	0.32			0.53			
	4	1	0.18	10.48		11.33			20.38	20.48	2.20	0.22			0.52			
		2	0.21	10.57		10.48			21.44	21.57	2.14	0.15			0.62			
		3	0.19	9.70		10.18			22.07	22.21	2.23	0.09			0.58			
	5	1	0.27	12.23		12.67			23.28	23.59	2.33	0.04			0.84			
		2	0.84	11.65		12.18			23.76	20.81	4.77	2.22			1.55			
		3	0.70	12.30		24.80			32.12	20.31	5.57	2.22			3.96			
	6	1	0.51	11.11		11.65			30.72	20.55	2.79	1.17			1.14			
		2	0.52	10.21		11.04			31.60	22.36	4.85	3.63			0.97			
		3	0.93	12.70		17.18			32.64	24.14	11.83	11.95			3.14			
	7	1	7.57	18.46		22.06			32.76	23.94	24.96	21.85			2.15			
		2	32.77	86.77		59.49			37.45	25.60	59.42	57.94			5.61			
		3	45.79	78.57		46.60			35.95	26.29	63.27	61.37			6.77			
	8	1	68.90	133.25		77.35			31.42	25.13	126.30	99.77			9.78			
		2	163.09	235.63		138.74			31.86	24.94	257.76	165.78			13.72			
		3	94.21	136.30		57.29			32.02	23.77	219.70	154.73			13.03			
	9	1	79.46	105.71		53.25			58.68	47.76	239.83	152.13			6.98			
		2	63.83	139.30		109.72			75.44	74.04	157.97	114.85			14.97			
		3	46.75	87.61		75.38			55.55	50.92	98.87	65.01			5.42			
	10	1	17.62	35.91		36.02			40.84	35.21	37.52	25.20			5.40			
		2	14.31	41.63		44.78			43.86	33.22	51.46	32.80			3.28			
		3	10.09	19.67		21.67			41.74	33.75	10.83	7.64			1.10			
	11	1	9.10	17.22		20.61			36.12	27.86	5.92	4.33			0.78			
		2	8.21	16.99		19.36			39.37	27.62	4.09	2.93			0.67			
		3	7.00	16.67		16.62			35.00	26.46	3.17	2.66			0.55			
	12	1	6.84	14.78		14.57			33.38	24.48	2.99	1.90			0.50			
		2	6.84	14.60		15.59			35.24	25.12	2.91	1.68			0.46			
		3	7.03	19.23		21.18			34.56	24.54	3.04	2.66			0.55			
1974	1	1	6.77	18.32		20.13			25.51	23.68	3.07	2.82			0.46			
		2	5.97	21.61		24.27			26.98	25.74	2.82	1.98			0.43			
		3	5.49	18.07		21.15			30.23	29.19	2.89	1.59			0.43			
	2	1	5.13	17.74		19.14			25.57	24.17	2.31	1.24			0.41			
		2	5.14	14.99		14.73			26.38	24.90	2.53	1.06			0.43			
		3	4.78	14.27		14.76			25.49	24.13	2.99	1.35			0.40			
	3	1	5.74	17.21		20.69			25.17	23.73	2.75	2.21			0.35			
		2	4.74	15.68		16.18			25.58	24.44	3.12	2.58			0.35			
		3	16.88	62.09		44.86			33.80	30.53	11.40	3.65			2.43			
	4	1	7.99	53.64		52.59			40.05	38.18	10.29	3.99			1.08			
		2	3.63	26.51		28.65			36.12	37.40	7.34	2.96			0.43			
		3	2.64	18.38		15.34			27.12	25.79	4.46	1.40			0.33			
	5	1	2.28	13.88		9.28			25.70	24.84	3.04	0.29			0.33			
		2	3.55	17.21		17.71			33.51	32.30	4.06	1.26			0.37			
		3	6.33	25.96		34.63			34.08	34.33	8.35	2.44			0.60			
	6	1	5.07	44.80		57.52			54.77	49.63	6.06	3.98			0.60			
		2	5.13	42.88		49.77			50.22	49.09	4.59	1.73			0.79			
		3	16.32	50.01		59.75			59.72	58.05	15.38	5.32			0.67			
	7	1	72.00	103.33		79.40			65.44	59.05	73.26	37.16			5.51			
		2	80.72	123.11		88.70			64.38	69.41	100.03	64.89			3.28			
		3	142.80	155.45		59.48			44.89	45.50	154.38	88.62			3.35			
	8	1	107.99	145.76		59.12			43.04	40.20	184.95	121.97			6.21			
		2	145.94	168.90		85.66			68.75	77.73	235.84	169.33			10.58			
		3	45.58	151.39		142.70			73.00	83.83	184.48	172.06			38.05			
	9	1	35.96	169.23		154.61			72.83	76.86	180.60	117.92			24.21			
		2	18.54	92.18		85.64			68.30	80.06	83.44	49.88			18.30			
		3	17.60	153.05		164.37			65.48	78.40	99.95	33.22			20.46			
	10	1	6.82	65.80		72.41			73.96	80.57	23.28	22.83			7.51			
		2	4.46	23.47		26.90			58.76	52.98	9.95	17.23			2.02			
		3	4.03	5.97		12.17			34.75	34.09	7.17	8.58			1.50			
	11	1	3.97	7.35		11.90			29.84	30.63	6.26	4.65			1.29			
		2	3.59	8.20		11.08			30.57	28.16	5.97	2.55			1.04			
		3	2.09	10.04		12.01			30.73	31.17	5.32	1.52			0.87			

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	12	1	2.09	4.07		13.56			29.76	28.36	4.98	1.37			0.87			
		2	2.07	18.50		19.72			41.43	34.89	4.72	1.86			0.76			
		3	1.77	48.90		54.94			63.94	51.59	3.16	1.21			0.72			
1975	1	1	1.71	50.24		56.25			58.61	45.89	2.28	1.95			0.68			
		2	1.53	38.11		44.51			50.62	48.19	2.21	1.30		0.34	0.61			
		3	1.32	33.57		40.95			47.69	48.47	2.39	1.03		0.38	0.61			
	2	1	1.42	34.63		40.50			47.69	43.35	2.39	1.24		0.36	0.61			
		2	2.66	38.83		41.22			43.64	43.64	2.47	1.33		0.31	0.61			
		3	1.30	34.18		43.50			42.05	45.09	2.35	0.94		0.30	0.57			
	3	1	0.86	29.40		35.93			40.75	45.61	2.18	0.75		0.28	0.49			
		2	0.63	24.33		30.87			33.28	39.48	2.14	0.67		0.29	0.51			
		3	3.28	19.23		30.06			33.35	35.68	2.23	0.71		0.29	0.52			
	4	1	7.23	40.72		28.26			36.89	36.21	4.06	1.15		0.35	1.71			
		2	2.68	36.74		36.43			37.74	34.99	3.44	2.93		0.29	0.88			
		3	0.47	20.17		23.90			30.63	31.32	3.32	1.76		0.33	1.29			
	5	1	0.07	11.52		19.64			30.43	27.38	2.90	1.18		0.24	1.02			
		2	1.94	33.76		37.15			32.24	29.40	3.87	0.73		0.26	1.31			
		3	0.11	8.24		18.14		21.72	31.83	30.83	3.58	0.76		0.26	1.09			
	6	1	33.45	12.62		18.73		20.18	34.32	30.51	4.87	1.67		0.33	1.44			
		2	15.16	12.28		21.48		24.10	29.06	29.06	6.20	4.43		0.45	1.40			
		3	5.54	47.10		47.88		38.16	33.26	29.34	22.92	16.31		1.03	3.54			
	7	1	11.12	59.23		42.61		41.21	39.53	29.36	39.72	43.42		1.07	4.82			
		2	106.95	178.08		89.84		48.63	35.91	28.17	73.72	95.68		5.22	9.22			
		3	129.06	215.77		106.32		52.36	41.55	29.57	264.12	200.36		9.94	10.95			
	8	1	25.36	155.16		98.43		60.29	71.70	60.29	140.28	145.39		9.46	8.71			
		2	62.24	215.61		176.69		78.46	92.36	87.83	156.97	119.56		9.54	15.70			
		3	51.30	245.52		214.09		109.59	112.91	92.96	227.63	129.07		7.14	24.95			
	9	1	41.86	235.42		205.01		94.36	124.18	102.45	222.13	145.25		8.01	17.28			
		2	40.72	248.26		230.99		120.31	132.36	110.21	130.84	251.54		10.28	21.77			
		3	13.61	193.55		178.61		94.06	128.14	106.01	61.34	117.70		5.90	11.41			
	10	1	4.97	104.38		110.49		69.79	110.60	102.34	27.60	44.25		1.93	8.35			
		2	3.10	48.73		42.69		36.45	50.75	51.09	12.65	20.94		0.92	3.46			
		3	2.31	18.86		16.73		28.55	41.06	45.57	6.97	3.97		0.58	2.40			
	11	1	1.90	15.65		17.16		27.49	38.83	43.98	5.26	3.19		0.40	1.79			
		2	1.61	17.09		19.39		30.39	38.82	37.00	4.45	2.56		0.31	1.59			
		3	1.32	14.83		19.14		32.06	37.50	25.01	4.01	1.84		0.25	1.42			
	12	1	1.11	16.18		19.91		31.80	37.00	25.87	3.70	1.40		0.21	1.27			
		2	1.01	20.43		23.65		30.44	35.75	25.00	3.56	1.70		0.18	1.13			
		3	0.88	21.51		26.30		36.41	36.27	27.78	3.42	1.33		0.18	1.05			
1976	1	1	0.91	25.86		29.38		33.14	37.54	30.05	3.62	1.50		0.20	1.17			
		2	0.75	24.43		29.36		34.52	37.62	30.20	3.34	1.17		0.16	1.02			
		3	0.60	24.14		28.67		39.52	38.44	28.02	3.05	0.93		0.13	0.92			
	2	1	0.48	25.27		33.24		39.86	39.10	29.37	2.92	0.74		0.14	0.88			
		2	0.36	26.68		33.21		36.32	39.20	30.31	3.31	0.69		0.12	0.81			
		3	0.31	24.82		32.22		40.47	37.74	28.78	3.18	0.62		0.14	0.81			
	3	1	0.83	40.71		43.68		45.76	38.62	29.63	7.12	2.66		0.17	1.14			
		2	0.38	28.19		33.65		38.16	38.33	30.59	3.82	1.05		0.11	0.84			
		3	0.55	31.68		33.09		39.70	39.22	29.38	4.32	1.21		0.18	1.13			
	4	1	0.99	45.16		40.80		44.44	37.35	29.47	6.10	1.26		0.17	2.04			
		2	0.77	39.89		36.47		41.68	37.99	29.83	7.44	1.31		0.14	1.19			
		3	0.75	43.79		41.05		51.34	59.35	46.64	5.00	0.96		0.34	1.36			
	5	1	4.28	82.04		68.24		61.68	64.17	49.64	9.13	4.53		0.35	3.58			
		2	1.56	59.92		58.47		51.70	55.41	47.83	7.43	2.68		0.15	2.90			
		3	0.63	39.03		36.90		37.60	43.61	41.06	4.77	1.74		0.10	1.77			
	6	1	0.37	21.82		27.06		31.80	39.34	35.00	4.01	1.56		0.07	1.14			
		2	0.31	17.65		24.24		37.89	40.59	34.18	8.44	6.86		0.12	1.57			
		3	1.75	21.29		24.16		33.77	40.23	34.66	20.44	14.08		0.69	1.75			
	7	1	7.51	42.25		36.28		39.05	42.00	34.46	39.01	27.65		2.15	3.75			
		2	6.32	68.24		49.02		45.98	43.75	38.10	64.87	42.79		3.37	7.11			
		3	17.15	74.23		45.93		41.13	40.59	34.66	99.39	68.45		9.47	7.19			
	8	1	99.69	204.37		108.07		58.47	40.34	35.64	142.28	92.56		12.07	17.27			
		2	61.51	198.96		99.57		63.01	45.98	52.83	172.27	132.66		9.99	11.95			
		3	52.58	181.27		84.76		62.92	50.47	53.88	177.81	150.40		7.75	10.65			
	9	1	28.62	176.96		136.69		77.04	54.80	50.39	130.85	86.02		20.58	16.40			
		2	13.93	106.46		78.63		53.22	49.18	63.91	96.19	49.32		26.16	10.01			
		3	7.62	47.90		41.96		43.96	48.08	59.10	23.93	14.37			2.91			
	10	1	3.85	33.45		35.37		43.72	47.76	48.51	12.45	5.82			2.34			
		2	2.70	31.57		27.69		33.61	41.96	38.52	7.39	3.75		0.49	1.74			
		3	2.19	21.38		20.92		25.52	31.08	26.91	4.64	1.85		0.42	1.32			
	11	1	3.09	34.14		25.20		18.62	28.02	23.37	6.36	2.57		0.39	2.87			
		2	2.28	28.20		19.41		20.94	27.67	21.45	7.70	3.14		0.39	2.13			
		3	1.64	17.75		14.45		17.97	25.61	23.13	5.37	1.86		0.30	1.25			
	12	1	1.35	12.33		15.09		18.85	24.91	23.47	4.87	1.60		0.25	0.97			
		2	1.26	10.76		14.28		25.70	24.24	22.37	4.08	1.20		0.26	0.90			
		3	1.13	12.78		17.37		19.31	24.10	22.28	3.22	1.33		0.28	0.91			
1977	1	1	1.37	13.60		18.06		19.30	28.02	22.01	3.67	1.61		0.28	0.96			
		2	2.09	29.65		37.58		27.62	28.40	21.47	5.03	1.74		0.43	1.15			
		3	3.83	45.26		39.37		26.48	28.21	23.09	10.91	5.54		0.36	1.47			
	2	1	1.29	29.78		30.10		22.41	27.94	23.73	5.31	1.64		0.96	1.10			
		2	1.80	47.98		33.50		23.18	28.16	24.59	6.03	2.28		0.29	2.47			
		3	0.90	20.25		23.34		20.66	28.09	25.09	4.20	1.21		0.22	1.07			
	3	1	0.77	18.03		21.72		20.67	28.31	25.43	4.14	0.96		0.24	0.84			
		2	0.60	17.39		20.62		18.07	27.75	28.09	3.71	0.64		0.20	0.71			
		3	0.99	31.28		25.68		22.00	28.02	28.12	4.13	0.93		0.25	3.19			
	4	1	3.11	54.99		48.06		41.22	31.24	27.33	7.98	2.31		0.20	4.32			
		2	1.45	29.88		24.05		25.04	30.88	25.55	4.75	1.04		0.18	2.13			
		3	2.00	23.24		19.52		21.20	30.68	26.14	6.34	1.33		0.20	1.67			
	5	1	3.20	43.75		37.20		23.57	31.26	25.99	9.44	2.30		0.20	2.11			
		2	0.82	26.40		22.31		22.05	29.77	25.53	4.98	0.90		0.19	1.69			
		3	1.56	23.60		22.63		24.10	37.13	22.94	7.21	2.84		0.61	3.19			

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	6	1	0.73	18.96		16.83		19.04	47.80	21.63	4.55	1.17		0.19	2.37			
		2	1.78	26.09		27.84		26.24	47.60	23.34	18.34	9.00		0.92	2.76			
		3	2.93	42.29		42.26		38.50	51.18	29.73	25.07	13.39		1.34	3.47			
	7	1	8.07	59.46		48.20		42.76	32.63	35.46	48.13	25.36		1.03	6.68			
		2	17.35	97.10		58.35		44.79	36.76	31.79	86.10	75.53		5.74	7.43			
		3	54.81	154.46		66.09		50.34	53.78	35.89	215.68	135.04		4.38	10.33			
	8	1	92.23	205.00		89.72		54.81	70.77	47.68	212.57	128.65		5.40	8.02			
		2	47.33	210.48		114.61		71.62	89.70	55.81	199.53	122.52		6.63	13.87			
		3	68.04	211.34		125.59		88.48	113.00	75.08	212.81	116.36		8.44	17.14			
	9	1	26.98	166.09		135.04		94.30	135.53	87.83	151.57	88.75		4.61	11.00			
		2	26.41	150.97		134.14		82.02	131.51	86.75	115.02	71.40		7.10	5.77			
		3	6.15	100.10		109.45		71.28	122.24	67.28	40.97	26.93		1.96	3.39			
	10	1	4.42	49.81		65.62		33.81	47.61	30.60	14.89	8.78		0.71	2.77			
		2	3.80	46.52		31.11		35.17	43.59	28.64	8.20	4.29		0.42	2.80			
		3	34.72	142.79		199.06		84.69	70.57	74.29	68.37	77.54		3.14	23.54			
	11	1	10.68	183.91		216.63		108.49	117.34	78.94	203.81	110.03		2.23	8.97			
		2	4.86	66.43		74.69		59.49	78.66	49.63	28.14	18.81		0.80	2.07			
		3	4.27	53.10		61.54		60.44	85.99	51.53	12.05	8.21		0.54	1.46			
	12	1	3.51	50.47		61.53		56.13	84.55	48.32	7.50	4.07		0.35	1.24			
		2	3.02	57.01		74.15		64.38	92.84	61.63	5.92	2.68		0.28	1.05			
		3	2.68	53.43		70.75		58.77	90.53	63.29	5.42	1.97		0.17	0.93			
1978	1	1	2.34	51.56		65.19		55.34	86.18	48.70	5.28	1.43		0.16	0.83			
		2	2.29	46.16		58.16		44.16	66.96	33.43	5.03	1.35		0.12	0.72			
		3	1.99	27.02		35.18		30.78	44.78	30.80	4.75	2.08		0.10	0.63			
	2	1	1.84	29.23		35.14		39.18	46.04	32.68	4.29	4.15		0.08	0.60			
		2	2.58	41.00		49.40		51.29	70.58	39.80	5.07	1.87		0.14	0.83			
		3	10.84	101.67		124.87		79.92	87.40	51.21	9.69	1.89		0.18	4.52			
	3	1	7.32	105.91		102.96		67.11	87.40	57.27	12.33	4.33		0.52	2.72			
		2	2.39	60.65		66.63		46.49	61.40	41.24	5.82	1.88		0.50	1.22			
		3	1.26	41.47		48.29		39.58	54.95	42.73	4.05	1.01		0.49	0.90			
	4	1	1.22	38.34		42.29		44.67	41.84	37.92	6.53	3.95		0.08	0.76			
		2	1.10	35.09		41.69		47.09	38.16	40.51	3.66	1.49		0.09	0.76			
		3	1.00	36.20		44.94		47.64	58.67	46.88	3.46	1.01		0.05	0.54			
	5	1	1.46	45.43		53.66		47.73	60.95	53.79	5.82	3.06		0.07	0.80			
		2	0.91	29.52		33.49		39.44	48.64	39.68	4.91	1.36		0.04	0.64			
		3	0.75	15.28		19.68		29.43	33.07	30.18	4.34	1.04		0.03	0.51			
	6	1	0.76	20.26		28.59		41.89	52.37	43.30	4.53	1.12		0.04	0.59			
		2	1.20	26.14		30.75		43.76	50.41	43.99	16.42	6.33		0.12	0.77			
		3	4.67	36.50		43.83		54.31	75.00	58.42	37.52	19.17		0.78	1.94			
	7	1	11.87	74.14		68.83		65.89	77.91	63.61	74.54	46.64		5.31	5.22			
		2	27.72	90.56		83.01		68.49	83.59	63.20	91.87	62.39		5.28	7.38			
		3	46.55	87.64		95.67		64.30	71.57	47.59	102.79	76.02		5.69	5.04			
	8	1	72.88	106.96		100.22		45.52	34.23	31.54	181.97	129.02		9.96	11.23			
		2	97.12	150.52		110.26		71.27	35.17	32.54	208.93	129.53		4.70	12.59			
		3	24.69	154.13		93.20		60.45	32.46	30.04	200.12	131.36		7.27	11.05			
	9	1	36.94	115.04		62.33		52.72	31.90	32.61	150.44	94.73			11.92			
		2	45.22	112.40		90.24		59.31	32.19	30.84	135.29	75.49			8.92			
		3	7.46	67.56		45.68		47.28	33.75	32.15	75.09	45.46			2.67			
	10	1	12.36	95.38		82.38		65.20	50.78	44.00	67.11	26.64			10.82			
		2	4.60	69.34		74.87		60.92	55.25	47.28	19.33	11.56			7.67			
		3	2.38	39.94		41.52		38.77	50.95	53.24	9.58	6.27			1.23			
	11	1	1.77	28.30		30.01		36.20	46.05	40.51	7.15	3.58			0.42			
		2	1.73	28.35		30.27		44.13	47.02	40.35	6.35	2.76			0.31			
		3	1.55	28.20		32.79		38.72	48.97	40.09	6.07	2.36			0.36			
	12	1	1.40	33.83		41.92		42.92	59.27	42.19	5.46	2.06			0.19			
		2	2.16	41.74		60.82		60.06	58.21	44.04	5.54	1.98			0.26			
		3	1.08	37.08		48.53		47.40	54.79	46.59	5.45	1.95			0.20			
1979	1	1	1.00	42.98		49.91		46.50	52.88	49.60	5.08	1.46		0.40	0.13			
		2	2.62	61.46		67.21		48.40	59.20	45.79	7.11	2.07		0.38	0.38			
		3	3.47	75.18		82.49		50.71	58.55	48.58	8.65	2.82		0.40	0.76			
	2	1	1.86	54.66		60.59		48.87	56.13	47.79	4.72	2.27		0.35	0.48			
		2	1.52	59.37		54.37		49.45	58.21	48.70	7.19	3.92		0.41	0.80			
		3	0.94	39.71		42.92		38.37	42.71	35.09	5.45	2.14		0.32	0.29			
	3	1	1.38	22.25		23.29		34.58	32.10	27.03	4.18	1.04		0.28	0.14			
		2	5.54	68.74		47.04		40.28	33.23	27.81	10.57	4.46		0.36	1.17			
		3	1.75	43.20		35.00		42.71	30.89	29.82	8.92	5.24		0.36	0.86			
	4	1	1.04	42.98		38.13		40.26	31.38	29.11	8.01	3.38		0.45	0.90			
		2	0.66	35.97		36.81		42.92	31.03	27.31	7.54	3.87		0.44	1.52			
		3	0.39	18.97		20.19		37.99	31.27	26.81	4.25	1.18		0.34	0.33			
	5	1	3.02	29.49		27.10		47.80	34.46	30.09	9.06	2.27		0.40	1.76			
		2	1.25	43.94		32.00		42.05	31.86	29.68	10.82	6.32		0.36	2.37			
		3	0.97	29.91		25.35		36.83	32.31	28.55	10.44	3.67		0.33	1.77			
	6	1	0.43	22.16		19.27		37.33	31.23	28.69	5.79	1.69		0.33	1.30			
		2	0.98	25.42		27.70		48.59	33.63	32.34	8.99	3.76		0.81	2.81			
		3	1.22	26.59		31.39		48.52	33.88	26.19	21.95	11.88		0.44	0.88			
	7	1	29.65	44.81		31.44		54.33	32.34	22.47	56.89	52.73		0.77	2.05			
		2	6.46	51.12		49.27		62.55	34.02	21.63	71.08	42.68		1.57	8.99			
		3	33.01	88.15		78.58		58.21	32.98	20.20	115.87	68.75		3.12	5.91			
	8	1	53.60	95.13		81.95		67.70	37.32	28.25	134.96	71.33		5.85	8.39			
		2	75.76	146.69		117.66		79.74	50.75	35.80	248.55	131.61		4.82	20.75			
		3	11.93	78.20		69.98		87.64	70.02	48.89	117.57	95.13		4.66	12.07			
	9	1	14.76	102.56		105.27		75.42	80.12	51.22	78.10	50.83		7.04	11.27			
		2	11.86	92.45		87.95		77.30	78.59	53.29	72.70	37.72		5.06	8.21			
		3	4.10	87.78		85.40		73.18	67.64	48.33	54.36	33.04		2.65	11.29			
	10	1	1.45	40.73		35.81		39.45	47.62	38.10	21.96	14.86		0.93	3.14			
		2	2.54	25.47		35.22		50.21	43.76	51.48	8.73	6.21		0.57	1.84			
		3	2.52			51.59		40.11	39.43	34.34	22.34	7.25		0.42	3.43			
	11	1	1.64	25.80		21.70		32.92	38.16	33.27	7.83	3.61		0.40	1.37			
		2	0.65	25.88		27.53		26.91	55.03	35.20	6.59	2.91		0.38	1.02			
		3	0.47	31.00		34.73		34.53	51.19	35.62	5.65	2.58		0.40	0.86			

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	12	1	0.40	20.57		24.39		29.42	38.32	30.02	5.24	2.25		0.24	0.77			
		2	0.38	22.06		26.86		31.77	37.76	33.23	5.12	1.46		0.23	0.78			
		3	1.81	33.26		38.57		43.17	36.35	46.55	5.41	1.84		0.24	0.95			
1980	1	1	0.45	25.80		30.89		35.91	35.00	39.42	5.21	1.30		0.21	0.72			
		2	2.26	24.55		30.25		31.21	33.84	37.73	4.91	1.09		0.21	0.65			
		3	2.65	40.01		38.77		44.92	39.48	44.21	4.92	1.01		0.22	0.90			
	2	1	1.98	27.28		30.55		31.45	34.22	38.16	5.04	1.12		0.20	0.78			
		2	3.14	28.57		30.75		34.87	34.42	30.87	5.70	1.57		0.20	0.99			
		3	0.48	21.71		30.81		33.92	35.77	29.12	4.91	1.13		0.16	0.88			
	3	1	1.02	26.95		29.16		33.57	32.38	23.72	5.46	2.13		0.19	1.64			
		2	0.32	23.45		28.79		35.73	34.19	20.94	3.72	2.38		0.18	1.98			
		3	1.65	20.31		24.34		32.81	30.19	22.14	2.15	0.96		0.18	1.09			
	4	1	0.70	15.14		18.76		27.98	23.98	20.10	2.15	0.69		0.18	0.48			
		2	2.57	27.57		25.01		34.90	24.40	21.61	2.90	1.52		0.20	0.86			
		3	0.93	33.83		21.25		26.85	24.66	17.99	4.32	1.74		0.18	0.70			
	5	1	0.34	16.21		12.60		20.49	25.32	19.19	6.44	1.42		0.21	0.89			
		2	0.26	12.47		15.21		23.96	29.70	29.11	6.97	0.91		0.16	0.60			
		3	0.25	10.36		15.37		26.51	30.25	23.71	6.20	0.51		0.21	0.83			
	6	1	0.46	18.06		19.18		29.18	32.63	25.63	7.49	3.88		0.22	1.19			
		2	0.19	12.34		15.46		27.74	31.88	28.97	10.19	6.67		0.81	1.15			
		3	1.27	16.89		18.74		28.45	33.91	28.68	17.33	9.83		0.34	1.17			
	7	1	5.91	42.31		36.05		41.47	39.58	28.87	35.63	28.35		1.21	3.03			
		2	89.45	93.07		55.38		36.73	32.89	28.91	65.21	66.46		6.10	2.68			
		3	129.45	128.19		50.63		44.56	31.63	28.08	182.50	136.69		6.39	10.41			
	8	1	93.75	88.23		55.35		43.28	33.71	27.92	324.47	179.37		9.36	4.86			
		2	29.29	93.51		47.19		41.12	33.76	24.68	161.09	123.09		1.53	8.08			
		3	51.51	133.41		57.87		34.68	34.19	26.07	187.21	120.72		3.37	5.43			
	9	1	31.74	86.16		44.56		33.44	33.25	26.05	133.41	79.62		6.63	4.28			
		2	13.53	63.75		45.21		37.23	32.32	25.64	99.06	59.97		9.61	4.30			
		3	5.11	32.49		26.30		29.19	30.64	25.23	29.90	19.77		5.52	4.17			
	10	1	5.48	49.25		35.77		52.27	30.90	25.83	20.58	11.17		3.36	5.33			
		2	2.93	22.41		18.19		26.33	30.59	25.74	9.16	4.85		0.86	1.86			
		3	1.38	12.13		10.08		23.91	29.76	25.28	6.58	3.14		0.66	0.96			
	11	1	0.95	9.45		9.18		24.66	29.50	25.06	5.21	1.85		0.56	0.63			
		2	0.72	8.83		8.90		23.98	30.23	26.41	4.79	1.64		0.51	0.58			
		3	0.88	14.52		11.86		20.79	30.50	25.37	4.40	1.30		0.47	0.54			
	12	1	0.67	15.42		13.34		20.98	29.99	21.76	4.40	1.04		0.46	0.50			
		2	0.56	14.83		17.92		20.60	30.66	23.08	4.31	0.96		0.43	0.46			
		3	0.48	15.36		20.79		20.25	30.30	25.21	4.19	1.04		0.41	0.44			
1981	1	1	0.75	15.58		19.37		22.06	30.63	27.11	4.20	1.19		0.07	0.38		0.95	
		2	0.49	16.12		17.26		23.24	30.14	27.39	4.12	1.09		0.05	0.40		0.99	
		3	0.35	15.72		13.85		24.14	30.70	26.75	3.91	1.03		0.05	0.36		0.92	
	2	1	0.34	13.50		15.51		22.58	30.16	27.82	3.67	0.77		0.05	0.40		0.92	
		2	0.61	24.55		27.78		33.79	38.24	27.80	4.12	0.98		0.10	0.52		1.20	
		3	0.41	17.77		20.03		25.54	31.53	26.18	4.16	0.84		0.05	0.44		0.91	
	3	1	34.13	38.68		33.46		27.06	31.74	27.31	6.28	1.41		0.13	0.70		2.04	
		2	2.05	54.96		36.46		39.78	31.74	27.80	12.67	2.01		0.67	0.85		1.47	
		3	29.10	90.49		79.34		42.36	32.23	26.88	26.81	5.76		0.22	9.54		4.29	
	4	1	16.82	127.31		103.78		33.86	32.42	25.14	17.29	4.54		0.10	6.80		2.37	
		2	5.21	61.71		64.75		30.93	32.42	24.46	19.37	8.81		0.35	2.39		1.92	
		3	2.21	84.75		95.92		42.07	32.42	23.71	31.83	10.37		0.61	13.24		2.98	
	5	1	1.24	33.57		41.00		27.89	32.42	22.53	10.96	3.69		0.20	1.87		0.93	
		2	0.68	26.00		26.92		26.41	34.14	21.66	6.35	1.72		0.07	0.54		0.66	
		3	0.43	25.44		33.46		32.33	37.85	19.54	6.25	1.70		0.03	0.25		0.64	
	6	1	0.28	28.90		38.13		36.19	40.67	16.68	5.70	1.76		0.02	0.16		0.68	
		2	0.36	25.58		33.95		35.82	50.02	13.70	5.31	2.31		0.02	0.14		0.76	
		3	0.55	26.34		37.17		41.61	51.14	23.87	8.49	3.86		0.08	0.10		1.11	
	7	1	2.60	27.64		34.55		42.36	52.65	19.88	29.52	13.24		0.26	0.32		2.14	
		2	13.45	55.91		72.23		62.64	52.57	21.39	67.44	52.32		0.99	3.23		6.89	
		3	84.64	160.72		121.12		75.66	53.32	22.23	173.50	123.90		8.71	10.00		37.57	
	8	1	57.30	175.10		121.99		111.43	54.57	30.55	187.00	127.01		7.26	22.13		28.92	
		2	71.35	170.85		139.31		79.16	57.06	28.87	208.00	133.44		5.91	12.50		52.77	
		3	57.67	156.01		126.02		97.99	66.03	55.81	169.71	120.57		10.16	14.85		39.56	
	9	1	40.40	189.31		219.16		208.47	54.69	90.99	189.62	115.71		12.08	26.41		55.22	
		2	62.82	201.14		234.70		179.11	52.96	107.87	261.40	128.96		7.37	57.63		57.07	
		3	19.56	179.90		203.50		153.15	52.43	126.22	142.39	98.39		3.16	24.30		14.59	
	10	1	7.38	121.21		142.20		121.92	52.22	106.35	38.02	27.94		1.18	6.81		4.18	
		2	3.01	59.59		62.35		34.81	51.91	25.17	12.69	8.57		0.40	3.97		2.11	
		3	2.23	44.22		52.23		46.52	51.43	11.45	8.22	4.73		0.14	2.69		1.65	
	11	1	1.82	28.20		31.45		30.12	44.29	7.92	6.90	3.73		0.07	2.30		1.48	
		2	1.39	23.82		29.68		25.26	39.70	4.97	6.04	2.72		0.02	2.08		1.35	
		3	1.19	23.07		30.75		30.69	39.59	4.63	5.88	2.57		0.00	2.00		1.34	
	12	1	1.04	23.72		30.89		35.29	38.51	37.18	5.72	2.57		0.00	1.91		1.34	
		2	0.93	14.36		17.27		34.34	24.00	25.87	5.53	2.57		0.00	1.71		1.35	
		3	0.78	23.31		29.13		35.71	37.45	33.31	4.73	1.80		0.00	1.71		1.28	
1982	1	1	0.86	30.53		34.82	23.87	40.53	55.29	34.64	4.35	1.30		0.17	1.83		1.33	
		2	1.32	28.83		28.58	17.72	47.71	37.18	34.20	4.43	1.84		0.19	1.98		2.64	
		3	0.70	19.24		19.82	12.74	17.49	35.57	28.00	4.64	1.78		0.17	1.78		1.29	
	2	1	0.51	16.02		17.59	11.27	27.07	35.78	26.49	3.94	1.83		0.16	1.73		1.19	
		2	1.76	38.07		36.32	19.40	34.40	36.07	26.49	4.61	2.28		0.16	2.20		2.24	
		3	0.78	34.84		26.41	15.99	51.39	36.59	26.89	5.37	2.32		0.17	3.32		1.26	
	3	1	0.80	26.10		24.65	15.05	29.29	36.60	26.62	4.40	2.08		0.17	1.71		1.19	
		2	0.53	18.39		18.84	12.14	27.52	37.35	26.49	3.09	1.07		0.13	1.52		0.75	
		3	1.14	61.94		23.45	12.21	27.70	37.68	26.71	3.76	1.70		0.16	1.57		1.43	
	4	1	3.55	54.42		45.64	18.15	26.14	37.86	26.85	5.78	2.61		0.34	6.80		2.07	
		2	1.81	32.45		30.44	15.43	28.93	37.89	26.85	6.90	4.26		0.19	4.90		1.81	
		3	0.23	13.79		18.81	10.98	25.36	38.08	26.62	5.06	1.44		0.14	1.92		1.35	
	5	1	1.27	18.29		27.64	14.12	33.01	39.32	26.67	6.23	1.72		1.46	2.40		1.41	
		2	2.53	82.52		74.19	34.53	46.39	44.25	27.25	6.92	6.54		0.24	13.09		3.50	
		3	0.62	17.74		23.66	13.36	26.32	38.87	27.28	3.23	1.44		0.13	2.15		1.05	

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	6	1	0.47	6.64		16.78	9.80	34.46	40.45	29.86	1.86	0.94		0.13	1.69		0.82	
		2	0.42	13.72		24.73	16.11	44.17	46.94	35.62	4.29	3.63		0.12	8.75		1.35	
		3	0.51	17.14		27.24	17.72	44.84	48.79	36.32	13.01	9.29		0.31	4.33		1.67	
	7	1	1.39	29.61		43.02	28.81	57.03	49.03	37.47	26.70	22.64		0.26	11.87		4.01	
		2	1.80	26.65		41.27	22.59	48.44	49.55	36.26	41.09	19.81		1.22	5.58		4.74	
		3	8.96	63.44		54.02	35.74	61.23	52.62	36.68	74.85	51.62		2.35	11.89		23.96	
	8	1	23.21	110.56		110.38	73.59	83.00	54.48	36.54	142.72	91.23		6.05	21.76		11.67	
		2	45.97	137.99		85.74	63.24	70.91	57.06	35.03	130.79	125.86		3.06	16.58		16.85	
		3	80.27	178.68		105.73	58.48	78.32	64.39	34.98	253.12	131.50		13.14	15.34		51.56	
	9	1	21.96	102.90		71.33	44.32	61.31	47.99	36.10	119.44	81.47		5.86	8.42		17.46	
		2	15.85	79.94		76.93	47.04	66.16	49.19	35.89	79.19	48.63		3.68	8.32		16.36	
		3	9.82	35.54		31.83	20.45	41.78	46.37	35.67	32.33	24.12		0.94	4.36		4.03	
	10	1	11.25	103.99		104.82	35.16	64.95	44.74	35.72	34.20	26.34		0.79	6.21		2.66	
		2	13.89	121.33		101.77	34.84	55.48	44.45	35.67	37.37	25.81		0.68	10.78		1.48	
		3	8.79	47.24		37.19	19.36	36.39	42.13	35.70	9.90	23.93		0.36	3.03		0.99	
	11	1	1.43	23.77		20.68	13.58	24.61	34.08	28.41	6.03	3.13		0.28	2.15		1.13	
		2	3.48	30.20		21.03	12.99	22.97	31.16	26.01	6.51	4.13		0.25	2.06		1.02	
		3	3.64	34.71		24.65	16.42	30.97	31.09	25.87	5.58	2.56		0.24	1.90		0.93	
	12	1	3.74	29.14		24.38	13.75	27.90	30.82	25.96	5.10	2.39		0.21	1.83		0.92	
		2	4.81	42.44		45.58	18.39	30.15	31.71	26.18	4.85	2.08		0.20	2.14		0.96	
		3	3.86	27.40		26.92	13.50	23.49	31.78	26.27	4.78	1.93		0.15	1.79		0.80	
1983	1	1	4.01	20.02	11.61	22.25	12.49	26.71	30.92	26.40	4.06	1.49		0.15	1.60		0.76	
		2	2.77	18.72	16.21	22.98	13.28	30.98	30.79	26.58	3.78	1.20		0.13	1.45		0.70	
		3	2.85	18.52	15.98	22.59	13.57	29.87	30.82	28.71	3.90	0.94		0.18	1.56		0.78	
	2	1	3.80	23.75	16.64	23.46	13.04	29.89	31.50	26.31	4.13	1.35		0.19	1.64		0.83	
		2	3.61	30.70	26.16	33.24	16.64	30.94	31.67	26.67	4.36	1.90		0.15	1.75		0.77	
		3	2.57	39.79	26.58	29.61	14.50	32.64	31.86	26.72	4.03	2.19		0.13	1.72		0.86	
	3	1	1.18	22.89	19.34	24.00	13.85	33.65	32.08	27.82	3.87	2.28		0.12	1.62		0.57	
		2	7.64	48.93	43.39	48.49	20.83	49.88	37.55	27.12	5.31	3.63		0.14	2.70		0.52	
		3	1.10	28.71	27.07	30.83	15.86	30.61		28.79	6.39	2.62		0.19	5.58		0.34	
	4	1	4.33	33.71	23.29	27.44	13.00	28.92	33.37	27.02	12.39	3.99		0.19	3.26		0.38	
		2	6.01	45.11	29.46	34.52	13.91	28.97	32.96	28.65	8.42	3.98		0.57	4.49		0.55	
		3	3.40	69.10	67.47	62.35	24.27	52.79	34.02	28.75	13.96	7.08		2.13	2.74		0.61	
	5	1	0.98	34.64	27.77	30.79	12.83	30.95	32.95	26.67	7.52	4.36			2.33		0.76	
		2	1.80	24.82	45.43	53.02	18.59	55.30	33.09	27.30	15.98	6.84			8.22		3.12	
		3	5.01	54.66	140.50	197.76	110.51	154.28	35.94	26.79	44.76	25.50		0.76	30.85		2.21	
	6	1	4.82	81.57	65.09	85.97	46.69	66.41	34.86	26.49	39.36	24.52		0.85	18.85		2.52	
		2	2.25	32.12	18.69	31.24	19.85	42.31	35.76	27.76	11.68	5.84		0.34	2.71		2.05	
		3	2.82	25.54	21.26	37.19	25.53	55.42	51.69	40.82	17.75	8.12		0.33	2.44		1.72	
	7	1	2.17	43.11	24.80	41.59	29.62	70.86	54.62	42.64	18.93	12.54		0.33	2.30		1.34	
		2	2.73	53.38	41.49	47.02	30.90	52.40	54.40	42.77	32.76	25.71		1.84	7.09		4.68	
		3	27.51	140.63	146.25	152.33	90.20	77.69	75.34	46.72	122.68	79.64		3.37	32.05		18.02	
	8	1	32.93	184.59	84.40	106.89	53.07	67.59	55.10	39.26	184.76	118.84			12.69		24.56	
		2	38.37	174.42	126.12	165.10	81.34	91.31	58.48	44.52	215.41	119.59			30.24		94.75	
		3	54.02	199.57	147.36	165.14	94.89	104.23	115.73	81.19	319.71	181.77			17.85		53.00	
	9	1	16.23	200.22	188.74	227.77	165.47	210.01	199.05	217.30	189.71	126.56			17.27		20.64	
		2	13.56	192.74	183.83	265.00	176.18	236.82	211.37	248.46	181.29	103.69			23.06		36.05	
		3	7.49	164.88	132.34	206.29	131.52	141.07	127.09	127.50	66.19	41.99			22.29		9.05	
	10	1	5.38	78.41	51.56	73.47	66.90	63.39	67.45	57.57	28.05	14.60			7.32		2.75	
		2	6.56	64.89	44.61	66.22	58.18	65.24	65.49	58.66	12.23	7.28			7.52		1.74	
		3	3.02	67.69	44.72	65.22	49.62	60.22	59.81	54.46	8.43	4.50			2.63		1.02	
	11	1	1.93	37.84	22.74	45.06	29.41	47.61	47.64	45.89	5.88	3.18			1.39		0.93	
		2	1.43	51.52	37.17	74.60	46.35	56.14	62.15	55.72	5.94	2.82			1.14		0.78	
		3	0.75	52.58	37.99	62.04	46.06	58.28	63.08	59.43	5.23	2.36			0.77		0.69	
	12	1	0.74	53.73	39.59	64.57	47.30	58.84	63.44	61.41	3.99	1.93			0.58		0.60	
		2	0.67	56.21	38.11	54.27	48.64	60.22	64.79	65.79	4.16	1.71			0.52		0.51	
		3	0.73	58.10	36.75	55.02	51.28	61.33	66.38	61.51	4.24	1.84			0.53		0.53	
1984	1	1	0.61	60.68	38.77	61.00	54.27	58.65	66.46	61.79	4.18	1.78		0.38	0.46		0.55	
		2	0.59	49.13	24.03	44.29	37.43	46.44	44.69	46.15	3.68	1.38		0.37	0.44		0.63	
		3	0.74	28.70	17.25	25.27	22.58	35.90	32.26	26.59	3.52	1.20		0.37	0.42		0.69	
	2	1	0.68	23.86	15.55	19.90	17.71	33.16	29.14	26.80	3.39	1.03		0.36	0.35		0.83	
		2	0.73	19.64	13.33	17.76	15.70	29.56	29.04	26.49	2.66	0.83		0.34	0.35		0.76	
		3	0.60	17.62	12.54	15.18	14.46	28.84	29.10	26.27	2.61	0.69		0.34	0.35		0.84	
	3	1	0.56	17.61	12.80	15.47	15.13	29.13	28.88	27.21	2.69	0.89		0.34	0.52		0.57	
		2	0.58	17.43	10.37	15.31	14.79	30.33	26.11	26.72	2.87	1.07		0.33	0.52		0.52	
		3	0.56	15.32	10.83	13.23	13.42	29.59	25.26	26.03	2.87	0.84		0.34	0.52		0.37	
	4	1	0.15	13.16	10.48	11.10	11.67	30.10	25.34	25.34	2.52	0.61		0.32	0.46		0.38	
		2	0.13	10.59	10.06	8.77	10.39	28.78	25.24	24.75	2.13	0.54		0.31	0.51		0.58	
		3	0.12	8.42	9.95	8.56	10.22	27.64	24.01	23.67	1.92	0.35		0.29	0.44		0.61	
	5	1	0.09	6.40	8.30	12.94	12.63	29.46	30.64	28.89	1.89	0.25		0.29	0.46		0.76	
		2	0.57	30.05	24.35	28.77	23.94	38.01	35.56	33.22	5.76	1.04		0.36	1.05		1.18	
		3	2.21	47.13	44.13	40.23	28.95	42.55	36.26	32.35	4.58	1.70		0.64	3.27		1.81	
	6	1	2.17	35.96	31.76	33.84	28.27	38.64	36.26	31.41	17.24	10.72		0.60	1.63		2.52	
		2	1.68	21.16	22.92	23.70	20.62	36.26	35.26	31.36	15.51	10.09		0.49	1.04		2.69	
		3	9.71	40.30	35.35	31.63	23.05	37.15	35.80	32.00	43.78	33.37		0.90	2.88		11.32	
	7	1	5.82	41.74	39.28	29.67	23.56	36.24	36.75	32.66	48.58	33.15		1.28	3.00		5.24	
		2	33.18	67.05	46.50	34.74	25.66	43.76		32.10	149.91	82.72		2.54	6.90		31.29	
		3	66.50	87.49	67.85	49.04	34.25	50.40		36.05	175.87	89.61		1.89	6.69		57.60	
	8	1	70.00	80.37	70.85	72.21	50.73	53.37		43.87	201.31	114.56		3.01	6.68		43.38	
		2	28.35	90.17	86.53	83.94	65.49	74.80		47.38	123.53	82.95		2.90	11.05		23.83	
		3	9.43	53.53	50.38	49.93	40.64	61.07		41.26	97.05	60.03		4.53	7.96		11.77	
	9	1	15.10	95.51	99.92	90.48	64.78	84.22		56.94	180.04	117.90		5.82	18.02		34.18	
		2	10.23	96.31	98.38	93.45	53.22	63.92		44.67	96.02	63.63		2.20	13.98		10.08	
		3	5.80	60.36	40.11	44.32	29.20	47.53		37.03	35.53	22.78		0.72	2.71		2.86	
	10	1	1.89	24.77	17.99	22.90	17.36	36.38		33.53	10.93	8.14		0.41	1.16		1.61	
		2	0.76	15.31	15.61	23.55	21.63	41.34	50.84	39.52	5.83	4.22		0.31	0.65		1.08	
		3	0.58	19.98	14.10	24.24	22.31	38.77	45.47	38.72	3.82	2.47		0.24	0.47		0.86	
	11	1	0.96	20.13	15.87	23.11	22.77	36.79	46.01	38.04	3.39	1.66		0.20	0.42		0.98	
		2	1.01	24.62	16.57	25.82	23.05	38.12	44.69	38.69	3.29	1.29		0.17	0.35		0.84	
		3	1.00	21.81	14.05	21.98	19.14	36.57	43.97	37.53	2.97	1.13		0.16	0.32		0.72	

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	12	1	0.87	27.18	22.37	28.93	22.95	39.79	46.81	39.54	2.82	0.89		0.30	0.27		0.60	
		2	1.03	33.38	20.40	27.19	22.66	37.68	41.01	34.08	2.76	0.97		0.20	0.32		0.61	
		3	0.98	23.50	18.76	22.75	18.04	34.51	38.24	32.67	2.82	0.88		0.22	0.27		0.63	
1985	1	1	1.00	21.90	19.99	20.76	15.81	34.26	34.73	29.72	2.78	0.69		0.21	0.25		0.68	
		2	0.88	19.33	17.39	18.36	14.94	31.22	34.32	29.04	2.49	0.54		0.19	0.20		0.90	
		3	0.82	21.61	20.69	19.25	13.71	33.43	35.17	29.69	2.68	0.61		0.19	0.24		0.86	
	2	1	0.61	21.40	22.59	20.04	15.83	33.63	37.03	30.46	2.63	0.55		0.22	0.33		0.85	
		2	0.33	21.49	21.53	18.82	14.10	31.22	34.82	29.71	2.26	0.41		0.18	0.22		0.99	
		3	0.19	18.71	20.69	17.60	13.64	33.15	33.92	29.32	1.87	0.35		0.16	0.20		0.78	
	3	1	0.15	18.33	20.29	17.46	13.71	30.84	32.53	27.66	1.64	0.49		0.15	0.22		0.59	
		2	0.14	16.66	18.30	14.89	11.51	29.34	32.29	27.57	1.62	0.39		0.14	0.19		0.53	
		3	1.18	14.94	26.32	18.63	12.83	31.45	35.06	30.25	1.68	0.52		0.17	0.34			
	4	1	1.39	47.00	34.78	30.36	16.91	36.11	32.71	27.85	2.29	0.87		0.19	1.35			
		2	0.77	54.35	66.60	51.72	25.77	45.35	32.67	27.48	2.10	0.87		0.15	1.10			
		3	1.02	67.81	72.91	22.78	23.56	34.71	32.40	27.30	3.78	1.72		0.17	0.67		1.65	
	5	1	16.12	93.19	115.17	99.88	43.39	42.93	33.73	27.39	16.91	1.49		0.17	1.82		5.65	
		2	3.73	96.42	116.62	77.81	38.83	36.66	33.69	28.31	8.84			0.17	1.80		1.66	
		3	0.91	27.68	29.29	24.48	15.45	33.64	34.34	29.39	4.61			0.15	0.51		1.28	
	6	1	0.41	15.44	22.65	17.17	15.17	32.91	39.07	33.04	4.25			0.13	0.28		1.57	
		2	0.30	19.57	24.55	20.81	16.75	33.48	43.17	36.70	4.77			0.21	0.65		1.73	
		3	0.40	20.14	29.56	25.82	19.24	34.01	43.22	36.81	13.35	10.11		0.24	0.75		2.07	
	7	1	15.54	35.10		36.17	24.21	37.38	49.93	36.05	29.60	21.13		0.26	3.36		3.29	
		2	24.01	64.65		50.15	30.25	42.45	46.55	33.77	55.51	45.88		0.42	7.40		6.66	
		3	38.96	90.03		48.01	26.32	46.32	43.74	27.00	165.77	110.33		1.34	3.72		33.16	
	8	1	114.57	190.33		78.46		68.20	56.43	26.76	293.41	151.92		4.39	5.63		69.55	
		2	81.39	190.28		94.55		73.01	61.19	32.19	287.25	153.70		6.74	8.62		73.58	
		3	86.16	190.08	233.36	187.68		155.12	216.03	143.64	281.65	159.99		4.31	12.23		46.26	
	9	1	44.31	208.13	240.97	278.94		226.73	297.82	222.56	184.59	106.79		5.19	13.60		31.46	
		2	59.19	197.81	220.11	235.91		176.65	200.58	155.97	112.29	66.30		3.02	9.71		16.44	
		3		103.04	64.62	98.62		60.68	91.69	69.31	75.97	26.46		1.30	6.13		12.49	
	10	1		30.29	50.62	30.75	22.34	36.82	32.75	31.77	19.95	10.62		0.95	2.74		4.71	
		2	2.58	8.66	25.69	13.93	16.06	30.92	28.27	24.63	9.24	5.60		0.60	1.39		3.46	
		3	2.40	7.60	14.14	13.75	14.43	30.70	27.37	23.94	4.45	2.77		0.38	0.98		1.75	
	11	1	2.20	9.25	8.40	14.61	15.69	32.42	27.31	24.89	3.45	1.99		0.31	1.02		1.19	
		2	1.85	9.97	8.09	18.20	16.74	26.70	27.22	24.51	3.13	1.52		0.26	0.84		1.10	
		3	1.66	11.17	8.61	16.67	17.40	26.85	27.49	24.80	4.50	1.22		0.24	0.75		1.21	
	12	1	1.11	9.96	10.82	21.46	19.40	31.11	34.37	28.56	4.30	1.09		0.22	0.66		1.46	
		2	0.91	12.68	12.25	23.67	16.72	27.22	26.63	24.46	4.14	1.01		0.18	0.66		1.61	
		3	0.61	14.27	13.81	28.63	21.56	33.09	34.09	35.96	2.76	0.92		0.19	0.67		1.47	
1986	1	1	0.45		36.76	30.59	30.12		42.13	43.92	2.22	0.85		0.19			1.30	0.01
		2	0.35		39.40	15.60	26.82		35.65	39.31	2.04	0.57		0.17			1.22	0.01
		3	0.20		34.00	13.00	25.19		37.80	40.96	1.86	0.39		0.18			1.06	0.01
	2	1	0.13		41.08	29.95	27.32		38.20	43.12	3.00	0.44		0.19			1.22	0.01
		2	1.58		46.63	31.11	28.24		38.27	41.75	3.62	0.35		0.17			1.30	0.02
		3	1.99	28.80	53.87	38.22	33.15	41.06	38.17	41.03	13.40	1.63		0.19			1.51	0.02
	3	1	3.09	59.23	68.69	40.93	39.34	47.50	38.28	40.82	6.95	1.62		0.23	1.14		2.33	0.09
		2	0.05	26.05	49.57	32.14	29.43	42.80	39.38	41.08	4.10	1.08		0.11	2.88		1.94	0.04
		3	6.01	45.92	54.15	17.76	32.20	43.99	39.44	42.04	5.94	1.94		0.13	0.68		2.13	0.03
	4	1	4.11	42.19	53.37	33.67	29.31	40.58	39.14	41.86	12.48	2.89		0.20	2.59		4.60	0.32
		2	5.17	40.27	52.89	32.44	27.30	40.56	39.04	40.92	9.36	2.45		0.24	1.24		2.76	0.22
		3	2.35	26.51	51.03	31.54	29.21	41.44	39.78	42.26	8.41	2.68		0.14	4.00		2.27	0.42
	5	1	0.60	19.64	48.99	31.07	28.14	36.99	36.26	39.51	6.06	2.42		0.18	1.29		1.56	0.10
		2	1.08	22.02	54.12	30.95	26.95	40.75	39.48	38.07	11.36	5.39		0.15	5.98		1.95	0.08
		3	8.03	33.56	64.93	40.38	29.20	45.84	39.59	39.34	6.83	1.90		0.12	3.95		1.12	0.03
	6	1	22.91	20.90	57.03	34.43	27.79	45.40	45.20	43.42	5.01	4.19		0.11	3.33		1.00	0.03
		2	12.24	34.85	73.84	50.62	43.55	55.69	60.76	48.90	18.02	12.42		0.47	2.78		3.34	0.04
		3	21.69	65.43	96.37	68.69	48.40	68.07	66.92	49.88	45.47	26.57		0.64	6.10		5.99	0.95
	7	1	21.99	105.62	131.99	91.37	65.71	90.80	66.00	52.03	52.59	25.88		0.26	15.25		9.05	0.82
		2	10.61	88.90	104.83	82.33	66.49	80.64	89.55	63.74	50.96	36.46		3.02	24.33		5.25	0.88
		3	27.85	122.80	124.05	107.12	73.14	81.56	101.61	64.45	103.48	70.92		4.90	13.02		17.17	6.64
	8	1	37.01	123.49	124.06	117.35	71.05	80.40	75.14	51.08	130.38	75.31		2.48	27.49		24.51	5.56
		2	34.02	127.85	106.60	98.36	60.53	53.49	45.41	34.94	162.11	105.36		2.16	13.66		23.79	3.08
		3	43.52	102.99	56.71	51.70	32.96	46.35	41.15	31.36	172.95	119.99		3.16	9.25		30.40	3.60
	9	1	20.22	83.36	67.77	59.31	37.74	53.66	49.31	39.15	151.51	101.09		7.39	8.45		23.62	2.49
		2	34.11	123.03	91.61	72.56	38.04	63.10	49.61	33.37	111.36	69.20		3.71	13.59		16.84	2.70
		3	9.02	54.43	59.97	41.93	24.48	39.17	36.69	30.48	45.75	30.21	15.85	2.08	8.64		7.11	0.48
	10	1	4.34	26.19		27.72	20.28	44.41	35.99	30.82	14.31	26.94	7.42	0.43	9.45		4.59	0.17
		2	2.59	18.12		21.16	16.89	38.43	36.94	35.13	6.68	4.49	2.95	0.33	2.79		4.62	0.10
		3	1.92	22.52		29.01	18.27	36.42	37.28	36.08	4.50	2.62	1.77	0.12	2.44		3.92	0.06
	11	1	1.64	19.42		23.82	21.93	35.63	39.73	37.11	3.61	1.85	1.25	0.10	1.74		2.87	0.04
		2	1.08	19.12		23.89	21.92	38.78	38.17	36.58	3.61	1.40	0.98	0.09	1.52		1.80	0.03
		3	1.02	18.39		24.69	22.57	37.63	37.91	35.76	3.51	1.26	0.78	0.04	1.39		1.02	0.03
	12	1	1.11	20.27		28.75	24.66	38.60	40.14	37.66	3.29	1.08	0.63		1.33		0.68	0.03
		2	1.04	18.99		24.95	23.56	39.12	40.79	37.21	3.26	1.02	0.60		1.38		0.63	0.03
		3	1.11	18.97		25.53	21.79	37.51	35.42	32.99	3.25	0.87	0.50		1.28		0.68	0.02
1987	1	1	0.98	18.55	21.53	20.09	18.21	32.35	39.30	37.22	3.23	0.83	0.51		0.64		0.73	0.03
		2	0.81	15.77	20.71	15.33	21.65	25.83	33.78	30.10	2.90	0.75	0.42		0.65		0.68	0.02
		3	0.66	15.04	19.47	14.57	15.97	28.68	31.71	28.10	2.74	0.64	0.36		0.72		0.77	0.02
	2	1	0.51	14.23	19.85	18.75	16.18	27.89	31.55	30.33	2.70	0.48	0.14		0.61		0.76	0.02
		2	0.45	14.48	19.80	17.22	15.62	30.71	31.51	30.00	3.10	0.93	0.16		0.60		1.00	0.02
		3	1.02	20.26	23.65	25.33	22.15	36.29	31.44	29.84	5.61	1.83	0.22	0.18	1.68		0.94	0.03
	3	1	2.75	36.81	30.62	38.46	19.33	37.62	33.21	29.72	9.55	3.17	1.61		7.12		2.40	0.13
		2	2.87	56.50	40.46	56.66	39.91	44.70	33.34	30.48	14.38	4.56	3.23		5.74		3.06	0.11
		3	6.61	39.65	30.47	25.12	37.46	31.48	31.91	30.13	14.29	6.33	3.09		3.59		2.37	0.05
	4	1	5.48	81.50	48.38	50.72	36.63	42.30	32.29	29.65	78.29	22.62	5.06		8.49		4.72	0.09
		2	4.80	93.90	54.86	67.56	39.24	54.82	34.12	32.09	31.41	8.59	6.36		7.39		6.58	0.06
		3	0.86	30.18	27.60	22.93	6.40	34.94	31.46	29.76	6.55	3.33	1.89		0.99		1.46	0.02
	5	1	0.47	13.89	24.76	18.69	6.78	33.23	32.13	30.04	3.93	3.11	0.85		0.82		0.86	0.01
		2	1.26	28.41	32.09	25.36	7.49	35.92	34.67	30.35	4.77	3.66	1.34		0.51		0.80	0.02
		3	20.83	159.58	85.89	93.67	39.69	80.69	48.43	34.42	53.24	18.69	8.26		22.17		9.40	0.48

