

***Data D***  
***Meteorology and Hydrology***

2.1 Meteorology

(1) Air temperature (Data provided by Tanzania Meteorological Agency)

Arusha: Mean Maximum temperature (°C)

	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
1975	28.6	30.3	28.1	25.5	23.3	21.8	22.2	22.7	24.9	26.8	28.2	26.4
1976	29.1	27.9	25.7	26.3	28.3	22.9	22.9	23.5	25.6	27.5	28.5	27.9
1977	27.9	28.0	25.4	24.5	24.3	22.5	23.1	22.5	23.1	26.1	28.3	26.0
1978	28.1	28.1	25.8	24.0	22.4	21.3	21.3	22.7	26.0	27.5	27.0	25.5
1979	25.7	26.4	27.2	24.8	22.0	20.6	20.8	22.2	25.0	27.3	28.5	27.8
1980	29.7	28.7	28.8	26.3	23.6	22.2	22.0	22.6	25.9	28.1	27.2	27.6
1981	29.4	30.1	28.3	24.7	23.3	21.9	21.4	23.5	25.4	27.2	28.2	27.8
1982	30.4	31.0	30.4	25.7	23.7	22.2	21.7	22.5	24.6	26.7	26.2	26.3
1983	28.9	29.4	29.7	27.9	24.1	22.5	22.8	24.0	26.1	27.6	28.6	27.2
1984	28.2	29.8	29.1	26.4	23.6	22.0	20.9	22.0	25.3	27.3	25.9	26.2
1985	29.0	27.0	27.8	24.7	22.5	21.5	22.2	23.1	25.9	26.5	25.9	26.2
1986	27.1	30.3	28.7	25.1	23.5	21.9	21.2	23.5	23.3	27.8	27.1	26.3
1987	28.0	29.6	28.1	26.7	23.8	22.0	22.6	23.4	26.3	26.8	28.0	29.3
1988	29.4	30.4	28.6	25.1	23.9	22.3	23.2	23.8	25.7	28.8	27.4	27.7
1989	26.4	28.5	28.1	24.6	22.7	21.3	21.6	22.0	25.0	27.5	28.0	27.6
1990	27.1	28.5	25.4	24.8	23.6	22.3	22.3	22.2	23.6	27.4	27.4	26.7
1991	29.1	30.2	29.3	25.9	23.4	22.7	22.2	23.3	23.9	25.7	28.4	26.6
1992	28.8	29.4	30.2	25.4	23.1	21.4	21.1	22.3	25.1	27.3	27.2	26.4
1993	25.9	27.7	28.5	27.0	25.0	22.5	22.1	23.4	25.9	27.1	28.9	28.3
1994	29.8	28.7	27.0	25.2	23.1	22.0	21.8	23.4	26.0	26.1	27.5	26.6
1995	29.5	29.3	27.4	25.3	22.7	21.6	21.9	24.0	25.1	27.2	27.9	29.0
1996	29.0	28.0	28.3	24.3	22.8	21.7	21.8	23.5	25.9	27.9	27.7	29.7
1997	30.7	31.5	29.5	24.9	21.8	21.3	21.1	23.7	25.7	25.9	25.1	24.6
1998	25.6	27.7	27.4	25.4	23.5	22.3	21.4	23.0	25.1	27.2	27.8	28.2
1999	26.3	30.6	27.6	24.4	22.7	21.3	21.6	22.4	25.4	27.0	27.3	26.8
2000	30.4	31.5	29.6	26.1	23.4	22.8	22.1	23.4	25.4	28.3	27.3	26.7
2001	25.7	27.9	27.9	24.9	23.6	22.1	21.5	24.0	26.0	27.8	27.7	29.0
2002	28.2	28.1	26.8	24.8	23.8	23.0	23.6	22.6	25.6	26.6	26.7	27.0
2003	28.5	30.6	30.5	27.5	23.5	22.3	21.9	23.6	26.2	27.9	26.7	29.7
2004	28.4	27.5	27.6	25.2	24.4	22.3	23.6	24.2	26.5	26.2	28.3	28.5