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	6	1	9.90	55.85	41.37	43.61	21.81	45.48	36.72	32.20	42.09	22.81	14.02		12.80		4.31	0.43
		2	4.50	24.19	31.32	22.79	9.14	32.96	33.88	30.84	25.22	13.46	8.11		5.93		3.16	0.18
		3	5.47	16.09	24.70	19.69	7.87	33.20	32.67	30.67	20.46	13.33	11.15		5.83		2.05	0.05
	7	1	7.68	11.11	22.90	16.98	4.97	31.79	34.02		32.12	21.10	11.35		4.75		6.20	0.46
		2	3.92	18.42	21.86	25.17	10.02	33.45	36.31		43.93	27.24	15.62		4.50		9.80	1.46
		3	4.86	26.55	35.76	28.95	14.64	36.26	51.96	41.22	69.38	45.71	23.75		8.51		11.96	0.75
	8	1	11.68	26.39	37.57	27.00	13.51	38.78	44.74	37.55	104.81	75.69	27.56		6.34		12.97	1.41
		2	30.97	111.82	116.51	92.85	53.10	68.58	56.32	40.04	92.84	111.51	33.15		10.18		16.22	2.55
		3	23.00	120.19	76.40	72.90	37.67	58.77	52.55	38.36	22.31	76.94	28.95	5.59	9.58		8.83	1.14
	9	1	6.59	55.63	54.96	49.92	29.06	53.81	46.52	31.23	15.60	39.24	21.56	8.67	5.98		4.48	0.24
		2	3.41	41.26	55.21	37.64	17.94	50.55	48.44	29.88	17.74	27.16	18.83	7.66	4.37		3.78	0.19
		3	2.80	35.33	41.40	38.22	19.98	44.71	35.38	29.92	20.51	13.03	10.18	3.49	22.52		2.08	0.11
	10	1	3.28	24.00	42.47	21.69	6.93	32.26	36.36	31.77	8.93	7.13	5.01	0.91	6.98		1.17	0.07
		2	1.71	19.64	37.41	18.91	6.12	30.16	34.66	30.87	5.70	4.03	2.56	0.80	4.78		0.83	0.04
		3	0.99	11.82	35.06	13.73	5.42	29.41	33.76	29.77	4.84	2.64	1.55	0.69	3.53		0.86	0.02
	11	1	0.84	18.12	39.30	19.48	6.38	29.85	35.93	31.01	4.16	1.79	1.11	0.53	3.27		0.99	0.01
		2	0.63	15.00	39.11	14.75	5.16	26.37	33.13	27.73	3.52	1.48	0.97	0.44	2.92		1.13	0.01
		3	0.64	16.24	37.96	14.39	5.24	29.42	32.16	30.55	3.49	1.32	0.83	0.43	2.85		0.96	0.01
	12	1	0.56	15.41	36.41	15.42	4.31	29.55	33.28	32.79	3.44	1.16	0.75	0.38	2.74		1.02	0.01
		2	0.66	16.64	38.05	16.01	5.80	30.17	33.77	31.33	2.99	1.01	0.71	0.32	2.87		1.05	0.01
		3	0.63	16.02	39.75	16.89	4.94	29.91	33.90	32.92	2.56	0.90	0.60	0.38	2.67		1.09	0.01
1988	1	1	2.04	28.29	44.87	37.04	14.59	38.73	31.75	28.93	3.33	0.83	0.58	0.38	2.74		1.30	0.01
		2	0.69	21.98	37.98	22.46	5.78	33.31	32.08	30.69	3.23	0.82	0.49	0.38	2.67		1.97	0.01
		3	0.67	22.00	38.95	19.67	7.09	33.46	32.18	31.64	3.06	0.56	0.28	0.35	2.56		1.20	0.01
	2	1	0.53	19.98	32.89	19.10	5.89	32.83	32.66	30.36	2.92	0.52	0.23	0.31	2.55		1.17	0.00
		2	6.70	26.19	33.33	22.66	7.06	33.42	31.64	29.35	3.34	0.76	0.31	0.35	3.97		1.80	0.02
		3	2.27	27.46	35.31	25.05	6.56	30.87	30.92	28.41	3.31	0.73	0.52	0.43	2.72		1.34	0.02
	3	1	0.98	40.77	37.45	20.75	5.62	29.45	31.39	29.26	3.44	0.88	0.56	0.36	2.61		1.25	0.01
		2	0.15	19.59	31.63	16.25	5.23	33.17	30.71	29.00	2.98	0.40	0.19	0.29	2.46		1.00	0.00
		3	0.10	18.00	30.57	15.58	5.44	28.29	29.97	27.42	2.74	0.35	0.08	0.23	2.46		0.99	0.00
	4	1	0.04	16.28	25.69	9.48	2.91	26.76	23.72	20.50	2.92	0.56	0.23	0.21	2.34		1.04	0.00
		2	1.65	26.16	38.25	22.85	6.01	27.49	28.09	23.98	3.90	0.88	0.66	0.30	3.63		2.79	0.03
		3	4.77	32.02	49.49	27.22	21.64	35.31	23.63	21.13	6.05	2.20	0.85	0.22	4.44		2.10	0.01
	5	1	1.66	10.14	18.54	8.12	2.20	21.07	21.64	19.76	3.60	1.86	0.47	0.24	2.59		1.37	0.01
		2	0.96	5.95	12.05	8.24	2.35	17.80	16.75	15.88	3.04	1.10	0.35	0.26	3.31		1.20	0.01
		3	0.22	3.91	8.15	1.04	0.61	12.81	15.46	14.29	2.92	0.46	0.25	0.22	2.60		0.91	0.00
	6	1	0.38	6.04	15.96	6.85	2.80	21.19	23.85	21.40	5.07	1.24	0.70	0.35	2.94		1.69	0.01
		2	2.56	4.90	17.17	6.65	1.34	22.61	12.67	12.24	8.80	5.77	1.16	0.36	2.78		1.38	0.01
		3	2.26	5.80	23.10	6.67	1.38	13.95	14.33	14.05	14.93	11.18	2.40	0.46	3.06		1.98	0.01
	7	1	11.75	16.78	28.61	17.91	5.17	31.88	22.47	22.91	34.52	28.72	8.65	1.79	4.80		5.46	5.50
		2	37.83	82.87	85.43	74.88	28.17	72.40	22.47	20.93	65.54	46.60	21.41	1.82	10.09		10.40	2.90
		3	60.21	66.48	84.24	45.72	11.69	28.66	14.04	16.95	54.86	50.72	24.47	5.98	6.61		12.20	1.87
	8	1	125.41	183.89	132.76	97.10	19.23	45.37	8.14	10.97	199.90	107.71	34.19	8.83	15.67		24.23	7.00
		2	111.86	209.97	137.31	141.93	48.84	62.24	10.85	10.71	290.67	195.89	36.27	10.10	28.00		43.35	11.87
		3	161.20	188.57	89.50	108.98	45.25	66.61	10.43	11.07	257.38	163.97	34.21	9.97	32.05		23.45	5.45
	9	1	237.54	162.06	76.17	93.85	42.86	64.57	10.35	11.06	180.89	118.30	32.06	4.96	36.45		17.72	1.60
		2	156.73	202.50	103.13	146.96	56.51	67.96	27.20	29.69	244.66	124.68	32.57	7.43	32.87		43.61	7.53
		3	70.57	211.38	136.55	198.18	112.77	114.91	97.32	91.03	159.69	89.67	27.64	4.16	21.67		9.95	1.17
	10	1	8.92	127.31	62.95	53.35	39.60	55.76	50.13	26.18	34.62	22.80	13.07	1.73	10.68		3.60	0.27
		2	6.31		49.96	61.31	20.33	42.58	34.36	20.34	21.06	11.35	9.71	1.90	9.78		3.27	0.13
		3	4.33			37.60	12.31	28.93	28.01	23.32	10.53	6.20	4.42	0.72	6.33		3.56	0.07
	11	1	2.62			14.64	4.58	20.89	22.62	22.67	5.79	2.87	2.16	0.49	4.65		2.79	0.04
		2	1.43			13.18	5.23	23.75	21.44	22.75	4.77	2.09	1.71	0.44	4.00		2.25	0.02
		3	1.11			13.95	5.81	22.18	21.43	16.63	4.24	1.71	1.37	0.37	3.77		1.85	0.02
	12	1	1.28			13.42	4.81	22.45	22.07	17.23	3.97	1.51	1.12	0.23	3.46		1.55	0.02
		2	1.27			14.01	5.69	22.65	21.80	22.00	3.96	1.55	1.03	0.22	3.35		1.34	0.02
		3	0.73			13.19	5.26	22.63	21.83	25.66	3.62	1.19	0.79	0.21	3.25		1.17	0.02
1989	1	1	0.76		15.73	14.30	6.49	22.79	23.14	25.33	4.23	1.53	0.76	0.15	3.08		1.04	0.02
		2	1.10		14.85	14.00	5.99	23.88	23.42	26.19	4.27	1.33	0.78	0.20	3.08		0.97	0.02
		3	1.71	14.64	16.32	15.29	6.72	25.06	21.83	25.72	4.27	1.71	0.83	0.20	3.08		0.90	0.01
	2	1	1.56	38.62	27.09	29.11	12.67	31.71	22.92	26.81	7.66	2.79	1.37	0.36	3.73		1.71	0.02
		2	1.32	32.98	22.04	23.75	10.96	27.25	24.89	26.84	5.88	2.41	1.20	0.21	3.30		1.08	0.01
		3	0.63	29.70	16.80	14.56	6.44	25.90	23.15	26.12	4.33	1.60	0.63	0.16	2.83		0.87	0.01
	3	1	0.55	24.39	16.30	13.85	5.67	22.71	22.39	26.77	4.05	0.87	0.30	0.13	2.65		0.36	0.01
		2	0.93	28.51	19.11	16.01	7.74	27.30	22.07	26.14	4.02	0.83	0.51	0.11	3.28		1.12	0.01
		3	0.68	48.49	33.48	27.62	9.17	26.99	22.75	25.03	11.65	3.52	1.20	0.21	3.56		1.52	0.02
	4	1	1.63	106.93	76.72	55.76	17.57	30.54	22.77	23.89	9.25	3.04	1.95	0.58	5.47		1.22	0.02
		2	1.30	66.95	49.95	46.58	24.55	40.85	26.98	23.88	10.03	2.53	1.04	0.30	4.49		1.26	0.01
		3	6.76	111.61	70.71	56.62	24.16	33.84	26.90	27.06	15.84	7.15	3.20	0.33	5.64		5.77	0.37
	5	1	1.35	34.40	30.41	30.10	21.38	33.36	26.59	28.22	7.05	1.81	1.15	0.21			1.75	0.02
		2	0.57	29.64	22.96	19.50	9.15	30.23	26.39	30.59	4.45	0.87	0.62	0.18			1.65	0.01
		3	0.31	27.51	21.29	18.05	8.72	31.04	26.75	31.74	4.01	1.04	0.78	0.19			1.58	0.01
	6	1	0.23	26.92	21.88	17.44	8.41	33.48	27.37	40.35	3.80	1.04	0.65	0.24			2.05	0.00
		2	0.57	34.59	34.70	31.30	18.45	45.68	40.07	46.64	11.14	5.58	2.35	0.36			2.14	0.01
		3	0.63	39.38	35.91	34.24	22.92	45.15	41.91	43.87	12.23	6.00	2.92	0.30			3.07	0.01
	7	1	4.19	43.24	43.07	44.25	25.43	57.45	46.25	39.66	39.63	29.66	11.73	0.81			6.72	0.03
		2	8.73	128.58	99.32	100.48	62.34	74.31	60.47	37.73	95.92	61.94	22.09	1.17			18.46	0.36
		3	9.52	105.39	70.86	76.86	49.18	65.07	59.88	46.70	182.57	113.35	33.07	2.41			27.61	2.32
	8	1	33.72	125.69	66.01	72.58	46.72	75.23	70.72	71.55	121.42	83.21	28.36	2.24			27.50	10.79
		2	48.90	171.53	113.05	112.02	58.17	85.16	62.75	52.27	134.46	79.69	24.95	7.46			45.67	4.97
		3	71.27	181.26	110.99	115.37	56.73	86.53	50.70	42.33	303.63	125.89	35.34	11.33			91.43	5.80
	9	1	32.42	186.85	135.86	152.03	108.45	138.48	91.41	111.21	266.56	126.59	35.26	2.45			34.25	2.57
		2	13.05	183.04	140.65	182.87	149.19	167.74	127.64	193.05	129.01	82.95	29.10	3.25			26.93	1.96
		3	6.16	167.15	134.74	154.77	111.65	134.05	98.08	126.37	56.38	37.30	19.14	2.52			8.88	0.42
	10	1	3.08	102.47	81.36	92.05	50.74	74.94	57.18	102.93	19.04	11.45	8.17	0.76			3.32	0.15
		2	2.58	29.32	25.47	32.90	19.70	32.80	37.91	44.49	9.56	5.04	3.96	0.43			2.18	0.08
		3	3.24	24.40	23.96	27.64	16.50	32.29	36.83	43.55	10.78	5.85	5.12	0.30			1.62	0.04
	11	1	0.75	17.37	21.49	25.72	13.87	34.77	38.47	43.62	4.66	2.13	2.11	0.17			1.43	0.02
		2	0.49	22.66	24.65	30.42	28.99	35.10	39.53	43.32	3.56	2.15	1.50	0.18	3.63		1.46	0.02
		3	0.52	18.29	21.31	24.08	18.33	35.75	35.99	42.28	4.14	1.98	1.21	0.18	3.71		1.57	0.02

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	12	1	0.59	30.74	29.76	36.35	24.09	39.03	41.53	43.37	3.98	1.52	1.11	0.17	3.63		1.50	0.02
		2	1.64	26.81	28.12	34.61	18.55	35.21	34.59	42.21	4.11	1.52	1.43	0.17	4.39		1.56	0.02
		3	2.77	35.68	27.82	30.45	26.36	36.10	35.16	41.65	4.42	1.77	1.29	0.14	3.92		1.82	0.02
1990	1	1	2.38	28.98	22.93	23.04	16.46	27.20	30.34	41.01	3.51	1.38	0.90	0.09	3.46		1.42	0.01
		2	2.09	35.55	23.19	22.57	15.98	30.23	30.29	37.46	3.15	0.99	0.74	0.07	3.21		1.46	0.01
		3	0.59	38.78	22.38	23.89	14.96	29.40	30.64	35.46	3.69	0.97	0.68	0.04	3.18		1.43	0.01
	2	1	4.17	61.33	36.05	58.51	32.93	37.15	30.32	31.28	4.92	1.91	1.74	0.51	3.58		2.54	0.02
		2	4.17	72.98	48.90	73.86	32.30	39.37	25.34	32.46	8.19	2.58	1.85	0.36	6.47		2.69	0.11
		3	3.55	178.96	134.81	158.28	80.01	70.30	30.95	30.44	28.66	7.93	3.19	0.38	27.66		5.82	0.05
	3	1	3.67	123.97	93.09	98.43	36.97	66.01	30.11	29.91	42.47	7.03	4.75	0.16	21.14		5.67	0.02
		2	3.24	68.68	39.62	61.89	23.51	34.00	27.81	27.90	8.39	2.43	1.70	0.12	7.94		2.11	0.01
		3	1.70	60.49	39.53	56.71	18.49	31.77	28.47	27.99	6.71	1.83	1.37	0.08	6.94		2.34	0.01
	4	1	2.97	127.35	128.12	131.98	34.37	51.17	29.35	29.14	48.99	14.28	4.22	0.18	27.23		14.04	0.09
		2	0.85	53.96	55.54	41.41	28.22	36.12	27.35	28.32	11.54	3.19	1.12	0.17	9.56		2.42	0.04
		3	2.12	45.56	43.37	31.04	20.84	48.09	30.67	31.75	11.94	2.31	0.99	0.30	7.47		3.04	0.04
	5	1	1.00	39.10	41.95	55.05	21.82	31.60	32.13	32.92	5.28	1.71	0.84	0.33	6.14		1.79	0.02
		2	0.94	30.28	29.52	28.49	17.76	32.29	31.51	33.58	4.04	0.99	0.67	0.19	5.18		1.74	0.02
		3	0.40	25.69	20.94	21.46	15.09	29.30	29.65	32.03	5.17	1.39	0.65	0.20	4.59		2.11	0.02
	6	1	0.44	10.91	19.76	17.31	11.65	32.35	30.24	33.07	9.67	4.32	1.93	0.34	5.06		2.58	0.03
		2	0.63	14.45	25.00			33.51	40.83	38.46	10.40	5.33	3.14	0.32	4.56		2.25	0.02
		3	2.10	12.62	22.61			31.49	32.86	33.63	13.27	8.43	5.63	0.41	4.53		2.34	0.02
	7	1	9.36	19.60	29.01			36.42	33.37	32.62	43.20	25.31	17.35	1.43	8.18		4.76	0.07
		2	18.28	30.36	35.78			43.98	30.16	37.66	89.55	48.41	19.16	13.04	9.49		15.02	0.57
		3	24.22	80.76	73.68			43.42	29.41	32.35	144.10	79.10	27.70	18.75	18.41		23.85	1.94
	8	1	59.39	108.68	50.68			46.70	30.12	26.97	186.68	111.01	33.34	20.83	12.20		51.49	9.97
		2	147.21	201.71	88.49			70.14	32.52	26.40	276.65	137.98	33.56	22.80	23.19		83.63	29.12
		3	17.86	161.60	75.38			76.63	30.49	49.37	241.77	123.32	34.25	19.83	30.30		59.41	5.16
	9	1	18.05	194.85	146.57			111.29	78.59	81.07	162.48	104.59	31.51	17.05	48.07		20.32	1.44
		2	12.53	158.61	113.30			101.79	88.74	86.98	106.90	71.46	28.51	6.65	18.65		24.94	0.91
		3	10.76	196.12	152.72	162.32	153.00	161.07	114.69	105.95	80.94	45.63	23.19	4.97	14.53		19.13	0.82
	10	1	4.18	117.99	84.10	92.58	57.51	67.57	53.64	46.02	31.69	21.31	14.37	1.38	10.50		8.85	0.21
		2	1.86	47.64	29.40	33.84	18.20	35.42	40.90	37.48	12.75	7.32	5.56	0.96	2.29		2.80	0.08
		3	1.66	46.15	27.08	30.93	17.47	32.79	41.09	37.40	7.68	3.92	2.85	0.80	1.77		1.96	0.03
	11	1	0.51	43.95	26.12	32.60	17.26	33.85	37.24	38.36	5.18	2.48	2.10	0.58	1.45		1.76	0.02
		2	0.14	47.46	28.36	41.31	21.03	38.15	40.00	42.71	3.73	2.03	1.69	0.49	1.57		1.61	0.02
		3	0.12	44.94	24.58	32.73	16.33	45.37	37.70	37.58	3.13	1.67	1.34	0.46	1.35		1.63	0.01
	12	1	0.14	45.78	24.31	29.89	17.13	31.69	38.38	34.85	3.00	1.46	1.12	0.43	1.23		1.58	0.01
		2	0.21	40.45	20.38	30.39	17.31	27.52	36.55	30.16	2.86	1.40	1.04	0.42	1.32		1.60	0.01
		3	0.15	36.96	18.46	24.06	12.59	24.50	36.83	28.27	2.96	1.28	0.86	0.41	1.15		1.48	0.01
1991	1	1	0.17	38.73	20.62	25.71	13.51	26.91	29.26	29.71	2.90	1.26	0.89	0.57	1.15		1.52	0.01
		2	0.19	38.60	20.68	19.12	12.69	27.13	29.90	30.54	2.86	1.29	0.78	0.57	1.09		1.41	0.00
		3	0.26	39.32	20.24	19.42	13.53	27.12	29.58	33.14	2.58	0.95	0.72	0.59	1.15		1.37	0.01
	2	1	0.27	43.46	26.58	19.45	15.14	31.07	30.39	30.15	3.65	0.96	0.63	0.62	1.11		1.44	0.00
		2	1.49	48.23	32.47	21.31	22.13	31.75	30.59	30.63	7.11	1.32	0.79	0.54	1.52		1.73	0.01
		3	0.54	45.72	31.99	28.47	27.00	43.18	46.32	54.49	4.31	1.46	1.02	0.51	1.30		2.07	0.01
	3	1	0.27	57.10	34.51	34.77	24.14	48.79	42.55	50.55	7.25	1.36	0.90	0.72	1.15		2.03	0.01
		2	0.49	68.77	42.73	39.95	35.37	45.70	44.19	42.08	15.90	8.48	2.05	1.07	7.10		2.36	0.03
		3	0.85	58.92	42.27	41.96	35.57	50.64	44.26	44.13	4.61	1.43	0.86	0.43	2.55		1.41	0.01
	4	1	2.00	71.72	61.17	52.56	42.25	69.44	47.76	40.61	3.92	1.30	0.78	0.37	3.04		2.88	0.00
		2	0.58	66.16	30.92	30.30	21.58	32.68	27.88	28.78	2.34	0.77	0.51	0.34	1.52		0.95	0.00
		3	0.25	38.52	26.79	22.44	16.10	29.47	28.41	31.21	1.89	0.53	0.38	0.34	1.32		0.98	0.00
	5	1	0.20	38.57	18.39	19.76	10.40	27.33	28.50	29.55	1.86	0.91	0.71	0.37	1.17		1.40	0.00
		2	0.27	45.70	47.80	40.65	32.52	54.30	61.31	57.72	2.89	0.89	0.55	0.36	1.69		0.96	0.00
		3	0.50	42.12	42.45	43.50	33.31	45.19	39.19	50.42	2.77	0.58	0.45	0.34	2.12		1.05	0.00
	6	1	0.47	38.56	17.63	19.60	12.83	25.45	26.10	27.24	3.11	0.62	0.43	0.34	1.41		1.85	0.00
		2	0.32	36.02	20.17	19.15	15.41	34.91	29.15	39.61	7.12	3.26	1.36	0.45	1.12		1.69	0.00
		3	0.43	39.47	24.30	32.14	17.90	31.01	33.96	37.69	21.01	10.45	3.65	9.53	3.75		7.48	1.58
	7	1	7.00	66.61	39.85	55.50	29.40	46.25	44.35	40.66	87.10	39.26	15.16	11.03	5.73		16.67	4.28
		2	87.92	108.66	58.39	67.31	42.06	57.00	46.91	43.17	66.20	63.69	20.36	12.02	4.46		19.10	5.81
		3	169.30	131.44	57.98	55.22	39.40	55.07	42.21	40.62	138.05	80.23	29.25	7.12	12.18		27.25	6.17
	8	1	71.25	135.69	84.92	65.98	44.09	56.65	32.01	34.30	159.23	103.21	31.29	4.89	36.04		48.41	20.58
		2	50.20	195.70	92.35	63.07	45.79	56.01	30.66	36.63	245.61	130.95	33.96	2.00	12.64		45.98	7.59
		3	33.15	245.85	113.79	107.33	85.11	74.89	71.29	66.13	354.09	162.95	34.88	4.86	8.00		70.16	10.22
	9	1	11.64	185.66	165.31	177.23	147.79	195.20	155.55	148.15	271.42	142.77	34.45	9.51	8.83		97.63	5.99
		2	13.63	214.10	183.18	186.68	200.93	168.03	152.44	140.49	127.48	78.88	23.25	4.63	10.15		23.38	1.68
		3	10.39	116.27	77.18	114.71	85.15	58.34	62.82	42.43	62.26	49.04	21.94	1.05	6.29		8.99	0.19
	10	1	4.46	70.17	46.41	54.60	36.93	56.06	60.66	47.13	15.98	9.21	7.11	0.37	3.89		5.30	0.08
		2	0.97		40.93	41.44	34.98	51.93	51.58	51.63	8.25	4.50	3.23	0.34	1.71		4.15	0.04
		3	1.12		38.55	39.80	36.85	39.90	54.70	50.82	5.00	2.50	2.04	0.30	1.53		3.53	0.02
	11	1	0.75		36.46	48.93	36.06	40.17	55.35	60.27	3.95	1.66	1.46	0.19	1.31		3.22	0.02
		2	0.56	30.26	35.55	39.78	35.61	49.42	57.30	50.61	3.53	1.51	1.17	0.16	1.37		3.22	0.02
		3	0.42	20.60	40.19	47.52	42.97	55.38	59.87	55.05	3.40	1.45	0.95	0.12	1.25		3.29	0.02
	12	1	0.85	20.39	31.53	43.97	32.51	42.78	49.67	49.91	3.35	1.41	1.01	0.12	1.36		3.46	0.02
		2	0.76	20.60	27.56	33.84	29.98	42.68	36.87	46.40	3.22	1.51	0.83	0.11	1.28		3.27	0.01
		3	0.51	20.07	32.29	47.13	33.19	46.96	48.59	43.90	3.30	1.29	0.83	0.11	1.15		3.37	0.01
1992	1	1	0.24	18.01	41.33	55.73	48.00	55.94	64.66	46.30	3.05	1.07	0.66	0.12	1.23		2.20	0.01
		2	0.29	20.37	56.27	88.75	49.61	64.81	71.44	55.62	3.10	1.13	0.75	0.12	1.55		2.01	0.01
		3	0.59	35.23	55.13	61.56	50.53	62.63	72.62	54.47	4.10	1.48	0.87	0.17	1.98		3.64	0.03
	2	1	4.02	49.33	72.39	75.51	74.66	52.35	65.65	52.95	9.39	3.29	1.78	0.15	3.67		5.04	0.28
		2	0.73	77.52	40.41	64.57	47.21	43.22	51.35	48.77	6.02	2.26	1.45	0.13	2.12		2.48	0.02
		3	0.36	61.37	34.19	37.32	35.28	44.70	49.44	51.70	3.48	1.72	1.25	0.14	1.48		1.98	0.01
	3	1	0.23	51.23	22.79	51.46	22.75	34.47	32.12	44.75	3.95	1.67	1.01	0.12	1.34		1.97	0.01
		2	0.15	67.98	11.56	6.74	7.80	19.33	24.43	44.64	3.09	0.84	0.61	0.12	1.57		1.65	0.01
		3	0.13	48.64	17.27	17.08	6.77	23.98	29.18	43.42	3.10	1.10	0.77	0.13	1.40		1.90	0.01
	4	1	1.79	41.89	20.90	22.38	20.26	31.56	28.38	41.95	4.40	1.71	0.94	0.13	2.15		2.15	0.01
		2	0.37	41.10	15.39	19.64	16.34	21.88	28.88	37.28	2.86	0.72	0.51	0.11	1.22		1.82	0.01
		3	0.89	23.27	42.75	113.86	21.94	24.52	30.69	41.41	5.96	4.15	2.92	0.28	3.56		2.24	0.02
	5	1	0.58	27.95	29.05	39.00	22.49	29.40	30.79	44.43	5.27	2.70	1.34	0.11	1.51		2.29	0.16
		2	0.35	14.06	28.39	32.49	19.42	33.52	34.24	40.70	3.70	2.11	1.13	0.09	3.11		1.95	0.01
		3	0.22	39.43	28.17	32.19	21.07	36.04	37.35	43.60	3.52	1.97	0.73	0.10	1.35		2.25	0.00

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	6	1	0.11	18.50	24.29	24.51	20.45	31.14	37.37	39.91	4.00	3.09	1.82	0.13	1.48		2.29	0.01
		2	0.41	20.72	20.26	12.70	9.40	17.55	21.37	41.92	11.71	5.90	3.13	0.54	1.51		2.19	0.01
		3	0.43	8.58	17.91	16.91	10.98	30.83	25.84	38.88	17.06	14.50	7.75	2.60	4.48		3.02	0.25
	7	1	3.25	53.87	45.37	61.52	24.61	49.26	22.93	38.66	57.82	36.11	17.81	1.28	9.11		12.15	0.15
		2	5.85	36.32	24.61	16.56	19.98	22.22	17.79	38.89	67.96	41.49	19.88	2.03	2.85		9.70	1.42
		3	6.31	58.03	33.64	28.71	19.11	31.29	16.18	25.71	89.81	51.08	23.86	1.90	5.92		18.81	2.22
	8	1	52.23	110.48	101.43	104.09	39.56	44.24	19.01	32.47	152.64	84.67	29.99	5.81	34.95		45.38	12.08
		2	101.80	141.41	126.26	101.84	44.75	58.75	21.29	30.67	218.69	126.32	35.27	40.86	31.59		32.36	13.64
		3	54.00	177.62	157.80	154.81	47.71	61.42	23.47	29.44	235.56	133.46	33.58	34.59	25.88		43.61	1.61
	9	1	24.14	185.66	179.83	169.50	102.42	105.83	49.30	48.88	239.75	131.60	32.92	24.67	47.17		44.94	6.11
		2	22.40	158.31	182.04	155.98	143.78	92.96	96.72	67.48	132.77	88.44	24.93	36.36	46.29		44.58	7.84
		3	24.90	127.06	136.02	114.33	92.66	52.52	59.56	51.53	58.62	31.97	17.72	33.72	13.18		8.80	0.57
	10	1	14.10	46.06	54.05	35.91	23.00	30.69	33.49	41.90	18.01	11.83	10.90	35.07	15.53		4.46	0.69
		2	9.44	79.74	101.70	47.67	30.24	45.61	30.71	38.50	23.85	15.40	13.21	34.27	23.04		4.79	0.45
		3	9.22	40.72	33.44	26.90	41.09	26.47	32.83	36.87	8.26	4.65	4.29	0.84	4.54		2.82	0.13
	11	1	4.93	28.46	26.14	27.52	17.89	23.95	30.66	31.08	4.79	2.76	2.60	0.51	3.22		2.26	0.07
		2	1.18	25.15	24.97	25.22	18.45	22.96	29.91	24.00	4.24	2.18	2.13	0.44	3.99		1.98	0.05
		3	0.62	19.64	22.70	16.15	17.45	24.09	31.01	23.37	3.59	2.22	1.68	0.37	2.82		1.93	0.04
	12	1	0.48	31.04	28.65	20.82	22.04	26.32	32.96	22.92	3.26	2.06	1.41	0.34	2.82		2.14	0.04
		2	2.06	34.47	33.44	26.15	22.77	26.28	31.77	25.06	3.31	1.89	1.24	0.34	2.58		2.15	0.03
		3	4.08	27.64	29.96	20.48	19.68	23.62	28.86	29.32	3.12	1.60	1.14	0.34	2.45		2.12	0.02
1993	1	1	4.55	30.64	30.40	22.04	23.03	23.75	31.54	29.66	3.01	1.51	1.03	0.40	2.36	0.49	1.95	0.02
		2	4.31	23.46	25.25	17.23	20.36	23.91	32.51	28.54	2.79	1.52	1.05	0.37	2.42	0.38	1.68	0.02
		3	4.44	86.79	101.01	147.28	48.66	46.35	32.36	26.76	2.95	1.62	1.04	0.41	3.76	0.36	1.72	0.02
	2	1	16.96	66.05	38.96	71.04	24.76	29.27	42.45	28.02	4.01	1.95	1.22	0.48	5.60	2.10	2.77	0.03
		2	18.82	84.80	61.26	71.73	46.76	38.24	36.52	32.89	6.49	2.90	1.34	0.47	3.80	2.32	3.06	0.05
		3	4.20	40.72	21.44	31.45	21.47	25.55	28.52	27.36	3.99	1.62	0.93	0.37	2.30	1.22	1.65	0.03
	3	1	1.45	41.29	17.80	36.72	25.96	27.29	29.34	28.35	2.79	1.71	0.95	0.35	2.03	0.82	1.58	0.02
		2	3.02	37.91	17.96	28.70	15.53	26.52	30.92	28.58	2.53	0.87	0.53	0.32	1.80	0.22	1.47	0.01
		3	2.39	42.92	16.27	17.85	13.41	24.87	28.58	27.39	2.22	0.65	0.56	0.31	1.70	0.21	1.44	0.01
	4	1	2.66	28.48	16.35	17.26	19.37	21.52	32.63	28.06	2.45	0.88	0.69	0.38	1.77	0.57	1.90	0.01
		2	8.11	47.35	30.47	39.44	18.70	24.03	33.35	26.62	9.20	4.24	2.92	0.24	3.77	1.18	5.12	0.04
		3	8.96	68.86	57.25	59.51	30.83	42.91	32.73	28.98	19.19	15.15	8.38	0.76	6.78	1.30	9.32	0.04
	5	1	7.31	70.90	41.07	38.59	25.92	29.55	30.56	29.46	12.33	6.19	5.27	0.27	4.98	2.34	2.63	0.03
		2	11.57	93.45	67.04	75.04	63.86	41.71	35.73	29.07	11.44	7.92	7.52	0.30	6.16	2.25	2.12	0.03
		3	8.21	84.70	56.64	53.60	46.93	37.88	36.20	34.55	12.70	8.88	8.69	0.28	8.28	2.13	6.74	0.02
	6	1	6.07	50.87	49.19	46.29	44.99	49.92	58.28	57.71	25.29	18.12	10.07	0.29	3.17	1.14	11.14	0.05
		2	4.29	47.89	37.04	52.42	41.69	32.77	40.49	52.35	28.41	14.54	11.61	0.25	1.36	0.40	5.07	0.02
		3	5.70	46.21	29.36	31.87	29.16	27.03	37.77	38.70	29.91	23.70	16.26	0.41	2.60	0.46	9.75	0.03
	7	1	8.21	52.30	36.39	32.28	25.59	37.91	38.39	36.39	71.27	40.18	23.47	0.55	8.18	0.70	15.22	0.69
		2	16.16	76.15	59.19	75.19	54.82	66.26	46.70	34.27	75.22	54.83	22.41	1.83	8.74	0.55	20.41	4.42
		3	24.67	108.81	57.75	76.72	65.51	48.78	42.89	47.57	217.60	107.51	31.23	4.09	19.72	0.74	67.83	8.52
	8	1	25.91	130.99	84.93	106.35	94.07	66.27	63.91	51.97	240.43	176.80	35.88	8.69	22.75	2.45	51.33	4.27
		2	133.46	142.79	85.72	142.59	82.80	84.98	97.70	79.93	259.62	165.19		6.48	10.57	2.58	68.50	5.86
		3	38.47	227.75	139.22	190.76	219.80	200.27	190.43	235.09	292.76	175.13		11.08	28.60	2.32	155.38	6.94
	9	1	33.95	254.65	160.59	361.03	247.14			352.04	314.28	151.85		9.93	17.12	2.79	205.23	10.69
		2	27.29	256.80	156.26	343.99	244.24	139.70	194.13	282.61	148.52	94.86		8.63	21.51	2.62	73.05	2.79
		3	27.71	172.06	107.84	155.39	137.81	95.62	81.88	83.20	110.87	83.86		6.58	16.46	3.00	45.97	0.73
	10	1	23.18	145.04	99.74	126.92	135.45	83.31	123.94	108.03	64.28	46.70		4.11	10.64	3.81	31.73	0.38
		2	11.07	63.13	32.52	52.58	30.07	35.16	40.34	27.55	17.09	11.26		0.48	2.44	1.04	17.23	0.08
		3	8.80	64.37	41.25	42.65	23.55	34.01	40.28	36.78	15.63	8.12		0.63	5.31	4.46	20.42	0.04
	11	1	8.43	47.90	25.23	33.38	27.70	26.27	38.97	40.40	9.21	4.92		0.48	2.52	1.65	14.87	0.02
		2	6.78	43.73	19.14	31.51	26.12	34.32	38.93	34.11	7.98	3.40		0.36	1.21	0.50	14.11	0.01
		3	6.01	38.16	15.97	31.88	24.59	28.83	35.64	37.88	6.84	2.74	2.04	0.33	0.98	0.29	13.72	0.01
	12	1	5.69	27.39	15.35	32.36	22.75	28.90	36.71	35.14	5.61	2.39	1.80	0.30	0.91	0.23	13.38	0.01
		2	5.66	24.37	15.99	47.41	25.75	30.09	35.35	37.17	3.50	2.11	1.53	0.29	0.85	0.22	13.25	0.00
		3	5.74	32.78	25.81	86.89	31.57	29.96	34.66	35.54	3.15	2.00	1.38	0.27	0.94	0.22	13.23	0.00
1994	1	1	5.50	32.48	18.42	35.39	30.52	34.64	34.54	35.71	2.93	1.85	1.23	0.24	0.78	3.01	12.91	0.03
		2	5.48	30.16	16.48	26.77	22.81	32.85	34.96	39.34	2.86	1.68	1.09	0.22	0.74	2.97	12.74	0.04
		3	5.09	27.96	16.76	27.03	20.50	32.44	32.45	37.81	2.68	1.46	0.98	0.21	0.74	2.97	12.56	0.03
	2	1	4.81	29.54	17.02	33.87	21.75	29.56	34.95	36.36	2.48	1.30	0.77	0.18	0.74	2.86	12.22	0.02
		2	4.69	27.28	18.46	33.66	22.36	30.21	34.51	36.56	2.28	1.06	0.60	0.18	0.65	3.00	12.09	0.02
		3	4.07	32.11	19.08	32.53	21.25	28.45	32.10	36.41	2.16	0.83	0.52	0.17	0.79	3.15	12.07	0.02
	3	1	3.94	22.87	17.39	31.47	20.27	30.70	35.33	37.66	2.09	0.71	0.46	0.17	0.95	2.97	12.35	0.02
		2	4.05	29.21	19.46	42.01	17.66	32.53	38.28	42.54	2.41	1.15	0.62	0.24	1.01		13.33	0.02
		3	5.41	42.61	22.87	55.12	21.30	32.98	37.02	47.17	2.76	1.61	0.93	0.26	0.96		13.27	0.03
	4	1	4.81	33.03	19.60	40.99	21.31	31.93	39.99	48.13	3.23	1.28	0.78	0.17	0.94	0.01	11.97	0.02
		2	3.50	46.01	22.82	35.44	20.49	36.26	36.89	44.51	3.39	1.19	0.88	0.18	0.96	0.01	14.47	0.02
		3	5.64	30.40	16.81	33.80	21.93	28.77	29.58	43.89	7.64	3.02	1.13	0.19	1.22	0.13	13.68	0.03
	5	1	5.37	35.53	16.95	37.54	21.52	25.60	28.67	40.91	6.90	1.37	0.94	0.17	0.96	0.13	14.66	0.02
		2	7.86	30.13	17.51	35.14	21.63	26.08	29.66	42.11	2.83	1.84	1.44	0.19	1.76	0.93	14.55	0.02
		3	3.87	13.86	17.76	21.00	22.47	23.44	31.12	34.05	3.15	1.46	0.87	0.17	1.00	0.27	11.91	0.01
	6	1	3.54	17.93	20.93	31.35	22.46	33.13	34.38	37.72	4.69	5.81	2.05	0.23	1.00	0.06	14.55	0.02
		2	7.34	18.68	19.86	32.95	20.26	30.41	42.63	39.24	10.25	7.73	5.71	0.27	4.54	0.03	16.89	0.04
		3	7.59	14.71	19.94	37.65	19.46	56.77	33.75	37.10	16.13	11.48	6.92	0.40	10.95	0.47	17.36	0.06
	7	1	30.43	84.02	63.89	96.87	21.57	49.70	37.94	39.57	29.22	19.18	13.47	0.73	11.85	1.91	33.00	0.24
		2	37.17	116.09	97.91	105.99	54.56	100.20	44.61	34.43	56.62	31.73	18.49	2.49	80.40	4.38	30.54	9.48
		3	67.07	184.22	144.18	203.26	89.11	78.66	44.34	35.92	130.65	78.05	29.76	6.46	55.60	7.99	50.64	12.43
	8	1	38.97	203.02	128.87	153.30	61.12	71.87	44.73	35.74	142.39	97.97	32.45	9.02	28.96	5.74	50.28	16.01
		2	48.25	193.81	127.59	168.74	53.98	80.20	45.05	35.44	160.90	118.66	31.88	3.48	29.18	8.93	57.89	16.89
		3	62.33	150.95	92.14	134.77	25.56	65.36	48.27	39.37	168.33	114.70	33.20	6.68	14.77	5.03	53.44	22.49
	9	1	35.12	171.87	116.55	169.51	48.50	75.14	60.98	44.16	222.66	128.89	33.36	4.17	14.28	5.88	57.69	3.55
		2	23.24	96.99	93.75	172.89	60.92	57.38	48.60	37.58	68.91	55.53	23.56	3.41	7.05	2.55	15.35	1.12
		3	33.21	117.87	84.91	126.22	40.76	54.58	37.77	36.04	143.31	47.11	31.39	1.66	8.00	4.14	33.61	1.49
	10	1	9.27	41.17	39.41	44.83	46.84	45.50	39.98	33.46	34.13	24.41	11.16	0.75	2.44	0.34	10.19	0.21
		2	6.74	26.18	27.50	20.06	16.20	32.84	40.66	41.54	10.52	6.78	4.36	0.44	1.57	0.12	9.05	0.07
		3	6.15	26.84	30.64	50.44	16.84	35.38	45.29	32.24	5.99	3.98	2.64	0.32	1.39	0.06	8.61	0.03
	11	1	5.50	27.18	30.63	57.93	15.19	33.41	46.31	33.05	4.64	2.85	2.08	0.26	1.27	0.09	8.41	0.02
		2	6.35	32.79	35.27	61.57	15.93	42.52	47.66	33.40	4.95	2.96	2.21	0.25	1.47	0.23	8.42	0.02
		3	5.49	33.08	49.20	40.53	19.91	50.42	55.02	38.88	5.45	2.53	1.69	0.22	2.85	0.85	8.30	0.02

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	12	1	4.86	35.23	41.20	49.77	17.78	49.85	52.04	39.15	5.08	2.03	1.35	0.18	1.35	0.23	8.12	0.01
		2	4.62	31.53	37.23	46.91	16.14	44.83	45.89	36.99	4.90	1.80	1.16	0.17	1.17	0.13	8.06	0.01
		3	4.38	30.63	32.51	35.01	16.95	43.22	33.90	36.75	4.56	1.43	1.02	0.16	0.96	0.05	7.98	0.01
1995	1	1	4.18	31.28	34.30	41.23	16.02	43.63	36.44	43.31	4.40	1.49	0.95	0.15	1.01	0.03	8.02	0.01
		2	4.09	30.40	33.14	39.15	13.10	42.69	39.03	44.63	4.33	1.24	0.83	0.15	0.91	0.02	7.93	0.00
		3	4.01	26.73	27.38	27.26	13.32	41.81	36.72	35.95	4.06	1.09	0.78	0.12	0.94	0.00	7.87	0.00
	2	1	3.85	23.36	23.82	30.93	15.20	28.23	33.16	34.22	4.37	0.99	0.58	0.13	1.04	0.00	10.20	0.00
		2	3.89	27.91	25.24	46.05	22.29	27.64	33.50	34.42	4.85	1.30	0.72	0.13	1.29	0.05	10.33	0.01
		3	3.91	23.71	21.59	31.51	28.28	28.69	34.66	33.76	4.28	1.03	0.56	0.35	1.02	0.00	7.73	0.00
	3	1	6.94	34.92	28.66	48.33	39.80	36.38	34.83	34.21	3.40	0.79	0.52	0.12	1.82	0.12	8.10	0.11
		2	8.32	56.05	49.33	119.02	63.06	58.55	32.95	31.15	2.88	0.90	0.53	0.11	3.09	1.04	8.61	0.01
		3	6.91	28.81	27.54	38.26	15.04	29.44	30.81	31.89	2.98	0.81	0.66	0.11	3.53	1.09	9.22	0.01
	4	1	5.73	48.27	48.73	73.56	29.35	33.77	30.51	30.63	9.56	2.20	0.75	0.14	1.35	3.35	9.47	0.02
		2	4.79	38.68	28.12	32.78	15.17	30.99	30.41	30.89	21.85	5.61	1.65	0.15	1.63	1.54	11.42	0.02
		3	4.39	48.74	43.37	59.44	24.69	33.72	30.64	32.45	13.31	5.17	4.85	0.21	7.62	2.79	13.66	0.03
	5	1	4.50	31.01	29.90	30.09	20.28	31.99	31.92	32.91	6.02	3.75	2.42	0.20	1.61	0.78	8.44	0.01
		2	3.40	18.95	21.36	19.25	14.54	37.32	33.03	38.55	4.63	3.70	2.42	0.17	1.42	0.19	11.83	0.00
		3	1.35	16.62	21.35	22.60	14.78	55.02	34.82	42.08	5.78	3.25	1.98	0.14	7.02	0.09	8.07	0.01
	6	1	1.32	20.87	23.91	31.11	28.11	72.66	41.73	47.06	8.83	2.84	1.76	0.13	2.27	0.07	7.81	0.00
		2	1.11	16.68	22.50	39.55	34.59	63.23	32.29	36.23	6.49	4.12	2.19	0.13	0.97	0.03	7.95	0.00
		3	2.91	14.68	21.47	24.61	27.41	86.82	37.43	34.18	16.74	12.25	5.59	0.18	2.53	0.13	13.59	0.01
	7	1	3.71	30.23	36.90	42.53	27.47	117.80	36.26	36.26	44.67	24.88	11.82	0.30	16.22	0.13	15.13	0.01
		2	10.70	82.21	64.47	75.33	85.85	133.04	49.96	34.37	65.26	46.38	17.32	0.51	29.87	0.51	22.86	1.54
		3	18.51	74.29	53.36	69.90	66.03	104.14	41.32	42.18	103.59	58.08	26.49	3.80	4.31	0.25	26.45	5.60
	8	1	92.70	126.39	86.05	82.51	64.92	108.90	44.28	41.61	195.92	114.01	31.94	8.74	17.57	1.60	92.35	14.05
		2	49.20	159.10	84.93	76.00	61.63	133.10	51.90	44.66	213.99	127.27	33.38	11.11	16.53	3.13	84.51	10.85
		3	58.85	163.97	115.97	158.24	82.73	164.18	54.02		163.62	99.50	32.21	7.59	29.98	3.52	49.03	8.15
	9	1	45.86	132.75	76.26	89.02	55.25	121.08	42.11		133.57	96.78	32.65	9.39	10.59	1.62	39.60	2.23
		2	16.22	83.09	76.56	87.29	42.44	118.00	44.81		60.24	53.34	20.80	3.20	7.44	1.31	23.28	0.66
		3	11.55	53.63	49.47	36.39	52.87	109.14	35.52		32.57		17.88	2.67	4.12	0.56	14.46	0.18
	10	1	6.55	27.13	24.95	12.57	16.92	102.71	39.46		12.18	7.53	6.32	1.49	1.33	0.03	9.13	0.07
		2	4.73	22.48	24.65	11.09	15.82	77.89	39.64		6.99	4.41	3.27	1.07	0.70	0.00	8.32	0.05
		3	3.63	21.64	24.44	14.02	15.35	75.35	38.10		4.77	2.91	2.11	0.84	1.19	0.05	7.84	0.05
	11	1	3.54	18.91	23.80	46.46	16.91	81.48	38.50		3.68	2.20	1.55	0.75	0.63	0.00	7.72	0.03
		2	3.86	23.09	25.29	24.93	16.18	81.68	39.13		3.08	1.89	1.35	0.72	0.72	0.00	7.56	0.03
		3	3.37	19.42	22.38	17.79	14.94	79.57	36.70		3.07	1.65	1.20	0.80	0.53	0.00	7.56	0.03
	12	1	3.12	17.78	20.56	11.53	15.01	76.40	32.62	36.81	2.85	1.02	1.05	0.70	0.30	0.00	7.60	0.02
		2	3.07	21.37	21.60	32.07	15.43	79.44	31.51	37.14	2.77	0.96	0.99	0.75	0.80	0.00	7.73	0.02
		3	2.98	23.12	21.07	18.25	15.29	79.33	30.96	36.68	2.93	1.64	0.95	0.71	0.83	0.00	7.53	0.02
1996	1	1	6.28	48.33	42.36	25.33	16.89		33.44	36.70	5.03	2.83	1.66	0.85	0.92	0.26	8.05	0.06
		2	2.92	27.72	29.77	30.00	22.07		33.37	36.21	5.72	2.23	1.25	0.80	1.65	0.04	7.53	0.04
		3	2.73	25.72	24.68	25.82	17.34		33.80	37.49	5.51	1.54	1.17	0.81	0.98	0.01	7.48	0.02
	2	1	2.50	20.89	23.09	21.68	14.35		32.25	36.27	4.61	0.97	0.67	0.69	0.63	0.00	7.07	0.02
		2	2.16	23.62	24.11	17.34	18.97		33.91	36.10	4.24	0.77	0.48	0.52	0.48	0.00	7.00	0.01
		3	2.02	24.57	23.65	12.70	13.82		34.87	35.82	3.31	0.58	0.41	0.57	0.70	0.00	7.08	0.01
	3	1	1.90	24.57	23.33	11.82	14.60		33.58	35.85	2.24	0.62	0.43	0.56	0.75	0.00	7.49	0.01
		2	4.81	50.88	54.60	76.08	14.74		37.86	32.01	4.12	2.78	1.16	0.57	1.73	0.36	9.27	0.04
		3	7.27	75.34	70.44	48.99	59.60		38.08	32.64	10.76	6.38	3.36	0.36		1.15	8.62	0.03
	4	1	2.84	49.11	33.83	35.49	25.01		35.31	32.66	8.77	6.22	3.69	0.38		0.13	8.47	0.02
		2	3.95	33.42	27.68	35.74	14.75		37.23	32.47	11.22	8.36	3.68	0.40		0.05	8.60	0.02
		3	3.71	51.29	52.35	39.76	15.83		36.65	31.16	17.48	7.17	3.43	0.36		0.94	9.29	0.01
	5	1	4.26	29.12	26.36	29.41	15.49		36.32	32.01	8.71	2.76	1.14	0.31		0.09	8.05	0.01
		2	9.70	75.41	71.02	138.32	22.27		36.21	31.71	41.26	15.81	5.80	0.54		0.57	14.18	0.09
		3	3.23	61.83	54.07	124.19	19.46		36.21	32.04	15.58	6.67	5.18	0.32		0.98	8.82	0.01
	6	1	5.01	53.09	63.57	67.39	15.94		37.22	32.50	48.41	27.12	14.21	0.98		0.96	17.03	0.20
		2	18.17	49.32	50.50	92.91	24.02		37.88	33.07	119.19	49.01	19.53	0.77		1.29	47.66	0.05
		3	8.02	37.91	46.79	81.63	24.45		39.49	33.83	84.63	46.60	20.14	0.69		0.58	24.91	0.11
	7	1	12.99	40.76	38.76	47.25	28.65		38.26	34.36	92.28	53.57	20.12	1.39		0.38	24.13	0.07
		2	63.18	133.12	69.76	50.57	34.80		40.09	34.00	190.06	92.85	30.69	3.85		1.52	119.84	19.07
		3	29.35	169.95	84.16	48.93	39.38		47.37	34.03	291.50	162.35	35.24	6.86	1.43	1.17	132.48	3.47
	8	1	36.04	150.06	104.73	109.57	78.21		115.79	38.81	314.17	169.01	34.96	6.91	5.49	1.64	206.05	7.21
		2	169.22	216.88	206.46	193.25	172.36		204.79	268.29	381.74	185.94	35.02	10.76	26.26	3.65	291.80	20.45
		3	80.93	298.16	322.30	501.67	194.70		239.43	506.77	348.96	234.75	35.90	14.19	39.70	5.69	118.83	4.80
	9	1	35.13	285.32	260.05	455.77	161.54		107.41	166.26	164.22	111.65	31.47	6.91	21.26	4.07	84.44	3.14
		2	18.85	226.57	222.87	201.85	152.10		135.80		138.45	93.56	30.52	7.17	46.94	6.81	68.38	0.63
		3	14.30	172.80	177.49	110.54	113.97		92.84		91.90	60.59	22.93	3.58	10.59	2.32	48.77	0.91
	10	1	9.47	60.30	58.73	41.55	30.66		35.81	33.12	21.58	14.70	10.95	1.44	2.92	0.84	26.46	0.20
		2	6.25	36.20	34.13	23.05	21.90		37.38	34.57	10.67	6.58	5.06	0.85	1.34	0.26	22.14	0.09
		3	5.21	32.22	27.38	16.71	18.35		36.40	34.31	7.93	4.24	2.90	0.63	0.81	0.04	20.33	0.07
	11	1	4.26	24.92	19.19	14.64	8.82		30.54	34.15	7.69	3.19	2.18	0.48	0.60	0.02	19.23	0.06
		2	3.70	27.89	23.27	21.06	9.89		28.12	34.00	5.48	2.83	1.84	0.47	0.44	0.08	19.04	0.05
		3	3.96	43.46	50.91	39.12	12.41		34.12	33.84	4.74	2.71	1.66	0.42	0.43	0.08	19.29	0.03
	12	1	2.68	35.67	35.12	23.40	24.11		33.67	33.74	4.14	2.22	1.36	0.38	0.46	0.03	18.72	0.03
		2	2.55	34.26	31.99	20.86	18.11		33.78	33.69	4.00	2.04	1.24	0.37	0.40	0.05	18.22	0.02
		3	2.58	35.39	33.69	18.72	22.90		33.97	33.61	3.86	1.90	1.13	0.32	0.35	0.02	17.99	0.02
1997	1	1	2.41	35.48	37.13	16.92	23.33		34.09	33.48	3.76	1.76	1.09	0.24	0.43	0.03	17.85	0.02
		2	2.27	35.23	32.47	14.72	24.85		34.87	33.79	3.61	1.51	0.96	0.20	0.37	0.04	17.73	0.02
		3	4.13	36.04	40.58	40.03	28.37		35.06	41.29	4.72	2.12	1.47	0.22	1.73	0.13	19.20	0.05
	2	1	2.27	35.36	30.44	48.35	15.11		36.16	42.64	3.82	1.65	0.94	0.16	0.46	0.06	16.90	0.01
		2	1.75	32.19	27.99	47.17	21.77		35.73	44.33	2.97	1.01	0.67	0.16	0.33	0.01	16.31	0.01
		3	1.32	34.43	29.95	46.59	21.97		38.64	52.23	2.97	0.87	0.53	0.15	0.28	0.00	16.30	0.01
	3	1	1.25	34.05	29.96	46.95	22.59		40.10	51.82	2.73	0.77	0.50	0.14	0.32	0.00	16.28	0.00
		2	1.82	33.93	30.58	44.84	24.98		39.97	50.62	2.60	0.58	0.39	0.15	0.42	0.06	16.05	0.00
		3	5.55		33.15	65.31	30.83		40.14	56.42	3.52	1.09	0.50	0.15	0.46	0.15	16.89	0.02
	4	1	7.28	30.67	56.30	92.55	32.04		40.57	57.52	6.35	2.07	1.07	0.19	0.69	0.49	16.31	0.02
		2	3.89	24.89	35.75	79.44	33.94		31.38	63.12	3.86	1.61	0.84	0.15	0.62	0.16	14.38	0.01
		3	2.18	26.85	33.08	50.73	27.21		32.42	66.79	6.28	3.13	1.20	0.17	0.44	0.21	16.81	0.03
	5	1	1.76	25.47	26.63	42.81	21.05		32.13	66.46	3.45	1.24	0.72	0.15	0.45	0.09	14.14	0.01
		2	0.96	26.72	25.30	41.09	23.32		31.07	70.73	2.80	0.88	0.58	0.14	0.54	0.03	14.09	0.00
		3	1.47	27.88	24.22	40.69	22.42		32.40	70.61	5.89	2.58	0.71	0.13	1.27	0.02	14.86	0.00

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	6	1	1.11	30.10	27.49	40.74	23.04		31.95	72.29	8.71	2.31	0.98	0.13	0.78	0.04	14.81	0.01
		2	1.22	30.51	31.60	45.54	23.21		34.89	69.94	6.46	3.08	1.13	0.17	0.82	0.06	15.21	0.01
		3	9.77	34.96	27.83	50.95	23.07		30.13	48.41	31.92	14.28	8.06	1.34	2.17	0.09	22.30	0.27
	7	1	16.28	75.55	86.73	119.12	39.51		32.69	38.00	34.55	28.19	15.61	0.72	7.11	1.09	31.86	4.13
		2	61.64	78.38	45.40	82.01	28.51		30.97	37.36	44.38	33.72	17.75	1.21	2.68	0.64	31.64	2.52
		3	45.91	129.49	125.31	83.78	58.80		26.13	67.13	90.92	72.95	28.91	2.93	23.95	4.10	50.83	4.78
	8	1	52.43	136.35	101.50	153.48	54.98		30.16	61.89	109.01	64.14	26.38	1.49	7.25	3.37	49.04	3.24
		2	85.44	137.28	66.13	69.06	38.63		23.68	50.43	161.04	109.49	33.69	5.27	8.45	4.44	93.88	3.96
		3	26.15	165.71	104.55	80.51	53.78		20.90	48.29	90.74	88.88	27.34	2.74	10.74	4.17	46.53	1.82
	9	1	11.81	65.89	44.38	50.12	16.57		20.45	45.08	49.71	31.42	17.20	1.88	5.17	1.77	31.85	0.29
		2	8.22	48.01	41.46	51.06	25.39		22.49	38.49	33.59	22.34	16.38	1.50	7.18	0.81	24.96	0.15
		3	4.39	30.09	21.98	44.33	12.52		23.17	36.71	13.85	8.80	7.43	0.63	2.93	0.26	15.48	0.06
	10	1	3.30	24.38	18.09	43.04	10.28		22.08	35.53	7.09	4.06	3.54	0.41	2.51	0.32	12.59	0.03
		2	2.95	30.11	22.35	33.66	14.77		23.12	38.79	6.48	3.14	2.37	0.29	4.21	0.59	15.70	0.02
		3	10.54	171.12	188.29	132.71	24.97		25.31	42.32	15.93	7.71	6.00	0.23	4.33	3.54	14.05	0.04
	11	1	5.67	152.55	76.95	70.40	11.02		23.67	44.23	10.69	3.21	1.78	0.16	4.01	1.46	12.22	0.02
		2	4.31	78.52	87.03	101.50	11.82		19.94	35.52	11.00	5.42	4.35	0.18	4.73	8.80	12.94	0.02
		3	5.06	88.40	79.15	45.31	12.67		15.74	29.58	10.40	3.49	2.34	0.18	4.42	1.90	13.23	0.02
	12	1	4.55	49.96	41.19	31.05	9.37		15.22	29.62	8.49	2.24	1.33	0.12	2.95	0.34	11.66	0.01
		2	2.80	26.34	25.40	14.60	6.45		14.93	29.20	6.60	1.65	0.93	0.11	2.28	0.13	11.59	0.01
		3	2.24	21.71	25.97	12.92	5.52		13.62	31.25	3.46	1.30	0.81	0.08	2.12	0.07	11.54	0.00
1998	1	1	2.60	24.75	15.77	17.12	5.83		13.28	33.57	3.58	1.51	0.62	0.23	2.17	0.05	11.56	0.01
		2	3.62	93.28	88.07	104.50	12.67		13.35	31.07	7.78	4.13	1.50	0.44	3.97	4.07	14.60	0.03
		3	2.54	41.58	29.31	49.99	9.76		16.97	31.21	3.79	1.54	0.65	0.25	2.79	0.74	11.46	0.01
	2	1	2.02	25.19	18.12	35.62	9.50		14.70	35.24	3.25	1.34	0.51	0.26	2.04	0.29	11.28	0.01
		2	2.00	24.78	21.93	34.11	9.36		13.72	31.11	3.98	1.44	0.38	0.18	2.81	0.52	14.04	0.02
		3	2.06	39.38	26.37	18.08	12.97		13.30	30.32	3.89	1.33	0.41	0.13	2.90	0.73	11.80	0.01
	3	1	2.81	67.72	68.49	53.36	14.93		13.09	30.29	22.33	8.47	2.68	0.06	5.09	0.39	13.65	0.01
		2	2.16	57.66	28.36	26.74	22.69		13.74	29.80	7.65	3.39	1.93	0.04	3.19	0.31	11.52	0.01
		3	1.69	32.65	23.33	62.58	9.66		14.59	30.40	4.21	1.48	0.62	0.34	2.56	0.81	11.09	0.00
	4	1	1.34	16.96	16.88	13.07	9.83		14.25	32.31	3.28	0.74	0.38	0.26	2.04	0.20	11.09	0.00
		2	3.43	18.05	13.64	11.75	10.38		16.56	34.09	4.68	0.99	0.43	0.16	2.09	0.17	13.04	0.00
		3	5.04	22.97	10.53	15.51	14.36		14.90	32.45	16.66	4.41	1.47	0.06	2.38	0.27	13.36	0.00
	5	1	3.21	24.77	10.01	17.34	8.04		15.37	32.45	18.98	6.63	1.89	0.41	3.81	0.31	19.87	0.01
		2	1.78	24.64	19.45	28.28	12.49		15.19	32.60	9.57	5.28	1.85	0.34	3.49	0.70	25.59	0.07
		3	1.44	20.66	25.89	13.24	7.05		14.01	32.07	5.93	2.40	0.68	0.11	2.27	0.19	12.61	0.00
	6	1	1.03	13.21	13.59	11.18	11.77		16.27	35.78	7.46	3.50	1.28	0.16	2.23	0.13	16.93	0.00
		2	0.77	12.98	12.04	15.12	7.81		16.29	35.63	14.38	9.64	5.42	0.14	2.21	0.10	13.58	0.00
		3	8.01	22.72	18.66	14.46	10.11		19.53	36.87	55.03	35.36	16.43	0.29	3.55	0.16	22.61	0.24
	7	1	61.13	18.39	24.14	81.50	9.79		18.64	36.16	56.28	34.15	25.37	1.64	2.63	0.27	22.14	0.34
		2	56.78	65.95	64.19	178.96	17.51		19.46	35.31	176.56	94.19	41.07	2.88	5.92	0.27	98.65	9.40
		3	71.44	158.95	80.89	277.29	43.37		20.23	37.15	175.54	105.53	44.40	4.59	9.47	0.39	68.90	13.22
	8	1	88.23	217.94	217.06	257.84	92.05		70.46	90.54	362.42	172.23	48.52	7.93	17.46	4.26	168.96	19.62
		2	110.24	320.02	273.09	337.39	175.07		201.80	258.93	445.13	226.60	48.07	8.38	19.38	5.61	130.44	16.42
		3	57.24	326.54	255.38	283.63	159.16		190.92	240.37	299.05	178.13	47.06	9.36	8.05	2.00	138.38	5.87
	9	1	34.13	283.68	227.58	286.20	141.70		143.40	168.12	236.28	139.58	46.77	8.25	11.32	4.84	133.30	4.29
		2	24.06	240.31	219.08	268.84	135.13		123.85	145.13	161.55	118.47	43.98	8.35	12.71	6.26	71.53	3.25
		3	17.35	203.47	141.48	169.19	87.62		54.14	76.18	85.40	65.61	30.65	4.15	10.56	2.63	30.53	0.49
	10	1	18.57	109.07	108.31	154.63	60.75		50.67	62.48	52.66	36.63	24.12	2.64	7.27	6.24	35.25	1.21
		2	38.87	185.98	180.90	71.10	100.84		53.71	89.54	58.10	28.66	19.32	3.07	9.36	6.67	33.61	0.30
		3	10.66	69.28	56.12	45.07	23.68		34.68	46.55	16.88	10.65	7.94	1.55	5.00	0.44	20.16	0.20
	11	1	9.56	46.08	32.59	38.05	17.50		31.84	45.39	11.47	4.87	3.92	0.91	2.42	0.21	17.86	0.11
		2	7.57	43.69	28.04	38.14	21.86		31.29	45.53	8.86	3.58	2.84	0.79	2.09	0.17	16.63	0.09
		3	6.25	37.32	24.42	35.96	22.34		30.98	44.45	6.96	2.63	2.08	0.57	1.66	0.11	15.91	0.07
	12	1	5.17	35.52	22.99	34.30	22.02		31.09	46.84	5.77	2.26	1.68	0.43	1.42	0.07	15.74	0.06
		2	3.94	37.30	23.65	43.09	24.13		31.50	47.74	5.48	2.47	1.46	0.41	1.35	0.05	15.74	0.05
		3	3.11	33.26	23.14	44.02	24.62		31.31	47.58	5.14	1.83	1.19	0.36	1.33	0.03	16.05	0.05
1999	1	1	2.25	29.08	25.31	40.54	24.59		31.67	47.49	4.94	1.65	1.08	0.35	1.33	0.03	16.28	0.05
		2	1.93	35.26	23.77	42.16	22.94		31.76	48.60	5.19	1.70	1.25	0.35	1.33	0.06	16.43	0.05
		3	2.59	34.85	22.95	42.14	23.98		31.89	48.52	4.82	1.51	0.98	0.30	1.30	0.06	15.41	0.04
	2	1	3.77	33.99	21.65	40.04	23.06		26.28	52.31	4.27	1.10	0.93	0.25	1.23	0.01	15.06	0.03
		2	1.74	30.93	19.78	37.44	23.96		26.54	50.87	4.09	0.91	0.57	0.23	1.28	0.00	15.01	0.03
		3	1.80	30.40	20.70	40.11	23.19		28.71	51.27	3.88	0.77	0.53	0.21	1.23	0.01	14.89	0.03
	3	1	4.23	49.27	37.86	49.81	24.30		33.70	47.99	5.15	2.03	0.69	0.54	1.65	0.22	16.97	0.05
		2	3.89	73.90	75.70	101.22	32.99		40.12	60.89	4.75	1.40	0.70	0.25	1.34	0.28	15.60	0.04
		3	2.12	42.48	35.07	54.08	23.38		37.06	58.23	3.90	0.78	0.40	0.19	1.35	0.07	15.18	0.03
	4	1	1.85	37.19	27.96	46.60	23.39		31.15	55.92	3.73	0.62	0.36	0.18	1.27	0.08	14.96	0.02
		2	1.41	30.92	28.75	47.49	22.79		31.23	53.96	3.52	0.70	0.53	0.19	1.21	0.06	15.17	0.01
		3	1.62	22.01	20.12	38.54	23.58		47.47	57.11	2.97	0.66	0.47	0.16	1.23	0.05	14.94	0.01
	5	1	1.11	25.23	21.20	44.04	25.87		54.68	59.71	3.13	0.86	0.59	0.16	1.25	0.05	14.96	0.02
		2	1.02	24.65	20.72	40.71	28.16		43.64	58.28	2.45	0.64	0.46	0.15	1.33	0.01	14.65	0.01
		3	0.94	26.36	21.13	38.02	27.76		35.21	55.45	4.68	3.18	1.56	0.22	1.94	0.02	15.93	0.02
	6	1	1.01	28.12	26.45	42.57	31.36		43.52	66.78	8.85	4.73	2.02	0.28	1.68	0.11	18.76	0.03
		2	5.49	38.34	32.62	58.70	36.06		46.84	72.52	8.80	4.67	1.91	0.21	1.58	0.02	17.40	0.02
		3	21.21	42.44	47.58	82.94	48.10			72.48	44.76	16.94	6.56	0.74	3.32	0.13	26.33	0.09
	7	1	16.03	78.72	100.85	120.87	82.70			73.99	69.05	68.66	16.11	0.91	5.59	0.67	57.69	7.21
		2	37.58	119.29	132.00	119.64	76.26		42.22	59.23	122.37	77.85	31.91	2.90	6.77	1.62	65.06	5.24
		3	64.46	135.02	120.81	158.37	66.09		51.66	90.01	137.26	82.17	35.65	5.73	11.05	4.59	79.11	2.52
	8	1	127.30	180.54	104.76	108.32	81.36		54.07	100.19	209.93	63.71	38.01	5.43	10.56	2.23	169.28	8.80
		2	163.63	226.69	186.79	265.52	121.26		96.35	241.39	423.11	170.49	48.05	14.82	17.21	2.27	273.50	11.04
		3	62.64	224.72	250.93	218.62	157.05		160.46	220.25	183.55	91.45	43.06	4.65	11.58	5.42	60.98	5.52
	9	1	57.67	186.42	186.91	166.03	107.33		78.02	96.60	100.53	48.11	32.15	2.34	10.92	5.98	16.49	3.78
		2	21.23	108.98	99.38	126.44	60.95		53.69	71.63	43.08		25.77	2.34	4.51	3.56	14.56	1.65
		3	16.13	82.14	81.31	94.64	48.21		43.96	59.67	48.24		21.63	1.49	6.43	2.14	5.75	0.75
	10	1	12.42	112.80	156.23	152.40	69.33		44.11	57.51	44.76	36.24	23.18	1.74	15.64	16.08	5.16	0.30
		2	11.26	180.90	187.94	179.04	75.85		40.49	54.93	72.81	47.80	30.79	3.05	16.14	23.57	6.90	0.23
		3	10.07	142.37	129.87	87.48	60.79		38.21	52.05	27.20	18.03	13.51	0.86	9.96	5.00	3.91	0.10
	11	1	3.40	53.83	47.93	55.54	28.97		37.54	52.58	12.48	5.26	3.60	0.52	2.71	2.98	4.46	0.07
		2	2.75	49.71	40.67	54.61	35.65		37.07	53.12	7.65	3.13	1.97	0.38	1.98	2.72	5.30	0.06
		3	2.11	43.91	35.54	51.97	35.20		37.12	52.86	5.79	2.47	1.44	0.28	1.57	2.51	4.76	0.05

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	12	1	1.32	38.33	33.58	50.64	25.39		37.84	53.27	5.38	2.01	1.17	0.31	1.43	2.13	3.33	0.04
		2	0.94	43.39	33.80	45.43	25.75		37.23	52.57	5.25	1.77	1.04	0.29	1.35	2.00	3.10	0.04
		3	1.00	37.41	34.00	47.35	30.96		40.97	57.43	4.75	1.55	0.83	0.24	1.29	2.02	3.44	0.03
2000	1	1	1.04	41.41	37.25	50.73	46.31		37.65	47.49	4.25	1.73	0.72	0.22	1.33	1.97	1.69	0.06
		2	0.78	37.99	31.97	47.12	33.91		36.53	48.60	4.16	1.58	0.62	0.20	1.33	2.03	3.16	0.06
		3	0.44	34.05	26.41	41.31	30.95		30.43	48.52	4.04	1.39	0.55	0.19	1.27	2.06	3.05	0.05
	2	1	0.31	29.17	21.38	36.64	30.67		29.40	49.32	3.82	1.19	0.46	0.18	1.23	2.03	1.99	0.06
		2	0.27	29.70	22.25	36.21	28.23		29.49	45.63	3.95	0.91	0.36	0.18	1.23	1.88	1.61	0.07
		3	0.17	29.42	20.85	36.02	29.68		29.03	49.06	3.38	0.79	0.33	0.15	1.23	1.56	1.70	0.08
	3	1	0.05	27.54	19.78	32.13	24.89		29.16	55.62	2.56	0.85	0.32	0.15	1.23	1.77	1.47	0.21
		2	0.00	26.12	20.31	34.14	27.56		28.76	42.61	1.74	0.73	0.26	0.12	1.18	1.98	2.46	0.11
		3	2.84	29.02	21.78	35.57	27.59		28.91	51.00	1.68	0.64	0.26	0.11	1.17	1.92	2.66	0.11
	4	1	2.27	26.05	18.96	37.08	27.83		24.19	37.13	2.57	1.33	0.49	0.16	1.16	2.11	3.19	0.56
		2	0.52	22.64	19.49	40.59	26.27		30.04	43.59	2.14	1.35	0.59	0.23	1.33	2.28	4.93	0.42
		3	0.91	26.77	27.67	46.57	26.97		33.40	47.47	4.76	2.50	0.88	0.38	1.65	2.65	4.52	0.71
	5	1	1.48	45.84	43.41	66.00	42.23		35.84	53.61	9.56	5.13	2.19	0.89	5.10	2.96	7.31	0.23
		2	2.14	48.24	50.95	73.63	55.19		49.26	88.28	4.77	2.57	0.93	0.22	2.08	2.71	2.93	0.19
		3	1.55	41.78	45.37	67.89	51.58		53.33	88.57	2.96	1.29	0.57	0.19	1.34	2.19	2.17	0.11
	6	1	0.18	41.18	44.31	67.50	55.40		54.22	91.69	5.64	2.43	1.35	0.22	2.40	2.14	3.24	0.09
		2	0.02	39.68	41.16	33.48	51.13		45.00	75.34	8.41	5.35	2.38	0.21	3.97	2.07	3.33	0.12
		3	4.74	21.75	13.99	17.34	20.36		23.72	34.64	23.93	11.76	5.74	0.23	1.40	2.26	5.28	1.34
	7	1	14.55	28.22	23.01	30.95	29.61		23.79	35.04	38.69	29.63	10.34	0.59	2.88	3.06	8.58	1.38
		2	27.19	68.24	53.61	81.17	36.07		29.05	35.89	47.17	28.06	19.91	1.53	3.73	3.94	11.38	1.45
		3	40.75	80.02	54.07	58.61	51.20		34.42	45.23	99.76	69.21	25.70	0.91	6.76	3.39	18.60	6.72
	8	1	73.81	87.50	75.92	96.03	50.92		44.39	73.89	113.96	80.73	32.43	1.97	8.73	4.26	23.27	6.01
		2	123.28	204.58	168.54	137.95	81.96		47.80	73.25	209.01	126.20	46.54	6.50	18.29	10.51	75.17	4.10
		3	40.46	220.44	193.44	144.72	88.96		46.75	78.84	209.71	139.41	45.62	5.56	15.52	11.15	110.83	4.50
	9	1	17.72	119.93	89.70	100.66	63.56		46.63	74.43	127.31	99.88	37.94	6.37	5.00	6.68	7.75	3.47
		2	12.87	79.87	63.87	109.05	48.81		43.37	66.93	77.69	59.17	32.46	4.22	5.80	5.13	12.71	3.30
		3	9.21	63.57	83.54	123.01	74.00		44.40	69.05	67.96	44.22	27.76	3.33	10.84	6.03	19.25	0.83
	10	1	8.23	129.67	171.76	112.55	82.41		44.08	65.90	65.38	48.30	24.75	1.94	31.86	11.99	6.07	0.35
		2	7.62	76.12	86.15	72.10	50.97		41.89	70.61	19.29	13.63	10.79	0.92	7.88	5.00	2.90	0.22
		3	6.64	52.83	63.39	48.17	48.47		40.64	69.25	9.78	5.81	3.49	0.55	3.71	4.74	2.69	0.15
	11	1	3.62	36.13	36.27	47.53	48.78		28.55	42.82	18.32	4.02	2.22	0.50	2.34	4.24	2.79	0.12
		2	3.69	55.78	55.51	48.51	35.77		26.39	48.98	11.95	4.50	2.71	0.38	1.98	4.20	2.28	0.10
		3	2.89	31.01	30.33	33.98	24.72		21.74	48.18	7.17	2.87	1.30	0.26	1.45	2.86	1.97	0.11
	12	1	2.76	25.05	25.35	26.59	24.39		20.18	47.60	6.05	2.33	0.99	0.22	1.22	2.21	1.86	0.10
		2	2.47	29.30	27.48	34.15	25.82		19.60	47.99	6.38	2.75	1.18	0.25	1.18	3.07	1.82	0.10
		3	2.30	24.14	22.08	26.87	24.84		19.45	48.32	5.71	2.26	0.88	0.18	1.24	2.55	1.81	0.09
2001	1	1	1.81	26.25	17.88	31.16	33.21		44.24	48.58	0.97	1.80		0.16	0.36	2.25	1.72	0.03
		2	1.69	25.79	15.52	31.13	26.04		29.19	49.74	0.87	1.73		0.17	0.33	2.32	1.75	0.03
		3	1.63	23.65	14.67	32.34	26.07		26.86	50.60	0.80	1.50	0.59	0.14	0.33	2.16	1.69	0.02
	2	1	1.38	23.03	12.74	35.74	27.57		34.50	49.06	0.83	1.41	0.47	0.12	0.32	2.05	1.70	0.02
		2	1.71	27.81	16.13	36.99	27.47		32.54	48.94	0.73	1.63	0.62	0.12	0.32	2.04	1.64	0.02
		3	1.37	23.47	11.42	22.46	35.40		38.63	47.95	0.52	1.20	0.39	0.10	0.32	1.86	1.57	0.02
	3	1	0.99	22.56	11.51	28.80	32.46		29.52	47.95	0.13	1.42	0.29	0.12	0.35	1.90	2.59	0.03
		2	2.81	32.54	18.40	44.30	25.24		30.06	43.79	4.69	3.09	0.82	0.19	0.64	2.60	3.25	0.04
		3	4.45	55.25	38.60	70.59	24.28		33.64	47.52	7.37	3.80	1.51	0.21	1.95	3.58	2.89	0.08
	4	1	2.68	33.79	20.69	33.15	23.95		29.73	45.13	3.23	3.79	1.38	0.16	1.02	2.60	1.74	0.07
		2	1.84	23.40	12.45	49.11	27.19		24.68	40.37	0.92	1.71	0.79	0.09	0.54	2.33	1.47	0.02
		3	1.36	20.60	6.98	29.63	19.64		25.04	50.19	1.13	2.29	0.55	0.21	0.48	2.03	3.43	0.03
	5	1	1.04	34.87	36.19	42.85	62.99		41.68	47.43	3.54	6.52	1.47	0.17	2.75	2.77	2.49	0.13
		2	1.78	34.74	22.22	42.82	53.19		40.40	50.24	5.83	5.28	1.47	0.20	5.28	2.61	5.02	0.14
		3	1.51	24.02	15.36	45.76	32.89		38.33	49.74	2.51	3.38	1.46	0.17	2.03	2.36	2.62	0.04
	6	1	4.02	22.61	13.44	41.86	24.37		41.40	52.08	9.03	8.63	3.31	0.18	2.58	2.10	2.61	0.05
		2	3.65	22.77	17.87	49.79	30.53		36.80	50.47	34.84	24.50	8.28	0.27	3.78	2.32	10.35	0.07
		3	8.74	24.48	13.99	52.04	22.71		26.05	33.13	35.21	37.84	19.23	0.96	4.20	2.66	5.93	0.18
	7	1	11.68	58.62	36.56	108.20	31.27		43.17	45.59	48.51	51.12	29.88	1.56	5.78	3.33	19.51	1.14
		2	79.49	68.13	36.10	116.31	33.70		41.20	45.83	117.44	76.42		4.64	5.75	3.90	87.86	4.24
		3	134.28	142.39	59.26	155.20	43.96		41.93	46.95	140.38	98.66		4.71	8.12	5.87	79.60	8.44
	8	1	102.63	220.00	86.07	119.97	61.54		38.20	36.04	153.89	135.37		6.01	10.40	13.80	131.17	6.02
		2	59.00	231.12	93.17	157.64	61.57		43.00	43.47	156.42	132.16		8.45	14.82	10.77	95.96	4.65
		3	50.69	169.27	82.17	110.80	64.66		64.27	72.87	121.09	133.08		2.82	9.38	5.80	20.45	2.75
	9	1	30.75	176.83	103.63	123.44	91.38		72.37	76.95	114.91	128.15		4.07	9.09	5.68	37.90	1.21
		2	14.96	103.76	72.89	78.42	64.03		68.70	66.93	35.93	45.56		1.37	4.26	6.12	7.39	0.55
		3	7.67	64.95	46.97	53.87	47.10		53.87	55.72	11.41	17.79		0.83	3.71	2.05	3.12	0.14
	10	1	5.51	26.40	23.15	35.19	27.09		42.02	56.78	5.08	9.03		0.49	2.63	0.65	2.76	0.09
		2	4.73	25.63	20.63	29.94	26.59		40.07	57.70	3.55	5.82		0.32	2.17	0.39	2.18	0.06
		3	3.57	25.94	20.28	33.80	25.59		40.16	55.92	2.76	4.25		0.24	2.30	0.36	2.03	0.04
	11	1	3.20	25.15	20.86	27.08	29.06		40.68	55.71	2.18	3.43		0.17	1.58	0.28	1.87	0.03
		2	2.91	25.86	20.32	21.88	31.01		38.76	54.07	1.85	2.93		0.12	1.44	0.26	1.85	0.04
		3	2.51	27.35	21.90	22.22	32.54		40.01	57.83	1.77	2.64		0.10	1.33	0.26	1.89	0.03
	12	1	2.24	25.71	21.40	27.04	30.62		39.02	58.01	1.67	2.47		0.08	1.20	0.24	1.78	0.02
		2	2.04	24.76	20.91	26.22	30.20		36.54	56.14	1.41	2.26	0.75	0.07	1.22	0.35	1.80	0.02
		3	1.91	27.93	21.00	23.66	32.22		39.05	57.55	0.31	1.98	0.67	0.04	1.30	0.29	1.81	0.02
2002	1	1	1.81	29.88	24.83	32.52	33.51		38.09	54.45	3.95	2.76	0.95	0.04	1.28	2.69	2.20	0.04
		2	1.75	25.69	22.51	32.22	34.82		37.63	54.31	7.92	5.13	1.32	0.12	2.00	4.97	1.96	0.03
		3	1.63	22.02	20.04	26.85	30.01		37.05	55.23	3.34	2.47	0.63	0.04	1.23	0.96	1.68	0.02
	2	1	1.50	21.21	19.00	27.14	28.07		37.00	54.66	2.59	1.75	0.48	0.02	1.19	0.47	1.66	0.01
		2	1.10	29.06	19.34	26.14	28.22		35.86	55.23	4.21	1.97	0.60	0.03	1.26	0.00	1.69	0.02
		3		49.10	19.22	22.88	23.31		38.87	53.30	3.59	2.03	0.58	0.01	1.37		1.78	0.02
	3	1		31.31	26.62	29.80	33.28		38.69	56.02	3.43	2.70	0.62	0.05	1.41		2.61	0.04
		2		25.47	20.25	27.44	29.35		37.32	52.80	4.93	2.47	0.62	0.06	1.48		2.05	0.03
		3		22.97	19.85	25.42	24.34		36.38	54.77	3.92	2.01	0.59	0.02	1.34		1.69	0.02
	4	1		50.27	21.56	31.51	26.75		35.67	53.82	5.06	6.62	0.74	0.05	1.36		3.41	0.02
		2		33.64	22.20	36.07	29.17		39.60	55.01	5.98	6.36	0.59	0.02	1.59		2.40	0.02
		3		11.52	17.67	23.22	27.27		38.02	50.13	3.68	1.60	0.43	0.00	1.36		1.79	0.01
	5	1		13.23	13.99	22.09	22.46		40.09	54.86	3.35	1.96	0.52	0.03	1.60		2.02	0.02
		2		18.92	11.50	23.59	26.35		39.10	54.23	3.49	2.24	0.42	0.00	1.26		1.62	0.01
		3		13.43	14.67	26.92	25.50		37.79	54.83	6.09	1.82	0.43	0.00	2.07		1.83	0.02

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	6	1		10.87	15.08	27.13	26.26		37.22	54.02	3.31	1.92	0.44	0.02	1.50		1.71	0.00
		2		9.45	12.88	26.13	26.40		38.20	55.37	11.85	14.65		0.17	1.40		4.80	0.05
		3		17.18	14.77	28.12	30.58		45.51	53.62	18.64	20.50		0.08	1.55		3.68	0.04
	7	1	9.84	18.97	9.96	35.05	32.87		45.39	52.54	22.15	27.18		1.56	1.45		3.76	0.04
		2	8.02	23.75	17.33	44.83	31.91		44.20	51.51	43.25	44.59		1.29	1.92		8.84	5.97
		3	59.52	34.80	22.83	49.95	42.84		43.70	52.37	106.32	100.71		5.12	2.88		38.28	4.82
	8	1	19.56	66.14	67.66	65.41	60.40		49.26	53.06	156.59	141.88		6.06	6.94		26.48	7.91
		2	63.88	97.67	45.91	80.32	57.81		51.27	55.65	143.89	117.46		2.41	6.06		18.58	7.17
		3	42.27	122.47	55.91	69.89	59.26		45.37	54.15	125.87	125.70		1.24	7.41		20.30	4.28
	9	1	29.98	103.70	52.11	71.97	46.35		44.85	58.62	94.78	82.11		4.48	6.84		15.76	2.26
		2	9.50	54.16	32.52	48.21	36.47		46.77	53.83	34.80	35.45		0.63	3.80		7.09	2.36
		3	0.54	41.13	25.09	41.16	28.16		43.59	54.13	16.50	13.74		0.20	2.35		2.72	0.56
	10	1	0.14	32.27	16.88	30.61	21.66		40.74	57.78	10.41	5.60		0.05	2.32		1.85	0.30
		2	0.07	20.73	16.54	36.98	22.81		41.94	59.16	8.49	3.41		0.01	1.91		1.58	0.15
		3	0.04	15.61	9.88	15.42	14.43		28.92	51.44	7.53	2.46		0.00	1.48		1.50	0.11
	11	1	0.01	14.18	6.99	5.04	9.11		18.57	46.42	7.05	1.99		0.00	1.63		1.43	0.10
		2	0.02	11.66	4.76	4.16	8.52		16.40	43.68	6.66	1.66		0.00	1.21		1.43	0.11
		3	0.27	11.78	4.07	3.93	8.84		18.33	43.22	6.54	1.53		0.00	1.26		1.43	0.10
	12	1	0.04	12.05	5.40	5.13	9.12		18.26	33.99	2.65	1.47		0.00	1.28		1.48	0.10
		2	0.02	13.64	7.38	5.06	9.07		19.77	34.14	2.53	1.66		0.00	1.63		1.54	0.10
		3	0.05	18.52	16.32	16.87	11.31		17.37	34.07	3.90	2.69		0.00	1.50		1.72	0.13
2003	1	1	0.05	33.66	11.20	26.77	26.70		18.09	36.79	3.08	1.99		0.50	1.47		1.45	0.11
		2	0.00	16.58	8.34	8.81	13.03		17.51	35.08	2.38	1.45		0.42	1.30		1.39	0.09
		3	1.44	17.15	8.60	6.64	10.58		16.93	34.14	3.09	1.95		0.45	1.42		1.47	0.37
	2	1	0.24	16.00	7.14	7.10	10.31		16.96	34.22	2.35	1.26	0.26	0.37	1.30		1.37	0.11
		2	0.26		6.54	7.75	10.64		17.75	35.90	1.89	0.74	0.12	0.35	1.29		1.31	0.08
		3	0.02		15.25	7.89	15.70		29.42	36.00	3.39	0.77	0.32	0.43	3.56		2.42	0.05
	3	1	0.00		31.28	8.09	11.35		17.82	35.67	3.51	1.80	0.47	0.37	1.15		1.41	0.05
		2	0.00		7.86	8.09	10.08		16.19	40.27	2.77	1.56	0.30	0.36	0.78		1.41	0.01
		3	0.00		20.41	9.26	20.16		18.76	36.01	5.76	4.80	0.57	0.50	2.82		1.59	0.05
	4	1	0.00		18.89	8.70	20.67		20.23	31.82	4.41	2.50	0.42	0.38	1.81		1.75	0.01
		2	0.02		17.91	15.52	12.99		17.44	34.30	11.20	6.07	2.03	0.74	2.13		2.36	1.61
		3	0.00	130.40	60.60	46.26	16.95		18.84	34.38	13.02	4.85	1.54	0.55	8.50		3.02	0.12
	5	1	0.00	55.15	16.14	20.19	12.26		16.88	31.42	8.06	5.07	0.73	0.36	1.28		1.62	0.05
		2	0.00	28.42	10.00	9.76	11.85		19.70		7.77	4.34	0.59	0.33	1.57		1.72	0.03
		3	0.00	15.14	8.80	7.03	9.71		19.04	27.22	2.21	1.26	0.35	0.28	0.86		1.33	0.01
	6	1	0.00	12.72	18.44	75.50	11.15		25.16	26.92	4.03	1.15	0.50	0.31	1.02		1.97	0.00
		2	0.00	17.88	17.83	172.06	14.10		22.03	27.86	16.62	11.82	2.60	0.37	1.24		2.05	0.10
		3	0.02	17.44	20.13	187.76	16.42		24.34	29.13	45.45	30.81	6.47	0.48	5.17		4.00	1.11
	7	1	0.26	16.98	30.11	250.20	22.53		34.03	36.57	43.69	48.25	15.34	1.05	3.80		8.22	3.35
		2	0.72	42.83	54.81	365.16	35.63		32.90	33.10	109.25	119.02	37.08	2.04	5.74		20.40	2.11
		3	10.04	96.06	99.90	440.03	48.78		36.90	44.34	192.49	191.17	45.91	4.93	7.78		34.34	6.95
	8	1	16.97	172.39	122.06		69.37		39.21	49.34	152.11	132.66	42.25	6.04	8.59		54.12	5.38
		2	23.18	267.83	96.64	460.96	39.82		36.20	33.13	149.81	127.44	44.66	5.94	9.05		35.01	4.41
		3	113.24	253.94	130.92		73.27		50.96	54.79	235.57	177.09	46.78	4.99	10.69		144.11	5.70
	9	1	103.63	234.42	112.16		80.36		71.67	94.51	146.73	139.73	38.56	4.88	9.98		47.21	3.71
		2	205.75	171.57	103.62		85.26		98.62	92.40	110.47	129.58	30.68	3.95	9.28		15.61	1.70
		3	68.27	87.77	89.83		67.71		81.96	78.80	49.31	47.54	31.46	1.79	3.97		10.37	0.61
	10	1	15.00	65.12	66.18	113.02	36.86		45.52	46.27	23.64	16.74	17.43	1.06	2.77		5.79	0.14
		2	13.14	54.97	50.48	47.20	28.46		47.44	51.25	11.98	6.94	5.40	0.75	0.82		4.25	0.09
		3	19.35	36.77	43.84	46.18	22.22		41.03	40.46	9.68	4.29	1.42	0.56	0.64		3.77	0.06
	11	1	4.58	24.01	36.81	45.60	19.75		39.09	47.12	8.49	3.15	0.93	0.45	0.53		3.60	0.05
		2	3.53	27.32	41.57	42.39	19.45		35.26	44.26	8.04	2.80	0.77	0.39	0.50		3.51	0.04
		3	2.83	21.09	47.03	35.61	21.34		40.85	41.01	7.56	2.48	0.52	0.32	0.46		3.48	0.03
	12	1	2.42	43.16	56.76	42.68	32.04		46.28	44.15	8.26	2.51	0.48	0.32	0.68		4.09	0.23
		2	2.10	42.56	54.86	35.13	29.29		46.02	45.43	4.56	2.35	0.34	0.27	0.81		3.47	0.05
		3	6.91	33.27	50.62	48.53	26.67		48.03	46.26	3.01	1.76	0.39	0.24	0.51		3.35	0.04
2004	1	1	0.00	33.00	51.35	51.69	25.77		44.41	48.88	2.67	1.28	0.30	0.23	0.42		3.24	0.03
		2	0.00	31.46	61.89	58.62	26.81		39.66	42.26	2.66	1.51	0.32	0.39	0.50		3.29	0.04
		3	0.00	81.39	48.42	46.04	24.83		37.25	40.77	5.54	3.30	0.57	0.27	0.50		3.54	0.04
	2	1	0.00	60.48	42.99	38.56	22.65		36.65	41.26	3.84	2.34	0.40	0.28	0.48		3.45	0.05
		2	0.00	34.99	32.15	34.63	20.96		37.77	35.65	2.65	0.93	0.23	0.13	0.46		3.00	0.02
		3	0.00	29.64	35.82	30.87	21.79		39.52	34.71	1.96	0.67	0.03	0.10	0.45		2.90	0.02
	3	1	0.00	28.74	31.70	30.14	24.59		37.62	35.77	1.86	0.50	0.00	0.10	0.41		2.86	0.02
		2	0.00	33.10	42.97	35.06	28.34		35.58	38.55	5.36	1.65	0.18	0.20	0.46		3.27	0.03
		3	0.00	42.84	49.91	44.16	27.48		37.07	36.43	4.41	1.67	0.26	0.17	0.56		3.73	0.04
	4	1	0.00	63.06	87.54	51.77	40.07		39.86	41.95	8.76	6.12	2.74	0.55	0.73		5.43	0.07
		2	10.51	109.73	105.94	120.87	43.57		42.27	44.23	26.27	16.94	3.96	0.56	1.22		5.42	0.09
		3	0.00	25.30	75.69	52.15	30.09		39.68	44.46	9.19	4.11	1.28	0.48	1.49		3.47	0.05
	5	1	0.00	21.45	25.12	38.38	24.34		39.02	44.84	7.58	4.94	1.31	0.37	1.29		3.39	0.04
		2	0.00	20.60	25.23	29.62	19.30		36.41	45.35	5.28	1.77	0.36	0.24	0.91		2.88	0.02
		3	0.00	20.60	31.83	27.57	20.56		34.99	44.45	3.21	2.13	0.30	0.23	0.47		2.92	0.00
	6	1	0.00	20.60	30.96	43.17			36.01	42.75	3.11	3.02	17.34	0.26	0.49		3.05	0.01
		2	0.00	27.53	30.40	54.16			44.84	43.36	18.44	16.31	17.98	0.42	0.73		4.50	0.04
		3	0.00	37.98	50.51	57.56			44.68	48.73	39.91	42.29	20.72	1.50	2.81		5.57	0.21
	7	1	13.56	43.13	45.54	62.99			43.43	47.17	47.62	61.73	27.82	1.05	3.57		9.76	0.79
		2	20.24	60.16	54.87	61.81			43.50	43.34	96.10	76.96	22.97	2.33	4.10		10.65	2.38
		3	22.31	80.52	72.98	65.83			47.59	54.79	119.01	99.68	30.71	4.58	5.64		36.11	6.00
	8	1	65.69	128.55	89.98	99.19			48.23	53.99	156.56	125.29	37.31	3.96	5.98		40.72	4.52
		2	67.11	204.75	82.51	103.39			37.64	47.78	179.89	149.42	46.75	2.61	7.25		54.19	17.15
		3	56.15	127.08	49.77	68.97			37.62	48.32	164.02	139.88	42.09	2.18	5.37		77.87	7.57
	9	1	22.82	85.76	63.68	62.84			32.91	35.26	110.05	83.63	39.95	3.93	7.05		50.60	3.10
		2	14.42	48.35	77.29	55.47			34.07	33.15	100.19	73.35	26.95	1.98	11.04		50.44	2.44
		3	0.34	39.66	63.44	46.74	24.91		31.49	38.70	51.09	43.57	15.56	1.17	3.51		14.08	0.75
	10	1	0.00	22.71	52.55	54.43	23.72		36.02	38.47	22.97	17.17	11.80	1.24	1.68		6.72	0.47
		2	0.00	20.60	59.07	78.68	25.00		28.94	32.97	16.98	13.04	6.80	0.64	2.32		4.66	0.32
		3	0.00	20.60	44.72	41.89	16.94		26.12	33.49	10.85	5.44	2.14	0.47	1.11		4.00	0.22
	11	1	0.00	20.60	28.02	34.06	15.57		25.13	29.49	9.68	4.05	1.13	0.40	0.68		3.69	0.16
		2	0.00	20.60	26.43	27.08	15.55		25.16	29.28	9.24	3.04	0.83	0.34	0.69		3.52	0.13
		3	0.00	20.78	25.80	25.43	15.85		26.44	30.99	9.07	2.54	0.77	0.30	0.56		3.57	0.12

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	12	1	0.00	23.37	25.23	26.51	15.10		24.90	29.84	7.44	2.13	0.60	0.29	0.41		3.62	0.10
		2	0.00	24.46	30.29	24.66	15.49		27.28	38.67	3.34	2.18	0.46	0.26	0.39		3.69	0.09
		3	0.00	23.28	29.69	27.01	14.95		25.89	33.53	2.85	1.76	0.35	0.21	0.33		3.66	0.10
2005	1	1	0.00	23.55	30.77	28.33	16.46		27.71	34.97	3.71	1.43	0.21	0.21	0.41		1.34	0.09
		2	2.86	29.69	49.81	28.49	25.08		37.49	35.89	4.91	2.15	0.02	0.21	0.38		1.49	0.13
		3	0.00	33.11	48.52	38.28	22.05		30.72	42.26	5.63	1.91	0.01	0.20	0.63		1.36	0.09
	2	1	0.00	39.66	51.82	47.07	22.74		44.46	46.65	4.29	1.32	0.00	0.17	0.48		1.31	0.08
		2	0.00	26.61	44.59	48.14	21.59		38.35	36.62	3.19	0.63	0.00	0.21	0.44		1.30	0.06
		3	0.00	30.07	40.00	25.63	17.19		33.07	39.39	3.00	0.59	0.00	0.15	0.47		1.33	0.06
	3	1	3.31	40.74	41.78	36.93	17.34		32.94	39.21	11.99	0.91	0.00	0.24	0.67		1.35	0.09
		2	0.00	72.49	57.86	87.60	25.75		48.62	40.74	10.65	3.81	0.28	0.24	0.66		1.37	0.19
		3	0.00	83.55	58.18	48.61	30.88		49.47	39.46	7.52	6.14	0.60	0.22	0.60		1.35	0.08
	4	1	0.00	27.68	44.28	28.31	20.43		36.54	45.17	3.80	1.63	0.87	0.16	0.47		1.42	0.03
		2	0.00	23.81	34.90	31.62	24.67		46.61	36.38	4.52	2.45	2.46	0.30	1.39		1.53	0.07
		3	29.63	20.60	56.77	60.92	20.46		33.55	40.00	13.54	6.84	4.48	0.50	1.91		1.84	0.24
	5	1	40.80	21.77	71.02	68.42	25.99		31.27	33.16	26.81	26.42	5.79	0.67	5.73		3.42	2.24
		2	18.00	28.25	90.01	69.18	28.17		32.07	31.08	46.83	18.43	2.88	0.48	3.34		2.39	1.22
		3	20.65	24.94	58.97	44.72	20.36		31.80	30.91	16.76	5.83	0.66	0.37	2.09		1.93	0.25
	6	1	51.24	37.19	46.28	40.71	15.78		25.83	31.56	9.19	3.69	2.41	0.40	1.80		1.93	0.16
		2	20.78	32.77	44.67	28.91	13.30		30.92	29.91	22.59	8.72	3.93	0.47	1.29		1.89	0.17
		3	64.66	45.71	60.61	46.94	25.22		54.06	38.58	44.45	36.35	13.71	0.76	1.20		2.55	0.93
	7	1	64.39	67.76	69.81	85.58	31.01		41.32	41.98	68.70	76.61	25.28	3.60	1.60		2.94	2.59
		2	45.29	93.09	83.32	107.15	29.78		32.04	29.62	125.50	96.45	31.20	1.99	4.11		4.90	4.37
		3	88.49	175.15	99.47	101.86	44.53		30.65	30.99	184.36	131.53	43.67	3.62	11.83		5.09	3.71
	8	1	156.42	142.89	66.38	79.16	41.73		35.06	33.59	173.67	149.70	45.95	5.24	11.06		6.47	4.95
		2	42.15	156.87	94.09	98.49	52.75		38.39	41.53	245.24	192.59	48.31	6.77	13.29		10.94	5.50
		3	163.08	179.47	122.32	93.13	53.75		37.02	47.67	186.82	145.36	40.81	5.51	11.90		8.85	6.28
	9	1	86.19	189.95	109.41	89.96	57.51		60.42	52.31	116.55	112.70	38.55	2.31	10.03		3.62	1.66
		2	48.34	163.61	105.58	73.46	64.54		77.18	53.41	133.96	104.11	37.18	1.88	13.72		7.15	1.79
		3	15.77	95.84	79.66	66.75	45.87		65.52	45.84	37.77	29.75	16.33	1.18	6.10		2.65	0.36
	10	1	8.81	56.41	48.91	48.45	21.97		38.40	34.94	23.98	19.99	8.90	0.86	3.12		2.49	0.18
		2	6.09	46.22	44.05	24.32	18.25		28.01	33.02	16.50	10.36	5.32	0.98	3.19		2.48	0.14
		3	4.08	30.65	46.10	21.88	17.71		28.45	28.88	12.35	5.08	1.88	0.54	2.18		2.25	0.09
	11	1	2.91	43.33	46.01	20.70	17.28		32.40	27.94	11.07	3.78	1.17	0.44	1.80		2.20	0.07
		2	3.30	33.45	45.10	21.21	16.70		30.09	28.12	10.43	3.28	0.83	0.37	1.49		2.21	0.06
		3	1.95	35.00	52.49	26.47	17.35		30.52	25.08	10.04	3.09	0.71	0.33	2.02		2.18	0.05
	12	1	1.33	31.72	42.99	23.16	18.10		30.47	26.47	6.84	3.32	0.58	0.27	2.03		2.17	0.04
		2	1.02	41.66	41.12	26.41	19.99		31.55	35.52	4.65	2.60	0.52	0.23	1.79		2.14	0.04
		3	0.81	29.23	41.48	27.49	17.35		26.37	26.56	4.37	2.10	0.42	0.22	1.47		2.13	0.09
2006	1	1	0.68	32.24	46.67	29.18	17.80		28.68	29.62	4.17	1.88	0.36	0.19	1.52		2.17	0.03
		2	0.51	54.48	43.82	33.28	18.58		27.99	38.90	4.07	1.68	0.33	0.18	2.01		2.16	0.03
		3	0.34	37.03	47.48	43.24	21.64		26.27	39.26	3.81	1.31	0.23	0.15	2.61		2.15	0.03
	2	1	0.15	33.49	50.97	51.63	20.51		30.62	41.48	3.46	1.22	0.18	0.15	2.53		2.13	0.02
		2	23.50	46.03	60.16	53.60	27.71		37.63	37.99	3.27	0.99	0.17	0.15	1.80		2.16	0.04
		3	1.06	46.10	79.27	57.24	35.89		33.60	38.97	4.62	1.34	0.27	0.12	1.85		2.20	0.04
	3	1	0.02	59.32	66.00	51.93	25.39		35.66	40.26	4.18	1.16	0.20	0.12	0.99		2.12	0.02
		2	0.91	56.75	80.63	52.46	32.73		34.00	40.48	4.29	2.20	0.43	0.23	1.20		2.18	0.03
		3	0.57	95.81	89.95	75.19	41.19		37.54	40.20	18.51	12.81	1.28	0.31	1.79		2.37	0.05
	4	1	10.53	102.03	109.86	142.85	65.23		48.01	43.61	24.36	18.09	3.93	0.39	3.72		2.47	0.13
		2	2.68	77.34	99.96	73.42	46.46		47.38	41.73	13.09	6.28	2.08	0.28	1.78		2.12	0.02
		3	4.21	104.48	83.94	58.47	39.15		46.82	40.20	11.73	5.33	2.27	0.34	2.53		2.45	0.44
	5	1	1.99	105.52	83.18	52.04	31.98		43.53	40.66	23.86	47.40	4.81	0.32	2.06		2.51	0.07
		2	1.25	60.75	72.02	51.90	30.71		47.14	40.55	10.58	6.38	0.64	0.26	1.68		2.02	0.01
		3	0.77	46.79	66.01	58.06			47.97	41.87	10.51	3.58	0.85	0.28	1.43		2.05	0.02
	6	1	0.38	41.28	68.10	58.37			46.66	41.60	11.31	7.07	3.18	0.29	1.24		2.15	0.02
		2	2.44	52.01	74.45	57.44			53.31	39.81	16.34	15.06	7.15	0.39	5.32		2.31	0.25
		3	9.77	52.28	62.44	57.17			44.56	22.28	49.14	38.57	6.98	0.52	3.20		2.58	0.09
	7	1	55.90	48.79	60.86	57.10	25.03		33.81	21.28	80.20	66.58	29.40	0.89	5.28		3.23	0.61
		2	106.67	95.31	92.38	75.36			31.92	34.43	143.29	94.41	42.16	2.79	9.96		7.24	1.62
		3	49.87	170.59	139.65	190.31			31.40	34.85	253.60	232.89	45.29	5.81	14.21		10.97	6.80
	8	1	50.31	237.37	130.05	195.62			58.21	42.28	239.92	202.40	48.28	7.60	10.72		8.35	5.38
		2	78.69	262.56	163.09	274.38			67.62	68.30	342.74	263.16	48.90	8.10	10.55		12.30	7.07
		3	69.09	241.89	153.72	199.04			161.86	192.91	277.15	478.62	46.94	9.67	13.17		9.94	3.40
	9	1	37.45	313.16	200.50	429.19	199.82		213.00	280.90	232.25	306.88	46.99	4.13	11.30		8.53	1.63
		2	69.88	290.88	160.35	307.72	160.96		162.84	163.95	148.89	140.42	40.63	3.37	8.04		6.29	1.19
		3	69.71	119.50	119.45	140.64	82.54		95.36	119.25	65.42	18.82	23.86	3.29	3.33		4.83	1.50
	10	1	53.03	79.66	75.42	85.31	36.52		48.74	62.58	23.27	10.56	8.40	1.17	1.35		3.88	0.09
		2	30.92	61.96	59.28	55.75	18.97		34.86	40.77	16.15	6.77	4.13	0.85	0.75		3.74	0.03
		3	20.43	56.59	74.65	49.91	19.27		33.31	34.74	14.46	5.03	2.91	0.68	2.23		3.89	0.02
	11	1	14.78	59.53	64.88	54.33	20.10		33.20	34.96	13.36	3.93	1.81	0.58	0.50		3.64	0.01
		2	12.18	49.09	54.25	42.09	21.07		26.09	30.58	11.73	2.87	1.09	0.47	0.36		3.58	0.00
		3	21.06	44.93	49.56	32.14	20.86		25.45	23.78	8.41	2.52	0.87	0.43	0.90		3.56	0.00
	12	1	19.63	81.79	73.19	26.82	23.51		30.75	33.59	6.52	2.58	0.95	0.42	1.48		3.58	0.01
		2	14.73	64.15	56.36	21.68	21.90		28.46	33.83	5.43	2.01	0.54	0.38	1.10		3.56	0.00
		3	11.70	32.41	43.71	21.83	21.26		29.61	31.02	4.95	1.53	0.43	0.34	0.88		3.53	0.00
2007	1	1	9.86	41.85	44.62	24.98	20.35		26.75	25.16	4.75	1.47		0.31	0.80		3.51	
		2	8.54	42.62	51.39	27.75	20.60		24.97	26.98	4.25	1.31		0.36	0.49		3.50	
		3	8.06	35.10	44.08	34.78	18.62		24.89	23.52	4.94	1.28		0.32	0.57		3.51	
	2	1	12.29	41.43	49.55	34.54	32.26		26.27	26.38	6.88	2.50		0.40	0.69		3.98	
		2	6.58	51.67	44.78	39.17	24.79		32.10	26.37	4.34	1.87		0.31	0.47		3.51	
		3	5.69	49.53	44.21	42.11	23.10		26.75	19.22	3.87	1.16		0.24	1.01		3.51	
	3	1	4.92	47.40	43.11	37.14	22.51		30.90	30.09	3.59	0.80		0.24	1.39		3.45	
		2	5.29	83.83	66.35	35.23	29.34		32.74	20.91	3.95	0.90		0.20	1.33		3.49	
		3	5.71	83.59	58.45	55.74	40.47		33.43	25.01	6.69	2.53		0.30	2.22		3.80	
	4	1	6.72	59.43	48.44	50.08	23.76		32.92	29.74	5.31	1.49		0.26	2.02		3.55	
		2	6.05	122.26	120.79	68.04	70.87		31.65	31.76	10.43	3.41		0.44	0.93		3.83	
		3	6.00	71.91	47.00	47.61	28.62		32.39	29.46	7.45	3.03	0.37	0.26	0.60		3.62	
	5	1	5.99	54.05	44.56	43.30	24.86		34.33	27.44	5.67	1.57	0.41	0.18	1.44		3.56	
		2	6.17	46.60	51.88	44.02	26.57		37.46	21.10	11.56	4.61	1.70	0.31	1.94		3.81	
		3	5.48	41.14	51.87	51.29	26.64		35.82	18.84	15.98	6.01	2.59	0.31	1.80		3.79	