Arusha: Mean Minimum temperature (°C)

	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
1975	12.9	12.4	15.7	15.6	15.3	13.6	12.3	12.7	13.2	13.2	13.3	12.8
1976	12.5	14.0	14.4	15.9	15.3	13.2	11.8	12.2	12.8	13.0	13.6	13.1
1977	14.9	13.9	15.7	16.2	15.1	12.8	12.6	12.1	12.3	13.9	15.1	14.1
1978	14.0	13.3	15.6	16.2	14.3	12.9	12.3	11.6	11.9	13.9	15.0	15.1
1979	15.9	15.5	14.9	16.3	15.2	13.1	12.8	12.8	13.1	13.3	14.6	16.0
1980	14.2	14.1	15.1	16.7	16.0	12.6	13.0	13.1	13.4	13.6	15.1	14.4
1981	13.4	13.6	15.5	16.1	15.4	12.3	11.4	13.4	12.5	14.2	14.6	14.7
1982	12.9	13.9	14.9	16.4	15.2	14.2	13.0	12.8	14.1	15.0	15.2	14.4
1983	13.8	14.2	16.3	17.2	16.0	14.0	13.3	12.5	13.0	13.5	13.3	14.6
1984	14.3	12.8	14.3	16.8	15.2	13.4	13.5	12.8	11.6	14.5	15.4	13.8
1985	12.7	16.1	14.3	16.1	14.9	12.5	13.0	13.2	12.9	14.1	15.0	14.3
1986	14.7	12.6	16.4	16.5	15.7	12.5	11.8	11.9	12.5	14.5	15.5	15.3
1987	13.9	14.0	16.2	16.5	15.9	12.9	12.1	13.4	13.3	14.3	15.6	13.6
1988	15.7	14.4	16.2	17.1	15.6	14.1	13.1	13.9	13.3	14.3	15.1	14.9
1989	15.4	13.3	15.1	16.0	17.0	13.4	12.5	13.0	14.0	14.3	15.2	16.2
1990	13.9	15.6	16.7	16.6	15.5	13.4	12.0	13.3	13.8	14.8	15.2	16.2
1991	14.1	13.7	14.7	16.8	16.2	13.2	13.0	12.3	12.8	14.1	15.4	16.0
1992	12.2	14.9	15.0	16.9	15.6	13.7	12.3	12.3	12.8	14.1	14.9	16.2
1993	15.0	13.2	14.2	16.8	16.1	14.4	12.8	12.3	12.3	13.2	14.7	16.1
1994	14.2	15.2	15.6	16.8	16.1	14.8	12.8	13.2	12.6	14.2	15.3	20.7
1995	14.0	14.3	13.8	16.9	15.9	13.2	12.5	13.6	14.1	15.7	15.9	15.9
1996	13.9	13.8	16.0	16.4	15.8	14.2	12.7	13.6	13.7	15.2	14.9	13.9
1997	13.6	14.5	15.9	16.5	15.1	14.6	12.8	13.0	13.4	15.2	16.1	16.6
1998	16.4	16.1	16.2	17.6	17.6	15.7	13.7	12.8	13.7	14.4	13.5	14.7
1999	14.2	13.9	16.4	16.6	15.4	13.7	13.3	14.0	13.3	13.7	16.9	14.9
2000	13.0	13.1	15.3	16.5	15.0	14.2	13.3	13.5	12.7	14.0	16.0	15.6
2001	15.2	15.0	15.7	16.8	16.0	13.9	12.8	12.0	12.5	13.8	15.8	14.5
2002	15.6	14.9	16.7	17.8	15.4	14.1	13.3	14.0	13.6	14.6	15.6	15.7
2003	13.3	14.1	14.9	17.0	15.4	14.2	12.7	12.5	14.5	14.7	15.9	14.9
2004	15.3	15.8	16.6	16.9	15.9	14.1	12.6	12.6	14.1	15.6	15.7	15.8

Tabora: Mean Maximum temperature (°C)