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	6	1	8.14	51.67	51.88	53.10	29.13		39.67	19.07	21.12	12.87	6.91	0.31	4.00		3.60	
		2	11.22	39.01	59.94	58.15	29.25		40.79	22.89	32.17	33.55	13.16	0.47	4.21		3.91	
		3	4.67	98.21	66.91	53.44	32.25		39.71	32.62	64.49	75.07	33.44	1.11	4.11		4.38	
	7	1	15.28	147.25	85.64	55.05	36.44		58.04	32.50	108.74	102.79	39.41	3.00	4.21		5.05	
		2	98.02	193.43	84.03	77.24	43.60		59.79	22.09	155.54	121.14	40.52	4.17	6.86		5.68	
		3	4.62	263.40	97.01	76.39	53.90		56.10	23.35	131.55	103.43	35.58	3.06	4.88		6.24	
	8	1	5.91	315.27	175.51	81.75	70.41		69.21	28.71	280.00	216.05	48.61	7.75	9.06		17.23	
		2	124.06	301.95	139.69	74.45	118.00		130.50	104.00	268.67	204.58	46.67	4.25	11.29		11.17	
		3	135.20	293.69	118.69	85.77	155.48		165.14	177.83	256.82	187.10	46.40	5.97			16.02	
	9	1	114.74	375.85	118.30	171.58	202.94		237.34	320.60	279.87	277.57	47.55	2.41			7.88	
		2	125.02	345.03	105.43	388.19	198.55		217.49	276.80	154.25	135.84	39.21	1.58	15.38		8.67	
		3	79.09	216.30	60.29	241.95	94.56		110.31	116.19	62.50	47.47	23.71	1.27	9.47		6.06	
	10	1	85.19	112.26	43.64	102.54	36.61		62.43	23.95	45.53	34.99	17.27	0.89	7.46		5.69	
		2	7.66	75.49	49.83	56.21	19.88		33.63	22.35	16.03	8.07	5.07	0.64	5.37		4.28	
		3	6.97	63.13	45.85	50.39	21.08		32.64	22.24	12.86	5.38	2.47	0.49	5.19		4.08	
	11	1	6.44	58.58	44.11	50.41	23.52		35.56	21.94	11.08	3.35	1.40	0.37	4.48		4.01	
		2	25.94	58.47	41.58	56.32	23.79		36.89	21.94	10.54	2.76	1.07	0.33	3.94		3.96	
		3	23.77	60.57	43.53	58.16	22.59		38.89	21.78	9.79	2.52	0.80	0.31	3.60		3.94	
	12	1	21.79	60.04	42.26	52.36	27.51		40.18	21.98	9.35	2.18	0.68	0.27	3.45		3.91	
		2	19.10	56.57	44.88	50.15	32.43		36.59	22.82	6.90	1.88	0.56	0.28	3.06		3.85	
		3	15.01	52.32	40.57	51.07	31.87		33.93	22.45	5.02	1.66	0.46	0.26	2.88		3.88	
2008	1	1	10.79	51.15	38.09	50.54	29.94		33.90	23.37	5.07	1.48	0.42	0.23	3.05		4.22	
		2	7.49	52.46	43.73	50.55	30.41		36.64	23.19	4.19	1.28	0.35	0.20	3.00		4.24	
		3	4.88	49.90	40.27	48.73	25.47		37.81	21.58	3.80	1.08	0.28	0.19	3.08		4.22	
	2	1	2.39	50.49	36.44	47.63	26.93		36.44	30.48	3.85	0.96	0.29	0.21	2.96		4.26	
		2	1.57	48.91	31.30	46.95	25.95		37.44	24.29	3.96	0.89	0.21	0.17	2.96		4.11	
		3	0.28	52.51	33.76	41.83	24.46		37.56	28.18	3.78	0.71	0.17	0.12	2.75		4.05	
	3	1	0.00	53.73	33.78	36.01	23.74		36.07	33.20	3.34	0.57	0.12	0.10	2.69		4.06	
		2	0.11	39.72	28.27	32.89	22.07		38.09	30.66	2.96	0.56	0.14	0.10	2.91		4.06	
		3	0.32	43.10	30.88	32.94	22.30		37.75	31.23	2.94	0.52	0.12	0.12	2.89		4.03	
	4	1	0.00	52.37	28.89	39.71	23.60		39.80	37.20	3.17	0.60	0.28	0.12	3.26		4.15	
		2	0.00	65.06	43.46	38.37	30.06		50.50	35.23	3.93	1.46	0.56	0.14	3.69		4.13	
		3	0.00	77.12	22.21	47.56	26.73		44.50	28.47	3.28	0.92	0.22	0.14	3.33		4.02	
	5	1	2.39	74.44	45.21	53.77	30.24		48.88	24.08	6.72	2.06	1.11	0.26	5.36		4.80	
		2	2.42	51.03	52.70	56.60	35.44		46.10	24.36	5.09	2.21	0.75	0.21	4.59		4.10	
		3	0.11	57.19	29.97	49.25	26.32		43.64	26.82	4.10	1.44	0.34	0.16	5.96		4.21	
	6	1	0.16	69.66	57.12	53.89	29.23		35.96	30.03	11.07	7.57	6.42	0.32	6.84		6.17	
		2	2.85	74.46	26.92	50.88	17.37		28.62	22.14	21.22	11.90	7.11	0.38	5.62		5.00	
		3	8.45	57.83	19.19	39.75	16.69		28.09	23.24	15.88	9.07	6.91	0.36	6.70		4.72	
	7	1	4.80	127.80	31.28	39.73	21.12		33.63	24.85	62.70	50.22	25.97	2.36	13.04		7.51	
		2	2.48	209.85	75.74	51.60	57.70		39.30	25.26	81.96	134.81	40.37	5.52	10.38		8.60	
		3	0.60	269.32	120.52	127.40	69.45		36.90	24.35	214.08	180.61	47.13	9.31	11.33		12.27	
	8	1	0.00	251.93	83.52	126.75	58.65		40.71	24.73	241.41	255.92	47.56	7.85	12.30		17.42	
		2	0.00	256.40	99.51	105.61	69.49		70.94	35.77	240.19	196.37	47.19	8.29	14.26		15.90	
		3		233.32	126.43	183.77	96.14		66.49	57.57	204.04	190.80	47.44	11.16			15.76	
	9	1		243.81	129.27	152.18	131.18		151.18	203.92	288.24	200.33	48.07	13.43	13.43		20.81	
		2		228.50	151.20	321.36	168.48		162.43	240.70	159.30	103.33	34.72	6.62	15.38		10.90	
		3	98.77	146.32	99.22	189.94	72.86		103.54	81.37	51.17	31.20	18.87	4.60	11.60			
	10	1	84.14	74.76	74.39	85.75	53.50		88.62	91.77	21.67	9.06	6.52	3.64	7.18			
		2	66.08	61.40	48.81	51.23	25.05		46.16	22.20	16.24	5.18	2.91	3.10	7.02			
		3	61.76	122.98	55.61	47.95	32.32		31.48	20.79	15.13	4.28	2.94	3.01	5.79			
	11	1	67.09	203.57	128.72	108.91	72.94		35.17	21.44	37.86	16.44	8.08	2.52				
		2	63.80	99.95	52.53	69.22	36.13		35.28	21.36	16.89	5.56	2.62	1.99	9.23			
		3	60.56	55.51	45.56	53.60	26.61		33.93	21.35	10.49	3.17	1.25	1.73	5.81			
	12	1	56.93	58.65	43.71	52.11	27.33		38.25	21.47	6.28	2.83	0.84	1.69	4.19		4.93	
		2	53.19	68.72	51.01	53.19	25.99		39.07	21.24	5.68	2.64	0.69	1.69	3.73		4.89	
		3	49.81	76.05	49.17	48.77	26.95		38.82	21.28	5.11	2.42	0.48	1.54	3.67		4.87	
2009	1	1	47.51	80.82	51.20	46.44	32.12		43.74	21.01	4.34		0.39	1.51	3.57			
		2		117.23	52.47	55.78	32.83		50.42	21.04	4.00		0.31	1.44	3.64			
		3		123.69	90.16	80.00	48.42		43.79	21.56	18.14		0.53	1.57	4.42			
	2	1		83.30	67.12	62.66	41.82		35.41	21.28	4.65		0.41	1.42	4.03			
		2	95.98	69.83	55.89	54.71	32.87		35.70	21.08	3.66		0.28	1.39	3.60			
		3	81.52	58.49	54.75	50.40	30.98		36.90	20.99	3.45		0.23	1.32	3.63			
	3	1	61.38	54.86	45.64	45.32	21.59		35.67	21.01	3.22		0.19	1.33	3.85			
		2	48.21	111.93	47.02	42.46	22.61		36.93	21.20	3.01		0.10	1.28	3.40			
		3	8.24	105.54	49.74	45.19	25.68		37.95	21.20	3.33		0.17	1.38	4.09			
	4	1	0.00	82.66	63.84	96.59	34.73		35.76	21.43	7.69		0.29	1.48	5.44			
		2	0.00	79.87	60.24	55.50	31.98		40.74	21.31	15.71		0.36	1.37	4.01			
		3	0.00	59.92	39.19	48.24	29.12		42.47	21.51	3.85		0.19	1.29	3.38			
	5	1	0.00	147.17	39.41	43.14	28.86		41.59	21.47	3.19		0.12	1.29	3.35			
		2	0.00	119.54	41.95	38.59	32.73		43.15	21.50	6.71		0.20	1.31	4.84			
		3	0.00	82.63	37.81	38.31	28.36		44.39	21.31	4.99		0.22	1.32	4.01			
	6	1	0.00	68.63	34.87	35.43	18.30		42.37	20.98	3.55		0.19	1.32	3.66			
		2	0.00	50.68	26.16	32.33	13.90		35.81	21.01	3.84		0.73	1.43	3.93			
		3	9.07	89.00	29.43	14.41	10.30		29.43	20.19	13.61		2.23	1.52	4.13			
	7	1	42.77	82.44		8.94	9.47		30.81	20.67	25.47		7.97	2.26	5.64			
		2		75.96		13.47	13.68		34.03	20.63	29.06		11.70	2.68	8.79			
		3		85.51		41.33	26.65		28.71	21.17	77.26		32.73	4.46	11.21			
	8	1		97.82		106.36	45.14		32.63	21.82	121.43		41.75	3.41	7.69			
		2		129.09		85.65	54.36		26.86	22.33	168.14		44.80	9.12	7.69			
		3		114.93		86.32	45.50		27.76	21.59	283.85		49.32	9.72	10.86			
	9	1		82.03		58.78	48.44		25.15	21.94	235.53		46.15	4.08	14.87			
		2	93.58	56.07		61.82	31.42		32.55	21.54	87.68		24.29	2.47	7.81			
		3	31.21	53.83		48.75	17.88		32.50	21.78	23.59		6.93	2.36	3.86			
	10	1	7.63	74.79		44.96	16.22		33.49	21.70	19.25		4.49	1.69	5.12			
		2	0.00	50.18		90.02	30.78		38.56	23.80	42.45			1.66	10.22			
		3	0.00	51.24		47.42	20.34		39.95	22.67	14.92			1.42	4.52			
	11	1	0.00	52.20		45.79	18.41		34.12	21.58	7.10			1.30	2.92			
		2	0.00	50.21		39.56	17.92		33.01	21.70	5.34			1.23	2.16			
		3	0.00	48.88		46.07	16.01		37.51	21.50	4.83			1.22	2.12			

(単位: m^3/秒)

観測所名 =>			Awara Melka	Melka Werer	Melka Sedi	Awash 7 kilo	Metahara	Nura Hera	Wonji	Below Koka Dam	Melka Homble	Melka Kuntire	Bello	Holeta	Sirie (ARSI)	Abomsa below Bridge	Akaki	Beke
河川(支川)名 =>			Kesem	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Awash	Holeta	Keleta	Arba	Akaki	Kesem
流域面積(km^2) =>			3,113	29,280	21,520	21,230	16,417	14,550	11,690	11,300	7,780	4,580	2,569	119	747	140	884	50
Y	M	10day																
	12	1	0.00	50.04		81.35	20.52		47.23	21.66	4.96				2.13			
		2	0.00	68.04		50.38	25.65		44.56	21.83	7.51				2.79			
		3	0.00	109.66		38.26	20.08		42.48	21.31	6.53				2.16			
2010	1	1									5.25							
		2									3.77							
		3									3.71							
	2	1									9.52							
		2									20.10							
		3									5.06							
	3	1									13.77							
		2									4.66							
		3									12.64							
	4	1									10.21							
		2									25.35							
		3									27.10							
	5	1									13.64							
		2									29.48							
		3									13.62							
	6	1									13.96							
		2									35.93		14.76					
		3									55.30		22.60					
	7	1									67.65		30.69					
		2									194.01		44.16					
		3									239.61		47.77					
	8	1									180.55		46.03					
		2									178.07		46.94					
		3									198.82		46.31					
	9	1									210.79		48.89					
		2									187.70		44.85					
		3									80.14		30.85					
	10	1									26.19		10.30					
		2																
		3																
	11	1																
		2																
		3																
	12	1																
		2																
		3																

バサカ湖水位データ(月ベース)

バサカ湖水位データ（月ベース）

(単位: EL.m)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1976							946.65	946.85	946.99	947.01	947.06	947.09	946.94
1977	947.18	947.25	947.23	947.26	947.40	947.45	947.51	947.62	947.63	947.68	947.73	947.67	947.47
1978	947.62	947.62	947.86	947.78	947.72	947.64	947.66	947.74	947.76	947.78	947.73	947.74	947.72
1979	947.79	947.85	947.79	947.74	947.67	947.64	947.66	947.73	947.73	947.68	947.62	947.58	947.71
1980	947.58	947.57	947.53	947.48	947.44	947.38	947.42	947.58	947.66	947.60	947.52	947.48	947.52
1981	947.47	947.45	947.51	947.67	947.66	947.55	947.53	947.82	947.94	947.89	947.80	947.73	947.67
1982	947.84	947.88	947.91	947.94	947.90	947.85	947.83	948.12	948.21	948.21	948.16	948.13	948.00
1983	948.10	948.12	948.13	948.14	948.14	948.18	948.15	948.22	948.27	948.26	948.23	948.20	948.18
1984	948.20	948.19	948.17	948.12	948.08	948.14	948.17	948.18	948.20	948.17	948.14	948.09	948.15
1985	948.08	947.94	948.03	948.08	948.17	948.14	948.20	948.44	948.51	948.44	948.35	948.32	948.23
1986	948.30	948.31	948.36	948.32	948.29	948.26	948.36	948.38	948.36	948.32	948.26	948.23	948.31
1987	948.22	948.22	948.25	948.31	948.29	948.31	948.28	948.37	948.43	948.36	948.31	948.29	948.30
1988	948.31	948.31	948.29	948.27	948.24	948.21	948.25	948.55	948.63	948.55	948.46	948.44	948.38
1989	948.42	948.44	948.45	948.62	948.62	948.59	948.63	948.69	948.72	948.66	948.63	948.57	948.59
1990	948.57	948.82	949.05	949.00	948.96	948.84	948.83	948.95	948.94	948.90	948.85	948.81	948.88
1991	948.80	948.82	948.84	948.97	948.93	948.92	948.96	949.08	949.14	949.09	949.03	949.00	948.97
1992	949.00	949.14	949.11	948.99	949.10	949.07	949.10	949.18	949.21	949.21	949.20	949.19	949.13
1993	949.19	949.22	949.22	949.22	949.30	949.31	949.29	949.36	949.36	949.37	949.35	949.34	949.30
1994	949.37	949.36	949.35	949.35	949.36	949.35	949.45	949.57	949.66	949.63	949.55	949.54	949.46
1995	949.52	949.56	949.68	949.72	949.74	949.70	949.70	949.81	949.93	949.87	949.73	949.68	949.72
1996	949.72	949.71	949.71	949.80	949.81	949.93	949.95	949.98	950.00	950.02	950.04	950.07	949.90
1997	950.09	950.12	950.15	950.17	950.20	950.23	950.25	950.28	950.31	950.33	950.36	950.38	950.24
1998	950.42	950.45	950.48	950.51	950.54	950.56	950.60	950.63	950.69	950.74	950.72	950.70	950.59
1999													
2000													
2001													
2002													
2003						951.32	951.37	951.62	951.78	951.72	951.72	951.61	951.59
2004	951.63	951.67	951.63	951.80	951.81	951.80	951.77	951.90	951.88	951.82	951.77	951.73	951.77
2005	951.73	951.77	951.76	951.75	951.79	951.79	951.84	952.01	951.96	951.84	951.77	951.73	951.81
2006	951.73	951.75	951.79	951.74	951.78	951.72	951.75	951.96	951.69	951.83	951.83	951.77	951.78
2007	951.86	951.87	951.92	951.97	951.93	951.87	951.95	952.20	952.10	952.23	952.13	952.11	952.01
2008	952.10	952.08	952.06	952.05	952.07	952.11	952.13	952.23	952.21	952.16	952.24	952.24	952.14
2009	952.38	952.45	952.35	952.36	952.32	952.29	952.31	952.38	952.41	952.40	952.38	952.40	952.37
2010	952.49												952.49

データ 2

水質

CES 58

Compulsory Ethiopian Standard

First Edition
2013

Drinking water - Specifications

ICS: 13.060.20
Published by Ethiopian Standards Agency
©ESA

CES 58

Foreword

This Ethiopian Standard has been prepared under the direction of the Technical Committee for Water Quality (TC 78) and published by the Ethiopian Standards Agency (ESA).

This Compulsory Ethiopian Standard cancels and replaces ES 261:2001.

Application of this standard is COMPULSORY with respect to clauses 4.1, 4.2.2 (Table 3), and 4.4 (Table 4).

A Compulsory Ethiopian Standard shall have the same meaning, interpretation and application of a "Technical Regulation" as implied in the WTO-TBT Agreement.

Implementation of this standard shall be effective as of 01 October 2013.

© ESA

ETHIOPIAN STANDARD **CES 58**

Drinking water — Specifications

1 Scope

This Ethiopian Standard specifies the physical, chemical and bacteriological requirements of water for drinking and domestic purpose.

2 Normative references

The following referenced documents are indespensable for the application of this Ethiopian standard. Only the latest edition of the documents (including any amendments) shall be applicable.

ES 605, *Water quality - Determination of odour and taste.*

ES ISO 606, *Water quality – Determination of barium by atomic absorption spectrometery.*

ES ISO 607, *Water quality – Determination of total hardness.*

ES ISO 609, *Water quality – Determination of total solids and dissolved solids.*

ES ISO 4833, *Microbiology – General guidance for the enumeration of micro – organisms – Colony count technique at 30°c.*

ES ISO 5666-3, *Water quality – Determination of total mercury by flameless atomic absorption spectrometry – Method after digestion with bromine.*

ES ISO 5667-1, *Water quality – Sampling- Part 1: Guidance on the design of sampling programs.*

ES ISO 5667-2, *Water quality – Sampling – Part 2:Guidance on sampling techniques.*

ES ISO 5667-3, *Water quality – Sampling –Part 3: Guidance of the preservation and handling of samples.*

ES ISO 5667-5, *Water quality – Sampling – Part 5:Guidance on sampling of drinking water and water used for food and beverage processing.*

ES ISO 5961, *Water quality – Determination of cadmium by atomic absorption spectrometer.*

ES ISO 6107, *Water quality – Vocabulary.*

ES ISO 6332, *Water quality – Determination of iron spectrometric method using 1,10-phenanthroline.*

ES ISO 6333, *Water quality – Determination of manganese Formaldoxime spectrometric method.*

ES ISO 6468, *Water quality – Determination of certain organochlorine insecticides, polychlorinated biphenyls and chlorobenzenes – Gas chromatographic method after liquid – liquid extraction.*

ES ISO 6595, *Water quality – Determination of total arsenic – Silver diethyl dithiocarbonate spectrophotometric method.*

© ESA

ES ISO 6703-1, *Water quality – Determination of cyanide – Part 1: Determination of total cyanide.*

ES ISO 6777, *Water quality – Determination of nitrite – molecular absorption spectrometric method.*

ES ISO 7027, *Water quality – Determination of turbidity.*

ES ISO 7150-2, *Water quality – Determination of ammonium – Part 2: Automated spectrometric method.*

ES ISO 7393, *Water quality – Determination of free chlorine and total chlorine.*

ES ISO 7875-1, *Water quality – Determination of surfactant – Part 1:Determination of anionic surfactants by measurement of the methylene blue index (MBAS).*

ES ISO 7887, *Water quality – Examination and determination of colour.*

ES ISO 7890-3, *Water quality – Determination of nitrate - Part 3:Spectrometric method using sulfosalicylic acid.*

ES ISO 7899-1, *Water quality – Detection and enumeration of intestinial enterococci in surface and waste water – Part 1:* Miniaturized method (Most Probable Number) by in occultation in liquid medium.

ES ISO 7899-2, *Water quality – Detection and enumeration of fecal streptococci – Part 2: Method by membrane filtration*

ES ISO 7980, *Water quality – Determination of calcium and magnesium – Atomic absorption spectrometric method.*

ES ISO 8165-1, *Water quality – Determination of selected monovalent phenols – Part 1:Gas chromatographic method after enrichment by extraction.*

ES ISO 8288, *Water quality – Determination of cobalt, nickel, copper, zinc, cadmium and lead – Flame atomic absorption spectrometric method.*

ES ISO 9280, *Water quality – Determination of sulfate – Gravimetric method.*

ES ISO 9297, *Water quality – Determination of chloride – Silver nitrate titration with chromate indicator (mohr's method).*

ES ISO 9308-1, *Water quality – Determination and enumeration of coliform organisms, thermotolerant coliform organisms and presumptive escherichia coli – Part 1:Membrance filtration method.*

ES ISO 9308-2, *Water quality – Determination and enumeration of coliform organisms, thermotolerant coliform organisms and presumptive escherichia coli – Part 2:Multiple tube (most probable number) method.*

ES ISO 9390, *Water quality – Determination of borate – Spectrometric method using azomethine –H.*

ES ISO 9696, *Water quality – Measurement of gross alpha activity in non-saline water – Thick source method.*

ES ISO 9697, *Water quality – Measurement of gross beta activity in non-saline water.*

ES ISO 9963-1, *Water quality – Determination of alkalinity Part 1:Determination of total and composite alkalinity.*

ES ISO 9964-1, *Water quality – Determination of sodium and potassium – Part 1: Determination of sodium by atomic absorption spectroscopy.*

ES ISO 9964-2, *Water quality – Determination of sodium and potassium – Part 2: Determination of potassium by atomic absorption spectroscopy.*

©ESA

ES ISO 9965, *Water quality – Determination of selenium – Atomic absorption spectrometric method (hydride technique).*

ES ISO 10301, *Water quality – Determination of volatile halogenated hydrocarbons – Gas – chromatographic method.*

ES ISO 10359-1, *Water quality – Determination of fluoride – Part 1: Electrochemical probe method for potable and lightly polluted water.*

ES ISO 10523, *Water quality – Determination of pH.*

ES ISO 11083, *Water quality – Determination of chromium (vi) – Spectrometric method using 1,5-diphenylcarbazide.*

ES ISO 12020, *Water quality – Determination of aluminium – Atomic absorption spectrometric method.*

3 Definitions

For the purpose of this standard, the following definitions and terms defined in ES ISO 6107 shall apply.

3.1
maximum permissible level
a requirement level whose non-fulfillment would disqualify the water for drinking and domestic use because of its probable hazard to health

3.2
palatable water
water that is safe to drink, pleasant to the taste and useable for domestic purpose

3.3
quality water
water intended for drinking and domestic use that conforms with all the requirements specified in this Ethiopian Standard

3.4
safe water
water intended for drinking and domestic use whose limits for toxic substances, bacteriological and organo leptic levels conform to the requirements of this standard.

4 Requirements and test methods

4.1 Physical requirements

The physical characteristics of drinking water shall conform to the levels specified in Table 1.

Table 1 – Physical characteristics of drinking water

Characteristic	Maximum permissible level	Test method
Odour*	Unobjectionable	ES 605
Taste	Unobjectionable	
Turbidity, NTU	5	ES ISO 7027
Colour, TCU	15	ES ISO 7887

* Threshold number, Max. = 3

4.2 Chemical requirements

4.2.1 Palatability properties

Characteristics that affect the palatability of water shall conform to the levels specified in Table 2.

4.2.2 Content of toxic and/or disease causing substances

a) When tested, the characteristics that affect the safety of drinking water shall conform to the levels specified in Table 3.

b) If nitrates (expressed as N) are present in concentrations in excess of 10 mg/l, the water may be unsuitable for use by infants under one year of age, and an alterative source of supply must be found for such infants use or the water from the same source should be corrected in case of lack of other sources.

Table 2 – Characteristics that affect the palatability of drinking water

Substance or characteristic	Maximum permissible level	Test method
Total hardness (as $CaCO_3$)	300	ES 607
Total dissolved solids mg/l, Max	1000	ES 609
Total Iron (as Fe) mg/l, Max	0.3	ES ISO 6332
Manganese (as Mn) mg/l, Max	0.5	ES ISO 6333
Ammonia (NH_3+NH^+_4)* mg/l, Max	1.5	ES ISO 7150-2
Residual, free chlorine mg/l, max	0.5	ES ISO 7393
Anionic surfactants, as mass concentration of MBAS mg/l, Max	1.0	ES ISO 7875-1
Magnesium (as Mg) mg/l, Max	50	ES ISO 7980
Calcium (as Ca), mg/l, Max	75	ES ISO 7980
Copper (as Cu) mg/l, Max	2	ES ISO 8288
Zinc (as Zn) mg/l, Max	5	ES ISO 8288
Sulfate (as SO_4) mg/l, max.	250	ES ISO 9280
Chloride (as Cl), mg/l, Max	250	ES ISO 9297
Total alkalinity (as $CaCO_3$) mg/l, Max	200	ES ISO 9963-1
Sodium (as Na), mg/l, Max	200	ES ISO 9964-1
Potassium (as K), mg/l, max	1.5	ES ISO 9964-2
pH value, units	6.5 to 8.5	ES ISO 10523
Aluminium (as Al) mg/l, Max	0.2	ES ISO 12020

* The term ammonia includes the non-ionized (NH_3) and ionized (NH^+_4) species.

NOTE 1 - Several of the inorganic elements for which maximum permissible levels has been settled are recognized to be essential elements in human nutrition. No attempt has been made here to define a minimum desirable concentration of such substances in drinking water.

© ESA

Table 3 – Content of toxic and/or disease causing substances of drinking water

Substance or characteristic	Maximum permissible level	Test method
Barium (as Ba) mg/l, Max	0.7	ES 606
Total mercury (as Hg) mg/l, Max	0.001	ES ISO 5666-3
Cadmium (as Cd) mg/l, Max	0.003	ES ISO 5961
Arsenic (as As) mg/l, Max	0.01	ES ISO 6595
Cyanide(as CN) mg/l, Max	0.07	ES ISO 6703-1
Nitrite (as NO_2), Mg/l, Max	3	ES ISO 6777
Nitrate as NO_3 Mg/l, Max	50	ES ISO 7890-3
Phenolic compound as phenols , mg/l, Max.	0.002	ES ISO 8165-1
Lead (as Pb) mg/l, Max	0.01	ES ISO 8288
Boron (as B) mg/l, Max	0.3	ES ISO 9390
Selenium (as Se) mg/l, Max	0.01	ES ISO 9965
Fluoride (as F) Max	1.5	ES ISO 10359-1
Chromium (as Cr) mg/l, Max	0.05	ES ISO 11083
Pesticides and Organic constituents, Mg/l, Max		
a) DDT	2	ES ISO 6468
b) Heptachlor and heptachlor epoxide	0.03	
c) Hexchchlorobenzene	1	
d) Lindane (Gamma – BHC)	2	
e) Methoxychlor	20	
f) Aldrin/Dieldrine	0.03	
g) 1,2 Dichloro ethane	30	ES ISO 10301
h) 1,1,1- Trichloro ethane	2001	
i) – Trichloro ethene	70	
j) Trichlorobenzenes (total)	20	
k) Hexachlorobutadiene	0.6	

NOTE - 2 Because of the possibility of simultaneous occurrence of nitrite and in drinking water, the sum of the ratios of the concentration of each to its standard value should not exceed 1, i.e. $\frac{C_{nitrite}}{SV_{nitrite}} + \frac{C_{nitrate}}{SV_{nitrate}} \leq 1$,

Where, C is concentration and SV is standard value.

NOTE – 3 The limit value for fluoride should consider climatic conditions, volume of water consumed and intake from other sources provided the limit specified in the above table is satisfied.

4.3 Other constituents

4.3.1 Radioactivity if present shall not exceed the following levels, when determined according to ES ISO 9696 and ES ISO 9697 respectively :

a) gross alpha activity 0.1 Bq/l max.

b) gross beta activity 1Bq/l max.

NOTE – 4 If a screening value is exceeded, more detailed radionuclide analysis is necessary. Higher values do not necessarily imply that the water is unsuitable for human consumption.

4.4 Bacteriological requirements

4.4.1 When tested with the corresponding test methods, the bacteriological requirements of treated drinking water shall not exceed the levels shown in Table 4.

© ESA

4.4.2 If any coliform organisms are found in a sample, a second sample shall be taken immediately after the tests on the first sample have been completed and shall be free from coliform organisms.

4.4.3 Not more than 2 percent of the total number of water samples from any one distribution system tested per year may contain coliform organisms.

4.4.4 Any treated water shall not contain faecal and coliform organisms when tested with the corresponding test methods.

4.4.5 Any treated water shall not contain any faecal streptococci when tested according to ES ISO 7899-1 or ES ISO 7899-2.

Table 4 – Bacteriological levels

Organism	Maximum permissible level	Test method
Total viable organisms, colonies per ml	must not be detectable	ES ISO 4833
Faecal streptococci per 100ml	must not be detectable	ES ISO 7899-1 ES ISO 7899-2
Coliform organisms, number per 100 ml	must not be detectable	ES ISO 9308-1
E. Coli, number per 100 ml	must not be detectable	ES ISO 9308-1 ES ISO 9308-2

5 Sampling

5.1 Sampling for bacteriological examination.

5.1.1 Frequency of sampling

Sampling should be regular (see the guide given in Table 5) and its frequency will mainly depend on the following factors:

a) quality of the water harnessed;

b) type of treatment for drinking worthiness;

c) risks of contamination;

d) background of public water supply network; and

e) number of people served.

Table 5 — Minimum sampling frequencies for drinking water in the distribution system

Population served	Samples to be taken monthly
Less than 5,000	1 sample
5,000 - 100,000	1 sample per 5,000 population
More than 100,000	1 sample per 10,000 population plus 10 additional samples

5.1.2 Collection, transportation and storage for samples shall be in accordance with ES ISO 5667-5.

5.2 Sampling for physical and chemical examination

5.2.1 Frequency of sampling

Sampling frequency for the examination of physical and chemical characteristics shall be carried out at least twice per year; one is in the rain season and the other one is in the dry season the frequency of this examination shall be increased when toxic substances are known to be present at sub-tolerance levels in the source of supply, or in

©ESA

certain special circumstances as, for example, when new industries that may be discharging toxic wastes are established in the area and the danger of epidemic arising.

5.2.2 Collection, transportation and storage of samples shall be in accordance with ES ISO 5667-5.

©ESA

የኢትዮጵያ የደረጃዎች ኤጀንሲ
Ethiopian Standards Agency

Organization and Objectives

The Ethiopian Standards Agency (ESA) is the national standards body of Ethiopia established in 2010 based on regulation No. 193/2010.ESA is established due to the restructuring of Quality and Standards Authority of Ethiopia (QSAE) which was established in 1998.

ESA's objectives are:-

- Develop Ethiopian standards and establish a system that enable to check whether goods and services are in compliance with the required standards,
- Facilitate the country's technology transfer through the use of standards,
- Develop national standards for local products and services so as to make them competitive in the international market.

Ethiopian Standards

The Ethiopian Standards are developed by national technical committees which are composed of different stakeholders consisting of educational Institutions, research institutes, government organizations, certification, inspection, and testing organizations, regulatory bodies, consumer association etc. The requirements and/ or recommendations contained in Ethiopian Standards are consensus based that reflects the interest of the TC representatives and also of comments received from the public and other sources. Ethiopian Standards are approved by the National Standardization Council and are kept under continuous review after publication and updated regularly to take account of latest scientific and technological changes.
Orders for all Ethiopian Standards, International Standards and ASTM standards, including electronic versions, should be addressed to the Documentation and Publication Team at the Head office and Branch (Liaisons) offices. A catalogue of Ethiopian Standards is also available freely and can be accessed in from our website.

ESA has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of ESA.

International Involvement

ESA, representing Ethiopia, is a member of the International Organization for Standardization (ISO), and Codex Alimentarius Commission (CODEX). It also maintains close working relations with the international Electro-technical Commission (IEC) and American Society for Testing and Materials (ASTM).It is a founding member of the African Regional Organization for Standardization (ARSO).

More Information?
Contact us at the following address.
The Head Office of ESA is at Addis Ababa.

☎ 011- 646 06 85, 011- 646 05 65
011-646 08 80
2310 Addis Ababa, Ethiopia
E-mail: info@ethiostandards.org,
Website: www.ethiostandards.org

Standard Mark

Summary Sheet of Water Sampling and Field Analysis-1

SL. No	Information								Sample Information					Field Test Parameter														
	Location ID	Region	Zone	Woreda	Town/ Village	UTM		Elevation [m]	Sampling Date	Sampling Time	Weather	Source Type	Treatment	T [^{o}C]	EC [mS/m]	pH	ORP [mV]	Fe (D) [mg/l]	Fe [mg/l]	Mn [mg/l]	F [mg/l]	HNO_3 [mg/l]		As [mg/l]	NH_4 [mg/l]		Coliform [count/ml]	Bacteria [count/ml]
						Easting [m]	Northing [m]															Nitrate	Nitrate-Nitrogen		Ammonium	Ammonium-Nitrogen		
1	D4-5	Amhara	N.Shoa	Ageremariam-Kesem	Sholagebeya	543607	1017258	2649	2014/3/1	12:49	Sunny	spring	not treated	22.3	32.9	7.65	183	0	0	0	0.4	20	5	0	0.2	0.2	10	0
2	C1-1	Oromia	E.Shoa	Gimbichu	Chefedonsa	514538	991211	2341	2014/3/1	18:20	Sunny	spring	not treated	23.8	41.4	7.83	178	0	0	0	0.8	2	0.5	0	0.2	0.2	1	0
3	D1-14	Oromia	E.Shoa	Gimbichu	Chefedonsa	514534	990700	2315	2014/3/1	18:34	Sunny	spring	not treated	28.6	41.7	7.66	184	0	0	0	0.8	2	0.5	0.02	0.2	0.2	11	0
4	D1-15	Oromia	E.Shoa	Gimbichu	Areda	528502	1003923	2530	2014/3/2	9:34	Sunny	well	not treated	22.4	43.6	7.48	204	0	0	0	1.5	2	0.5	0.02	0.2	0.2	2	0
5	D1-16	Oromia	E.Shoa	Gimbichu	Areda	530357	1004490	2448	2014/3/2	10:00	Sunny	spring	not treated	21.7	38.5	8.12	178	0	0	0	0.8	5	1	0	0.2	0.2	4	2
6	D1-13	Oromia	E.Shoa	Gimbichu	Harbu	510782	988376	2331	2014/3/2	13:40	Sunny	spring	not treated	23.6	47.3	7.06	215	0	0	0	0.4	2	0.5	0.02	0.2	0.2	5	2
7	D1-20	Oromia	E.Shoa	Adaa	Robgebeya	509200	971800	1944	2014/3/2	16:50	Sunny	spring	chlorinated	24.3	42.9	8.17	181	0	0	0	0.8	2	0.5	0	0	0	0	0
8	D1-10	Oromia	E.Shoa	Adaa	Bakajo	493564	952060	1813	2014/3/3	10:30	Sunny	well	not treated	33.5	106.6	7.62	160	0.05	0.2	0	1.5	2	0.5	0.02	0	0	0	0
9	D1-18	Oromia	E.Shoa	Liben-chukala	Adulala	489505	943707	1723	2014/3/3	11:30	Sunny	well	not treated	31.2	48.8	7.44	197	0	0	0	1.5	2	0.5	0.02	0	0	3	1
10	D1-3	Oromia	E.Shoa	Adaa	Dire Arerti	487831	959121	1961	2014/3/3	14:30	Sunny	well	not treated	31.7	96.3	7.74	217	0	0	0	3	5	1	0.05	0.5	0.2	3	1
11	D1-4	Oromia	E.Shoa	Adaa	Dire	488302	960739	1954	2014/3/3	15:25	Sunny	well	not treated	32.5	95.8	7.76	221	0	0	0	3	5	1	0.05	0	0	59	1
12	D1-9	Oromia	E.Shoa	Adaa	Denkaka	509038	958653	1879	2014/3/4	8:45	Sunny	Hand Pump	not treated	27.2	68.2	7.35	253	0	0	0	1.5	10	2	0	0	0	0	0
13	D1-8	Oromia	E.Shoa	Adaa	Denkaka	504516	959485	1865	2014/3/4	8:25	Sunny	Hand Dug	not treated	27	72.3	7.44	250	0	0	0	1.5	10	2	0	0.5	0.2	26	8
14	D1-17	Oromia	E.Shoa	Lume	Beyo	507817	956090	1843	2014/4/4	8:35	Sunny	Hand Dug	not treated	27.5	65.8	7.5	247	0	0	0	1.5	5	1	0	0.5	0.2	122	41
15	D1-12	Oromia	E.Shoa	Lume	Kemise	510199	959502	1817	2014/4/4	9:45	Sunny	Mojo River	not treated	27.7	68.1	8.39	211	0.05	0.2	0	0.8	1	0.2	0.02	0.2	0.2	31	6
16	D1-11	Oromia	E.Shoa	Lume	Kemise	512290	963912	1945	2014/3/4	10:25	Sunny	spring	chlorinated	27.3	43.5	7.87	230	0	0	0	0.8	5	1	0.02	0	0	0	0
17	D1-21	Oromia	E.Shoa	Lume	Mojo	513345	950655	1783	2014/3/4	11:35	Sunny	well	not treated	27.9	62.6	7.36	251	0	0	0	1.5	5	1	0	0.2	0.2	0	0
18	D4-4R	Amhara	N.Shoa	Minjar-shenkora	Arerti	546233	986204	1816	2014/4/4	16:35	Sunny	well	not treated	27	58.9	7.68	243	0	0	0	1.5	5	1	0	0	0	9	1
19	A1-7	Oromia	E.Shoa	Lume	Koka	506957	931212	1593	2014/3/5	9:50	Sunny	Mojo River	not treated	21.3	126	8.3	211	0.05	0.2	0	1.5	45	10	0	5	5	36	27
20	D1-26	Oromia	E.Shoa	Bora	Alem Tena	493896	917377	1649	2014/3/5	11:25	Sunny	well	not treated	32.6	94.9	8.68	190	0	0	0	3	0	0	0	0	0	0	0
21	A1-1	Oromia	E.Shoa	Bora	Hombole	475870	925848	1684	2014/3/5	12:50	Sunny	Awash River	not treated	22.6	70.9	7.91	225	0.1	0.5	0.5	0.8	45	10	0.02	1	1	23	1
22	D1-2	Oromia	E.Shoa	Adama	Galdia	537802	957253	1573	2014/3/5	17:45	Sunny	well	not treated	43	45.8	7.48	252	0	0	0	3	1	0.2	0	0.5	0.2	167	65
23	A1-2	Oromia	E.Shoa	Adama	Wonji	525366	937056	1542	2014/3/6	8:20	Sunny	Awash River	not treated	20.8	31.7	8.59	203	0	0	0	1.5	1	0.2	0	0	0	23	13
24	D1-1	Oromia	E.Shoa	Adama	Wonji Shoa	523676	928087	1547	2014/3/6	10:10	Sunny	Hand Dug	not treated	25.9	258	7.28	257	0	0	0	0.8	>45	>10	0.1	0.2	0.2	14	0
25	D3-13L	Oromia	E.Shoa	Dodota Sire	Amude	509481	918033	1594	2014/3/6	17:40	Sunny	Koka Lake	not treated	27.7	34.6	8.7	196	0.1	0.2	0	1.5	1	0.2	0	0	0	17	13
26	B1-3R	Oromia	E.Shoa	Fentale	Tututi	585463	981926	1127	2014/3/7	15:05	Sunny	Pond	not treated	30.1	17.5	7.63	221	0.1	0.5	0.5	0.4	1	0.2	0	1	0.5	111	14
27	B1-12	Oromia	E.Shoa	Fentale	Metehara	593000	981600	965	2014/3/7	16:00	Sunny	Lake Beseka	not treated	29.4	312	9.37	138	0	0	0	>8	1	0.2	0.02	0.2	0.2	101	23
28	B1-7	Oromia	E.Shoa	Fentale	Metehara	591607	979363	965	2014/3/7	16:45	Sunny	Lake Beseka	not treated	29.2	380	9.46	134	0	0	0	>8	1	0.2	0.02	0.2	0.2	28	22
29	B1-9	Oromia	E.Shoa	Fentale	Metehara	594960	984098	967	2014/3/7	18:00	Sunny	Lake Beseka	not treated	29	445	9.52	130	0.05	0.2	0	>8	1	0.2	0.02	0.5	0.2	37	23
30	D4-6R	Amhara	N.Shoa	Minjar-shenkora	Kesem	581140	1005858	1003	2014/3/8	11:30	Sunny	kesem River	not treated	31.7	44.5	8.57	176	0	0	0	0.8	1	0.2	0	0	0	0	0
31	D4-2	Amhara	N.Shoa	Minjar-shenkora	Melka jilo	568582	983234	1138	2014/3/8	13:40	Sunny	well	not treated	53.6	166.7	8.22	189	0.05	0.2	0	3	5	1	0.05	0	0	0	0
32	B1-2R	Oromia	E.Shoa	Fentale	Gidara	587951	968181	1095	2014/3/9	11:25	Sunny	River/Canal	not treated	26.5	34.2	8.67	109	0.1	0.2	0	1.5	1	0.2	0	0.2	0.2	23	15
33	B1-11	Oromia	E.Shoa	Fentale	Beseka Lake	592000	977900	968	2014/3/9	14:00	Sunny	Lake Beseka	not treated	29.1	388	9.48	132	0	0	0	>8	1	0.2	0.05	0.2	0.2	22	9
34	B1-8	Oromia	E.Shoa	Fentale	Abader	591608	976552	964	2014/3/9	14:35	Sunny	spring	not treated	41.3	180.7	8	135	0	0	0	>8	5	1	0.05	0	0	0	0
35	D3-18R	Oromia	E.Shoa	Fentale	Abader-04	596626	973633	978	2014/3/9	17:00	Sunny	well	not treated	31.1	217	7.87	143	0	0	0	>8	20	5	0.02	0	0	1	1
36	B1-13	Oromia	E.Shoa	Fentale	Metehara	600905	982406	963	2014/3/9	18:25	Sunny	Lake outlet	not treated	28	468	9.53	164	0	0	0	>8	1	0.2	0.02	0	0	too many	Too many
37	D4-7	Afar	Zone-3	Awash-Fentale	Sabure	608800	1011276	779	2014/3/10	10:40	Sunny	Hand Pump	not treated	27.6	136.8	8.23	155	0	0	0	3	20	5	0.02	0.5	0.5	2	1
38	A1-5	Oromia	E.Shoa	Fentale	Awash-Fall	611190	977348	936	2014/3/10	15:00	Sunny	Awash River	not treated	25.1	154.7	8.88	124	0.3	0.5	0.5	1.5	1	0.2	0.05	0.2	0.2	Too many	Too many
39	B1-10	Oromia	E.Shoa	Fentale	Metehara	595100	977400	989	2014/3/11	9:00	Sunny	Lake Beseka	not treated	24.9	441	9.48	162	0.05	0.2	0	>8	1	0.2	0.05	0	0	98	22
40	D1:23	Oromia	E.Shoa	Boset	Welenchiti	547200	957300	1457	2014/3/11	13:00	Sunny	well	not treated	28.2	63.1	7.89	240	0	0	0	3	2	0.5	0.02	0.5	0.5	6	0
41	D1-25W	Oromia	E.Shoa	Adama	Bote Lema	537582	943215	1488	2014/3/11	13:35	Sunny	well	not treated	41.2	84.4	8.04	230	0	0	0	3	2	0.5	0.02	0.5	0.2	83	27
42	D4-6	Amhara	N.Shoa	Minjar-shenkora	Meteh Bela	577900	1017900	1645	2014/3/12	10:45	Sunny	River	not treated	28.5	55.2	8.24	207	0	0	0	0.4	1	0.2	0	0	0	28	2
43	D4-6R2	Amhara	N.Shoa	Minjar-shenkora	Meti	568803	1011183	1436	2014/3/12	11:30	Sunny	River	not treated	28.7	42.2	8.81	183	0	0	0	0.8	1	0.2	0	0	0	37	11
44	D4-4W	Amhara	N.Shoa	Minjar-shenkora	Arerti	548008	989483	1761	2014/3/12	14:15	Sunny	well	not treated	24.6	58.2	8.51	198	0	0	0	1.5	20	5	0.02	0.5	0.5	16	3

水質試験結果(1/4)

Summary Sheet of Water Sampling and Field Analysis-2

SL. No	Information								Sample Information					Field Test Parameter														
	Location ID	Region	Zone	Woreda	Town/ Village	UTM		Elevation [m]	Sampling Date	Sampling Time	Weather	Source Type	Treatment	T [^{o}C]	EC [mS/m]	pH	ORP [mV]	Fe (D) [mg/l]	Fe [mg/l]	Mn [mg/l]	HNO_3 [mg/l]		F[mg/l]	As [mg/l]	NH_4 [mg/l]		Coliform [count/ml]	Bacteria [count/ml]
						Easting [m]	Northing [m]														Nitrate	Nitrate-Nitrogen			Ammonium	Ammonium-Nitrogen		
1	A1-3	Oromia			A.Melkasa	536,117	927,127	1530	2014/3/2	4:50	sunny	River		23.4	38.4	7.74	271	0.05	0.2	0.5	1	0.2	3	0	0.2	0.2	1000	1050
2	D3-2	Oromia	Arsi	Sire	Sire	554,607	914,816	1978	2014/3/2	6:45	sunny	Spring		22.4	37.8	7.12	269	0.05	0.2	0.5	45	10	0.4	0	0.5	0.5	24	52
3	D3-12	Oromia	Arsi	Hetosa	NW Iteya	513,517	905,453	1990	2014/3/3	8:40	sunny	Well		26.4	7.19	7.53	221	0.05	0.2	0.5	2	0.5	0.4	0	0.2	0.2	2	2
4	D3-8	Oromia	Arsi	Tiyo	Gonde	521,004	887,665	2278	2014/3/3	6:05	sunny	Spring		17.7	12.37	7.55	254	0.05	0.2	0.5	2	0.5	0.4	0	0.2	0.2	9	28
5	C2-1	Oromia	Arsi	Hurura	Huruta	540,436	900,466	20001	2014/3/3	11:45	cloudy	Spring		20.3	6.85	8.01	233	0.05	0.2	0.5	1	0.2	0.4	0	0.2	0.2	0	0
6	D3-9	Oromia	Arsi	Lode Het	Arb Gegeya	547,581	898,647	2460	2014/3/3	12:40	cloudy	Spring		17.5	5.22	7.92	238	0.05	0.2	0.5	1	0.2	0.4	0	0.5	0.5	2	10
7	D3-10	Oromia	Arsi	Lode Het	Arb Gegeya	548,387	894,467	2478	2014/3/3	12:45	sunny	Spring		17.1	6.1	7.8	244	0.05	0.2	0.5	1	0.2	0.4	0	0.2	0.2	0	0
8	D3-1	Oromia	Arsi	Sire	Sire	553,860	915,163	1993	2014/3/2	8:30	sunny	Well		24.1	27	7.7	239	0.05	0.2	0.5	20	5	0.8	0	0.5	0.5	80	300
9	C2-2	Oromia	Arsi	Sire	Sire	554,300	914,700	2030	2014/3/2	8:55	sunny	Spring		25.1	30.2	7.87	220	0.05	0.2	0.5	10	2	0.8	0	0.5	0.5	200	350
10	D3-16	Oromia	Arsi	Hitosa	Denb Kidame	559,573	905,271	2475	2014/3/4	7:40	sunny	Well		18	51.9	7.89	229	0.05	0.2	0.5	1	0.2	0.8	0.1	0.5	0.5	5	7
11	D3-3	Oromia	Arsi	Jeju	Belo	564,563	910,815	2539	2014/3/4	9:15	sunny	Well		22.2	48.4	7.87	215	0.05	0.2	0.5	1	0.2	1.5	0.1	0.2	0.2	3	53
12	D3-4	Oromia	Arsi	Jeju	Arboye	575,696	926,736	2089	2014/3/4	10:40	sunny	Spring		23	13.3	8	217	0.05	0.2	0.5	2	0.5	0.8	0.05	0.2	0.2	6	12
13	C2-4	Oromia	Arsi		Hegere Sis/Arboye	575,777	926,678	2092	2014/3/4	11:08	sunny	Spring		20.3	26.8	8	218	0.05	0.2	0.5	1	0.2	1.5	0.1	0.5	0.5	7	7
14	D2-4	Oromia	W.Hara	G/Koricha	Bube	661,671	981,852	1951	2014/3/8	10:12	cloudy	Spring		21.6	42.2	7.67	243	0.05	0.2	0.5	5	1	0.4	0	0.2	0.2	1	1
15	D3-17	Oromia	Arsi	Merti	Abomsa	591,398	937,996	1588	2014/3/4	12:27	cloudy	Well		28.7	43.9	7.18	242	0.05	0.2	0.5	2	0.5	0.8	0.02	0.2	0.2	0	0
16	C2-6	Oromia	Arsi		Gona	602,013	926,019	2632	2014/3/6	5:00	sunny	Spring		16.9	11.03	6.7	291	0.05	0.2	0.5	2	0.5	0.4	0	0.2	0.2	0	1
17	D3-6	Oromia	Arsi	Aseko	Aseko	612,542	939,466	2104	2014/3/5	4:00	cloudy	Spring		20.7	29.6	7.43	241	0.05	0.2	0.5	45	10	0.4	0	0.2	0.2	0	0
18	D3-5	Oromia	Arsi	Aseko	Aseko	612,542	939,506	2157	2014/3/5	4:35	sunny	Spring		22.4	30.4	7.74	227	0.05	0.2	0.5	2	0.5	0.4	0	0.2	0.2	18	36
19	C2-8	Oromia	Arsi		R/ridge	620,349	936,126	2852	2014/3/5	6:58	cloudy	Spring		15.2	5.27	7.87	260	0.05	0.2	0.5	2	0.5	0.2	0	0.2	0.2	5	9
20	C2-7	Oromia	Arsi		R/ridge	601,783	944,575	1856	2014/3/5	11:00	sunny	Spring		21.3	75	7.16	266	0.05	0.2	0.5	2	0.5	0.8	0	0.2	0.2	29	72
21	D2-2	Oromia	W.Hara	Anchar	Bedeyi	627,128	954,960	2162	2014/3/7	7:15	sunny	Well		22.7	36.7	7.6	237	0.05	0.2	0.5	20	5	1.5	0	0.2	0.2	0	1
22	D2-14	Oromia	W.Hara	G/Koricha	cheleleka	636,945	957,053	2263	2014/3/7	10:39	sunny	Well		24.6	26.1	7.92	227	0.05	0.2	0.5	1	0.2	0.8	0	0.2	0.2	1	5
23	D2-1	Oromia	W.Hara	Anchar	chorora	641,147	971,377	1703	2014/3/7	11:45	cloudy	Well		22.8	64.8	7.86	227	0.05	0.2	0.5	2	0.5	0.8	0	0.2	0.2	1	3
24	D2-7	Oromia	W.Hara	Miesso	Bordode	652,373	996,613	1085	2014/3/8	8:45	sunny	Well		34.1	92.2	7.94	216	0.05	0.2	0.5	5	1	0.4	0	0.2	0.2	3	0
25	A1-6	Oromia	E.Shewa	L.Koka	Awash.R	630,003	997,776	811	2014/3/10	3:23	sunny	River		24.2	126.1	8.01	171	0.05	0.2	0.5	1	0.2	8	0	0.2	0.2	41	40
26	D2-10	Oromia	W.Hara	Miesso	Belo	644,835	984,505	1224	2014/3/9	2:10	sunny	Well		28.2	73.1	8.08	222	0.05	0.2	0.5	2	0.5	0.8	0	0.2	0.2	0	0
27	D2-3	Oromia	W.Hara	G/Koricha	Hardim	656,500	975,992	1637	2014/3/8	11:07	cloudy	Well		25	44	7.63	238	0.05	0.2	0.5	10	2	0.4	0	0.2	0.2	0	60
28	D2-11	Oromia	W.Hara	Miesso	Kora	668,293	1,007,019	1245	2014/3/9	4:00	sunny	Well		28.9	75	7.36	249	0.05	0.2	0.5	20	5	0.8	0	0.2	0.2	0	0
29	D2-9	Oromia	W.Hara	Miesso	Anano	668,333	1,006,613	1210	2014/3/9	4:15	sunny	River		27.3	120.3	8.32	224	0.05	0.2	0.5	5	1	0.8	0	0.5	0.5	75	78
30	D2-8	Oromia	W.Hara	Miesso	Kinteri	669,263	1,006,461	1240	2014/3/9	5:36	sunny	River		29.9	100.7	8.45	215	0.05	0.2	0.5	5	1	0.8	0	0.5	0.5	143	145
31	D2-6	Oromia	W.Hara	Miesso	Hargeti	674,765	1,002,450	1354	2014/3/9	5:00	sunny	River		24.7	76.1	8.49	194	0.05	0.2	0.5	2	0.5	0.4	0	0.2	0.2	150	143
32	D2-12	Oromia	W.Hara	G/Koricha	Hayyu Gubak	669,248	994,178	1684	2014/3/9	6:51	sunny	Well		26.5	70.9	7.7	223	0.05	0.2	0.5	1	0.2	1.5	0	0.2	0.2	0	0
33	D2-16	Oromia	W.Hara	G/Koricha	Dallo	672,182	995,077	1639	2014/3/9	8:30	sunny	Well		26.3	64.8	7.25	249	0.05	0.2	0.5	10	2	0.4	0	0.2	0.2	9	11
34	D2-15	Oromia	W.Hara	Miesso	Asebot	683,191	1,014,356	1489	2014/3/9	10:46	sunny	Well		23.9	51.4	7.56	228	0.05	0.2	0.5	45	10	0.8	0	0.5	0.5	0	0
35	D2-5	Oromia	W.Hara	Miesso	Miesso	692,727	1,021,244	1327	2014/3/9	11:00	sunny	Well		27.2	50.9	7.61	226	0.05	0.2	0.5	5	1	0.8	0	0.2	0.2	0	17
36	A2-1	Oromia	Arsi		Nura Hera	582,735	956,054	1152	2014/3/6	12:10	cloudy	River		25	36	8.54	197	0.05	0.2	0.5	1	0.2	3	0	0.5	0.5		
37	D3-7	Oromia	Arsi	Merti	Bole/Golgota	583,509	955,048	1147	2014/3/6	11:15	sunny	Well		30.2	58.4	7.74	228	0.05	0.2	0.5	45	10	1.5	0	0.5	0.5	0	5
38	D1-6	Oromia	E.Shewa	Boset	Boset/Bole	582,848	956,036	1165	2014/3/6	11:45	sunny	Well		27.5	116.7	7.69	239	0.05	0.2	0.5	45	10	8	0	0.2	0.2	1	2
39	D1-7	Oromia	E.Shewa	Boset	Boset/Bole	582,869	955,926	1154	2014/3/6	11:30	sunny	River		26.2	37.2	8	197	0.05	0.2	0.5	1	0.2	1.5	0	0.2	0.2	7	70
40	A1-4	Oromia	E.Shewa		Doni	562,228	940,652	1242	2014/3/12	8:59	sunny	River		23.9	37.3	8.63	166	0.05	0.2	0.5	1	0.2	3	0	0.2	0.2	56	57
41	D1-5	Oromia	E.Shewa	Boset	Bofa	549,295	935,504	1425	2014/3/11	7:55	sunny	Well		33.5	106.7	7.6	206	0.05	0.2	0.5	1	0.2	3	0	5	5	0	0

Annex: List of Analysis Result (Laboratory)-1

No	Zone	UTM (m)		Sample Number	Laboratory Test Parameter																								
					Taste	Color	Turbidity	Total Dissolved Solids	Total Solids	pH	EC	Total Hardness (by $CaCO_3$)	Calcium (Ca)	Magnesium (Mg)	Potassium (K)	Sodium (Na)	Iron (Fe)	Manganese (Mn)	Chloride (Cl)	Sulfate (SO_4)	Nitrate (NO_3)	Nitrite (NO_2)	Alkalinity (by $CaCO_3$)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Fluoride (F)	Total Phosphorus (TP)	Ammonia (NH_3)
		Easting	Northing				NTU	mg/l	mg/l		ms/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
					Slightly Salty	Unobjectionable																							
1	East Shewa	475,870	925,848	A1-1			167.54	460	640	7.32	69.2	192	68	5.28	18	82	0.29	trace	55.52	33.02	22.25	0.054	220	nill	268.4	1.63	2.75	0.34
2	East Shewa	525,366	937,056	A1-2			65.7	214	320	8.2	32.7	110	36	4.8	7	35.5	0.24	trace	14.56	14.96	2	trace	140	7.2	156.16	0.94	0.28	0.33
3	East Shewa	536,117	927,127	A1-3			58.035	300	380	7.78	41.1	130	37.6	8.64	12.3	51.5	0.31	trace	20.93	42.55	0.78	trace	168	nill	204.96	1.4	0.22	0.34
4	East Shewa	562,228	940,652	A1-4			0.04	240	260	6.89	35.3	120	36	7.2	6.6	40.5	0.49	0.3	16.38	32.8	0.27	0.001	150	nill	183	1.05	0.81	3.32
5	East Shewa	611,190	977,348	A1-5			19.71	1020	1050	8.5	153	86	29.6	2.88	21	345	0.18	trace	102.84	146.48	0.78	0.012	572	48	600.24	3.55	0.84	0.79
6	East Shewa	630,003	997,776	A1-6			31.39	800	880	8.46	123.3	92	28	5.28	17.2	256	0.25	trace	87.37	83.79	3.75	0.25	458	28.8	500.2	4.07	0.34	0.43
7	East Shewa	506,957	931,212	A1-7			134.32	800	920	7.73	127.8	228	62.4	17.28	23.5	172	0.16	trace	131.05	100.38	41.94	trace	356	nill	434.32	0.92	0.51	0.52
8	Arsi	582,735	956,054	A2-1			145.27	280	640	7.75	37.6	98	31.2	4.8	7.7	49	0.03	trace	26.39	14.85	2.76	0.118	170	nill	207.4	0.96	0.36	0.56
9	East Shewa	591,850	994,110	B1-1			trace	1120	1132	8.37	174.4	26	4	3.84	28.5	400	0.06	trace	116.49	76.45	0.04	0.01	624	nill	761.28	7.21	0.2	0.1
10	East Shewa	587,951	968,181	B1-2R			21.17	240	270	7.76	35.7	100	34.4	3.36	7.3	43.5	0.39	trace	18.2	31.02	1.22	0.023	160	nill	195.2	1.07	0.58	0.59
11	East Shewa	585,463	981,926	B1-3R			417.93	118	620	6.85	16.9	50	16	2.4	12.5	14	4.64	trace	21.84	2.66	0.19	1.6	72	nill	87.84	0.48	0.73	1.96
12	East Shewa	602,703	975,418	B1-4			trace	1240	1250	7.52	199.7	130	28	14.4	11.8	470	0.02	trace	74.63	85.87	0.11	0.02	844	nil	1029.68	7.72	0.25	0.14
13	East Shewa	600,885	972,382	B1-5			trace	1100	1112	7.54	173.5	160	29.6	20.64	12.9	390	0.04	trace	52.79	146.26	0.06	0.01	698	nil	851.56	3.89	0.38	0.32
14	East Shewa	604,677	978,810	B1-6			trace	1700	1712	7.48	244.2	364	79.2	39.84	23	470	0.03	trace	180.2	481.98	0.21	0.01	610	nil	744.2	2.56	0.41	0.4
15	East Shewa	591,607	979,363	B1-7			14.6	2600	2640	9.25	384	26	6.4	2.4	43	940	trace	trace	313.98	383.37	0.35	trace	1324	280.8	1044.32	11.34	1.11	0.11
16	East Shewa	591,608	976,552	B1-8			trace	980	990	8.02	145	64	12.8	7.68	26.5	350	0.09	trace	105.57	169.08	3.32	0.023	480	nil	585.6	5	0.66	0.54
17	East Shewa	594,960	984,098	B1-9			20.81	3060	3100	9.41	447	28	5.6	3.36	51	1120	trace	trace	346.74	483.09	0.16	trace	1648	388.8	1220	23.91	1.28	0.3
18	East Shewa	595,100	977,400	B1-10			17.52	2880	2904	9.33	434	50	9.6	6.24	52	1080	0.04	trace	330.36	490.29	0.21	0.002	1490	364.8	1076.04	5.37	1.76	0.57
19	East Shewa	592,000	977,900	B1-11			14.6	2540	2560	9.54	382	28	6.4	2.88	46	1000	0.15	trace	292.14	360.1	3.61	0.076	1290	304.8	954.04	3.49	1.69	0.62
20	East Shewa	593,000	981,600	B1-12			13.87	2240	2270	9.28	326	30	6.4	3.36	41	840	trace	trace	258.47	351.79	0.8	0.08	1156	232.8	936.96	12.72	0.85	0.65
21	East Shewa	600,905	982,406	B1-13			25.92	3160	3210	9.34	463	44	9.6	4.8	54	1130	trace	trace	360.4	485.3	0.25	trace	1698	410.4	1237.08	22.68	1.24	0.28
22	East Shewa	592,612	981,509	B1-14			trace	1200	1240	8.42	177.2	38	3.8	6.84	23.5	435	0.01	trace	131.05	186.7	3.63	0.017	582	40.8	627.08	6.83	2.29	0.09
23	East Shewa	598,077	972,974	B1-15			1414.375	340	5640	7.37	49.6	117.8	31.92	9.12	11	63	0.99	trace	30.94	35.01	2.88	0.1	206	nil	251.32	1.98	4	0.65
24	East Shewa	592,729	967,092	B1-16			1438.1	320	3960	7.61	48.9	117.8	32.68	8.66	11.6	61	0.65	trace	30.94	34.46	4.39	0.06	194	nil	236.68	1.56	3.1	0.34
25	East Shewa	596,078	965,762	B1-17			585.83	300	8040	7.54	46.5	106.4	33.44	5.47	10.8	59.5	0.6	trace	28.21	27.37	2.33	0.03	202	nil	246.44	1.59	2.32	0.66
26	East Shewa	601,502	978,505	B1-18		Slightly yello	1910.775	320	9320	7.38	46	114	30.4	9.12	11.4	60.5	1.11	trace	25.48	33.13	6.63	0.333	210	nil	256.2	1.44	4.41	0.7
27	East Shewa	595,246	975,723	B1-19	Salty	Slightly yello	44.165	2920	3040	9.28	423	32.3	7.6	3.19	41	1070	0.14	trace	322.17	460.93	0.27	0.005	1520	350.4	1141.92	15.83	3.87	0.79
28	East Shewa	591,674	978,734	B1-20	Silghtly salty		trace	1000	1040	8.4	143.1	28.5	4.56	4.1	16.5	390	0.01	trace	96.47	127.31	2.64	0.01	540	76.8	502.64	8.87	3.83	0.07
29	East Shewa	514,538	991,211	C1-1			0.365	280	292	7.64	42.6	172	49.6	11.52	7.7	32	0.13	trace	10.92	2.66	2.93	0.003	220	nil	268.4	0.63	0.24	0.09
30	Arsi	540,436	900,466	C2-1			trace	80	86	7.5	12.5	50	11.2	5.28	2.8	9.2	0.05	0.03	1.82	0.11	0.99	trace	66	nil	80.52	0.57	0.19	0.24
31	Arsi	554,300	914,700	C2-2			trace	380	390	7.47	61	256	68.8	20.16	10.8	41.5	0.04	0.1	10.92	1.99	11.06	0.001	306	nil	373.32	0.66	0.19	0.31
32	Arsi	575,777	926,678	C2-4			trace	160	170	7.62	26.3	110	33.6	6.24	4.1	16	0.03	0.01	2.73	0.11	1.81	trace	134	nil	163.48	0.72	0.21	0.33
33	Arsi	602,013	926,019	C2-6			trace	60	68	6.08	9.6	38	8.8	3.84	2.5	7.1	0.03	trace	4.55	0.11	2.45	0.001	44	nil	53.68	0.47	0.43	0.12
34	Arsi	620,349	936,126	C2-8			0.37	60	74	7.59	8.8	50	12.8	4.32	1.3	2.9	0.01	trace	3.64	0.11	2.88	0.011	50	nil	61	0.48	0.94	0.09
35	Arsi	601,783	944,575	C2-7			25.92	450	520	6.96	73.5	348	106.4	19.68	7.3	28	0.02	trace	19.11	1.66	2.93	0.025	398	nil	485.56	0.61	0.97	0.26
36	East Shewa	523,676	928,087	D1-1			0.73	1420	1440	7.44	223	720	224	38.4	49.5	154	0.1	trace	192.03	243.21	71.23	0.016	486	nil	592.92	0.54	1.16	2.01
37	East Shewa	537,802	957,253	D1-2			trace	280	288	7.44	46.3	106	32	6.24	19.5	63	0.08	trace	9.1	11.97	0.99	0.03	214	nil	261.08	1.69	0.31	0.25
38	East Shewa	487,831	959,121	D1-3			trace	600	608	7.7	95.9	188	60	9.12	17	170	trace	trace	22.75	3.52	4.99	0.006	486	nil	592.92	4.49	0.31	0.11
39	East Shewa	488,302	960,739	D1-4			trace	632	640	7.83	95.2	172	59.2	5.76	18	176	trace	trace	23.66	4.37	1.07	0.01	480	nil	585.6	2.44	0.55	0.12
40	East Shewa	549,295	935,504	D1-5			trace	700	712	7.86	104.6	130	27.2	14.88	19	184	0.18	0.1	49.14	73.79	37.1	0.367	414	nil	505.08	1.96	0.31	1.09
41	East Shewa	582,848	956,036	D1-6			2.19	880	900	7.56	116.1	220	54.4	20.16	10	192	0.02	trace	43.68	179.94	37.8	0.027	422	nil	514.84	1.26	0.24	0.19
42	East Shewa	582,869	955,926	D1-7			134.32	260	520	7.53	38.3	124	32.8	10.08	7.3	46	0.07	trace	27.3	15.73	0.33	0.017	172	nil	209.84	1.83	0.45	0.43
43	East Shewa	504,516	959,485	D1-8			trace	440	448	7.37	67.6	250	88	7.2	11.3	68	0.27	trace	19.11	7.7	6.78	0.01	336	nil	409.92	0.71	0.29	0.23
44	East Shewa	509,038	958,653	D1-9			trace	460	472	7.49	71.9	260	76	16.8	10.5	70	0.01	trace	19.11	9.88	10.79	0.01	360	nil	439.2	1.07	0.3	0.22
45	East Shewa	493,564	952,060	D1-10			trace	612	624	7.72	103.6	216	56	18.24	17.5	150	0.01	trace	42.77	7.89	3.42	0.01	498	nil	607.56	3.14	0.34	0.12
46	East Shewa	512,290	963,912	D1-11			trace	280	288	7.82	44.9	196	69.6	5.28	7	29.5	trace	trace	6.37	2.76	4.64	0.004	230	nil	280.6	0.52	0.33	0.11
47	East Shewa	510,199	959,502	D1-12			34.31	440	500	7.94	68.7	218	51.2	21.6	11.6	75	0.06	trace	23.66	25.65	7.37	0.52	310	nil	378.2	0.82	0.32	0.42
48	East Shewa	510,782	988,376	D1-13			trace	300	312	6.91	48.2	202	52	17.28	6	34	trace	trace	10.1	2.76	2.6	0.01	250	nil	305	0.54	0.34	0.08
49	East Shewa	514,534	990,700	D1-14			16.8	280	280	7.6	42.8	170	41.6	15.84	9	31.5	0.05	trace	8.19	4.47	4.02	0.024	222	nil	270.84	0.66	0.21	0.23
50	East Shewa	528,502	1,003,923	D1-15			trace	268	280	7.42	44.6	204	52	17.76	4.3	23.5	0.03	trace	7.28	1.05	2.29	0.003	240	nil	292.8	0.79	0.33	0.08
51	East Shewa	530,357	1,004,490	D1-16			trace	240	252	7.84	38.8	176	50.4	12	3.6	16.5	0.04	trace	8.19	0.1	4.26	0.004	210	nil	256.2	0.53	0.76	0.25
52	East Shewa	507,817	956,090	D1-17			0.365	440	452	7.55	70.4	250	73.6	15.84	16	65	0.01	trace	19.11	8.27	7.44	0.01	340	nil	414.8	0.69	0.31	0.29
53	East Shewa	489,505	943,707	D1-18			trace	320	332	7.44	49.2	172	56	7.68	8.4	53	trace	trace	11.83	3.14	2.37	0.01	244	nil	297.68	1.79	0.34	0.08
54	East Shewa	509,200	971,800	D1-20			trace	280	296	7.83	44.4	112	36	5.28	7	60	trace	trace	10.92	1.71	3.87	0.001	230	nil	280.6	0.65	0.25	0.16
55	East Shewa	513,345	950,655	D1-21			trace	410	420	7.75	61.5	188	52	13.92	18.5	82	0.13	trace	11.83	25.15	2.2	0.058	316	nil	385.52	0.74	0.29	0.23
56	East Shewa	547,200	957,300	D1-23			trace	420	430	7.85	62.5	96	24.8	8.16	20	121	0.02	trace	14.56	16.07	1.42	0.01	316	nil	385.52	3.08	0.28	0.21
57	East Shewa	537,582	943,215	D1-25R			77.38	220	340	7.98	34.2	108	29.6	8.16	7.2	39	0.32	trace	14.56	11.74	3.01	0.109	152	nil	185.44	1.06	0.42	0.41
57	East Shewa	537,582	943,215	D1-25W			trace	560	570	7.98	81.3	40	11.2	2.88	22.5	188	0.03	trace	27.3	32.46	1.55	0.01	392	nil	478.24	3.24	0.07	0.2
58	East Shewa	493,896	917,377	D1-26			trace	560	572	8.21	92.9	50	16	2.4	12.1	190	0.08	trace	41.86	21.16	0.68	trace	424	48	419.68	4.78	0.33	0.26
59	West Hararge	641,147	971,552	D2-1			trace	400	412	7.66	63.9	272	44	38.88	11.3	41	0.02	trace	23.66	19.17	2.16	0.021	320	nil	390.4	0.54	0.36	0.35
60	West Hararge	627,128	954,960	D2-2			1.83	440	456	7.43	74.5	354	91.2	30.24	7.9	28	0.01	trace	14.56	6.43	13.02	0.009	388	nil	473.36	0.5	0.48	0.28
61	West Hararge	656,500	975,992	D2-3			2.6	560	580	7.34	91.1	400	136	14.4	4.5	53	trace	trace	45.5	17.58	10.57	0.01	410	nil	500.2	0.71	0.3	0.28
62	West Hararge	661,671	981,852	D2-4			0.365	250	360	7.01	42.1	176	52.8	10.56	3.4	22	trace	trace	10.01	0.48	3.09	trace	220	nil	268.4	0.52	0.23	0.25
63	West Hararge	692,727	1,021,244	D2-5			trace	356	360	7.43	61	210	57.6	15.84	8.4	51	trace	trace	21.84	5.98	17.04	trace	280	nil	341.6	0.69	0.23	0.32
64	West Hararge	674,765	1,002,450	D2-6			158.05	460	670	7.83	75.2	230	76	9.6	6.2	77	0.02	trace	50.97	29.26	0.16	0.01	300	nil	366	0.64	0.32	1.56
65	West Hararge	652,373	996,613	D2-7			trace	620	632	7.68	92.3	290	72	26.4	23	108	trace	trace	62.8	55.29	5.52	0.013	352	nil	429.44	0.84	0.25	0.28
66	West Hararge	669,263	1,006,461	D2-8			3.65	644	660	7.43	99.7	310	108	9.6	12.2	111	0.03	trace	112.85	44.56	2.47	0.13	320	nil	390.4	0.47	0.37	0.75
67	West Hararge	668,333	1,006,613	D2-9			15.7	740	770	7.55	121.3	400	148	7.2	12.5	118	0.03	trace	160.18	36.48	1.65	0.09	380	nil	463.6	0.52	0.36	0.67
68	West Hararge	644,835	984,505	D2-10			2.19	460	480	7.28	71.6	78	23.2	4.8	5.3	134	trace	trace	121.95	64.79	2.22	0.02	100	nil	122	0.65	0.33	0.21
69	West Hararge	668,293	1,007,019	D2-11			0.37	1000	1014	7.17	149.2	656	236	15.84	5	72	trace	trace	200.22	71.73	38.98	0.02	430	nil	524.6	0.5	0.15	0.47
70	West Hararge	669,248	994,178	D2-12			4.38	420	440	7.26	70.2	220	58.4	17.76	11.3	66	0.17	0.09	22.75	8.65	0.25	0.01	360	nil	439.2	0.57	0.17	0.13
71	West Hararge	636,945	957,053	D2-14			1.83	154	170	7.62	24.7	130	32	12	0.5	7	0.01	trace	7.28	0.44	0.49	0.006	134	nil	163.48	0.44	0.21	0.2
72	West Hararge	683,191	1,014,356	D2-15			trace	640	650	7.79	103.6	340	94.4	24.96	6.4	96	trace	trace	98.29	44.54	34.24	trace	310	nil	378.2	0.55	0.22	0.32
73	West Hararge	672,182	995,077	D2-16			trace	376	380	7.66	64.8	290	86.4	17.76	6.5	33.5	trace	trace	14.56	0.22	11.08	trace	320	nil	390.4	0.56	0.25	0.34
74	Arsi	553,860	915,163	D3-1			trace	380	388	7.6	60.8	250	68	19.2	10.8	38	0.05	0.03	10.01	2.22	10.55	0.002	310	nil	378.2	0.7	0.21	0.25
75	Arsi	554,607	914,816	D3-2			trace	460	470	7.74	75.5	344	128	5.76	8.1	33.5	0.14	trace	22.75	20.05	15.33	trace	324	nil	395.28	0.6	0.19	0.19

: Equal to or more than WHO standard and less than Ethiopia standard

: Equal to or more than Ethiopia standard

水質試験結果(3/4)

Annex: List of Analysis Result (Laboratory)-2

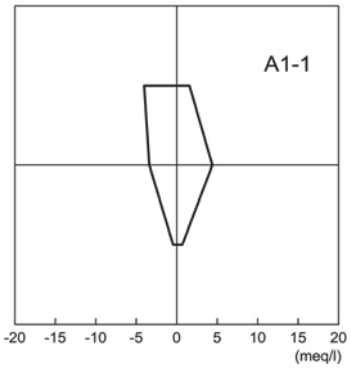
No	Zone	UTM (m)		Sample Number	Laboratory Test Parameter																								
		Easting	Northing		Taste	Color	Turbidity	Total Dissolved Solids	Total Solids	pH	EC	Total Hardness (by $CaCO_3$)	Calcium (Ca)	Magnesium (Mg)	Potassium (K)	Sodium (Na)	Iron (Fe)	Manganese (Mn)	Chloride (Cl)	Sulfate (SO_4)	Nitrate (NO_3)	Nitrite (NO_2)	Alkalinity (by $CaCO_3$)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Fluoride (F)	Total Phosphorus (TP)	Ammonia (NH_3)
							NTU	mg/l	mg/l		ms/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
					Slightly Salty	Unobjectionable																							
76	Arsi	564,563	910,815	D3-3			trace	300	310	7.6	48.7	202	60.8	12	9	30.5	0.03	trace	4.55	0.11	0.58	trace	266	nil	324.52	0.73	0.17	0.25
77	Arsi	575,696	926,736	D3-4			trace	160	168	7.55	26.4	116	32.8	8.16	4	18	0.06	0.04	3.64	0.11	2.35	trace	148	nil	180.56	0.82	0.2	0.37
78	Arsi	612,542	939,506	D3-5			trace	380	392	7.61	61.3	320	70.4	34.56	1.4	23	0.01	trace	9.1	0.11	9.97	0.009	332	nil	405.04	0.48	0.31	0.17
79	Arsi	612,181	939,466	D3-6			trace	380	390	7.46	59.8	308	76.8	27.84	1.6	14	0.01	trace	18.2	0.22	42.13	0.001	276	nil	336.72	0.47	0.35	0.23
80	Arsi	584,509	955,048	D3-7			2.19	780	800	7.57	115.2	182	38.4	20.64	10	188	0.04	trace	32.76	159.11	18.13	0.013	410	nil	500.2	1.63	0.4	0.26
81	Arsi	521,004	887,665	D3-8			trace	74	80	6.89	12.3	50	12	4.8	3.4	6.6	0.25	0.01	3.64	0.78	8.84	trace	54	nil	65.88	0.53	0.21	0.59
82	Arsi	547,581	898,647	D3-9			trace	58	68	7.11	9.9	46	12	3.84	1.5	4.6	0.03	trace	0.91	0.11	0.95	trace	50	nil	61	0.49	0.3	0.4
83	Arsi	548,387	894,467	D3-10			trace	60	100	6.98	9.8	50	14.4	3.36	1.5	4.6	0.06	0.02	2.73	0.11	0.99	trace	52	nil	63.44	0.65	0.31	0.29
84	Arsi	513,517	905,453	D3-12			trace	80	92	7.03	12.3	54	12	5.76	3.6	6.7	0.3	trace	4.55	2.22	9.76	trace	54	nil	65.88	0.47	0.28	0.33
85	Arsi	509,481	918,033	D3-13L			39.06	210	280	7.65	33.2	106	29.6	7.68	7.7	33	0.34	trace	17.29	14.4	2.27	0.05	140	nil	170.8	0.72	0.26	0.32
86	Arsi	559,573	905,271	D3-16			trace	310	324	7.57	50.1	230	70.4	12.96	5.8	27.5	0.12	0.06	5.46	3.1	0.91	0.058	262	nil	319.64	0.58	0.17	0.34
87	Arsi	591,398	937,996	D3-17			trace	270	280	7.16	44.5	160	48	9.6	10.7	32	0.05	0.01	9.1	1	3.61	trace	218	nil	265.96	0.99	0.24	0.3
88	Arsi	596,626	973,633	D3-18R			trace	1500	1508	8.11	228	180	36	21.6	26	495	0.05	trace	193.85	284.2	10.38	0.01	650	nil	793	4.07	0.59	0.45
89	North Shewa	568,582	983,234	D4-2			trace	1060	1072	8.25	158.2	42	4.8	7.2	24.5	390	0.02	trace	140.15	182.16	17.59	0.01	430	21.6	480.68	11.46	0.17	0.14
90	North Shewa	546,233	986,204	D4-4R			trace	390	398	8.01	58.3	146	45.6	7.68	18	83	0.08	trace	9.1	34.9	5.38	0.038	286	nil	348.92	0.63	0.39	0.27
91	North Shewa	548,008	989,483	D4-4W			trace	400	412	8.32	61.1	172	42.4	15.84	21	77	0.05	trace	15.47	18.28	12.22	0.03	304	24	322.08	2.42	0.14	0.32
92	North Shewa	543,607	1,017,258	D4-5			trace	180	188	7.3	30.2	150	40	12	1.7	11.6	trace	trace	9.1	0.67	5.97	0.006	144	nil	175.68	0.56	0.32	0.23
93	North Shewa	577,900	1,017,900	D4-6			trace	340	348	7.82	56.8	192	48.8	16.8	4.9	50.5	0.01	trace	31.85	8.75	0.25	trace	272	nil	331.84	0.6	0.09	0.4
94	North Shewa	581,140	1,005,858	D4-6R			trace	270	278	8.44	44.2	146	35.2	13.92	5.2	48	0.02	trace	23.66	21.83	1.3	0.012	180	24	170.8	0.68	0.21	0.23
95	North Shewa	568,803	1,011,183	D4-6R2			3.29	280	294	8.43	42.9	170	56	7.2	3.7	38.5	trace	trace	28.21	16.91	0.02	trace	190	26.4	178.12	0.64	0.16	0.2
96	East Shewa	589,168	982,673	E1-1(BH-3)			trace	1060	1066	8.26	165.7	81.7	11.4	12.77	10.6	395	trace	trace	124.68	171.74	1.55	0.01	568	38.4	614.88	4.4	46.62	0.13
97	East Shewa	587,744	977,436	E1-2(BH-4N)			trace	1118	1122	8.31	170.3	18	4	1.92	10.3	440	0.02	0.02	133.78	155.4	5.86	0.026	538	26.4	602.68	4.65	0.98	0.24
98	East Shewa	601,567	980,025	E1-3(BH-5)			trace	1220	1230	8.07	190.3	88	18.4	10.08	12.1	450	0.07	trace	182.93	157.89	0.04	0.01	556	nil	678.32	1.87	0.29	0.16
99	East Shewa	554,722	936,594	E1-6(BH-9	Tasteless	Colorless	trace	294	308	7.38	45.2	90	20	9.6	5.8	58	0.02	trace	16.38	12.32	1.35	0.02	220	nil	268.4	0.76	18.62	0.01
100	Amhara Region	550,363	1,027,358	E4-3(BH-12)			trace	124	134	7.64	20.6	64	23.2	1.44	1.7	18.5	0.005	trace	7.28	0.89	2.59	0.005	94	nil	114.68	0.56	1.26	0.19
96				D4-6R3			2.92	290	306	8.23	47.3	174	50.4	11.52	5.1	37	0.03	trace	29.12	6.56	1.69	0.019	202	26.4	192.76	0.56	0.26	0.27
96	Zone-3 of Afar	608,800	1,011,276	D4-7			trace	870	880	8.44	133.7	50	12.8	4.32	5.5	276	0.01	trace	77.36	49.97	9.35	0.002	544	52.8	556.32	0.73	0.45	0.19
97				D4-8			1.095	680	694	7.85	101.2	60	16	4.8	13	220	0.04	trace	73.72	56.43	0.82	0.04	380	nill	463.6	1.83	0.17	0.29
98				E1-5			1.83	280	294	7.45	44.5	154	32.8	17.28	12	42	0.02	trace	10.01	2.44	0.78	0.008	240	nill	292.8	0.65	0.22	0.18
99				E3-2			trace	360	374	7.65	56.7	200	58.4	12.96	11.1	50.5	0.06	0.02	12.74	13.19	1.87	trace	290	nill	353.8	0.54	0.18	0.33

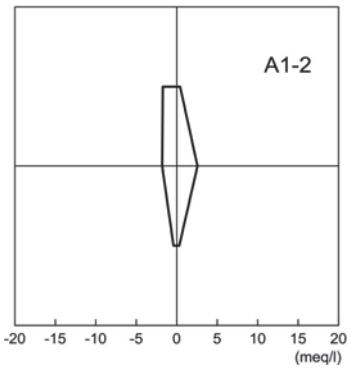
: Equal to or more than WHO standard and less than Ethiopia standard
: Equal to or more than Ethiopia standard

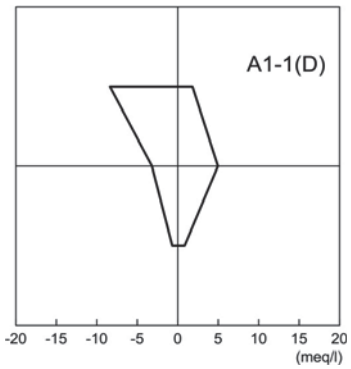
Annex: List of Analysis Result (Laboratory)-3 (Second phase)

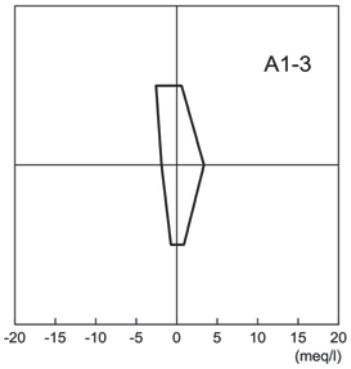
No	Zone	UTM (m)		Sample Number	Laboratory Test Parameter																								
		Easting	Northing		Taste	Color	Turbidity	Total Dissolved Solids	Total Solids	pH	EC	Total Hardness (by $CaCO_3$)	Calcium (Ca)	Magnesium (Mg)	Potassium (K)	Sodium (Na)	Iron (Fe)	Manganese (Mn)	Chloride (Cl)	Sulfate (SO_4)	Nitrate (NO_3)	Nitrite (NO_2)	Alkalinity (by $CaCO_3$)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Fluoride (F)	Total Phosphorus (TP)	Ammonia (NH_3)
							NTU	mg/l	mg/l		ms/m	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
					Slightly Salty	Unobjectionable																							
1	East Shewa	475,873	925,842	A1-1(D)	Tasteless	Colorless	190.9	488	682	7.41	86.3	194	64	8.16	8.7	187.5	0.17	trace	64.62	40.89	30.32	2.7	248	Nil	302.56	0.75	4.34	2.45
2	East Shewa	525,365	937,096	A1-2(D)	Tasteless	Colorless	110.23	226	334	7.69	32.2	96	28	6.24	3	50.5	0.35	trace	21.84	34.59	0.47	0.089	128	Nil	156.16	1.9	0.58	2.14
3	East Shewa	536,207	927,203	A1-3(D)	Tasteless	Oily	204.04	612	826	5.08	92.8	192	68	5.28	58.5	182.5	2.39	trace	78.27	117.26	0.17	0.015	260	Nil	317.2	1.49	1.13	5.18
4	East Shewa	562,223	940,652	A1-4(D)	Tasteless	Colorless	95.27	248	342	7.74	35.6	102	32	5.28	3.8	46	0.37	trace	28.21	35.47	1.4	0.077	152	Nil	185.44	1.24	3.59	1.4
5	East Shewa	611,191	977,348	A1-5(D)	Slightly Salty	Colorless	50.37	1132	1190	8.52	162.2	94	28	5.76	10.2	400	0.364	trace	112.85	180.82	0.76	0.064	582	57.6	592.92	0.94	1.31	1.3
6	East Shewa	506,888	929,588	A1-7(D)	Tasteless	Colorless	378.87	230	634	7.61	32.1	100	34.4	3.36	2.9	46.5	0.38	trace	21.84	39.51	2.55	0.168	122	Nil	148.84	0.94	2.16	2.06
7	East Shewa	592,146	980,409	B1-21	Salty	Colorless	17.89	2278	2306	9.12	316	16	4	1.44	22.5	920	0.09	trace	255.74	345.88	0.38	0.02	1170	228	963.8	12.94	0.86	0.81
8	East Shewa	591,536	979,199	B1-22	Slightly Salty	Colorless	1.1	948	964	8.37	148	18	4.8	1.44	9.9	380	0.01	trace	96.47	118.45	2.47	0.01	540	64.8	527.04	5.34	0.21	0.27
9	East Shewa	591,532	979,193	B1-23	Salty	Colorless	9.49	1862	1884	9	294	20	4.8	1.92	14.5	730	0.08	trace	210.23	283.31	0.36	0.02	970	180	817.4	8.94	0.53	1.18
10	East Shewa	593,045	975,249	B1-24	Salty	Oily	96.73	2070	2172	8.08	341	122	32	10.08	10	720	0.15	trace	106.48	87.01	0.26	0.02	1550	28.8	1832.44	7.43	1.74	0.17
11	East Shewa	593,044	975,228	B1-25	Salty	Oily	339.82	2304	2670	8.41	350	100	30.4	5.76	10.7	910	0.29	trace	78.27	149.19	0.36	0.02	1740	64.8	1991.04	7.12	7.27	1.63
12	East Shewa	594,247	974,998	B1-26	Salty	Oily	164.98	2796	2962	8.08	413	160	42.4	12.96	10.5	1080	0.11	trace	251.19	371.01	0.38	0.03	1640	36	1927.6	10.38	5.17	0.17
13	East Shewa	593,243	972,517	B1-27	Tasteless	Milky	103.66	204	314	7.55	29.6	100	26.4	8.16	3.9	32	0.21	trace	15.47	9.76	1.59	0.06	150	Nil	183	0.89	0.63	0.14
14	East Shewa	598,897	980,437	B1-28	Salty	Colorless	20.44	2618	2648	9.18	362	20	4.8	1.92	16	1020	0.11	trace	301.24	411.9	0.33	0.02	1360	288	1073.6	15.07	1.06	0.36
15	East Shewa	596,741	978,173	B1-29	Salty	Colorless	17.16	2730	2758	9.17	384	20	4.8	1.92	25	1040	0.09	trace	301.24	382.34	0.48	0.01	1540	288	1293.2	14.01	1.16	0.33
16	East Shewa	598,698	984,130	B1-30	Salty	Colorless	16.06	2824	2850	9.17	414	20	4.8	1.92	21.5	1120	0.1	trace	314.89	368.54	0.36	0.02	1580	288	1342	11.96	1.21	0.23
101	East Shewa	552,785	958,779	E1-4(BH-6	Tasteless	Colorless	trace	630	634	7.67	95.5	104	16	15.36	8.6	194	0.04	trace	44.99	38.73	2.36	0.03	410	Nil	500.2	2.5	0.04	0.13
102	Arsi	553,318	916,018	E3-2(BH-1	–	–	trace	328	330	7.35	47.6	180	66.4	3.36	5.7	51	trace	trace	16.92	9.07	0.71	0.01	270	Nil	329.4	0.74	0.26	0.36
103	Amhara Region	542,642	985,361	E4-1(BH-1	–	–	trace	336	338	7.16	49	188	61.6	8.16	7.1	57	0.01	trace	10.34	2.96	3.93	0.009	290	Nil	353.8	0.7	0.86	0.39
104	Amhara Region	567376	980738	E4-2(BH-2	Tasteless	Colorless	trace	710	714	7.58	115.2	40	8.8	4.32	7.6	246	0.005	trace	43.38	55.18	1.76	0.028	504	Nil	614.88	5.73	0.03	0.19

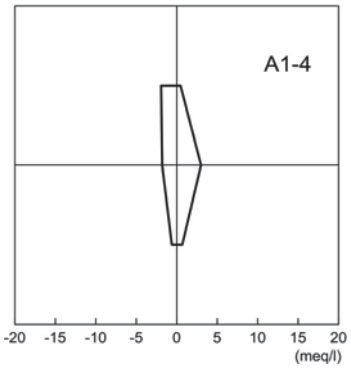
: Equal to or more than WHO standard and less than Ethiopia standard
: Equal to or more than Ethiopia standard

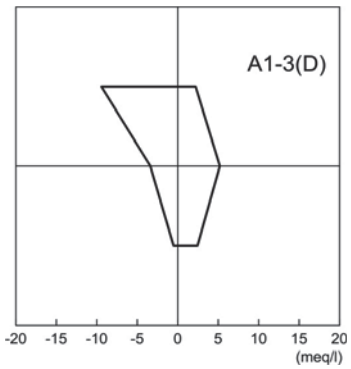

A1-1
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

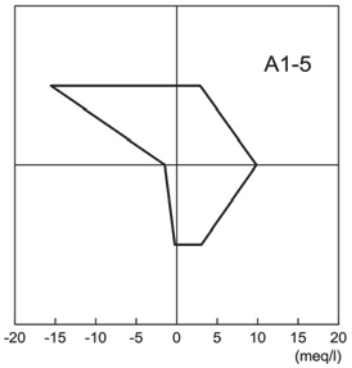

A1-2
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

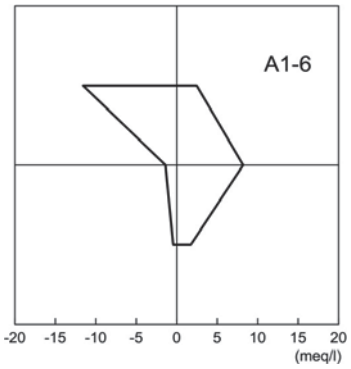

A1-1(D)
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

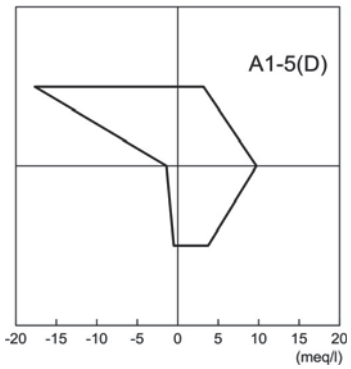

A1-3
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

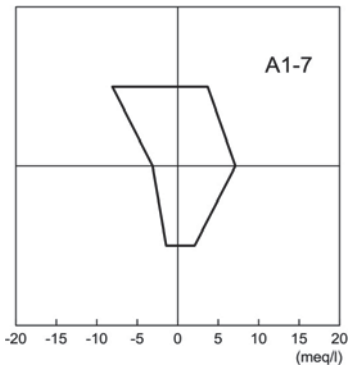

A1-4
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

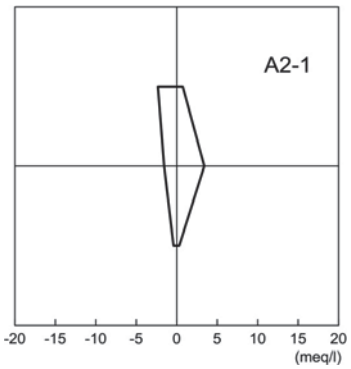

A1-3(D)
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

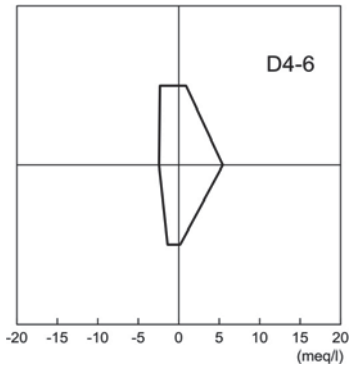

A1-5
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

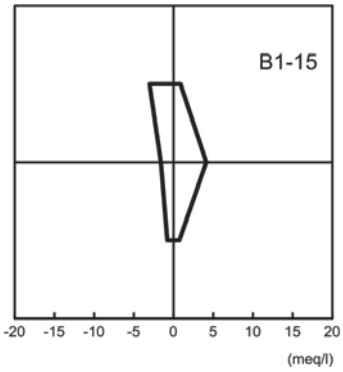

A1-6
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

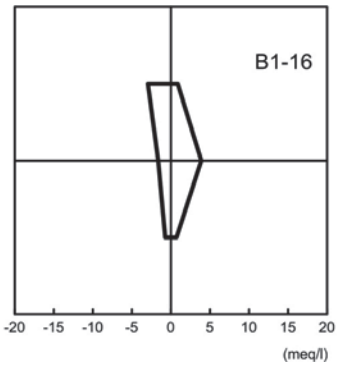

A1-5(D)
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

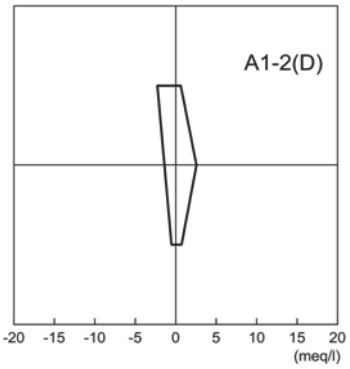

A1-7
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

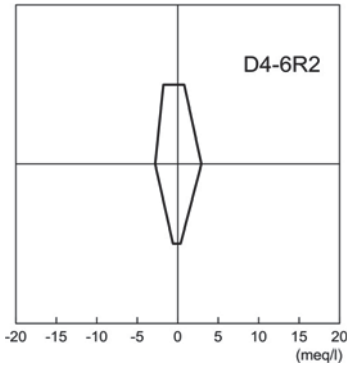

A2-1
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

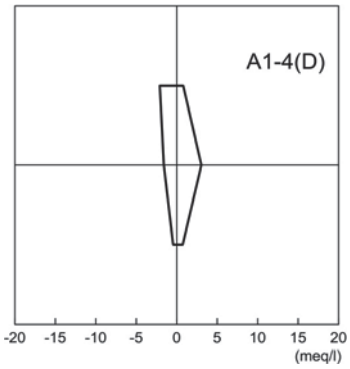

D4-6
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

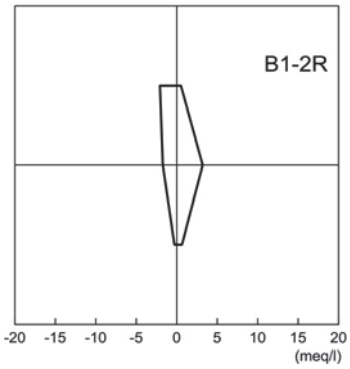

B1-15
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

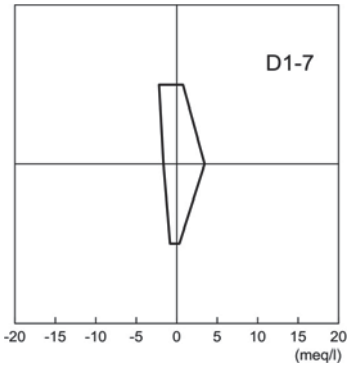

B1-16
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

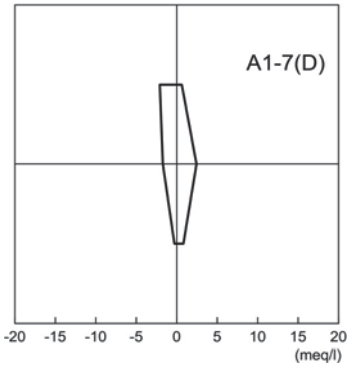

A1-2(D)
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

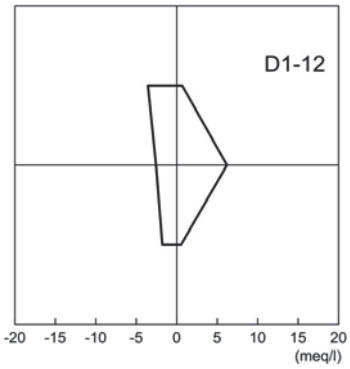

D4-6R2
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

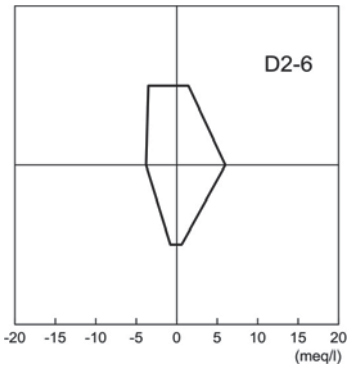

A1-4(D)
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

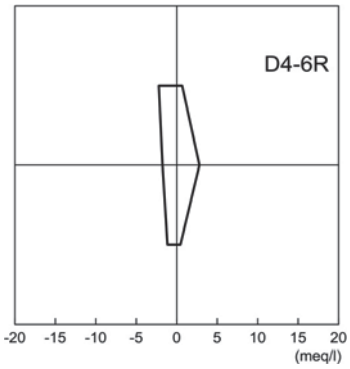

B1-2R
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

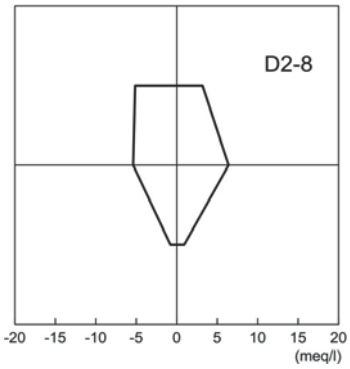

D1-7
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

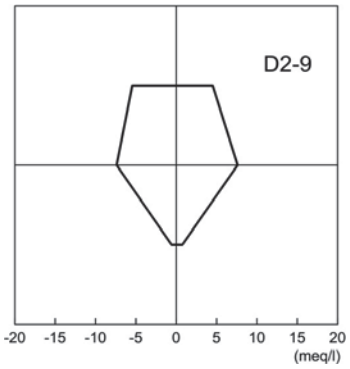

A1-7(D)
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

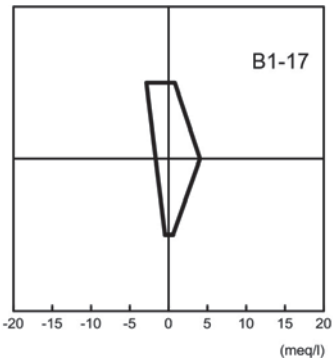

D1-12
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

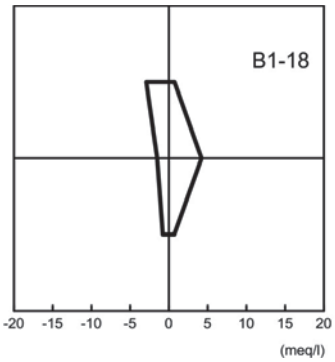

D2-6
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

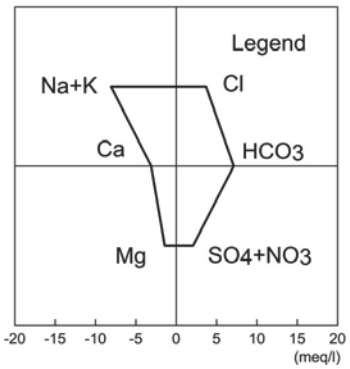

D4-6R
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

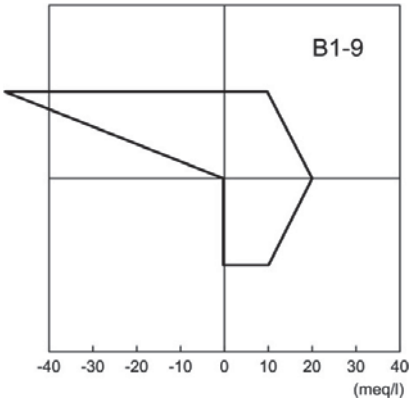

D2-8
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

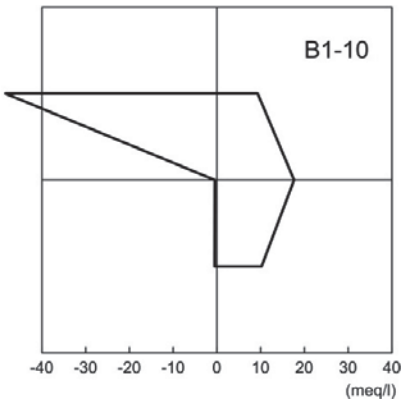

D2-9
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

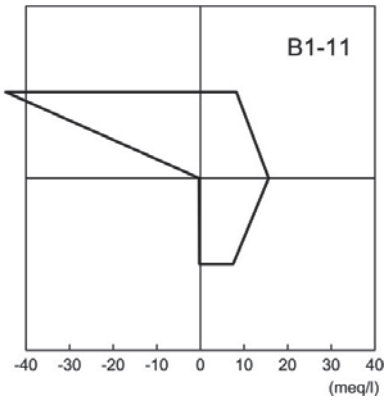

B1-17
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

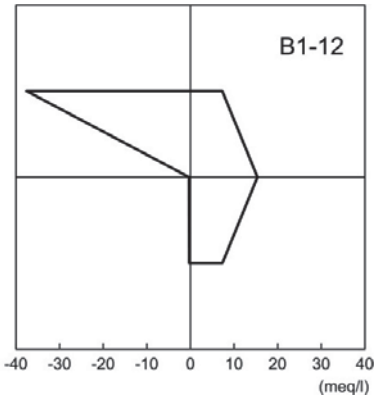

B1-18
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

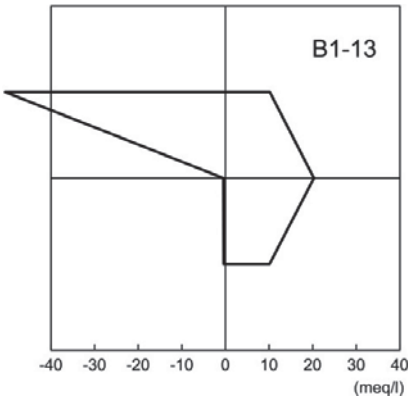

Legend
Na+K
Cl
Ca
HCO3
Mg
SO4+NO3
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

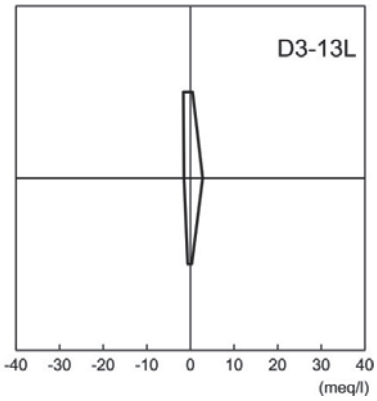

B1-9
-40 -30 -20 -10 0 10 20 30 40
(meq/l)

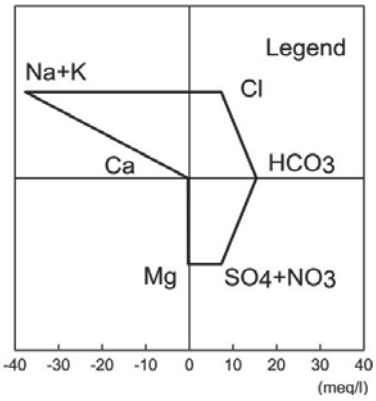

B1-10
-40 -30 -20 -10 0 10 20 30 40
(meq/l)

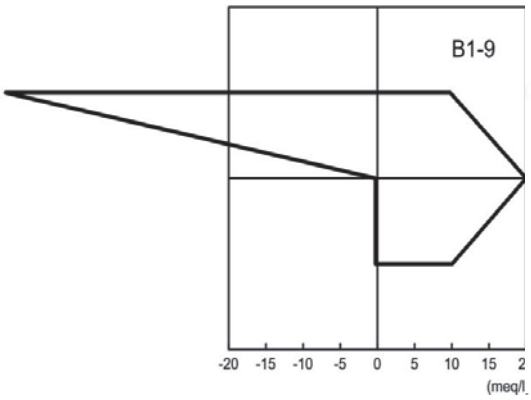

B1-11
-40 -30 -20 -10 0 10 20 30 40
(meq/l)