Year	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
1972	27.7	28.2	28.2	28.1	28.8	28.4	28.6	28.2	30.4	31.1	28.0	28.0
1975	28.7	28.1	28.3	28.3	28.3	28.3	28.6	30.4	32.2	32.9	31.6	30.0
1976	27.6	28.3	28.4	28.4	28.2	28.4	28.4	30.3	32.7	32.1	29.1	27.9
1978	28.3	28.1	27.5	28.9	28.6	28.7	28.7	30.5	32.2	32.7	29.6	28.8
1979	28.6	27.7	28.9	28.2	28.0	28.5	30.1	32.3	33.1	31.6	28.3	
1980	28.1	30.6	29.2	28.7	29.2	29.7	29.0	30.1	31.8	32.1	30.2	27.8
1981	29.3	29.2	29.0	27.9	28.8	29.3	29.2	30.6	31.7	32.9	32.4	29.5
1982	28.7	29.7	29.8	29.2	28.4	30.0	30.0	31.0	31.6	31.7	28.8	28.2
1983	29.2	30.4	30.7	29.9	30.0	30.3	30.2	31.0	32.1	31.7	31.1	28.6
1984	27.5	28.7	29.4	28.5	29.8	29.3	29.1	30.5	30.3	31.8	29.6	27.4
1985	28.5	27.0	28.7	28.4	28.5	29.1	29.3	29.8	31.1	32.3	29.5	27.4
1986	27.4	29.2	28.7	28.9	27.9	28.6	29.1	31.1	31.9	31.9	29.6	27.1
1987	27.0	28.6	29.6	28.8	28.8	29.5	30.3	30.6	32.2	32.7	30.2	30.0
1988	27.9	28.7	28.1	30.0	30.0	29.1	29.9	30.8	32.3	32.7	30.2	28.4
1989	28.4	27.8	29.2	28.5	28.1	28.4	29.1	29.8	32.2	33.0	32.2	28.4
1990	29.7	29.1	29.1	29.0	29.9	29.6	29.7	30.1	31.7	32.8	31.6	29.4
1991	28.1	28.6	28.9	28.5	28.8	29.0	29.1	30.2	31.7	32.1	30.1	28.1
1992	30.7	29.4	30.4	29.7	30.4	30.1	30.9	31.8	33.0	33.0	30.8	29.1
1993	28.4	28.7	29.5	30.5	30.1	30.1	29.9	31.1	32.4	33.2	32.9	33.5
1994	28.9	28.0	29.7	30.6	30.2	30.7	30.2	31.4	32.7	33.4	30.4	28.4
1995	28.6	28.2	29.6	30.4	29.4	30.6	30.1	31.4	32.7	32.9	32.8	30.8
1996	28.8	28.6	29.0	28.3	28.8	28.9	29.6	31.0	31.9	31.9	32.6	30.1
1997	29.1	28.0	31.4	28.6	28.3	29.8	30.1	31.5	33.7	33.0	33.0	32.5
1998	28.1	29.1	30.9	29.0	29.0	29.3	29.4	29.4	30.7	32.6	33.1	32.5
1999	28.7	28.6	28.4	29.1	28.7	29.5	29.3	30.2	31.9	33.1	31.3	29.5
2000	28.1	28.6	28.9	28.3	28.8	29.0	29.1	31.2	31.7	27.8	29.7	27.7
2001	27.1	29.0	29.4	29.1	29.6	29.2	28.9	30.9	32.4	32.6	30.0	29.1
2002	27.1	29.0	29.4	29.1	29.6	29.2	28.9	30.9	32.4	32.6	30.0	29.1
2003	29.3	30.6	31.0	29.8	29.3	31.2	32.1	32.1	32.9	32.9	29.9	27.6
2004	29.2	28.7	29.8	29.4	30.2	29.4	29.9	31.0	31.3	32.8	30.9	27.6

Tabora: Mean Minimum temperature (°C)