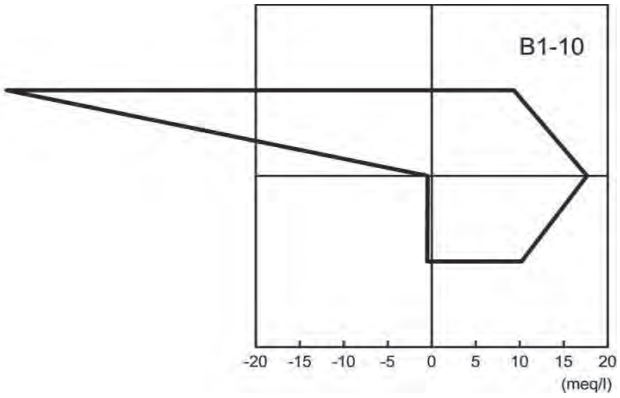

B1-12
-40 -30 -20 -10 0 10 20 30 40
(meq/l)

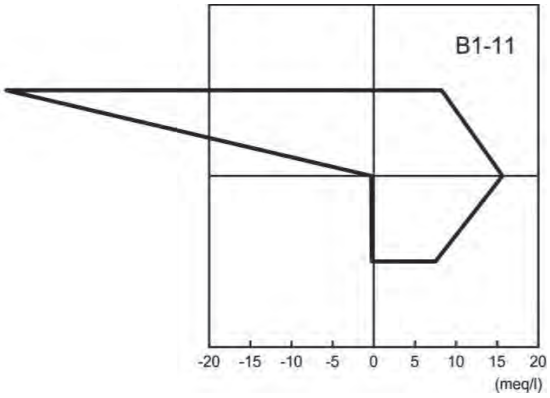

B1-13
-40 -30 -20 -10 0 10 20 30 40
(meq/l)

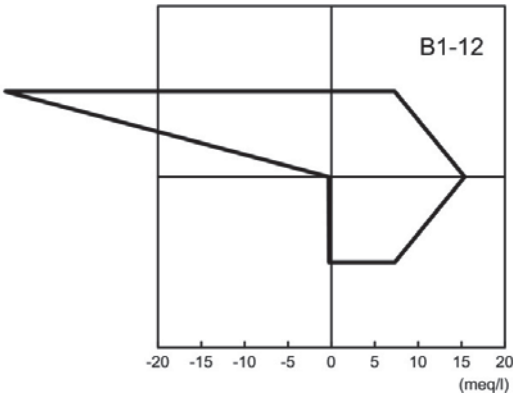

D3-13L
-40 -30 -20 -10 0 10 20 30 40
(meq/l)

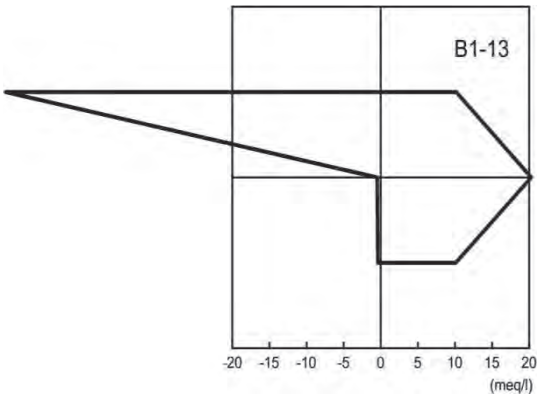

Legend
Na+K
Cl
Ca
HCO3
Mg
SO4+NO3
-40 -30 -20 -10 0 10 20 30 40
(meq/l)

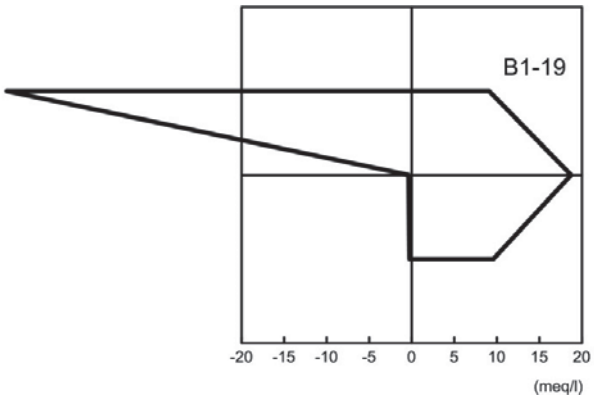

B1-9
-20 -15 -10 -5 0 5 10 15 2
(meq/l

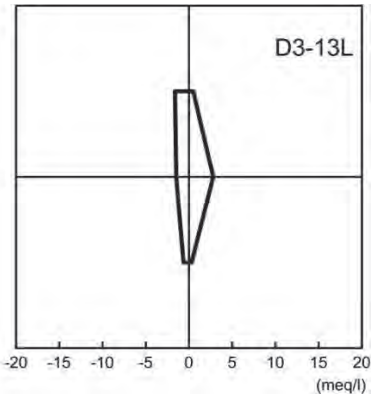

B1-10
-20 -15 -10 -5 0 5 10 15 20
(meq/l)


B1-11
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

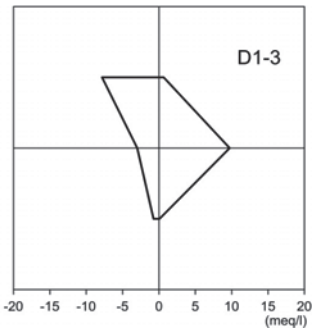

B1-12
-20 -15 -10 -5 0 5 10 15 20
(meq/l)


B1-13
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

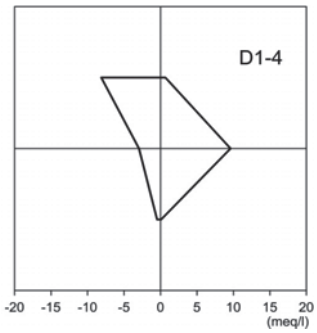

B1-19
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

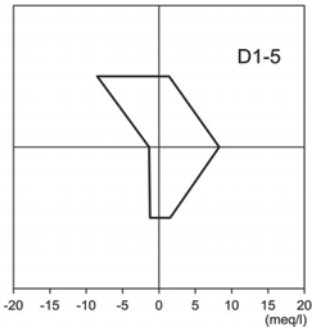

D3-13L
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

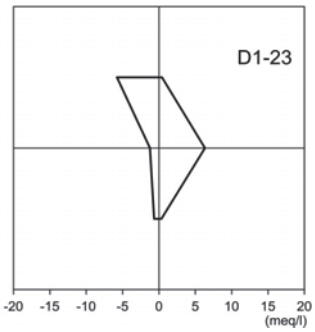
D1-2
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

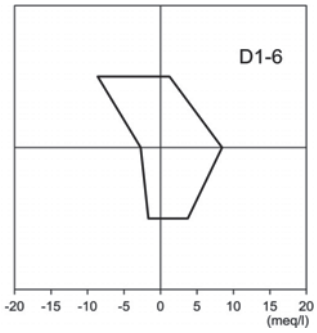

D1-3
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

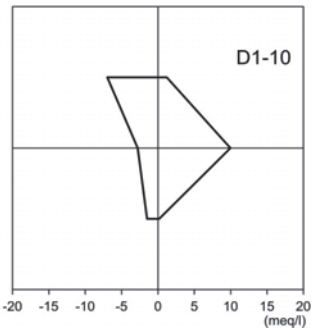
D1-18
-20 -15 -10 -5 0 5 10 15 20
(meq/l)


D1-4
-20 -15 -10 -5 0 5 10 15 20
(meq/l)


D1-5
-20 -15 -10 -5 0 5 10 15 20
(meq/l)


D1-23
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

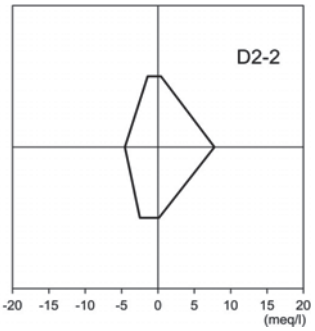

D1-6
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

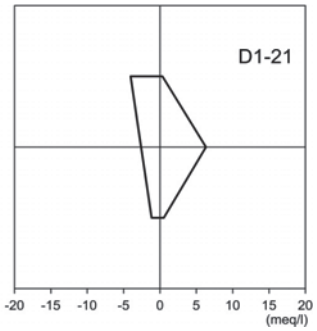

D1-10
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

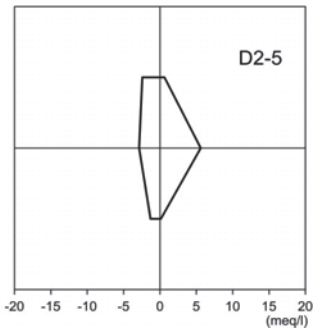
D1-26
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

D1-15
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

D1-17
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

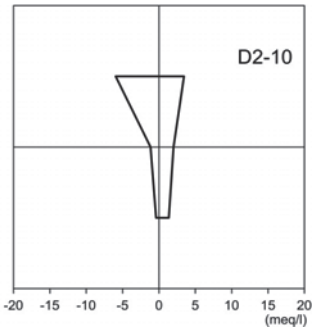

D2-2
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

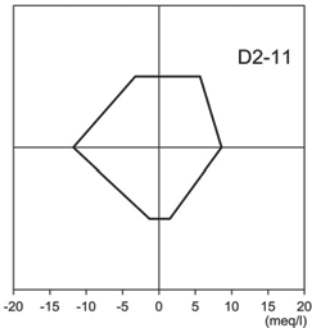

D1-21
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

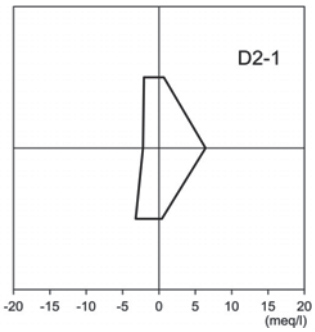

D2-5
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

D2-7
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

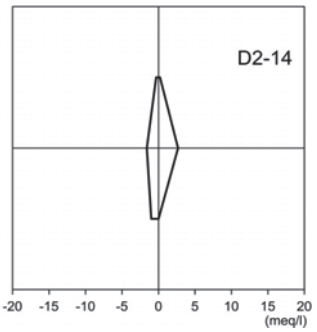
D1-25W
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

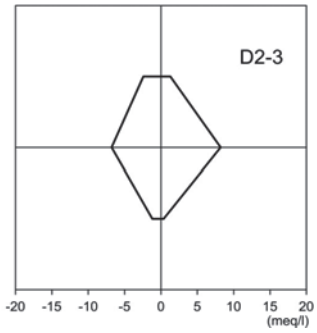

D2-10
-20 -15 -10 -5 0 5 10 15 20
(meq/l)


D2-11
-20 -15 -10 -5 0 5 10 15 20
(meq/l)


D2-1
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

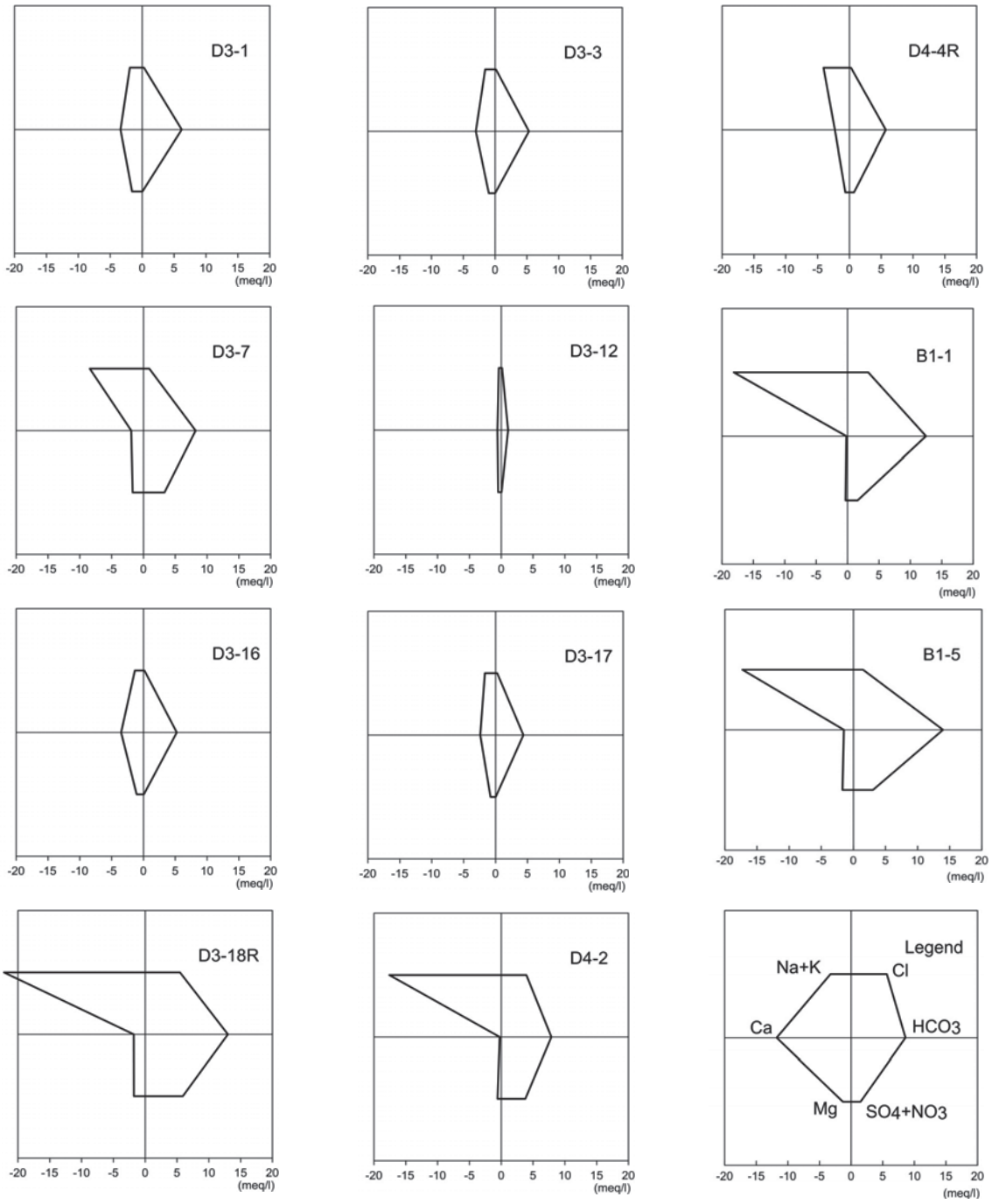
D2-12
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

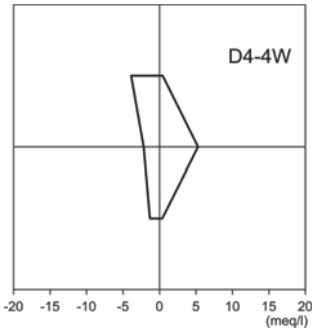

D2-14
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

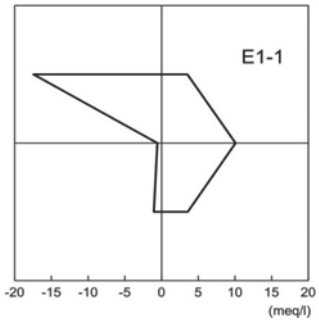

D2-3
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

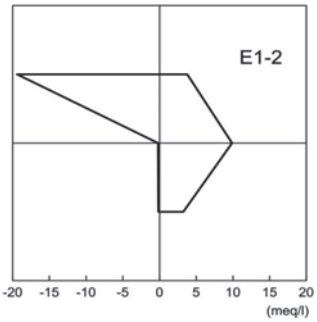
D2-15
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

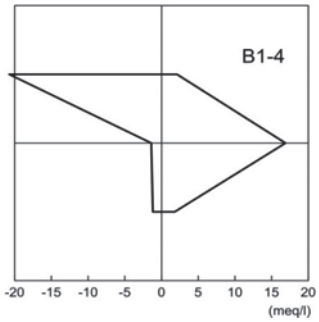
D2-16
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

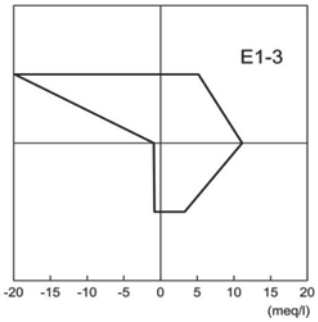

D3-1
D3-3
D4-4R
D3-7
D3-12
B1-1
D3-16
D3-17
B1-5
D3-18R
D4-2
Legend
Na+K
Cl
Ca
HCO3
Mg
SO4+NO3
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

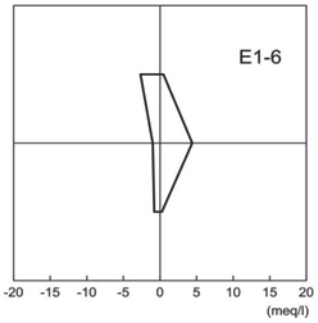

D4-4W
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

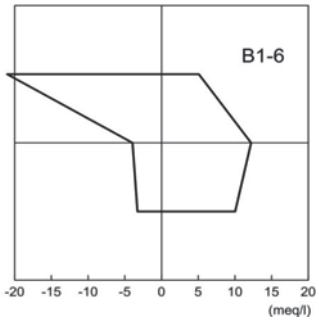

E1-1
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

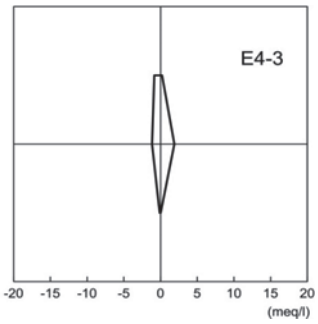

E1-2
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

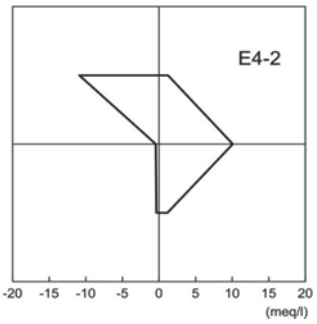

B1-4
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

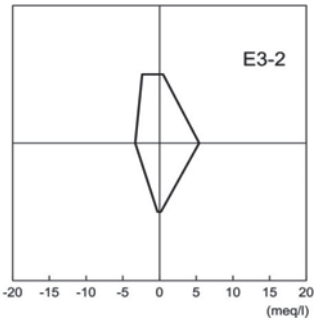

E1-3
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

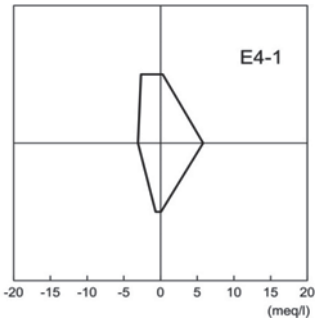

E1-6
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

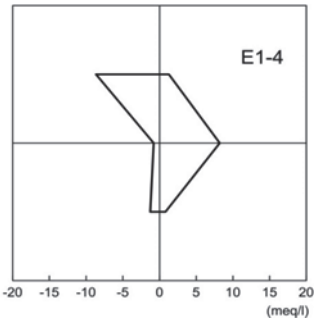

B1-6
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

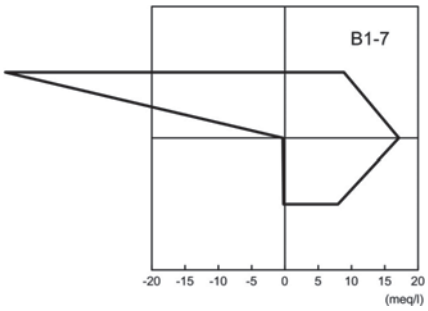

E4-3
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

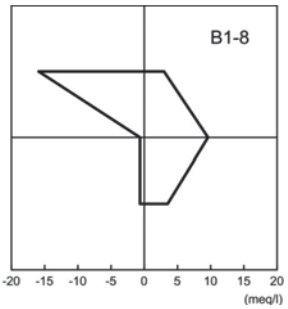

E4-2
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

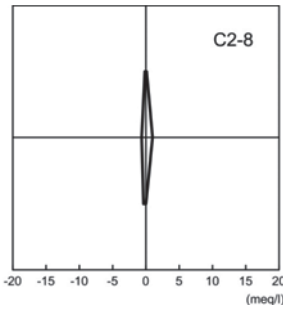

E3-2
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

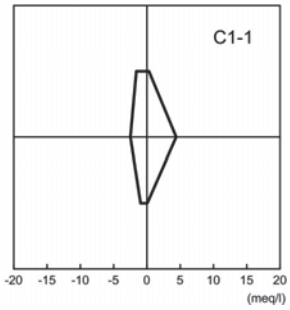

E4-1
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

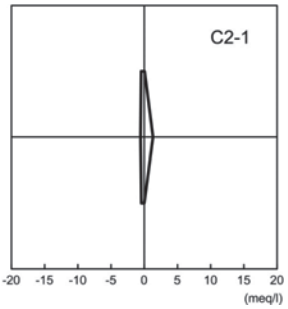

E1-4
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

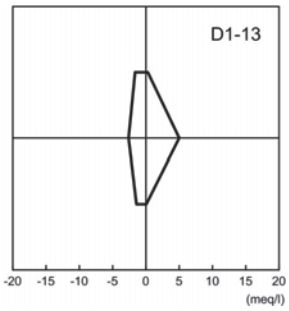

B1-7
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

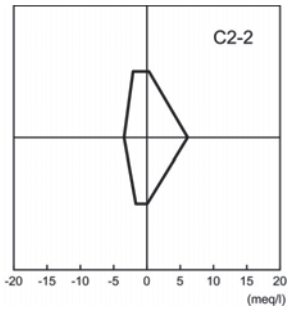

B1-8
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

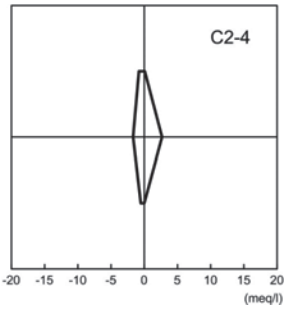

C2-8
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

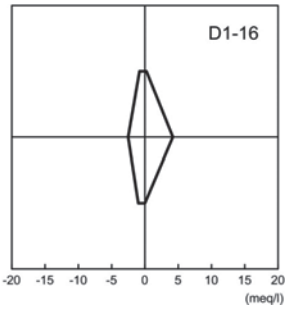

C1-1
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

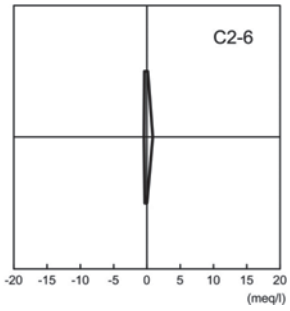

C2-1
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

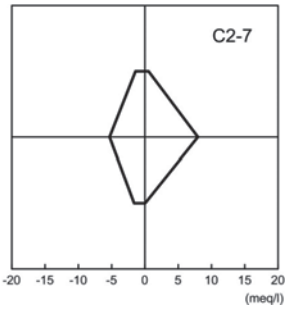

D1-13
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

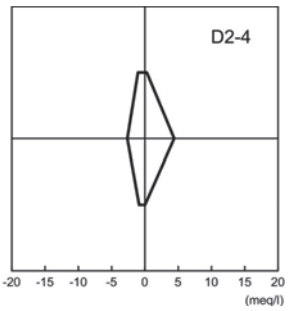

C2-2
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

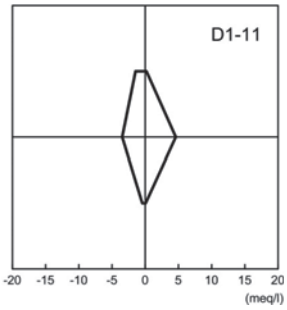

C2-4
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

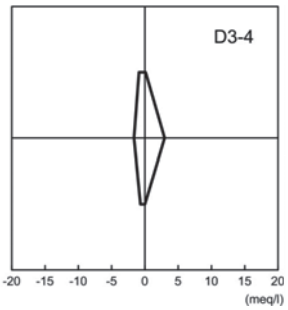

D1-16
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

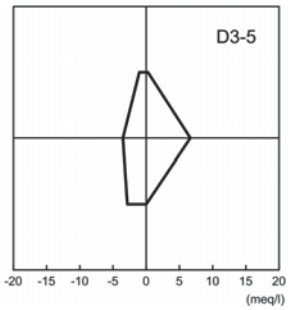

C2-6
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

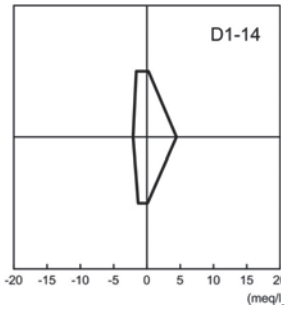

C2-7
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

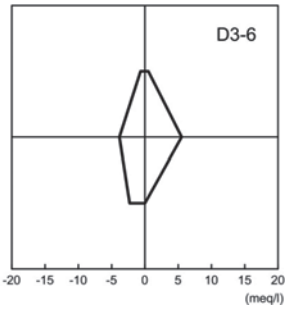

D2-4
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

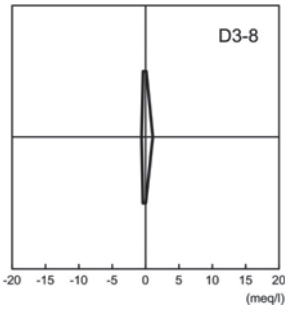

D1-11
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

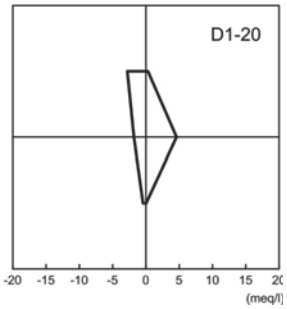

D3-4
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

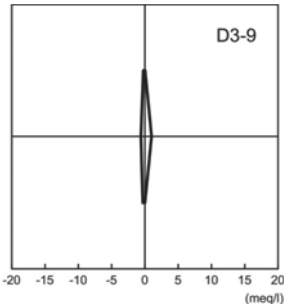

D3-5
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

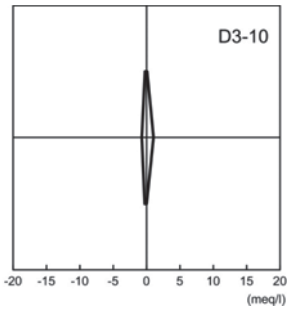

D1-14
-20 -15 -10 -5 0 5 10 15
(meq/l)

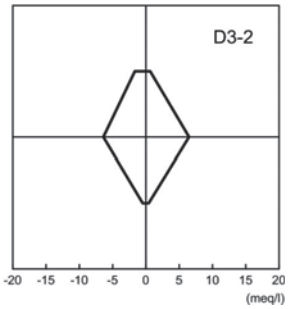

D3-6
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

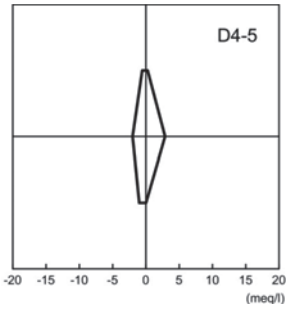

D3-8
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

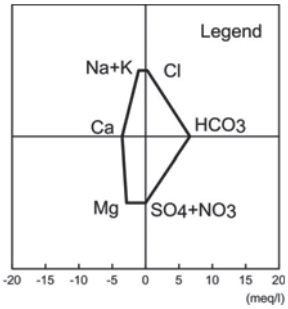

D1-20
-20 -15 -10 -5 0 5 10 15
(meq/l)

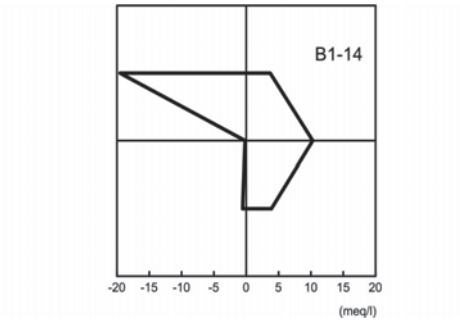

D3-9
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

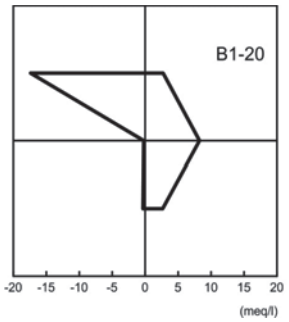

D3-10
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

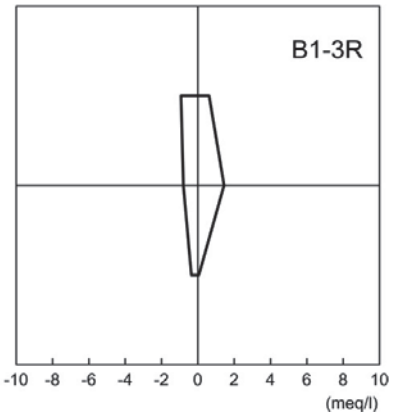

D3-2
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

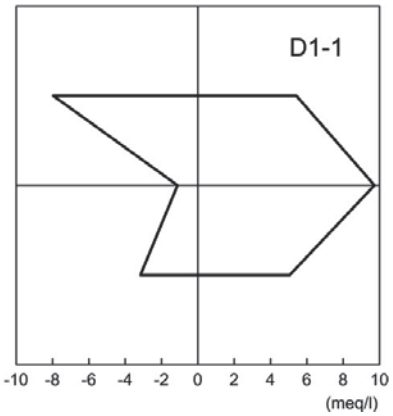

D4-5
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

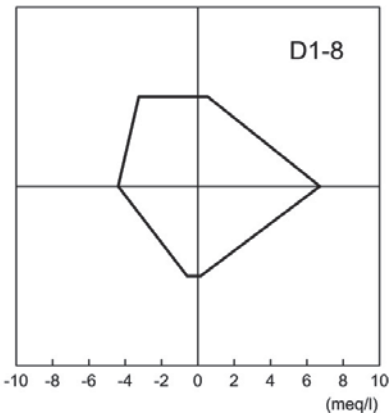

Legend
Na+K
Cl
Ca
HCO3
Mg
SO4+NO3
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

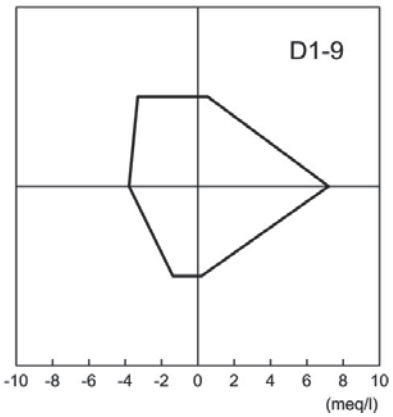

B1-14
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

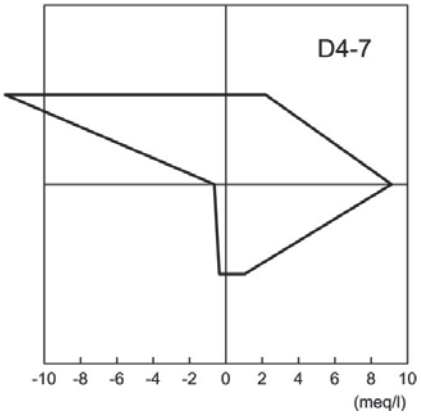

B1-20
-20 -15 -10 -5 0 5 10 15 20
(meq/l)

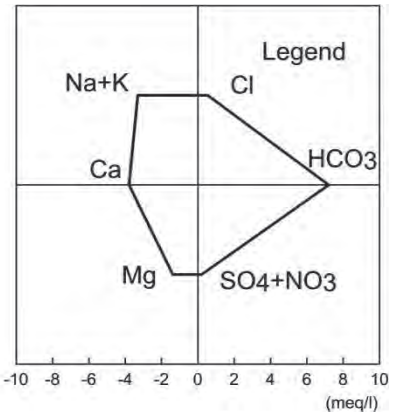

B1-3R
-10 -8 -6 -4 -2 0 2 4 6 8 10
(meq/l)


D1-1
-10 -8 -6 -4 -2 0 2 4 6 8 10
(meq/l)


D1-8
-10 -8 -6 -4 -2 0 2 4 6 8 10
(meq/l)


D1-9
-10 -8 -6 -4 -2 0 2 4 6 8 10
(meq/l)


D4-7
-10 -8 -6 -4 -2 0 2 4 6 8 10
(meq/l)


Legend
Na+K
Cl
Ca
HCO3
Mg
SO4+NO3
-10 -8 -6 -4 -2 0 2 4 6 8 10
(meq/l)

በአዲስ አበባ ዩኒቨርስቲ
የተፈጥሮ ሳይንስ ኮሌጅ
የሥነ ምድር
ትምህርት ቤት

ADDIS ABABA UNIVERSITY
College of Natural Sciences
School of Earth Sciences

Addis Ababa University Department of Earth Science
Isotope Hydrology Laboratory
Measurement for Stable Isotope of water Deterium (δ^2H) and Heavy Oxygen ($\delta^{18}O$)
Content in Water Samples using
Liquid Water Stable Isotope Analyzer

REPORTING SHEET

Name of client: ***Kokusai Kogyo Co., LTD.***

Lab. Sample Number	Sample Code	Sample Collected Date	δ^2H Reportable Value (Per ml) ± 2 %	$\delta^{18}O$ Reportable Value (Per ml) ± 0.2 %	Remarks
115 – 14	**B1 – 14**	07 July, 2014	**-14.38**	**-2.76**	Middle Awash Basin
116 – 14	**B1 – 15**	08 July, 2014	**-12.78**	**-1.42**	» » »
117 – 14	**B1 – 16**	08 July, 2014	**-11.22**	**-0.86**	» » »
118 – 14	**B1 – 17**	08 July, 2014	**-3.88**	**-1.06**	» » »
119 – 14	**B1 – 18**	09 July, 2014	**-12.58**	**-1.02**	» » »
120 – 14	**B1 – 19**	09 July, 2014	**31.64**	**3.29**	» » »
121 – 14	**B1 – 20**	09 July, 2014	**2.55**	**-1.74**	» » »

Date of analysis 17/07/2014 - 22/07/2014
Date of submission 23/07/2014

Remark:
1. These test results are as per sample submitted by the client, the samples brought to the laboratory may not be representative.
2. This test result paper may not serve as a certificate.

Analyzed by: **Signature** **Checked by:** **Seifu Kebede (Dr.)**

Dagmawi Shiferaw **Signature**

Date 22/07/2014

Tele: 251-1-239462
E-mail: info@geol.aau.edu.et

P. O. Box: 1176
Fax: 251-1-239462

በአዲስ አበባ ዩኒቨርስቲ
የተፈጥሮ ሳይንስ ኮሌጅ
የሥነ ምድር
ትምህርት ቤት

ADDIS ABABA UNIVERSITY
College of Natural Sciences
School of Earth Sciences

Addis Ababa University Department of Earth Science
Isotope Hydrology Laboratory
Measurement for Stable Isotope of water Deterium (δ^2H) and Heavy Oxygen ($\delta^{18}O$)
Content in Water Samples using
Liquid Water Stable Isotope Analyzer

REPORTING SHEET

Name of client:* ***Kokusai Kogyo Co., LTD.*

Lab. Sample Number	Sample Code	Sample Collected Date	δ^2H Reportable Value (Per ml) ± 2 %	$\delta^{18}O$ Reportable Value (Per ml) ± 0.2 %	Remarks
021 – 15	A1 – 1 (D)	16 January, 2015	-2.69	-1.31	Middle Awash Basin
022 – 15	A1 – 2 (D)	10 January, 2015	5.81	-0.16	» » »
023 – 15	'A1 – 3 (D)	10 January, 2015	9.11	0.35	» » »
024 – 15	A1 – 4 (D)	15 January, 2015	8.43	-0.07	» » »
025 – 15	A1 – 5 (D)	15 January, 2015	15.39	1.89	» » »
026 – 15	A1 – 7 (D)	16 January, 2015	6.08	0.36	» » »
027 – 15	B1 – 21 (D)	08 January, 2015	16.41	2.69	» » »
028 – 15	B1 – 22 (D)	08 January, 2015	-9.56	-2.68	» » »

Date of analysis 20/01/2015 - 28/01/2015
Date of submission 30/01/2015

Remark:

1. These test results are as per sample submitted by the client, the samples brought to the laboratory may not be representative.
2. This test result paper may not serve as a certificate.

Analyzed by: **Signature** **Checked by:** **Seifu Kebede (Dr.)**

Adane Abebe _____ Signature _____

Dagmawi Shiferaw _____ Date _____

Department of Earth Sciences, Addis Ababa University

Tele: 251-1-239462
E-mail: info@geol.aau.edu.et

P. O. Box: 1176
Fax: 251-1-239462

በአዲስ አበባ ዩኒቨርስቲ
የተፈጥሮ ሳይንስ ኮሌጅ
የሥነ ምድር
ትምህርት ቤት

ADDIS ABABA UNIVERSITY
College of Natural Sciences
School of Earth Sciences

Addis Ababa University Department of Earth Science
Isotope Hydrology Laboratory
Measurement for Stable Isotope of water Deterium (δ^2H) and Heavy Oxygen ($\delta^{18}O$)
Content in Water Samples using
Liquid Water Stable Isotope Analyzer

REPORTING SHEET

Name of client:** ***Kokusai Kogyo Co., LTD.

Lab. Sample Number	Sample Code	Sample Collected Date	δ^2H Reportable Value (Per ml) ± 2 %	$\delta^{18}O$ Reportable Value (Per ml) ± 0.2 %	Remarks
029 – 15	**B1 – 23 (D)**	08 January, 2015	**9.79**	**1.04**	Middle Awash Basin
030 – 15	**B1 – 24 (D)**	09 January, 2015	**25.55**	**2.97**	» » »
031 – 15	**B1 – 25 (D)**	09 January, 2015	**34.28**	**4.81**	» » »
032 – 15	**B1 – 26 (D)**	09 January, 2015	**21.64**	**2.94**	» » »
033 – 15	**B1 – 27 (D)**	09 January, 2015	**6.45**	**0.19**	» » »
034 – 15	**B1 – 28 (D)**	09 January, 2015	**25.77**	**4.55**	» » »
035 – 15	**B1 – 29 (D)**	09 January, 2015	**25.41**	**4.49**	» » »
036 – 15	**B1 – 30 (D)**	09 January, 2015	**26.26**	**4.44**	» » »

Date of analysis 20/01/2015 - 28/01/2015
Date of submission 30/01/2015

Remark:

1. These test results are as per sample submitted by the client, the samples brought to the laboratory may not be representative.
2. This test result paper may not serve as a certificate.

Analyzed by: **Signature** **Checked by:** **Seifu Kebede (Dr.)**

Adane Abebe _____ **Signature** _____

Dagmawi Shiferaw _____ **Date** _____

Department of Earth Sciences
Addis Ababa University

Tele: 251-1-239462
E-mail: info@geol.aau.edu.et

P. O. Box: 1176
Fax: 251-1-239462

በአዲስ አበባ ዩኒቨርስቲ
የተፈጥሮ ሳይንስ ኮሌጅ
የሥነ ምድር
ትምህርት ቤት

ADDIS ABABA UNIVERSITY
College of Natural Sciences
School of Earth Sciences

Addis Ababa University Department of Earth Science
Isotope Hydrology Laboratory
Measurement of Tritium ($^{3}_{1}H$) Activity in Water Samples using Electrolytic Enrichment and Liquid Scintillation Spectrometry

REPORTING SHEET

Name of client:* ***Kokusai Kogyo Co., LTD.*

Lab. Sample Number	Sample Code	Sample Collected Date	Enrichment Run No.	LSC Run No.	Final Result TU± 0.5σ
001 – 15	**A1 – 1 (D)**	16 January, 2015	001 / 2015	001 / 2015	**2.33**
003 – 15	**A1 – 2 (D)**	10 January, 2015	001 / 2015	001 / 2015	**2.25**
004 – 15	**A1 – 3 (D)**	10 January, 2015	001 / 2015	001 / 2015	**2.23**
005 – 15	**A1 – 4 (D)**	15 January, 2015	001 / 2015	001 / 2015	**2.17**
006 – 15	**A1 – 5 (D)**	15 January, 2015	001 / 2015	001 / 2015	**2.19**
007 – 15	**A1 – 7 (D)**	16 January, 2015	001 / 2015	001 / 2015	**2.32**
008 – 15	**B1 – 21 (D)**	08 January, 2015	001 / 2015	001 / 2015	**2.21**
009 – 15	**B1 – 22 (D)**	08 January, 2015	001 / 2015	001 / 2015	**2.35**

Date of analysis 20/01/2015 - 18/02/2015
Date of submission 20/02/2015

Remark:

1. These test results are as per sample submitted by the client, the samples brought to the laboratory may not be representative.
2. This test result paper may not serve as a certificate.

Analyzed by: **Signature** **Checked by:** **Seifu Kebede (Dr.)**

Adane Abebe _____ **Signature** _____

Dagmawi Shiferaw _____ **Date** _____

Tele: 251-1-239462
E-mail: info@geol.aau.edu.et

P. O. Box: 1176
Fax: 251-1-239462

በአዲስ አበባ ዩኒቨርስቲ
የተፈጥሮ ሳይንስ ኮሌጅ
የሥነ ምድር
ትምህርት ቤት

ADDIS ABABA UNIVERSITY
College of Natural Sciences
School of Earth Sciences

Addis Ababa University Department of Earth Science
Isotope Hydrology Laboratory
Measurement of Tritium ($^{3}_{1}H$) Activity in Water Samples using Electrolytic Enrichment and Liquid Scintillation Spectrometry

REPORTING SHEET

Name of client:* ***Kokusai Kogyo Co., LTD.*

Lab. Sample Number	Sample Code	Sample Collected Date	Enrichment Run No.	LSC Run No.	Final Result TU± 0.5σ
010 – 15	**B1 – 23 (D)**	08 January, 2015	001 / 2015	001 / 2015	**2.30**
011 – 15	**B1 – 24 (D)**	09 January, 2015	001 / 2015	001 / 2015	**2.26**
012 – 15	**B1 – 25 (D)**	09 January, 2015	001 / 2015	001 / 2015	**2.14**
013 – 15	**B1 – 26 (D)**	09 January, 2015	001 / 2015	001 / 2015	**2.27**
014 – 15	**B1 – 27 (D)**	09 January, 2015	001 / 2015	001 / 2015	**2.25**
015 – 15	**B1 – 28 (D)**	09 January, 2015	002 / 2015	002 / 2015	**2.13**
016 – 15	**B1 – 29 (D)**	09 January, 2015	002 / 2015	002 / 2015	**2.36**
017 – 15	**B1 – 30 (D)**	09 January, 2015	002 / 2015	002 / 2015	**2.29**

Date of analysis 20/01/2015 - 18/02/2015
Date of submission 20/02/2015

Remark:

1. These test results are as per sample submitted by the client, the samples brought to the laboratory may not be representative.
2. This test result paper may not serve as a certificate.

Analyzed by: **Signature** **Checked by:** **Seifu Kebede (Dr.)**

Adane Abebe _____ **Signature** _____

Dagmawi Shiferaw _____ **Date** _____

Department of Earth Sciences, A.A. University

Tele: 251-1-239462
E-mail: info@geol.aau.edu.et

P. O. Box: 1176
Fax: 251-1-239462

በአዲስ አበባ ዩኒቨርስቲ
የተፈጥሮ ሳይንስ ኮሌጅ
የሥነ ምድር
ትምህርት ቤት

ADDIS ABABA UNIVERSITY
College of Natural Sciences
School of Earth Sciences

Addis Ababa University Department of Earth Science
Isotope Hydrology Laboratory
Measurement for Stable Isotope of water Deterium (δ^2H) and Heavy Oxygen (δ^{18}O)
Content in Water Samples using
Liquid Water Stable Isotope Analyzer

REPORTING SHEET

Name of client:* ***KOKUSAI KOGYO CO. LTD.*

Lab. Sample Number	Sample Code	Sample Collected Date	δ^2H Reportable Value (Per ml) ± 2 %	δ^{18}O Reportable Value (Per ml) ± 0.2 %	Remarks
271 – 15	**AWBH – 2**	22 July, 2015	**-27.3**	**-6.1**	
272 – 15	**AWBH – 6**	14 August, 2015	**-33.1**	**-6.24**	

Date of analysis 24/08/2015 - 23/11/2015
Date of submission 25/11/2015

Remark:

1. These test results are as per sample submitted by the client, the samples brought to the laboratory may not be representative.
2. This test result paper may not serve as a certificate.

Analyzed by: **Signature** **Checked by:** **Balemwal Atnafu (Dr.)**

Adane Abebe _____ Signature _____

Dagmawi Shiferaw _____ Date 25/Nov/2015

Tele: 251-1-239462
E-mail: info@geol.aau.edu.et

P. O. Box: 1176
Fax: 251-1-239462

በአዲስ አበባ ዩኒቨርስቲ
የተፈጥሮ ሳይንስ ኮሌጅ
የሥነ ምድር
ትምህርት ቤት

ADDIS ABABA UNIVERSITY
College of Natural Sciences
School of Earth Sciences

Addis Ababa University Department of Earth Science
Isotope Hydrology Laboratory
Measurement of Tritium ($^{3}_{1}H$) Activity in Water Samples using Electrolytic Enrichment and Liquid Scintillation Spectrometry

REPORTING SHEET

Name of client:* ***KOKUSIA KOGOYO CO., Ltd.*

Lab. Sample Number	Sample Code	Sample Collected Date	Enrichment Run No.	LSC Run No.	Final Result TU± 0.5σ
100 – 15	**AWBH – 2**	22 July, 2015	008 /15	008 /15	**3.01**
101 – 15	**AWBH – 6**	14 August, 2015	008 /15	008 /15	**2.43**

Date of analysis 20/09/2015 - 28/10/2015
Date of submission 30/10/2015

Remark:

1. These test results are as per sample submitted by the client, the samples brought to the laboratory may not be representative.
2. This test result paper may not serve as a certificate.

Analyzed by: **Signature** **Checked by:** **Seifu Kebede (Dr.)**

Adane Abebe _____ **Signature** _____

Dagmawi Shiferaw _____ **Date** 03 Nov. 2015

Tele: 251-1-239462
E-mail: info@geol.aau.edu.et

P. O. Box: 1176
Fax: 251-1-239462

IAEA　Comments

Preliminary data analysis on noble gas and stable isotope results from the JICA's Middle Awash River Basin in Ethiopia

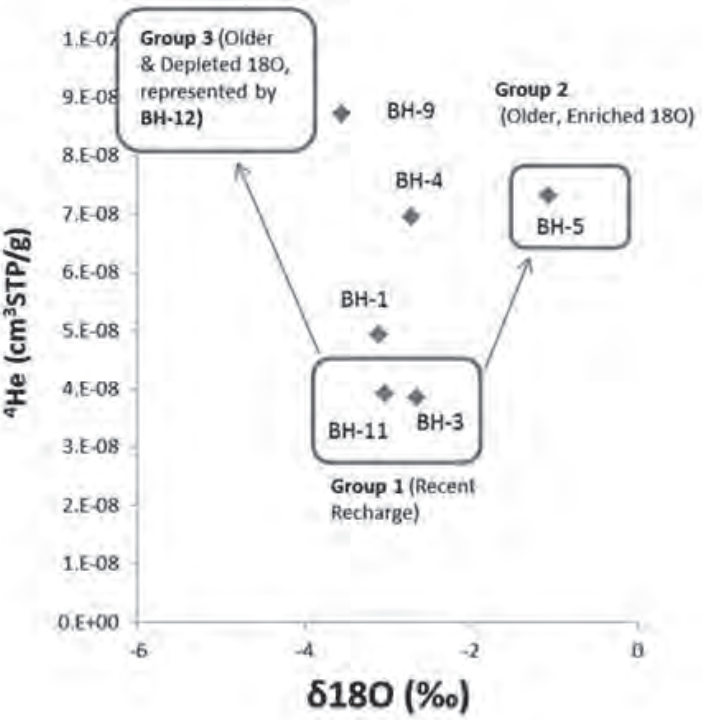
The oxygen ($\delta^{18}O$) and hydrogen (δD) isotope compositions of well samples from Ethiopia show that there may be three groups of water:　(1): BH 3, 11; (2) BH-5; (3) BH-12. Wells BH-1, 4 and 9 appear to be mixtures of those groups. Group 1 (BH 3, 11) water is similar to modern precipitation as indicated by its similar $\delta^{18}O$ value and suggests recent recharge, as also indicated by its low helium-4 concentration and air-like 3He/4He ratios (Fig 2). Groups 2 (BH-5) and 3 (BH-12) have different sources and both have significantly older water (few hundred years or perhaps thousands of years) indicated by elevated helium content and 3He/4He ratios. The high and low $\delta^{18}O$ values, respectively, of Well BH-5 and BH-12 indicate deeper but different aquifers. We will have a more precise estimate of age for wells BH-5 and BH-12 after other isotope analysis (C14 and Tritium) are completed.

Table 1. Stable Isotope Compositions

	deltaD	Delta18O	d-value
AWBH-1	-11.78	-3.112	13.1
AWBH-3	-9.79	-2.648	11.4
AWBH-4N	-9.75	-2.722	12.0
AWBH-5	1.65	-1.077	10.3
AWBH-9	-12.87	-3.548	15.5
AWBH-11	-12.2	-3.034	12.1
AWBH-12	-30.59	-5.406	12.7

Table 2. Helium isotpe compositions

	He (cm3STP/g)	Erorr	3He/4He	Error
AWBH-1	4.92E-08	8.01E-10	1.52E-06	6.27E-09
AWBH-3	3.84E-08	6.23E-10	1.64E-06	5.32E-09
AWBH-4N	6.95E-08	1.51E-09	3.69E-06	2.50E-08
AWBH-5	7.31E-08	1.74E-09	1.42E-06	6.18E-09
AWBH-9	8.73E-08	5.09E-09	7.49E-06	2.74E-08
AWBH-11	3.92E-08	9.33E-10	1.31E-06	7.42E-09



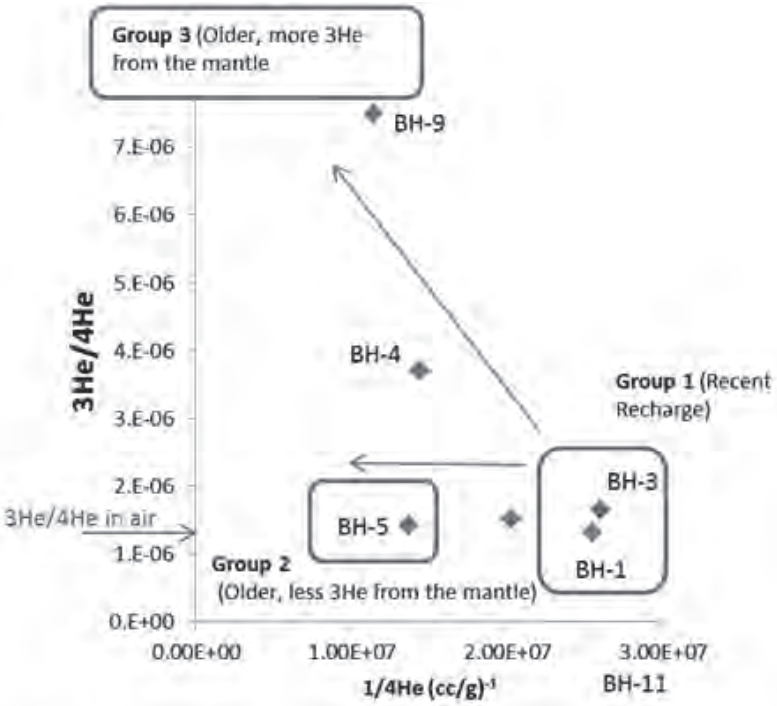
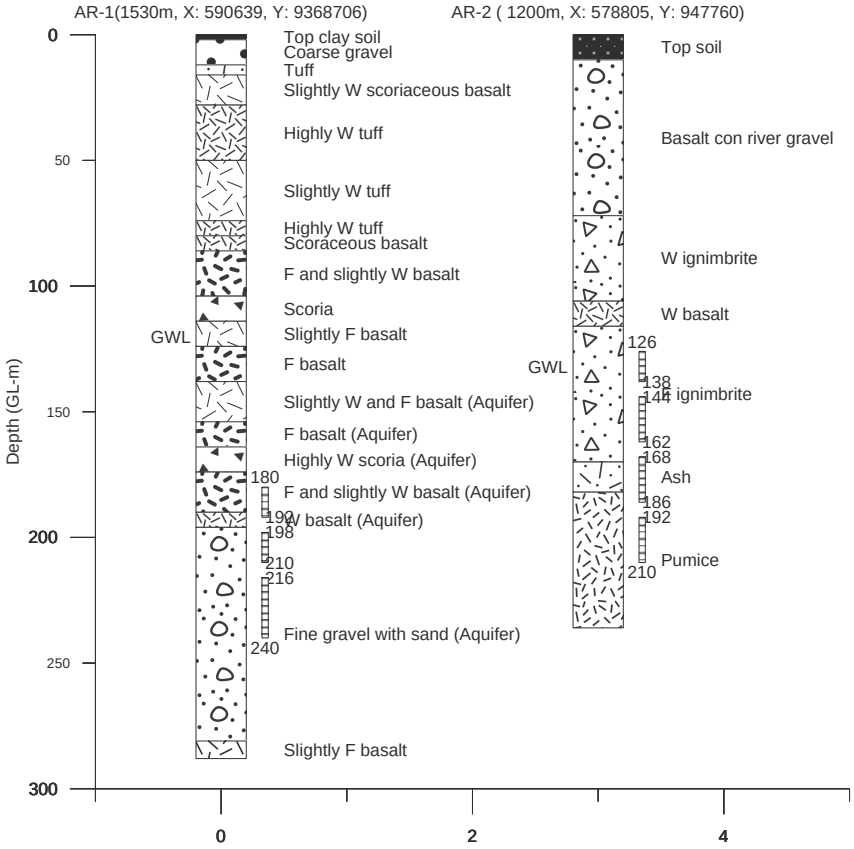
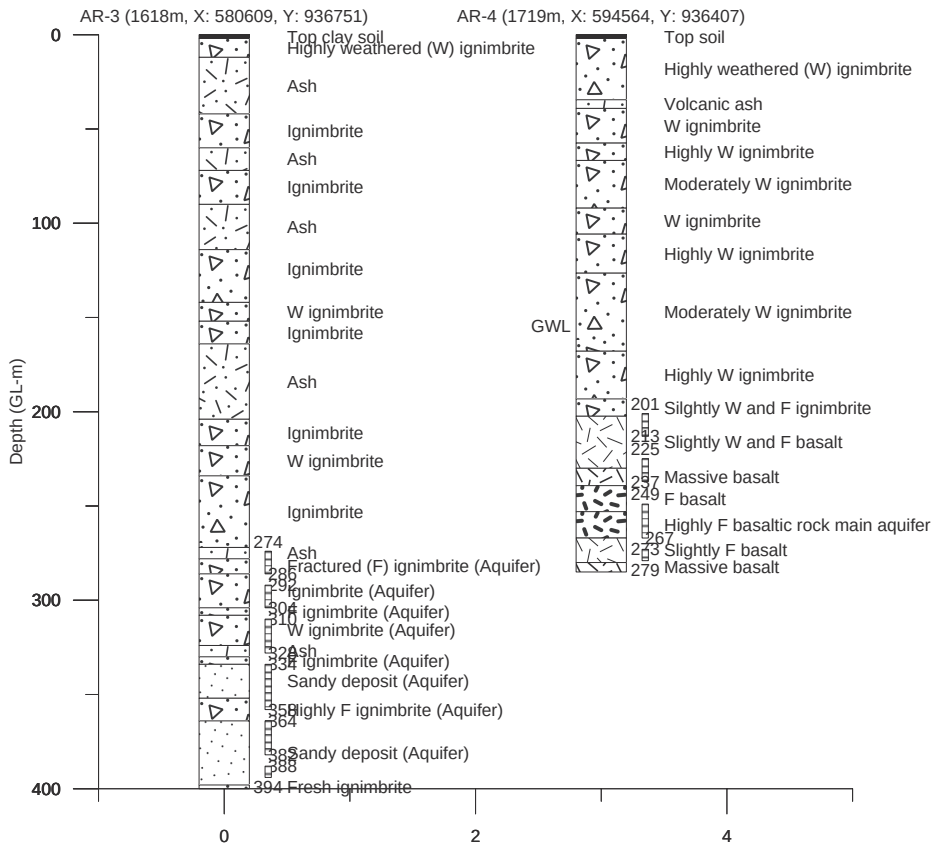


Fig. 2. 3He/4He ratios versus 1/4He (cc/g)-1. Inverse of 4He concentrations are shown to see a mixing relationship that should be represented by a line connecting two endmember components. Higher 3He/4He ratios indicate a contribution of helium from mantle reservoir, which is consistent with geological setting of the area.

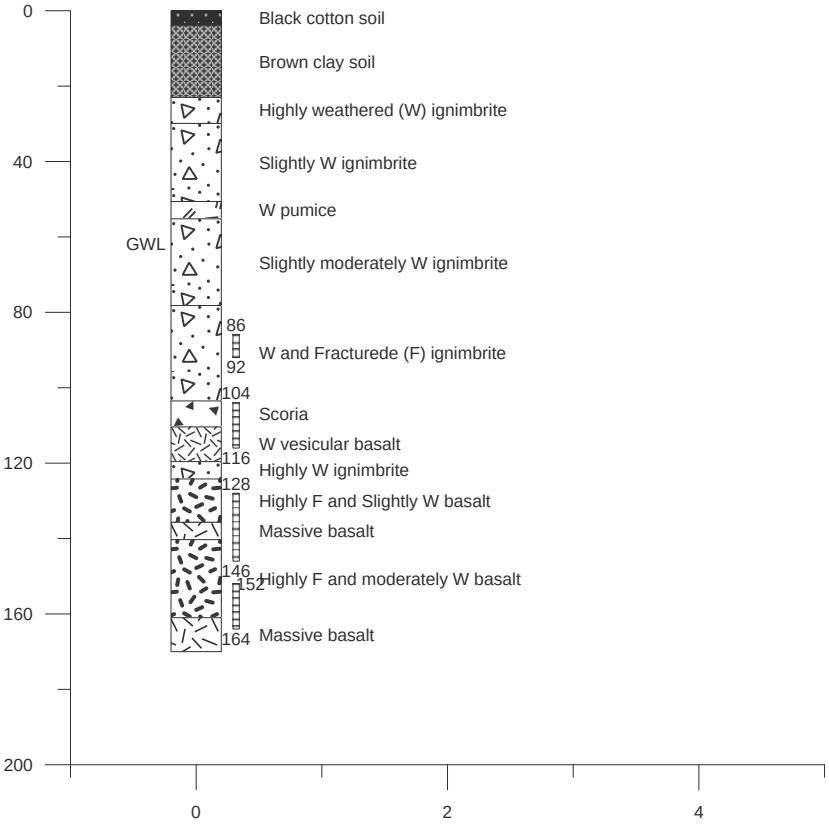
データ 3

既存井戸データ

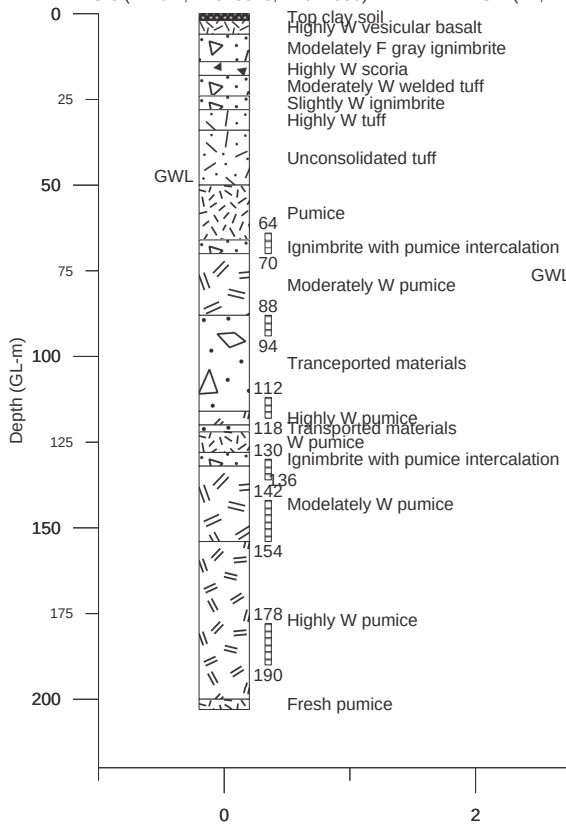

AR-1(1530m, X: 590639, Y: 9368706)
AR-2 (1200m, X: 578805, Y: 947760)
Depth (GL-m)
0
50
100
150
200
250
300
GWL
Top clay soil
Coarse gravel
Tuff
Slightly W scoriaceous basalt
Highly W tuff
Slightly W tuff
Highly W tuff
Scoraceous basalt
F and slightly W basalt
Scoria
Slightly F basalt
F basalt
Slightly W and F basalt (Aquifer)
F basalt (Aquifer)
Highly W scoria (Aquifer)
180
F and slightly W basalt (Aquifer)
190
W basalt (Aquifer)
198
210
216
Fine gravel with sand (Aquifer)
240
Slightly F basalt
Top soil
Basalt con river gravel
W ignimbrite
W basalt
126
138
144
F ignimbrite
162
168
Ash
186
192
Pumice
210
0
2
4


AR-3 (1618m, X: 580609, Y: 936751)
AR-4 (1719m, X: 594564, Y: 936407)
Depth (GL-m)
0
100
200
300
400
GWL
Top clay soil
Highly weathered (W) ignimbrite
Ash
Ignimbrite
Ash
Ignimbrite
Ash
Ignimbrite
W ignimbrite
Ignimbrite
Ash
Ignimbrite
W ignimbrite
Ignimbrite
274
Ash
Fractured (F) ignimbrite (Aquifer)
286
293
Ignimbrite (Aquifer)
304
F ignimbrite (Aquifer)
310
W ignimbrite (Aquifer)
Ash
324
F ignimbrite (Aquifer)
334
Sandy deposit (Aquifer)
Highly F ignimbrite (Aquifer)
358
364
Sandy deposit (Aquifer)
388
388
394 Fresh ignimbrite
Top soil
Highly weathered (W) ignimbrite
Volcanic ash
W ignimbrite
Highly W ignimbrite
Moderately W ignimbrite
W ignimbrite
Highly W ignimbrite
Moderately W ignimbrite
Highly W ignimbrite
201
Silghtly W and F ignimbrite
213
Slightly W and F basalt
225
Massive basalt
237
249
F basalt
Highly F basaltic rock main aquifer
267
273
Slightly F basalt
279
Massive basalt
0
2
4

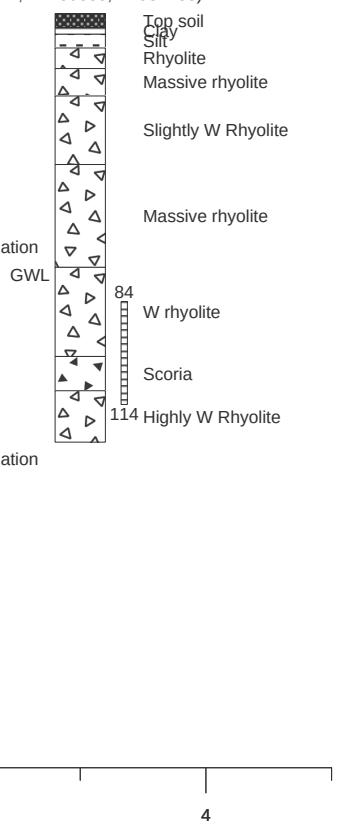
AR-5 (1795m, X: 552351, Y: 916424)

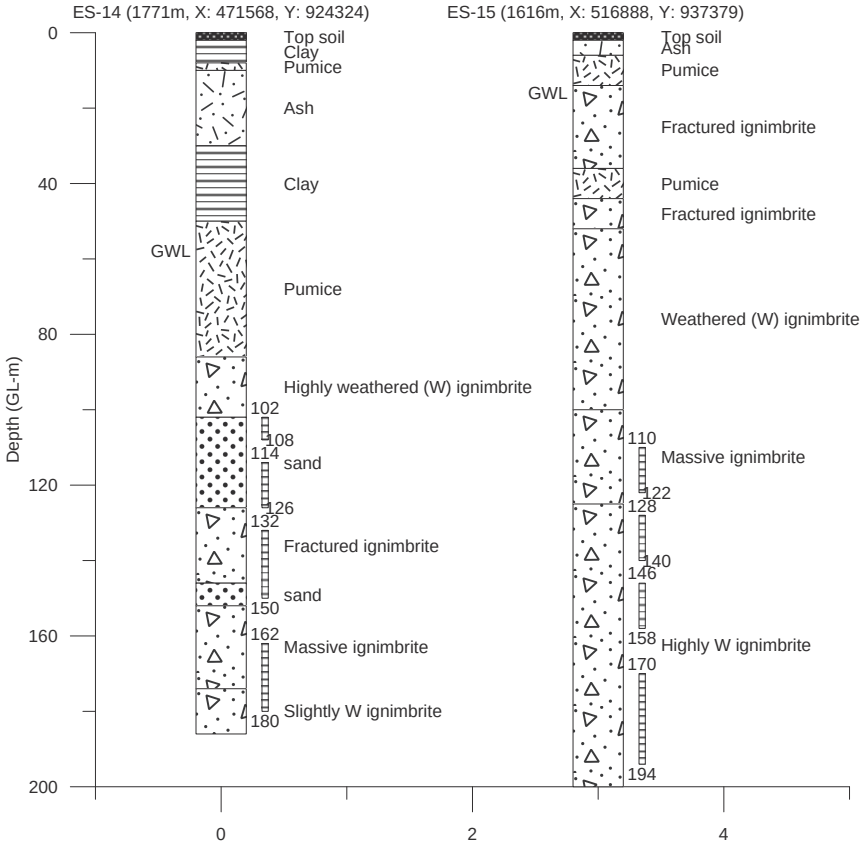


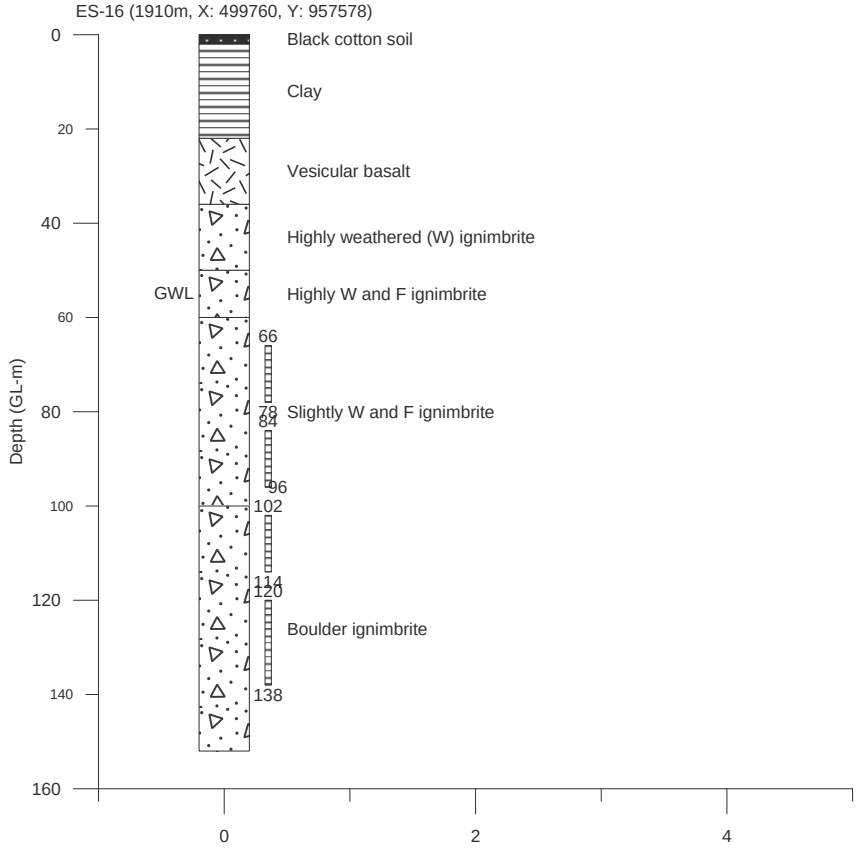
ES-3 (1779m, X: 513615, Y: 947586)

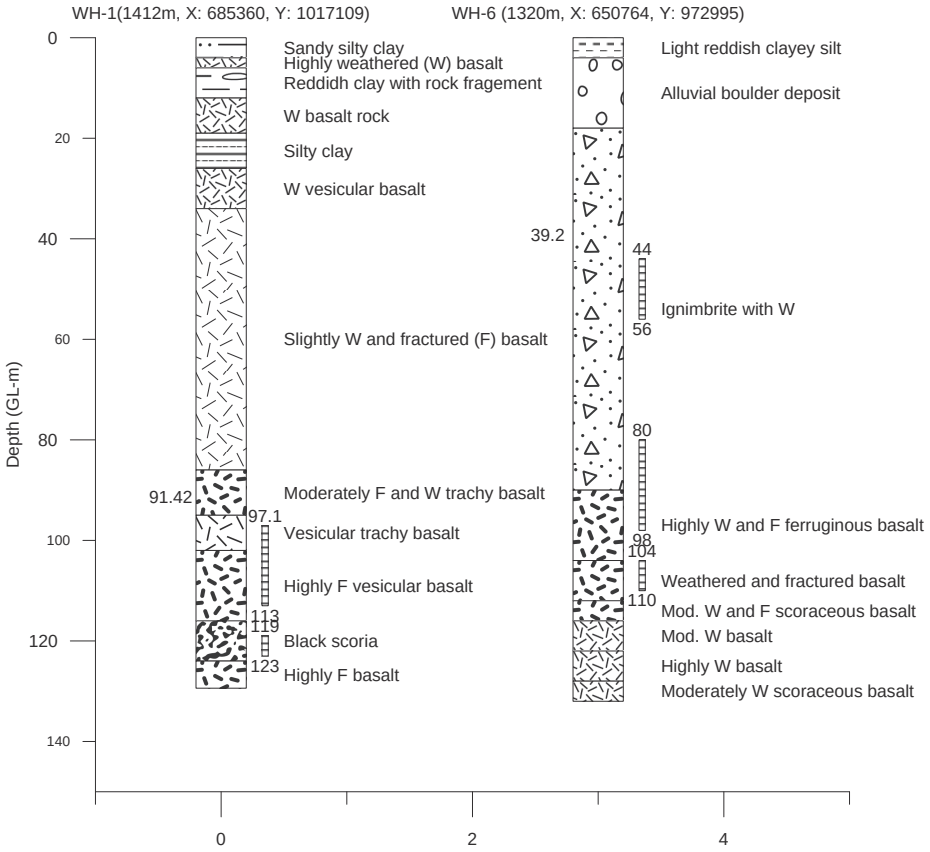


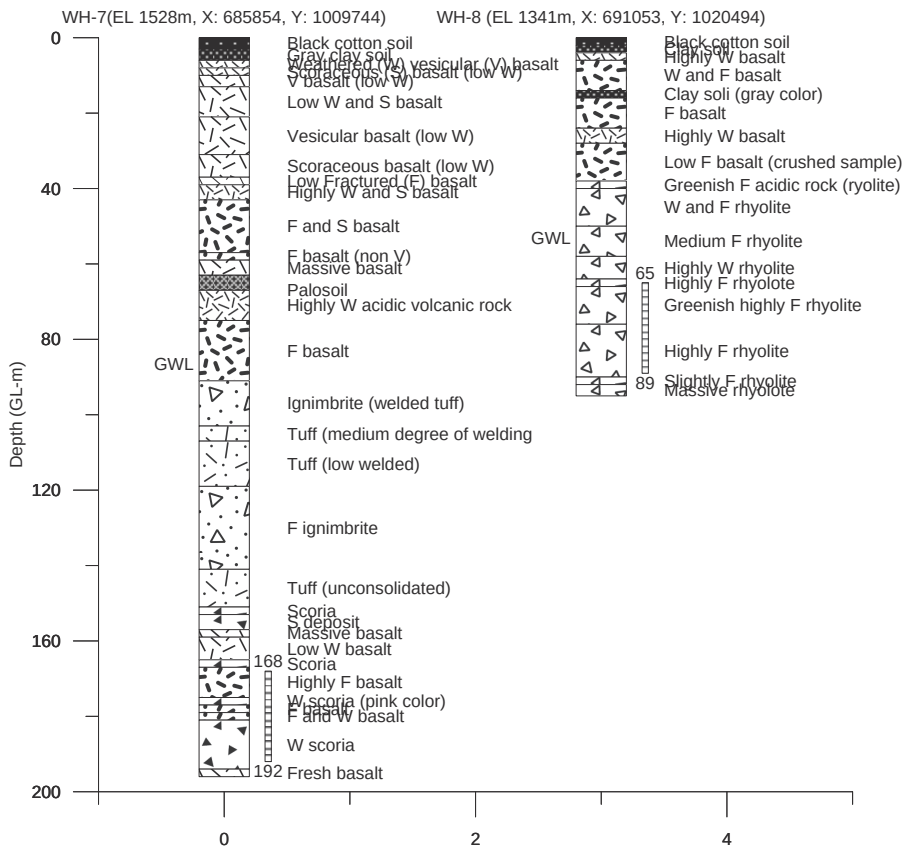
ES-4 (-m, X: 480885, Y: 931783)

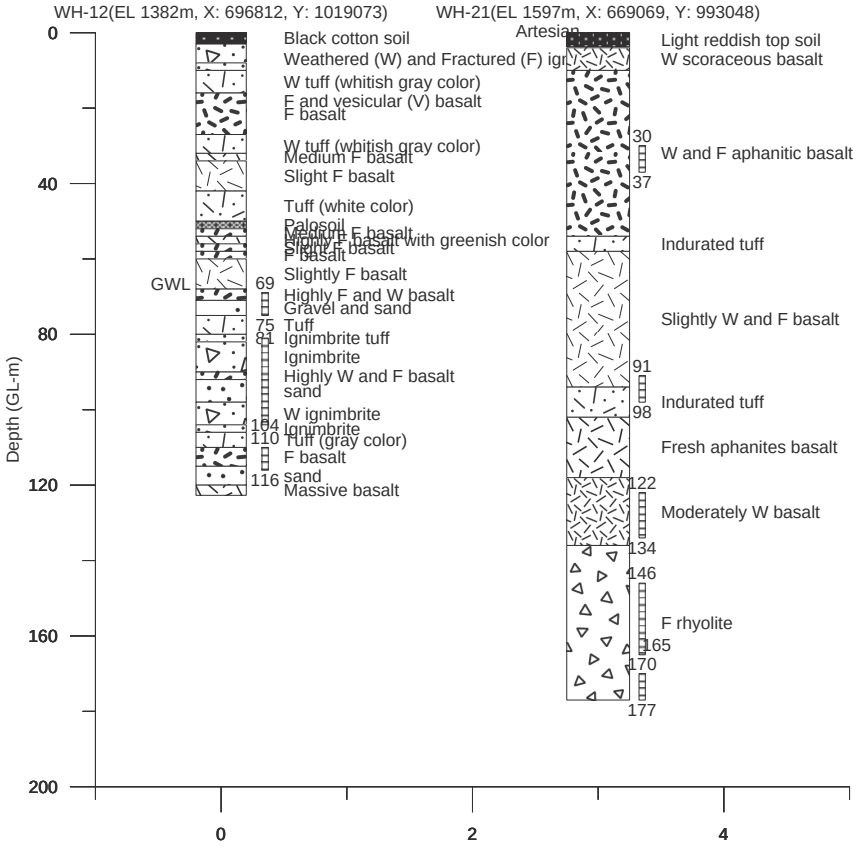


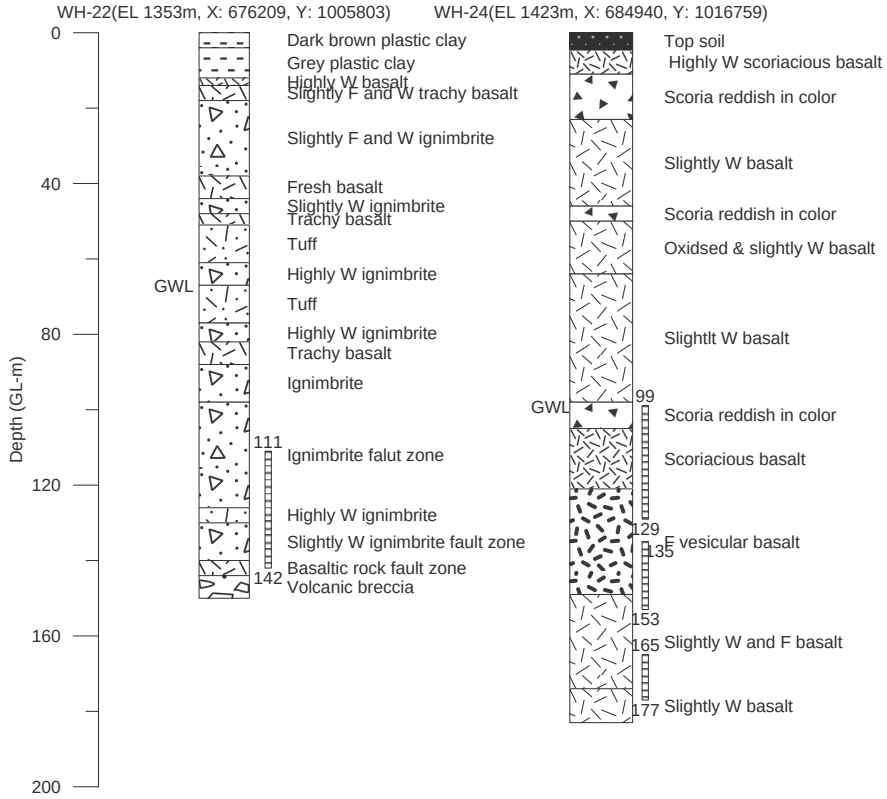

ES-14 (1771m, X: 471568, Y: 924324)
ES-15 (1616m, X: 516888, Y: 937379)
Depth (GL-m)
0
40
80
120
160
200
GWL
Top soil
Clay
Pumice
Ash
Clay
Pumice
Highly weathered (W) ignimbrite
102
108
114
sand
126
132
Fractured ignimbrite
sand
150
162
Massive ignimbrite
Slightly W ignimbrite
180
Top soil
Ash
Pumice
Fractured ignimbrite
Pumice
Fractured ignimbrite
Weathered (W) ignimbrite
110
Massive ignimbrite
122
128
140
146
158
Highly W ignimbrite
170
194
0
2
4

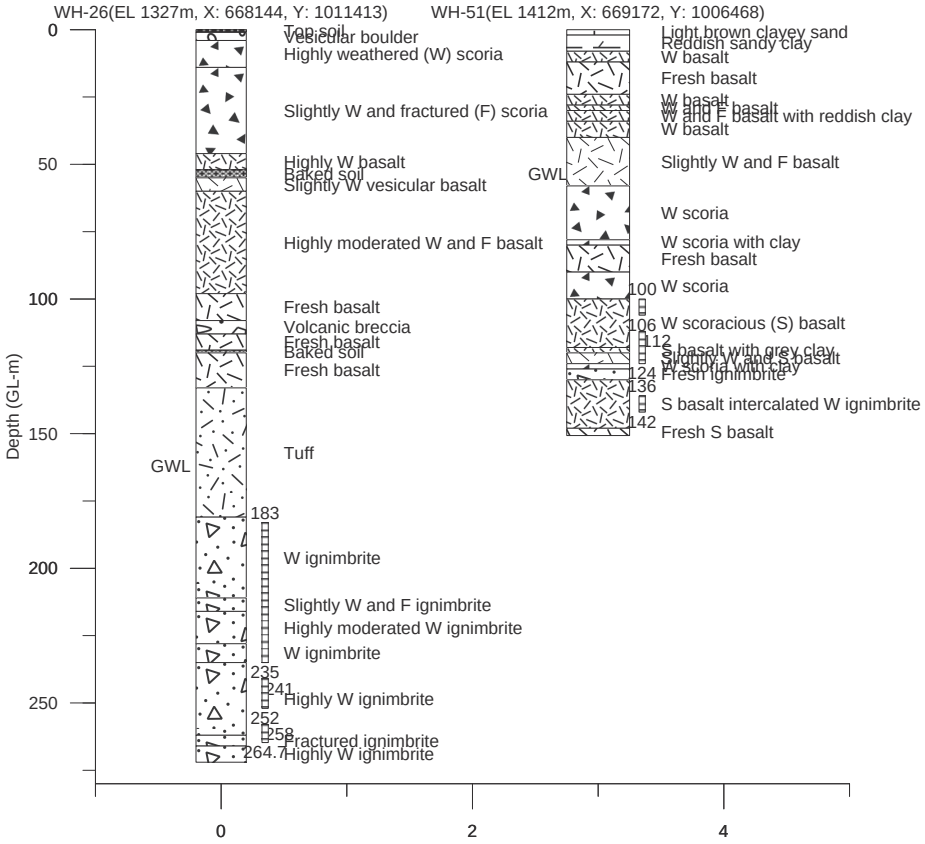

ES-16 (1910m, X: 499760, Y: 957578)
Depth (GL-m)
0
20
40
60
80
100
120
140
160
GWL
Black cotton soil
Clay
Vesicular basalt
Highly weathered (W) ignimbrite
Highly W and F ignimbrite
66
78
84
Slightly W and F ignimbrite
96
102
114
120
Boulder ignimbrite
138
0
2
4

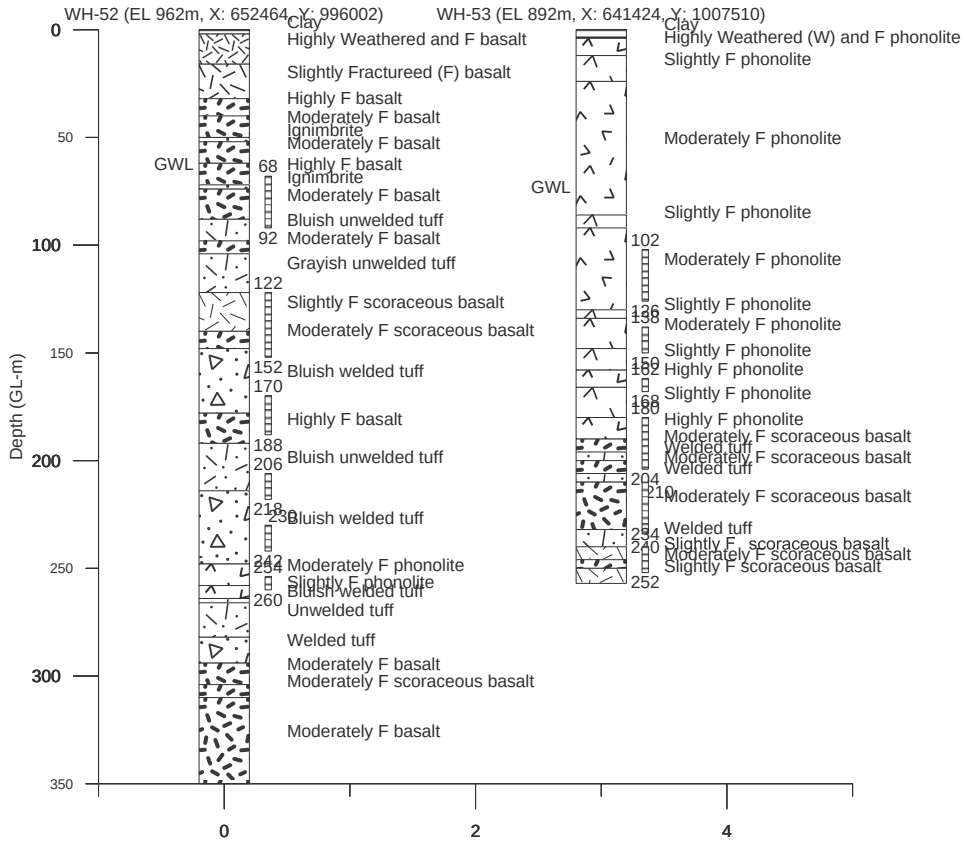

WH-1(1412m, X: 685360, Y: 1017109)
WH-6 (1320m, X: 650764, Y: 972995)
Depth (GL-m)
0
20
40
60
80
100
120
140
Sandy silty clay
Highly weathered (W) basalt
Reddidh clay with rock fragement
W basalt rock
Silty clay
W vesicular basalt
Slightly W and fractured (F) basalt
91.42
97.1
Moderately F and W trachy basalt
Vesicular trachy basalt
Highly F vesicular basalt
113
119
Black scoria
123
Highly F basalt
Light reddish clayey silt
Alluvial boulder deposit
39.2
44
Ignimbrite with W
56
80
Highly W and F ferruginous basalt
98
104
Weathered and fractured basalt
110
Mod. W and F scoraceous basalt
Mod. W basalt
Highly W basalt
Moderately W scoraceous basalt
0
2
4

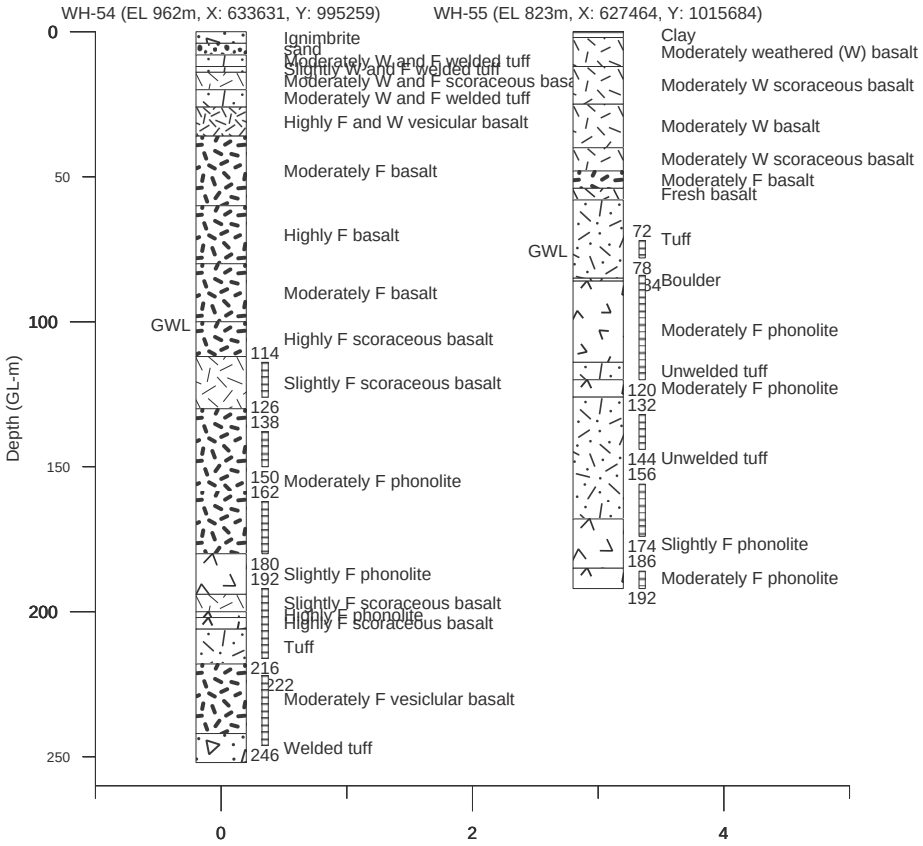

WH-7(EL 1528m, X: 685854, Y: 1009744)
WH-8 (EL 1341m, X: 691053, Y: 1020494)
Depth (GL-m)
0
40
80
120
160
200
GWL
Black cotton soil
Gray clay soil
Weathered (W) vesicular (V) basalt
Scoraceous (S) basalt (low W)
V basalt (low W)
Low W and S basalt
Vesicular basalt (low W)
Scoraceous basalt (low W)
Low Fractured (F) basalt
Highly W and S basalt
F and S basalt
F basalt (non V)
Massive basalt
Palosoil
Highly W acidic volcanic rock
F basalt
Ignimbrite (welded tuff)
Tuff (medium degree of welding
Tuff (low welded)
F ignimbrite
Tuff (unconsolidated)
Scoria
S deposit
Massive basalt
Low W basalt
168
Scoria
Highly F basalt
W scoria (pink color)
F basalt
F and W basalt
W scoria
192
Fresh basalt
GWL
Black cotton soil
Black soil
Highly W basalt
W and F basalt
Clay soli (gray color)
F basalt
Highly W basalt
Low F basalt (crushed sample)
Greenish F acidic rock (ryolite)
W and F rhyolite
Medium F rhyolite
Highly W rhyolite
65
Highly F rhyolote
Greenish highly F rhyolite
Highly F rhyolite
Slightly F rhyolite
89
Massive rhyolote
0
2
4

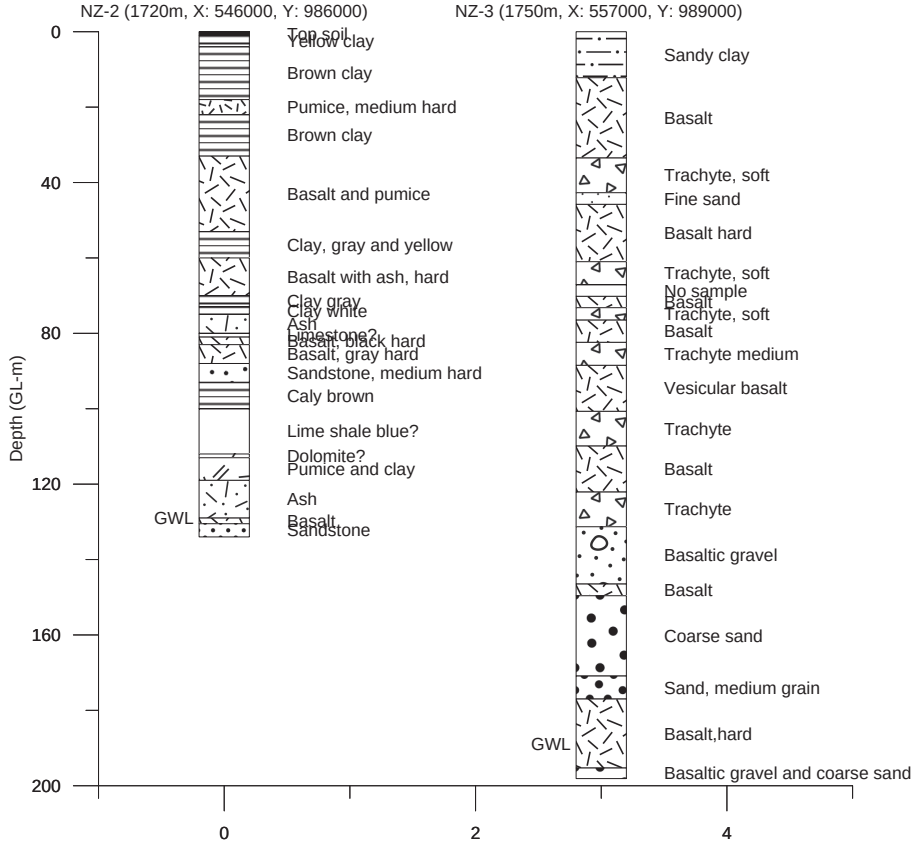

WH-12(EL 1382m, X: 696812, Y: 1019073)
WH-21(EL 1597m, X: 669069, Y: 993048)
Depth (GL-m)
0
40
80
120
160
200
0
2
4
GWL
Black cotton soil
Weathered (W) and Fractured (F) ign
W tuff (whitish gray color)
F and vesicular (V) basalt
F basalt
W tuff (whitish gray color)
Medium F basalt
Slight F basalt
Tuff (white color)
Paleosoil
Medium F basalt
Highly F basalt with greenish color
Slight F basalt
F basalt
Slightly F basalt
Highly F and W basalt
Gravel and sand
Tuff
Ignimbrite tuff
Ignimbrite
Highly W and F basalt
sand
W ignimbrite
Ignimbrite
Tuff (gray color)
F basalt
sand
Massive basalt
69
75
81
104
110
116
Artesian
Light reddish top soil
W scoraceous basalt
W and F aphanitic basalt
Indurated tuff
Slightly W and F basalt
Indurated tuff
Fresh aphanites basalt
Moderately W basalt
F rhyolite
30
37
91
98
122
134
146
165
170
177

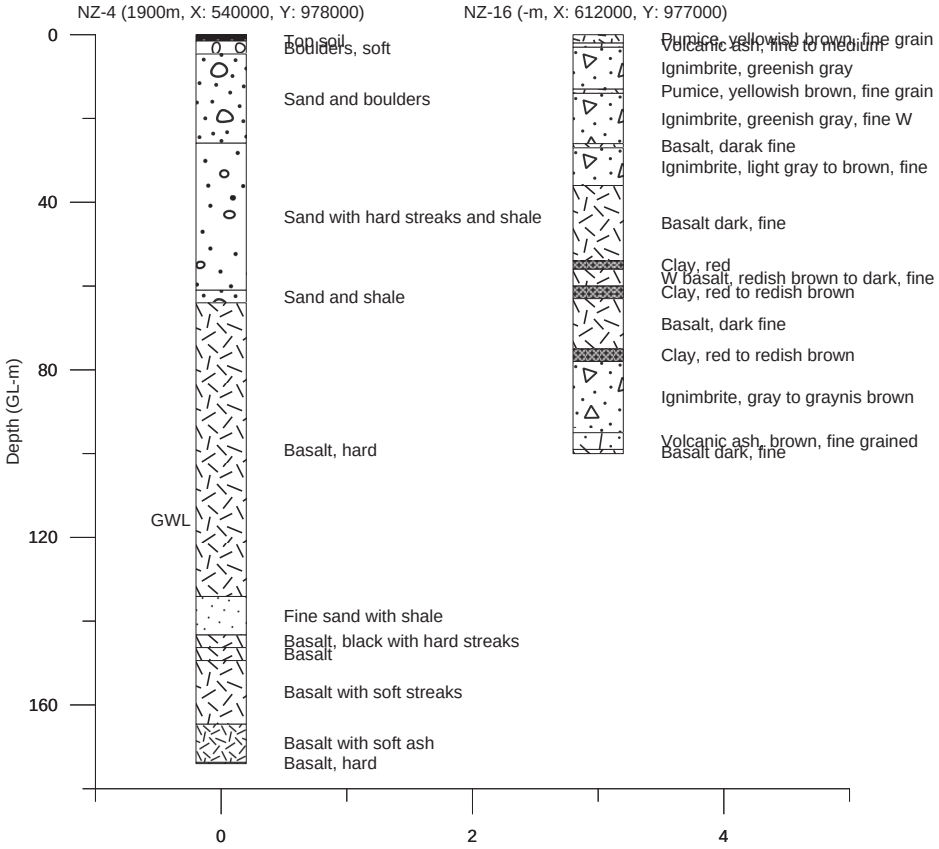

WH-22(EL 1353m, X: 676209, Y: 1005803)
WH-24(EL 1423m, X: 684940, Y: 1016759)
Depth (GL-m)
0
40
80
120
160
200
GWL
Dark brown plastic clay
Grey plastic clay
Highly W basalt
Slightly F and W trachy basalt
Slightly F and W ignimbrite
Fresh basalt
Slightly W ignimbrite
Trachy basalt
Tuff
Highly W ignimbrite
Tuff
Highly W ignimbrite
Trachy basalt
Ignimbrite
Ignimbrite falut zone
Highly W ignimbrite
Slightly W ignimbrite fault zone
Basaltic rock fault zone
Volcanic breccia
111
142
Top soil
Highly W scoriacious basalt
Scoria reddish in color
Slightly W basalt
Scoria reddish in color
Oxidsed & slightly W basalt
Slightlt W basalt
Scoria reddish in color
Scoriacious basalt
F vesicular basalt
Slightly W and F basalt
Slightly W basalt
99
129
135
153
165
177

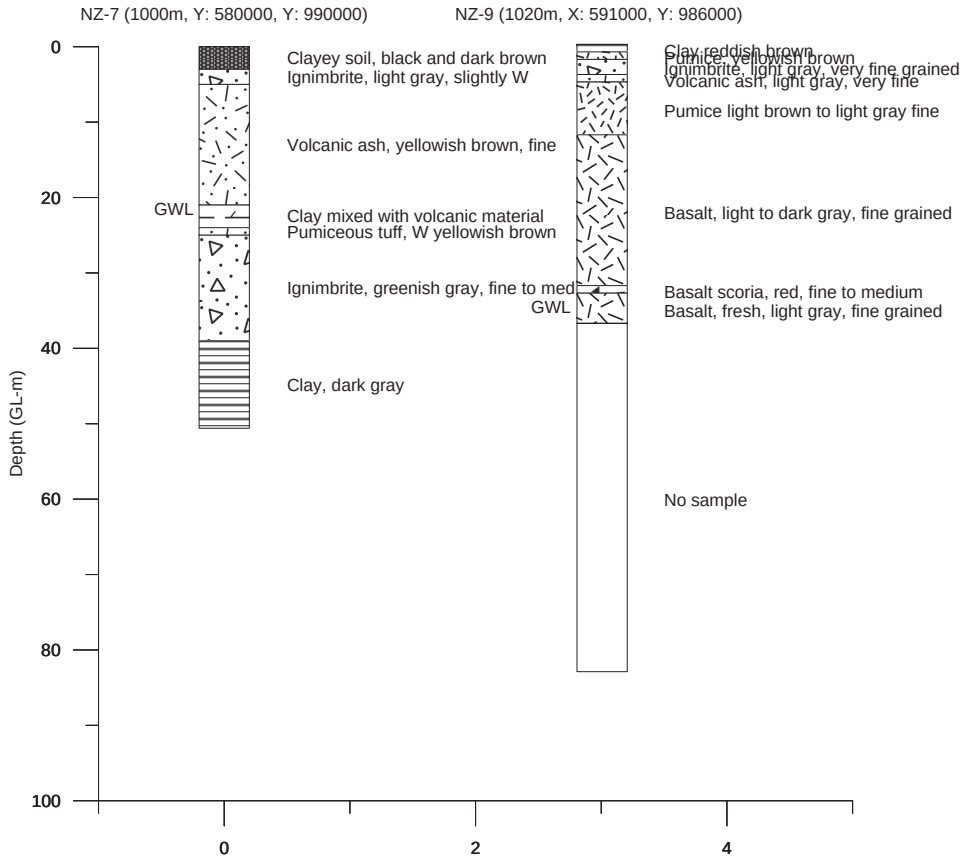

WH-26(EL 1327m, X: 668144, Y: 1011413)
WH-51(EL 1412m, X: 669172, Y: 1006468)
Depth (GL-m)
0
50
100
150
200
250
GWL
Top soil
Vesicular boulder
Highly weathered (W) scoria
Slightly W and fractured (F) scoria
Highly W basalt
Baked soil
Slightly W vesicular basalt
Highly moderated W and F basalt
Fresh basalt
Volcanic breccia
Fresh basalt
Baked soil
Fresh basalt
Tuff
183
W ignimbrite
Slightly W and F ignimbrite
Highly moderated W ignimbrite
W ignimbrite
235
241
Highly W ignimbrite
252
258
Fractured ignimbrite
264.7
Highly W ignimbrite
Light brown clayey sand
Reddish sandy clay
W basalt
Fresh basalt
W basalt
W and F basalt
W and F basalt with reddish clay
W basalt
Slightly W and F basalt
W scoria
W scoria with clay
Fresh basalt
100
W scoria
106
W scoracious (S) basalt
112
S basalt with grey clay
Slightly W and S basalt
W scoria with clay
124
Fresh ignimbrite
136
S basalt intercalated W ignimbrite
142
Fresh S basalt
0
2
4

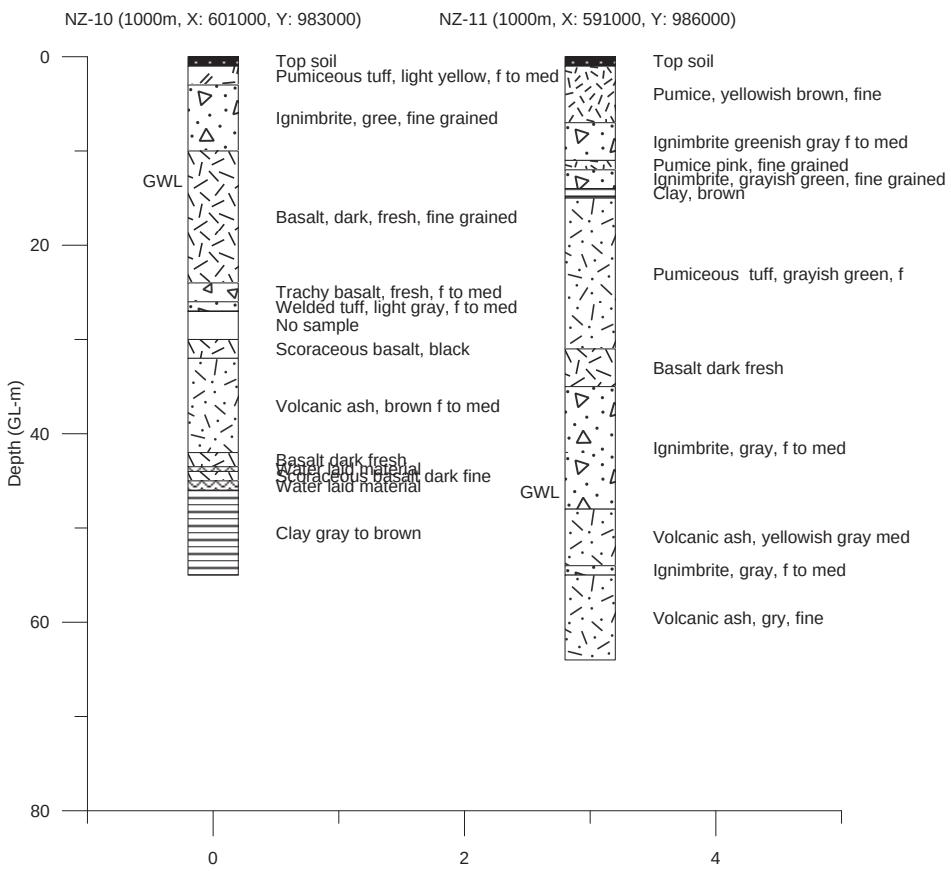

WH-52 (EL 962m, X: 652464, Y: 996002)
WH-53 (EL 892m, X: 641424, Y: 1007510)
Depth (GL-m)
0
50
100
150
200
250
300
350
GWL
Clay
Highly Weathered and F basalt
Slightly Fractureed (F) basalt
Highly F basalt
Moderately F basalt
Ignimbrite
Moderately F basalt
Highly F basalt
68
Ignimbrite
Moderately F basalt
Bluish unwelded tuff
92
Moderately F basalt
Grayish unwelded tuff
122
Slightly F scoraceous basalt
Moderately F scoraceous basalt
152
Bluish welded tuff
170
Highly F basalt
188
Bluish unwelded tuff
206
218
230
Bluish welded tuff
242
Moderately F phonolite
254
Slightly F phonolite
Bluish welded tuff
260
Unwelded tuff
Welded tuff
Moderately F basalt
Moderately F scoraceous basalt
Moderately F basalt
GWL
Clay
Highly Weathered (W) and F phonolite
Slightly F phonolite
Moderately F phonolite
Slightly F phonolite
102
Moderately F phonolite
126
Slightly F phonolite
138
Moderately F phonolite
Slightly F phonolite
150
162
Highly F phonolite
Slightly F phonolite
168
180
Highly F phonolite
Moderately F scoraceous basalt
Welded tuff
Moderately F scoraceous basalt
Welded tuff
204
210
Moderately F scoraceous basalt
Welded tuff
234
240
Slightly F scoraceous basalt
Moderately F scoraceous basalt
Slightly F scoraceous basalt
252
0
2
4

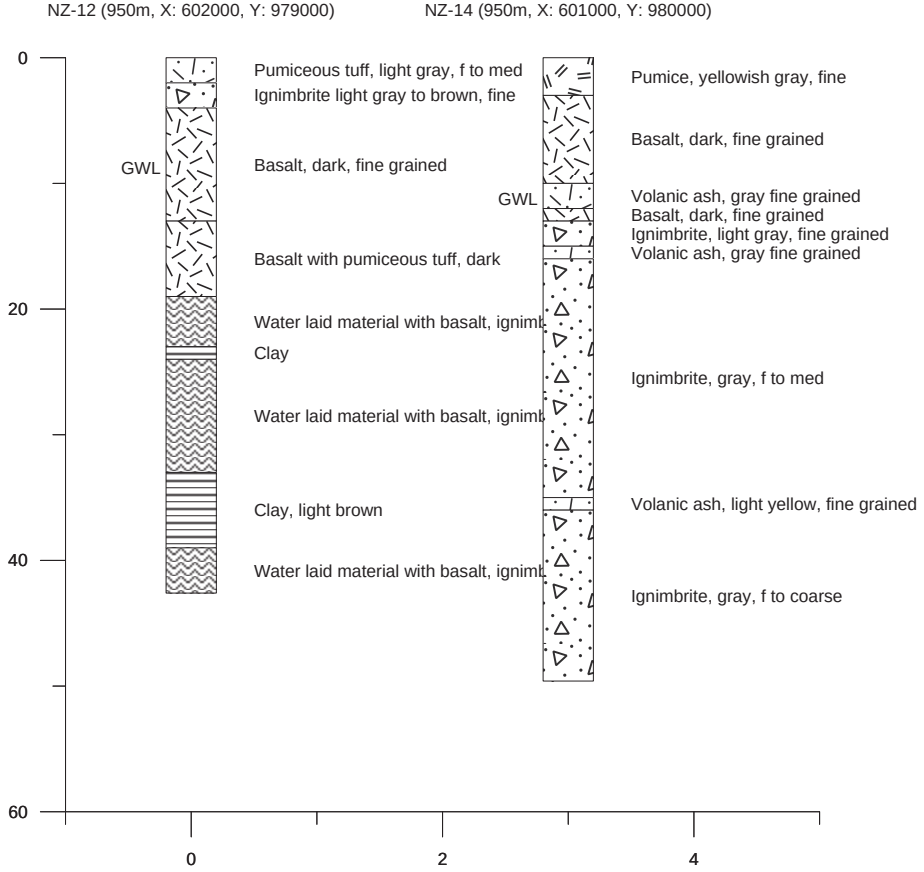

WH-54 (EL 962m, X: 633631, Y: 995259)
WH-55 (EL 823m, X: 627464, Y: 1015684)
Depth (GL-m)
0
50
100
150
200
250
GWL
Ignimbrite
sand
Moderately W and F welded tuff
Slightly W and F welded tuff
Moderately W and F scoraceous basa
Moderately W and F welded tuff
Highly F and W vesicular basalt
Moderately F basalt
Highly F basalt
Moderately F basalt
Highly F scoraceous basalt
114
Slightly F scoraceous basalt
126
138
150
Moderately F phonolite
162
180
192
Slightly F phonolite
Slightly F scoraceous basalt
Highly F phonolite
Highly F scoraceous basalt
Tuff
216
222
Moderately F vesiclular basalt
Welded tuff
246
Clay
Moderately weathered (W) basalt
Moderately W scoraceous basalt
Moderately W basalt
Moderately W scoraceous basalt
Moderately F basalt
Fresh basalt
72
Tuff
78
Boulder
84
Moderately F phonolite
Unwelded tuff
120
Moderately F phonolite
132
144
Unwelded tuff
156
174
Slightly F phonolite
186
Moderately F phonolite
192
0
2
4

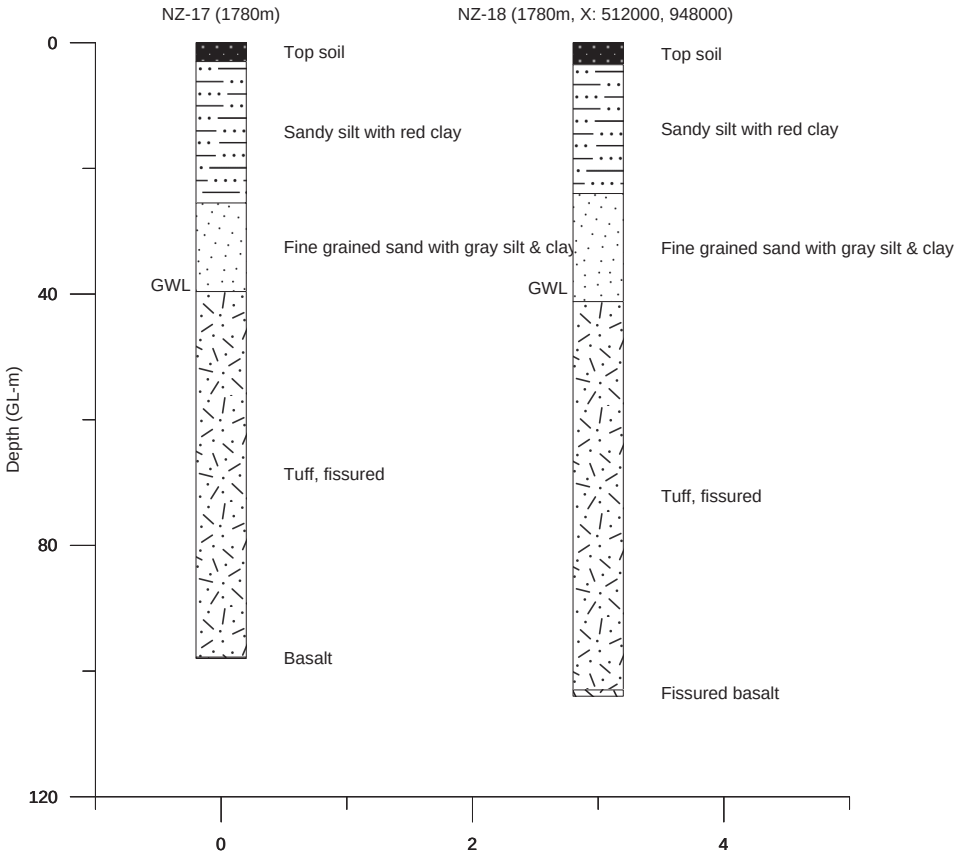

NZ-2 (1720m, X: 546000, Y: 986000)
NZ-3 (1750m, X: 557000, Y: 989000)
Depth (GL-m)
0
40
80
120
160
200
GWL
Top soil
Yellow clay
Brown clay
Pumice, medium hard
Brown clay
Basalt and pumice
Clay, gray and yellow
Basalt with ash, hard
Clay gray
Clay white
Ash
Limestone?
Basalt, black hard
Basalt, gray hard
Sandstone, medium hard
Caly brown
Lime shale blue?
Dolomite?
Pumice and clay
Ash
Basalt
Sandstone
Sandy clay
Basalt
Trachyte, soft
Fine sand
Basalt hard
Trachyte, soft
No sample
Basalt
Trachyte, soft
Basalt
Trachyte medium
Vesicular basalt
Trachyte
Basalt
Trachyte
Basaltic gravel
Basalt
Coarse sand
Sand, medium grain
Basalt,hard
Basaltic gravel and coarse sand
0
2
4