Year	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
1975	16.9	17.0	16.8	16.7	15.3	13.9	14.2	15.1	17.9	18.4	17.6	17.5
1976	17.2	17.0	17.0	17.2	15.9	14.2	15.0	16.3	18.5	19.5	18.0	18.3
1977	17.8	17.9	17.2	17.5	16.0	13.7	14.2	16.5	18.7	18.7	18.2	17.7
1978	17.1	17.7	17.5	17.0	14.0	13.0	12.9	15.6	17.1	15.0	18.3	18.2
1979	17.4	17.6	17.4	17.8	15.9	13.0	13.5	15.8	16.6	16.7	18.5	17.3
1980	17.4	17.4	17.5	17.3	16.4	13.6	13.9	15.5	17.7	16.9	18.6	17.8
1981	17.5	17.4	17.8	17.3	15.4	12.6	13.5	16.3	17.6	18.3	18.4	17.7
1982	17.2	17.1	17.2	16.3	16.4	14.9	15.5	16.6	18.7	19.3	17.5	17.9
1983	17.9	17.7	18.3	17.7	16.8	14.9	15.7	16.9	17.8	19.3	18.6	18.0
1984	16.9	16.7	17.3	16.6	15.0	13.9	15.8	16.2	17.2	16.2	17.8	17.4
1985	17.1	17.2	17.1	17.1	14.8	18.8	13.5	19.7	18.2	19.1	17.8	18.0
1986	17.8	16.8	17.3	17.0	18.2	12.5	12.3	15.8	17.8	19.1	18.2	18.0
1987	17.7	17.8	17.5	17.5	16.3	12.7	13.8	16.4	18.5	19.3	18.5	18.3
1988	17.7	17.6	17.8	17.4	15.5	16.4	14.2	16.4	16.2	16.2	19.3	18.6
1989	17.3	17.4	17.1	16.8	15.2	13.1	12.7	15.1	17.3	18.4	18.9	17.8
1990	17.3	17.7	17.4	17.8	15.4	13.3	12.3	14.3	14.9	17.7	16.6	18.5
1991	17.7	17.7	17.8	17.0	16.7	13.9	14.1	15.3	17.2	17.8	18.2	18.1
1992	17.4	17.7	18.0	17.9	16.3	14.7	13.8	15.6	17.9	19.0	18.2	18.1
1993	17.6	17.2	17.3	17.0	16.5	15.3	14.8	16.2	17.3	16.2	19.1	18.7
1994	18.0	16.9	16.9	16.6	18.8	14.3	15.6	16.8	16.5	19.8	18.2	18.4
1995	18.4	17.8	18.0	17.7	16.4	14.5	14.7	16.7	16.0	15.3	19.7	18.8
1996	17.4	17.7	17.9	16.8	15.8	14.1	13.7	15.0	17.9	16.8	18.9	18.6
1997	18.5	17.5	18.4	17.7	17.0	15.5	15.2	16.5	18.9	20.3	19.8	18.7
1998	19.1	19.5	19.1	18.8	16.7	14.0	14.1	16.2	18.5	18.9	19.5	19.0
1999	18.1	17.4	18.2	16.9	14.8	13.9	13.9	17.1	17.6	18.8	19.4	18.6
2000	18.3	17.6	17.8	17.2	16.6	16.0	15.3	17.1	18.8	18.5	19.2	18.6
2001	18.2	18.1	17.8	17.6	16.4	14.6	14.7	16.5	18.4	18.9	18.9	18.9
2002	18.4	18.6	18.1	18.1	16.5	13.3	13.4	16.8	16.3	16.7	18.4	18.6
2003	18.7	17.8	18.2	17.7	17.3	15.3	15.0	16.0	19.0	19.7	20.1	18.9
2004	18.6	18.4	18.7	17.8	15.9	14.8	15.0	17.0	16.7	20.1	19.8	18.8

Dodoma: Mean Maximum temperature (°C)

Year	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
1975	31.0	28.8	28.9	28.7	28.7	26.9	27.2	26.5	28.4	28.7	31.6	31.8
1976	29.9	29.4	29.3	28.9	28.6	27.6	27.1	27.4	28.7	31.4	31.7	31.6
1977	28.4	29.4	29.4	28.6	28.2	27.4	27.1	26.9	28.9	30.7	30.3	29.3
1978	28.7	30.4	28.1	28.7	27.6	26.5	26.5	27.6	29.4	30.7	30.3	28.0
1979	28.4	27.8	28.2	27.6	27.0	28.3	28.6	27.5	28.8	30.8	31.8	29.2
1980	29.1	30.1	28.5	25.0	27.5	26.0	26.8	26.8	29.5	30.9	31.5	31.5
1981	30.5	30.1	30.0	27.7	27.8	27.2	19.0	27.7	29.0	31.1	31.8	30.4
1982	30.0	30.1	31.1	28.9	27.9	27.3	27.3	27.4	28.5	30.1	30.6	29.1
1983	28.3	30.6	30.8	30.0	28.8	28.1	27.7	28.2	29.7	30.5	31.9	30.4
1984	27.8	28.9	30.2	28.7	27.7	26.4	25.7	26.7	29.4	30.3	30.4	28.4
1985	30.1	26.5	28.6	27.9	27.6	26.9	26.6	26.5	28.5	29.5	30.1	29.9
1986	28.0	30.3	29.7	29.0	27.9	26.9	26.1	27.3	28.7	31.6	31.1	29.1
1987	28.4	28.9	29.9	29.7	28.1	27.4	27.0	27.4	29.2	30.8	30.9	31.8
1988	30.7	30.2	29.8	28.7	28.4	27.2	27.0	27.3	29.0	31.0	31.1	30.6
1989	27.1	28.5	28.6	28.9	28.3	26.4	26.8	29.0	30.4	31.2	31.2	31.8
1990	28.7	30.1	28.0	28.5	28.1	27.4	27.2	27.0	28.4	30.9	31.2	31.8
1991	30.3	30.3	31.0	29.0	28.7	27.9	26.1	27.4	29.0	30.9	31.5	29.7
1992	31.3	28.8	29.1	28.0	27.9	26.7	26.1	26.4	28.4	30.3	29.6	29.6
1993	29.4	28.4	28.6	29.1	28.0	27.1	25.8	26.6	28.0	29.5	31.1	32.6
1994	29.6	28.1	28.6	29.3	28.0	27.1	26.4	27.8	28.8	30.8	31.4	30.9
1995	29.5	28.8	28.9	29.9	29.9	28.0	26.8	28.0	29.3	30.8	31.7	31.3
1996	29.4	28.6	29.1	28.1	27.8	27.2	26.4	27.3	29.4	29.9	31.5	31.3
1997	31.2	29.9	31.0	28.3	28.7	27.7	27.0	26.5	28.0	29.6	30.1	30.7
1998	28.6	29.3	30.1	28.3	28.7	27.5	26.5	27.4	28.7	30.7	31.3	32.7
1999	30.1	31.6	28.3	27.1	27.2	26.8	25.6	26.4	28.4	30.2	31.5	30.6
2000	31.0	31.1	28.6	28.8	27.3	26.4	26.9	26.9	28.8	30.7	30.8	28.3
2001	27.1	28.9	29.8	28.2	28.0	26.3	26.3	27.5	29.3	30.7	31.7	30.9
2002	27.6	29.0	28.7	28.2	28.5	27.3	27.2	26.8	29.0	30.4	31.9	30.8
2003	29.6	30.6	31.4	30.0	29.2	26.6	26.6	28.3	29.2	30.2	32.3	31.2
2004	30.1	29.7	29.2	28.2	28.5	26.3	26.5	27.5	29.1	30.8	31.3	29.5

Dodoma: Mean Minimum temperature (°C)

Year	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
1975	18.5	18.2	18.2	18.2	18.3	16.9	14.9	14.4	14.5	13.7	15.4	16.3
1976	18.5	18.2	18.2	18.2	18.1	16.9	14.9	13.8	14.0	15.5	17.0	18.8
1977	18.7	18.0	18.3	18.1	16.9	14.7	14.5	15.0	16.1	17.4	18.3	18.8
1978	18.5	18.4	18.9	17.8	16.4	13.9	13.3	14.1	15.2	16.8	18.4	18.7
1979	18.3	18.3	18.4	18.3	18.0	13.8	12.4	13.9	14.8	16.7	18.9	19.0
1980												