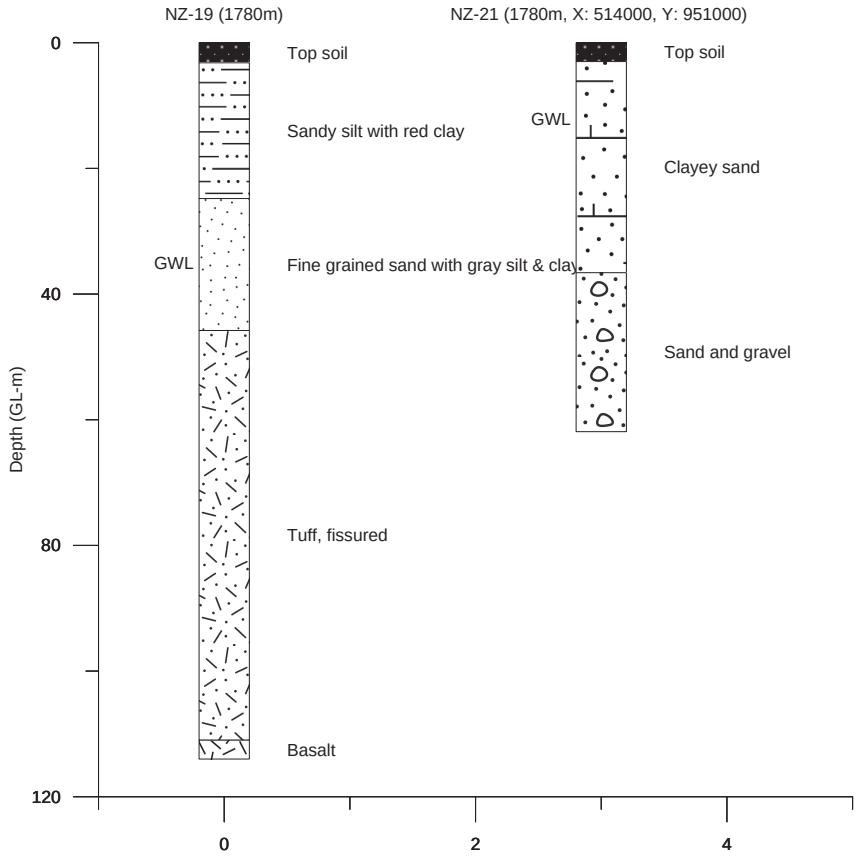

NZ-4 (1900m, X: 540000, Y: 978000)
NZ-16 (-m, X: 612000, Y: 977000)
Depth (GL-m)
0
40
80
120
160
GWL
Top soil
Boulders, soft
Sand and boulders
Sand with hard streaks and shale
Sand and shale
Basalt, hard
Fine sand with shale
Basalt, black with hard streaks
Basalt
Basalt with soft streaks
Basalt with soft ash
Basalt, hard
Pumice, yellowish brown, fine grain
Volcanic ash, fine to medium
Ignimbrite, greenish gray
Pumice, yellowish brown, fine grain
Ignimbrite, greenish gray, fine W
Basalt, darak fine
Ignimbrite, light gray to brown, fine
Basalt dark, fine
Clay, red
W basalt, redish brown to dark, fine
Clay, red to redish brown
Basalt, dark fine
Clay, red to redish brown
Ignimbrite, gray to graynis brown
Volcanic ash, brown, fine grained
Basalt dark, fine
0
2
4

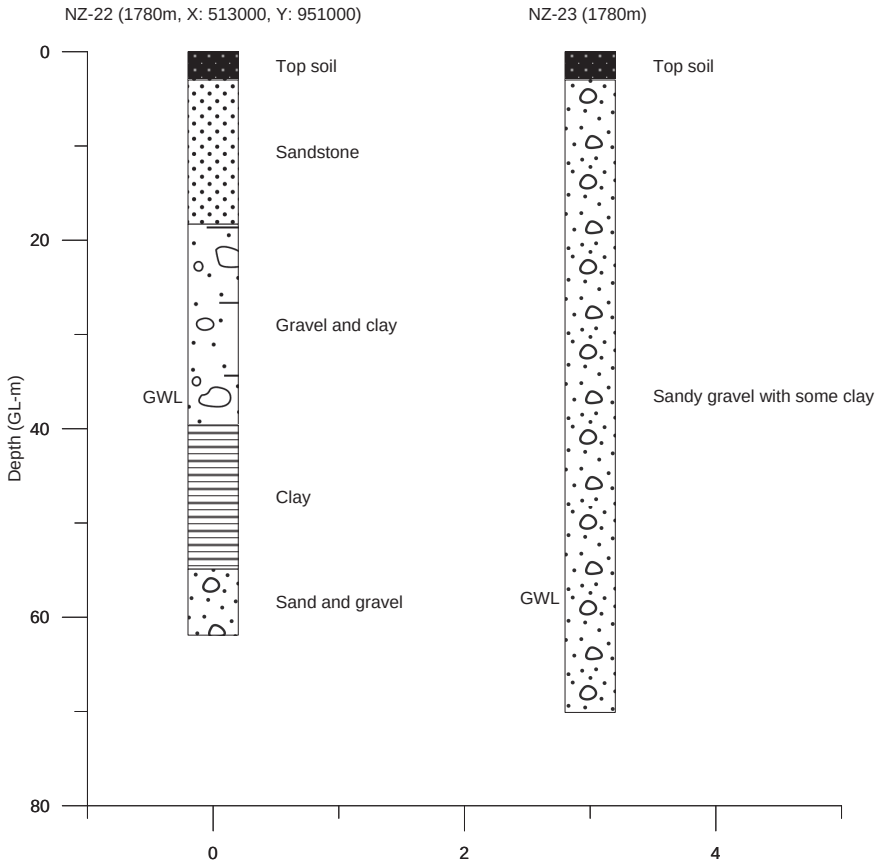

NZ-7 (1000m, Y: 580000, Y: 990000)
NZ-9 (1020m, X: 591000, Y: 986000)
Depth (GL-m)
0
20
40
60
80
100
GWL
Clayey soil, black and dark brown
Ignimbrite, light gray, slightly W
Volcanic ash, yellowish brown, fine
Clay mixed with volcanic material
Pumiceous tuff, W yellowish brown
Ignimbrite, greenish gray, fine to med
Clay, dark gray
Clay reddish brown
Pumice, yellowish brown
Ignimbrite, light gray, very fine grained
Volcanic ash, light gray, very fine
Pumice light brown to light gray fine
Basalt, light to dark gray, fine grained
Basalt scoria, red, fine to medium
Basalt, fresh, light gray, fine grained
No sample
0
2
4

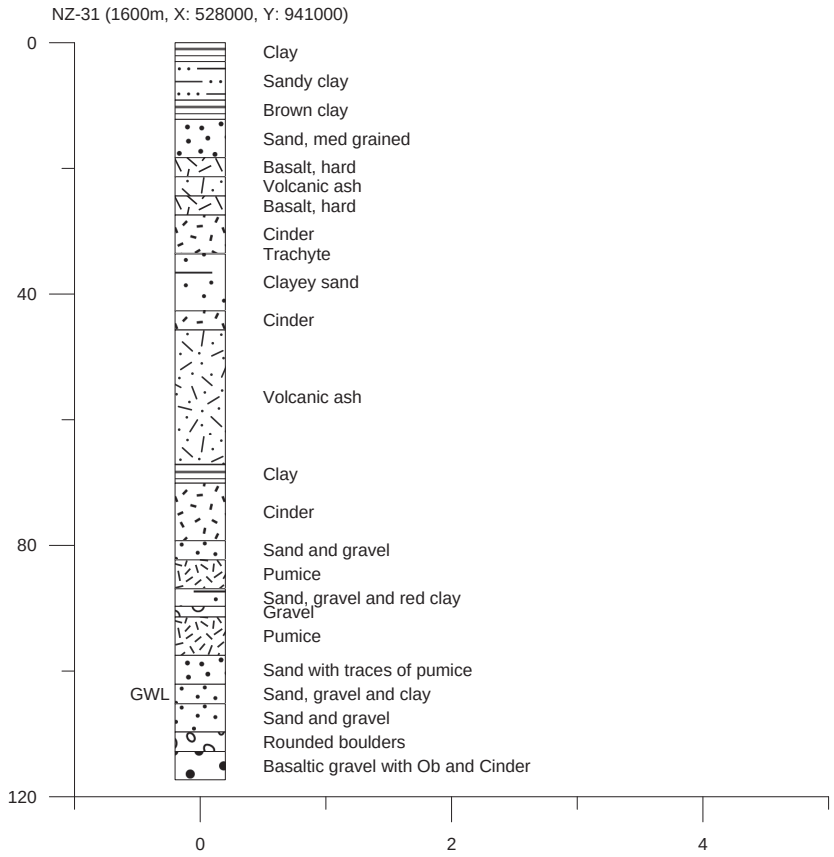

NZ-10 (1000m, X: 601000, Y: 983000)
NZ-11 (1000m, X: 591000, Y: 986000)
Depth (GL-m)
0
20
40
60
80
0
2
4
GWL
Top soil
Pumiceous tuff, light yellow, f to med
Ignimbrite, gree, fine grained
Basalt, dark, fresh, fine grained
Trachy basalt, fresh, f to med
Welded tuff, light gray, f to med
No sample
Scoraceous basalt, black
Volcanic ash, brown f to med
Basalt dark fresh
Water laid material
Scoraceous basalt dark fine
Water laid material
Clay gray to brown
GWL
Top soil
Pumice, yellowish brown, fine
Ignimbrite greenish gray f to med
Pumice pink, fine grained
Ignimbrite, grayish green, fine grained
Clay, brown
Pumiceous tuff, grayish green, f
Basalt dark fresh
Ignimbrite, gray, f to med
Volcanic ash, yellowish gray med
Ignimbrite, gray, f to med
Volcanic ash, gry, fine

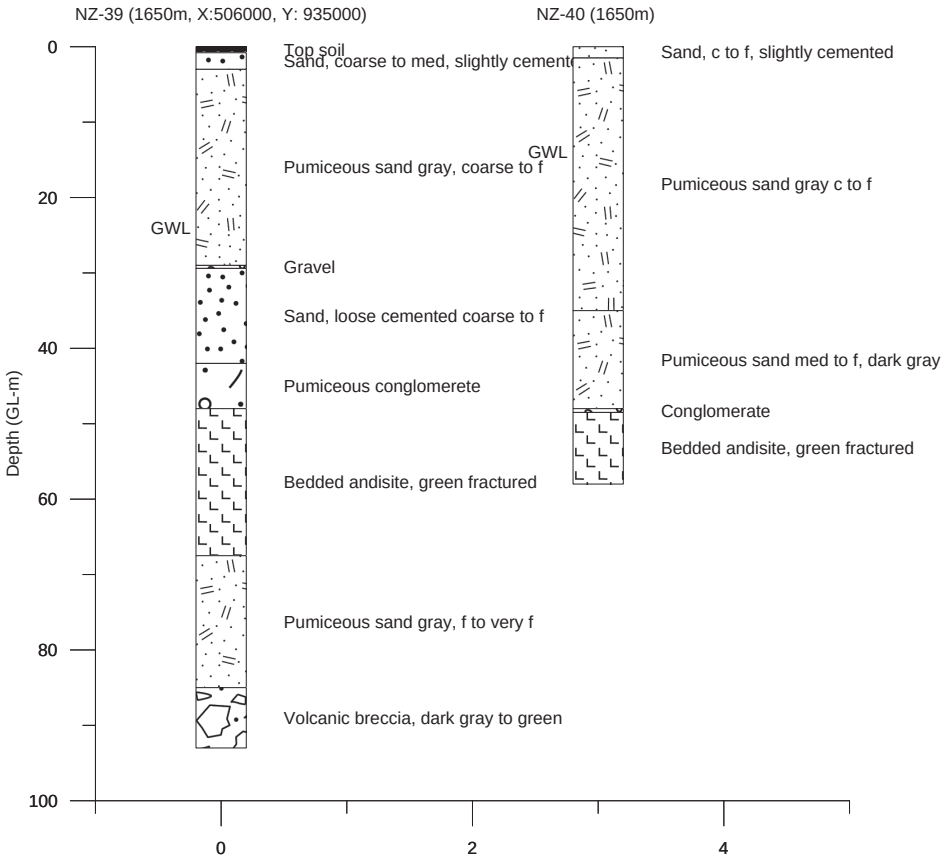

NZ-12 (950m, X: 602000, Y: 979000)
NZ-14 (950m, X: 601000, Y: 980000)
0
20
40
60
0
2
4
GWL
Pumiceous tuff, light gray, f to med
Ignimbrite light gray to brown, fine
Basalt, dark, fine grained
Basalt with pumiceous tuff, dark
Water laid material with basalt, ignimb
Clay
Water laid material with basalt, ignimb
Clay, light brown
Water laid material with basalt, ignimb
GWL
Pumice, yellowish gray, fine
Basalt, dark, fine grained
Volanic ash, gray fine grained
Basalt, dark, fine grained
Ignimbrite, light gray, fine grained
Volanic ash, gray fine grained
Ignimbrite, gray, f to med
Volanic ash, light yellow, fine grained
Ignimbrite, gray, f to coarse

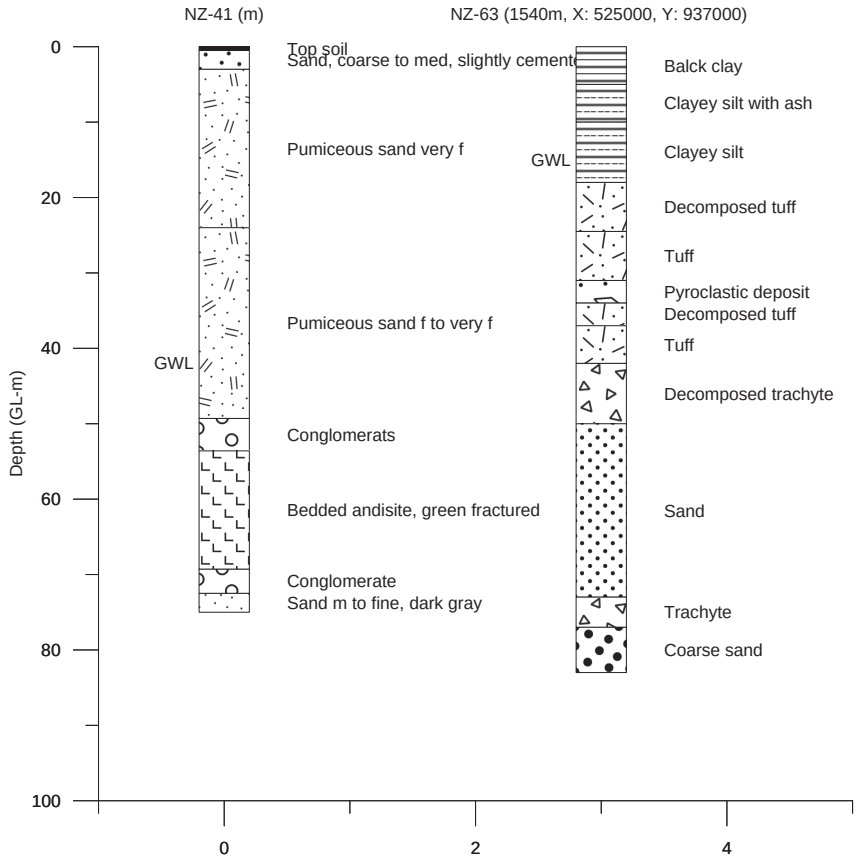

NZ-17 (1780m)
NZ-18 (1780m, X: 512000, 948000)
Top soil
Sandy silt with red clay
Fine grained sand with gray silt & clay
GWL
Tuff, fissured
Basalt
Fissured basalt
Depth (GL-m)
0
40
80
120
0
2
4

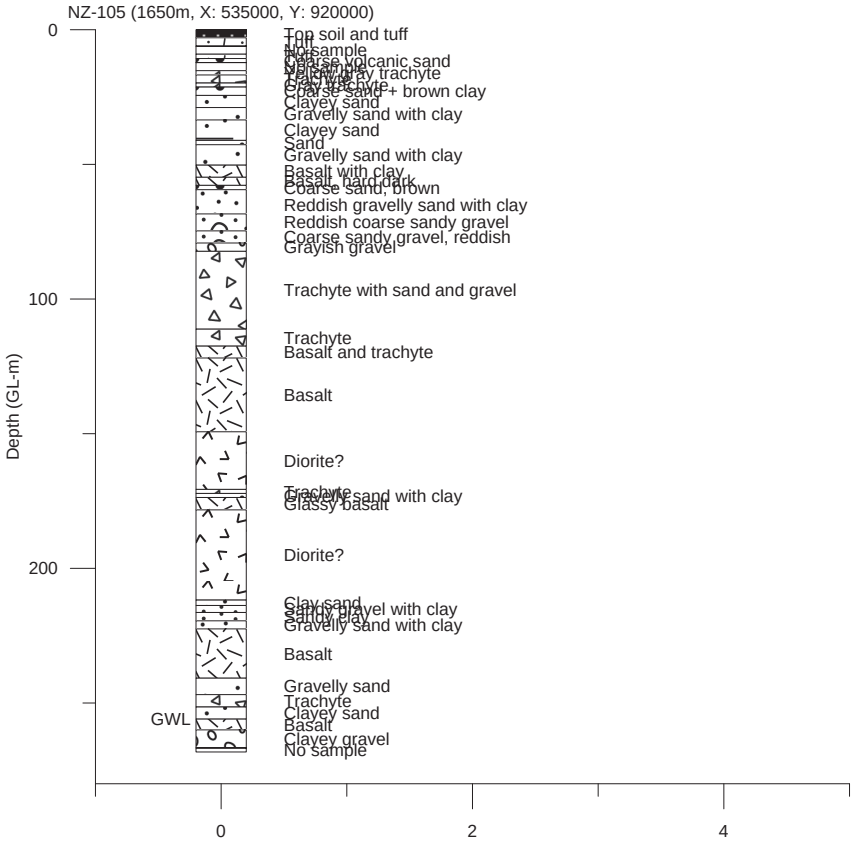

NZ-19 (1780m)
NZ-21 (1780m, X: 514000, Y: 951000)
Top soil
Sandy silt with red clay
Fine grained sand with gray silt & clay
GWL
Clayey sand
Sand and gravel
Tuff, fissured
Basalt
Depth (GL-m)
0
40
80
120
0
2
4

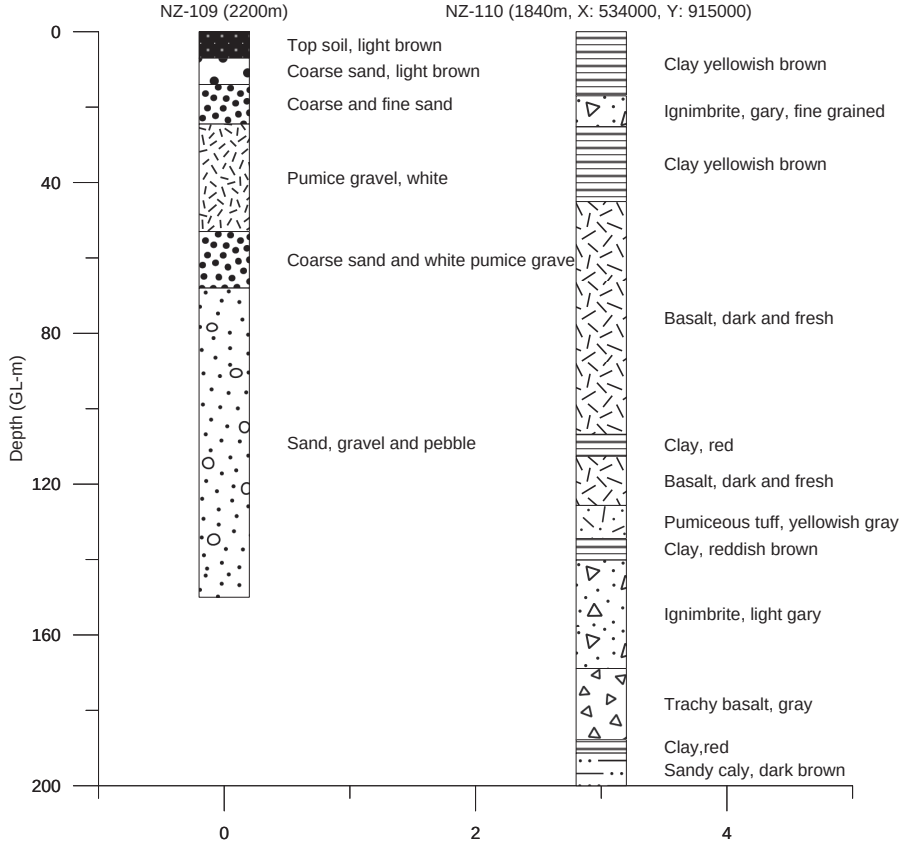

NZ-22 (1780m, X: 513000, Y: 951000)
NZ-23 (1780m)
Depth (GL-m)
0
20
40
60
80
Top soil
Sandstone
Gravel and clay
GWL
Clay
Sand and gravel
Top soil
Sandy gravel with some clay
GWL
0
2
4

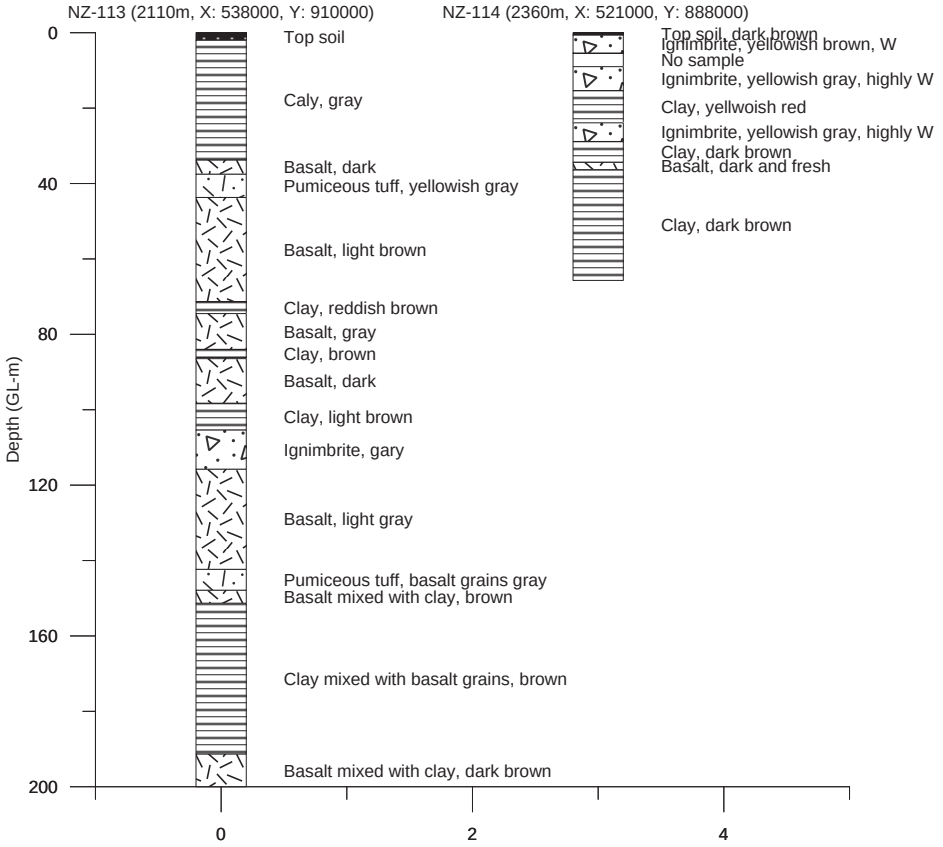

NZ-31 (1600m, X: 528000, Y: 941000)
0
40
80
120
Clay
Sandy clay
Brown clay
Sand, med grained
Basalt, hard
Volcanic ash
Basalt, hard
Cinder
Trachyte
Clayey sand
Cinder
Volcanic ash
Clay
Cinder
Sand and gravel
Pumice
Sand, gravel and red clay
Gravel
Pumice
Sand with traces of pumice
GWL
Sand, gravel and clay
Sand and gravel
Rounded boulders
Basaltic gravel with Ob and Cinder
0
2
4

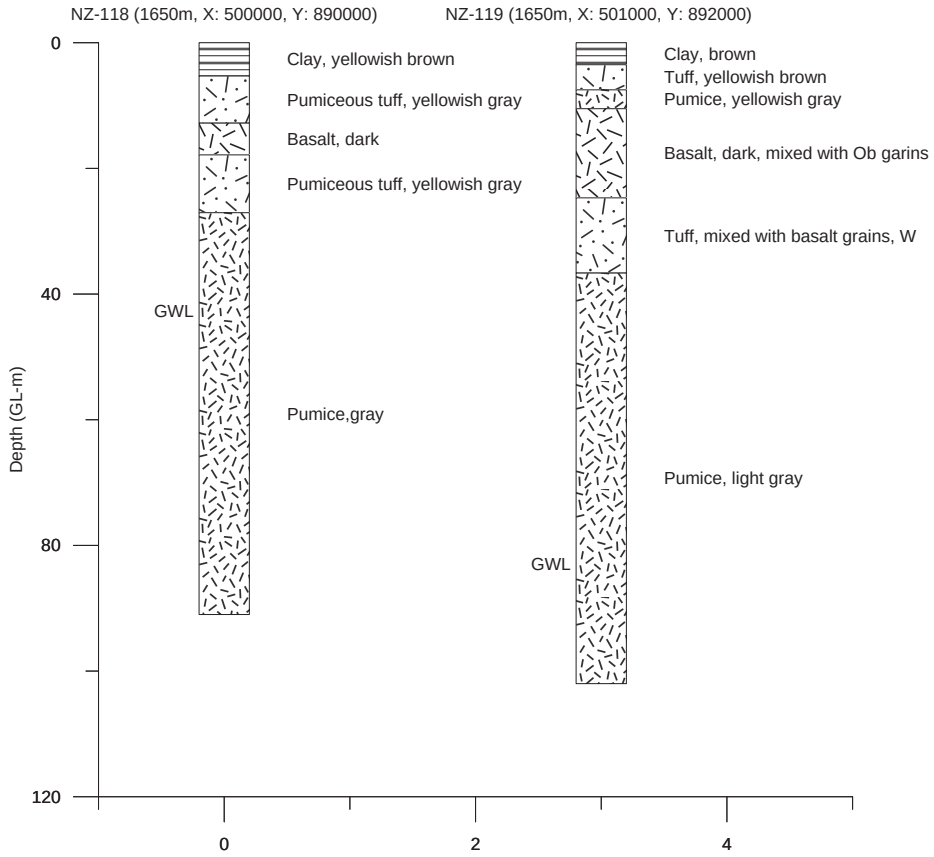

NZ-39 (1650m, X:506000, Y: 935000)
NZ-40 (1650m)
Depth (GL-m)
0
20
40
60
80
100
GWL
Top soil
Sand, coarse to med, slightly cement
Pumiceous sand gray, coarse to f
Gravel
Sand, loose cemented coarse to f
Pumiceous conglomerete
Bedded andisite, green fractured
Pumiceous sand gray, f to very f
Volcanic breccia, dark gray to green
Sand, c to f, slightly cemented
Pumiceous sand gray c to f
Pumiceous sand med to f, dark gray
Conglomerate
Bedded andisite, green fractured
0
2
4

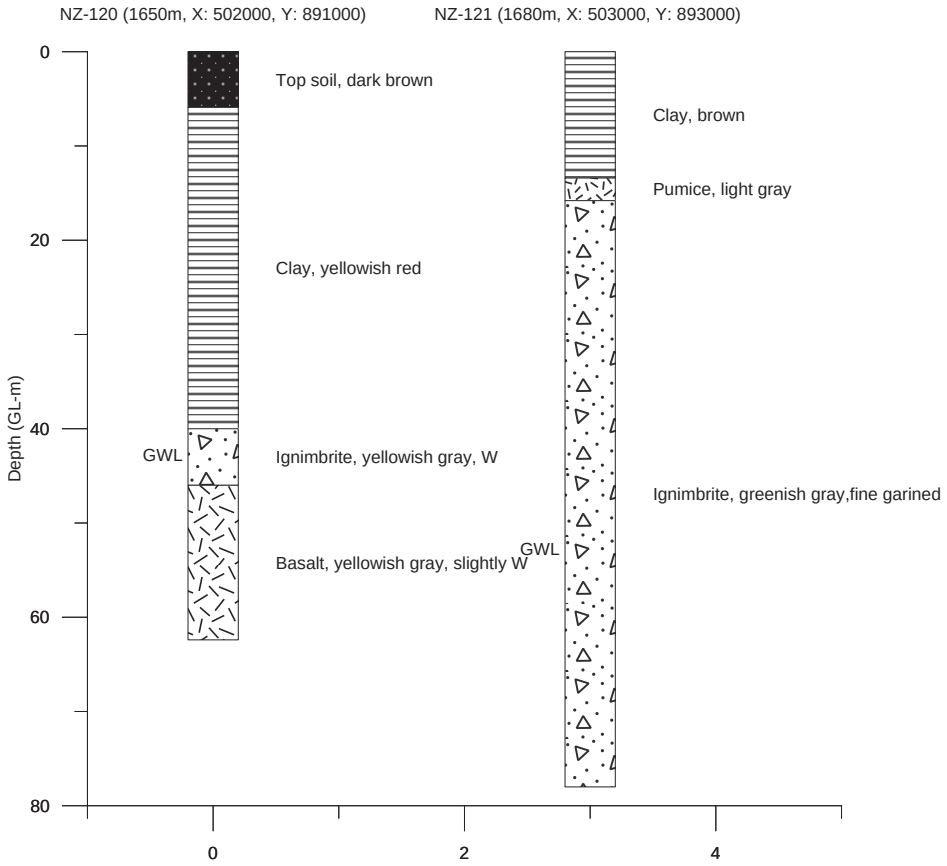

NZ-41 (m)
NZ-63 (1540m, X: 525000, Y: 937000)
Depth (GL-m)
0
20
40
60
80
100
GWL
Top soil
Sand, coarse to med, slightly cement
Pumiceous sand very f
Pumiceous sand f to very f
Conglomerats
Bedded andisite, green fractured
Conglomerate
Sand m to fine, dark gray
Balck clay
Clayey silt with ash
Clayey silt
Decomposed tuff
Tuff
Pyroclastic deposit
Decomposed tuff
Tuff
Decomposed trachyte
Sand
Trachyte
Coarse sand
0
2
4

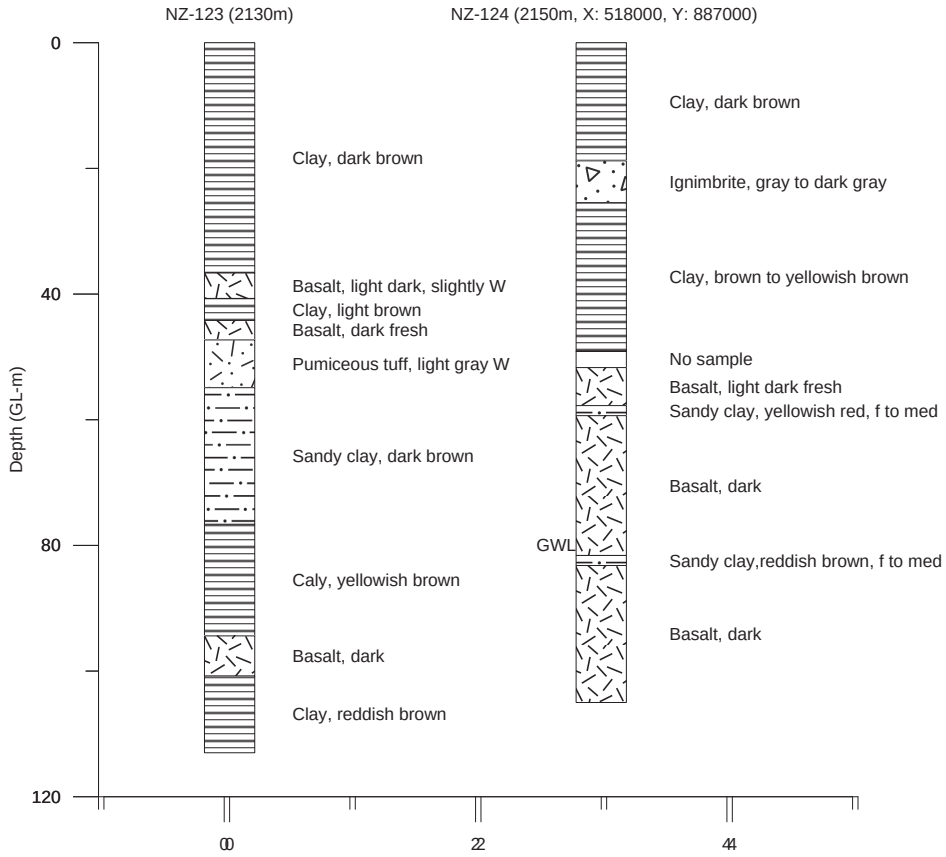

NZ-105 (1650m, X: 535000, Y: 920000)
Depth (GL-m)
0
100
200
GWL
Top soil and tuff
Tuff
No sample
Coarse volcanic sand
Yellowish trachyte
Trachyte
Grey trachyte
Coarse sand + brown clay
Clayey sand
Gravelly sand with clay
Clayey sand
Sand
Gravelly sand with clay
Basalt with clay
Basalt hard dark
Coarse sand, brown
Reddish gravelly sand with clay
Reddish coarse sandy gravel
Coarse sandy gravel, reddish
Grayish gravel
Trachyte with sand and gravel
Trachyte
Basalt and trachyte
Basalt
Diorite?
Trachyte
Gravelly sand with clay
Glassy basalt
Diorite?
Clay sand
Sandy gravel with clay
Sandy clay
Gravelly sand with clay
Basalt
Gravelly sand
Trachyte
Clayey sand
Basalt
Clayey gravel
No sample
0
2
4

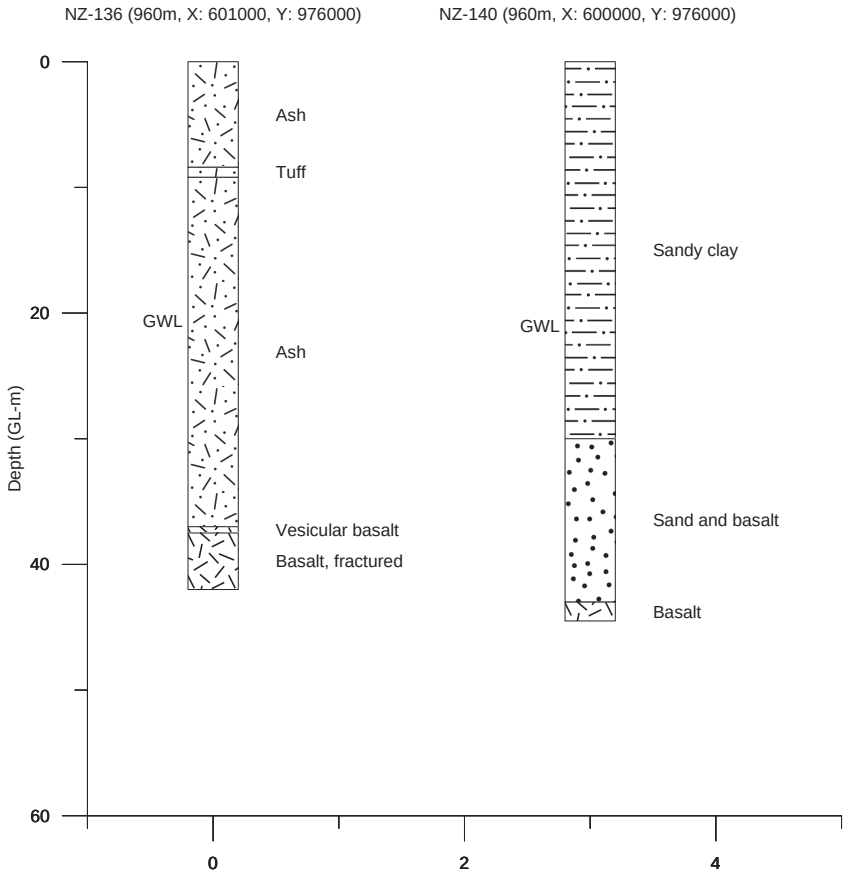

NZ-109 (2200m)
NZ-110 (1840m, X: 534000, Y: 915000)
Depth (GL-m)
0
40
80
120
160
200
Top soil, light brown
Coarse sand, light brown
Coarse and fine sand
Pumice gravel, white
Coarse sand and white pumice grave
Sand, gravel and pebble
Clay yellowish brown
Ignimbrite, gary, fine grained
Clay yellowish brown
Basalt, dark and fresh
Clay, red
Basalt, dark and fresh
Pumiceous tuff, yellowish gray
Clay, reddish brown
Ignimbrite, light gary
Trachy basalt, gray
Clay,red
Sandy caly, dark brown
0
2
4

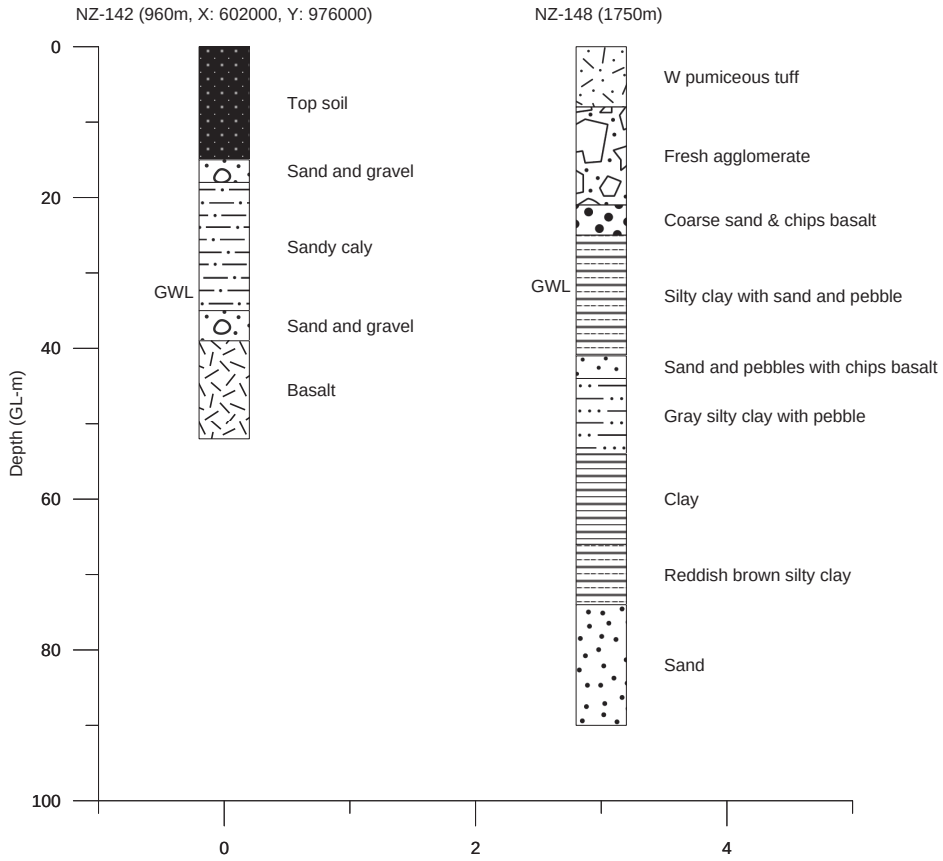

NZ-113 (2110m, X: 538000, Y: 910000)
NZ-114 (2360m, X: 521000, Y: 888000)
Depth (GL-m)
0
40
80
120
160
200
Top soil
Caly, gray
Basalt, dark
Pumiceous tuff, yellowish gray
Basalt, light brown
Clay, reddish brown
Basalt, gray
Clay, brown
Basalt, dark
Clay, light brown
Ignimbrite, gary
Basalt, light gray
Pumiceous tuff, basalt grains gray
Basalt mixed with clay, brown
Clay mixed with basalt grains, brown
Basalt mixed with clay, dark brown
Top soil, dark brown
Ignimbrite, yellowish brown, W
No sample
Ignimbrite, yellowish gray, highly W
Clay, yellwoish red
Ignimbrite, yellowish gray, highly W
Clay, dark brown
Basalt, dark and fresh
Clay, dark brown
0
2
4

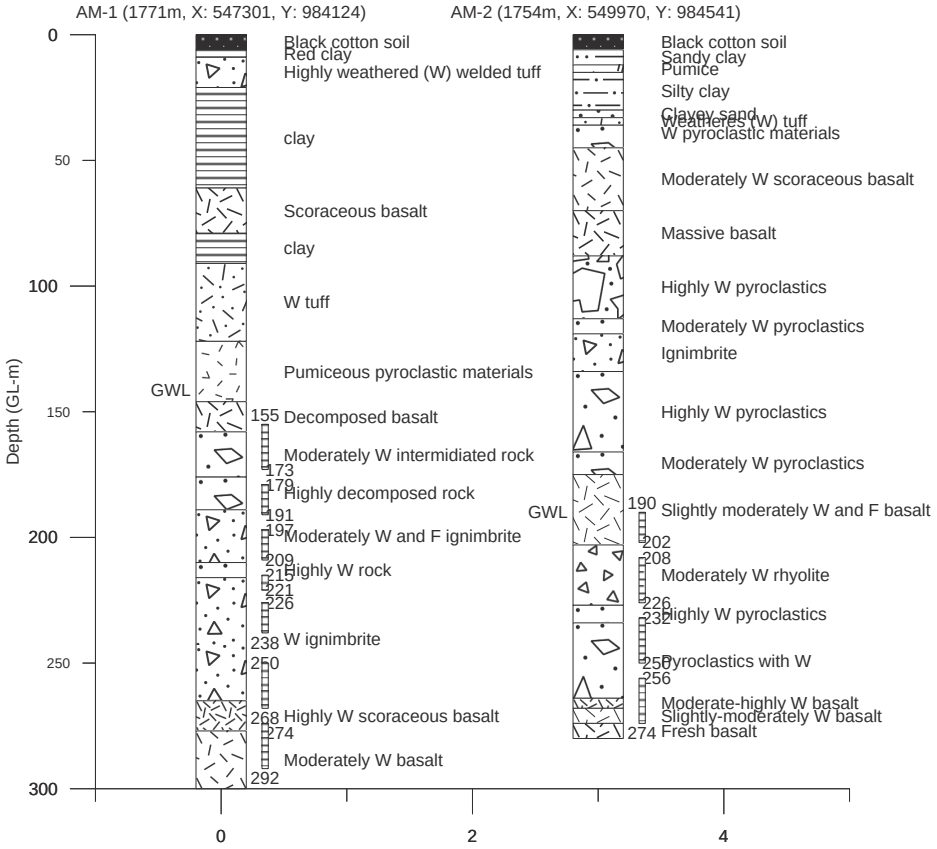

NZ-118 (1650m, X: 500000, Y: 890000)
NZ-119 (1650m, X: 501000, Y: 892000)
Depth (GL-m)
0
40
80
120
GWL
Clay, yellowish brown
Pumiceous tuff, yellowish gray
Basalt, dark
Pumiceous tuff, yellowish gray
Pumice,gray
GWL
Clay, brown
Tuff, yellowish brown
Pumice, yellowish gray
Basalt, dark, mixed with Ob garins
Tuff, mixed with basalt grains, W
Pumice, light gray
0
2
4

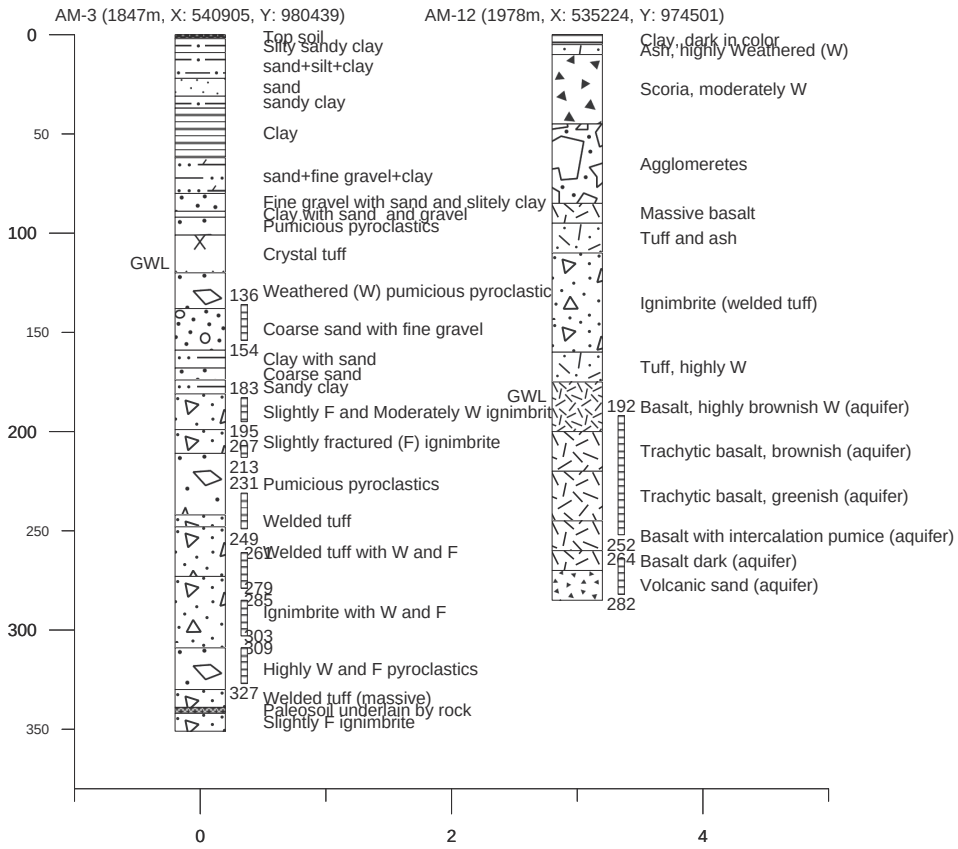
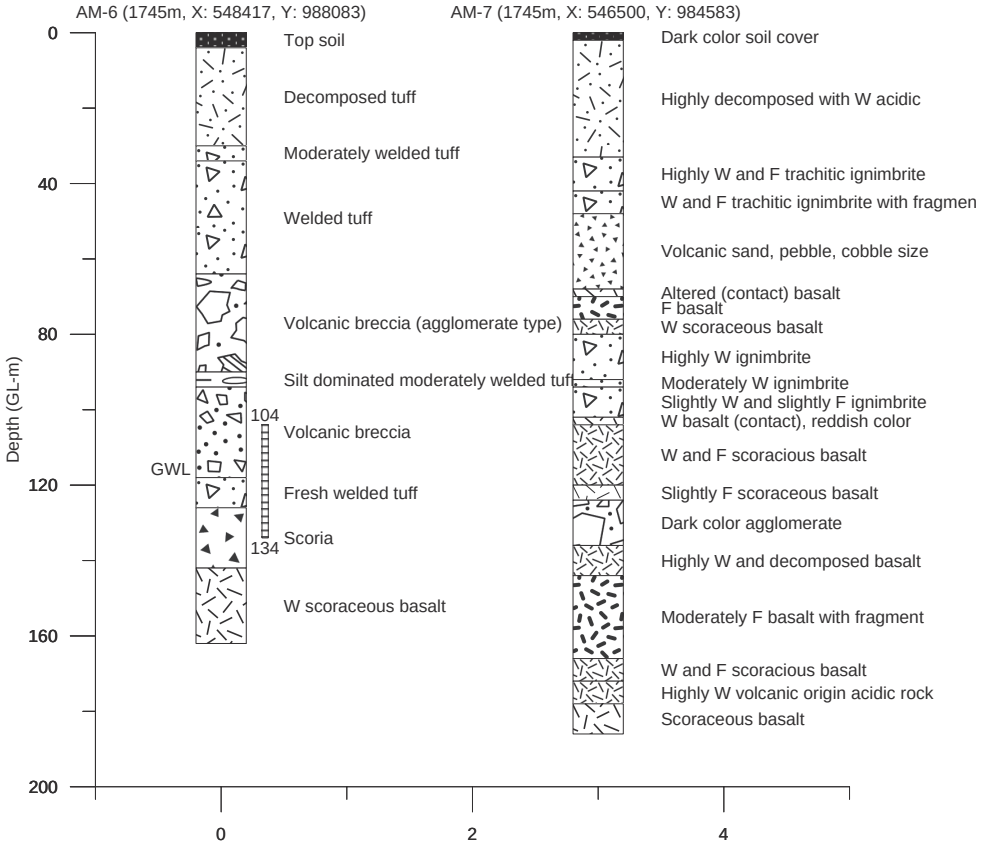

NZ-120 (1650m, X: 502000, Y: 891000)
NZ-121 (1680m, X: 503000, Y: 893000)
Depth (GL-m)
0
20
40
60
80
GWL
Top soil, dark brown
Clay, yellowish red
Ignimbrite, yellowish gray, W
Basalt, yellowish gray, slightly W
Clay, brown
Pumice, light gray
Ignimbrite, greenish gray,fine garined
0
2
4


NZ-123 (2130m)
NZ-124 (2150m, X: 518000, Y: 887000)
Depth (GL-m)
0
40
80
120
GWL
Clay, dark brown
Basalt, light dark, slightly W
Clay, light brown
Basalt, dark fresh
Pumiceous tuff, light gray W
Sandy clay, dark brown
Caly, yellowish brown
Basalt, dark
Clay, reddish brown
Clay, dark brown
Ignimbrite, gray to dark gray
Clay, brown to yellowish brown
No sample
Basalt, light dark fresh
Sandy clay, yellowish red, f to med
Basalt, dark
Sandy clay,reddish brown, f to med
Basalt, dark


NZ-136 (960m, X: 601000, Y: 976000)
NZ-140 (960m, X: 600000, Y: 976000)
Depth (GL-m)
0
20
40
60
GWL
Ash
Tuff
Ash
Vesicular basalt
Basalt, fractured
Sandy clay
Sand and basalt
Basalt
0
2
4


NZ-142 (960m, X: 602000, Y: 976000)
NZ-148 (1750m)
Depth (GL-m)
0
20
40
60
80
100
GWL
Top soil
Sand and gravel
Sandy caly
Sand and gravel
Basalt
W pumiceous tuff
Fresh agglomerate
Coarse sand & chips basalt
Silty clay with sand and pebble
Sand and pebbles with chips basalt
Gray silty clay with pebble
Clay
Reddish brown silty clay
Sand
0
2
4


AM-1 (1771m, X: 547301, Y: 984124)
AM-2 (1754m, X: 549970, Y: 984541)
Depth (GL-m)
0
50
100
150
200
250
300
GWL
155
173
179
191
197
209
215
221
226
238
250
268
274
292
Black cotton soil
Red clay
Highly weathered (W) welded tuff
clay
Scoraceous basalt
clay
W tuff
Pumiceous pyroclastic materials
Decomposed basalt
Moderately W intermidiated rock
Highly decomposed rock
Moderately W and F ignimbrite
Highly W rock
W ignimbrite
Highly W scoraceous basalt
Moderately W basalt
GWL
190
202
208
226
232
250
256
274
Black cotton soil
Sandy clay
Pumice
Silty clay
Clayey sand
Weathered (W) tuff
W pyroclastic materials
Moderately W scoraceous basalt
Massive basalt
Highly W pyroclastics
Moderately W pyroclastics
Ignimbrite
Highly W pyroclastics
Moderately W pyroclastics
Slightly moderately W and F basalt
Moderately W rhyolite
Highly W pyroclastics
Pyroclastics with W
Moderate-highly W basalt
Slightly-moderately W basalt
Fresh basalt
0
2
4


AM-3 (1847m, X: 540905, Y: 980439)
AM-12 (1978m, X: 535224, Y: 974501)
0
50
100
150
200
250
300
350
GWL
136
154
183
195
207
213
231
249
261
279
285
303
309
327
Top soil
Silty sandy clay
sand+silt+clay
sand
sandy clay
Clay
sand+fine gravel+clay
Fine gravel with sand and slitely clay
Clay with sand and gravel
Pumicious pyroclastics
Crystal tuff
Weathered (W) pumicious pyroclastic
Coarse sand with fine gravel
Clay with sand
Coarse sand
Sandy clay
Slightly F and Moderately W ignimbrite
Slightly fractured (F) ignimbrite
Pumicious pyroclastics
Welded tuff
Welded tuff with W and F
Ignimbrite with W and F
Highly W and F pyroclastics
Welded tuff (massive)
Paleosoil underlain by rock
Slightly F ignimbrite
GWL
192
252
264
282
Clay, dark in color
Ash, highly weathered (W)
Scoria, moderately W
Agglomeretes
Massive basalt
Tuff and ash
Ignimbrite (welded tuff)
Tuff, highly W
Basalt, highly brownish W (aquifer)
Trachytic basalt, brownish (aquifer)
Trachytic basalt, greenish (aquifer)
Basalt with intercalation pumice (aquifer)
Basalt dark (aquifer)
Volcanic sand (aquifer)
0
2
4

Amhara州の既存井戸(3/3)