Moshi: Mean Maximum temperature (°C)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1975	32.6	33.9	32.2	29.1	27.2	25.3	25.2	25.6	27.2	29.7	32.5	32.4
1976	33.3	32.5	32.2	29.5	26.5	25.7	25.7	26.6	28.7	31.2	32.0	32.2
1977	32.3	32.5	31.2	28.6	27.7	26.3	26.1	26.2	29.1	31.0	30.2	31.4
1978	31.5	31.7	29.9	27.6	26.1	25.0	24.9	26.4	29.3	31.3	30.5	29.4
1979	31.0	30.2	31.6	28.3	25.9	24.1	24.5	25.7	27.7	31.0	32.3	32.0
1980	33.6	33.0	32.8	30.0	27.3	25.8	25.5	25.7	28.9	31.4	30.6	31.3
1981	33.2	34.3	32.1	28.0	25.9	25.6	24.6	26.4	28.4	30.3	31.7	30.8
1982	33.7	34.8	34.0	29.4	26.2	25.1	25.6	27.8	29.7	30.9	30.5	30.6
1983	32.4	33.8	33.9	31.1	27.7	26.3	26.5	27.0	28.6	30.8	30.9	31.1
1984	32.8	34.1	33.7	29.3	27.1	25.4	24.4	24.9	28.6	30.6	29.9	30.7
1985	33.1	30.9	32.6	28.9	26.0	25.3	25.6	26.3	29.1	30.0	30.1	30.3
1986	30.6	34.1	32.0	29.5	26.2	25.0	27.0	28.6	31.3	31.0	29.8	
1987	31.8	33.8	34.0	31.0	27.4	26.1	26.2	25.8	29.2	32.1	32.5	34.4
1988	33.2	34.5	32.6	28.3	27.2	26.2	26.8	26.2	28.6	30.6	31.7	31.4
1989	29.5	32.3	32.3	28.2	26.3	25.4	25.2	26.2	28.0	30.6	31.7	31.7
1990	31.0	32.7	29.0	27.9	27.0	26.5	25.7	25.5	28.6	30.5	30.9	30.9
1991	33.1	33.6	33.6	30.0	26.8	25.7	25.6	26.3	28.3	31.6	32.0	30.8
1992	32.7	34.0	34.1	29.7	26.6	25.7	25.1	25.8	28.2	30.4	31.4	30.4
1993	29.8	30.8	31.6	31.6	28.4	26.4	25.9	26.6	29.1	30.6	31.1	32.1
1994	33.8	33.4	31.6	30.0	27.1	26.2	25.5	27.1	29.3	31.3	31.0	30.3
1995	33.5	33.0	31.9	29.5	26.3	25.2	25.2	27.5	28.1	30.9	31.7	32.7
1996	33.3	32.5	32.8	28.5	26.8	25.7	25.6	26.5	28.0	30.3	31.8	34.3
1997	34.7	35.7	33.4	29.0	26.1	25.5	25.4	27.3	28.6	29.1	28.9	28.8
1998	29.2	30.8	31.4	29.3	26.9	26.1	26.0	26.8	28.9	30.6	31.7	33.2
1999	33.2	34.7	31.7	27.7	27.0	25.2	24.8	26.1	28.6	29.9	31.1	31.1
2000	34.1	35.3	31.7	29.2	26.8	26.2	25.8	26.8	28.7	31.4	32.1	32.2
2001	30.4	32.1	32.4	28.8	27.6	25.7	25.0	26.7	28.5	30.8	30.7	33.0
2002	32.3	33.1	30.5	28.8	28.0	26.7	27.4	26.2	28.2	29.6	31.1	30.8
2003	32.8	35.0	34.5	30.6	27.0	26.6	25.6	26.6	29.4	31.5	33.0	33.8
2004	31.9	31.8	32.2	29.1	28.1	26.3	26.9	27.5	29.7	30.6	32.0	32.7

Moshi: Mean Minimum temperature (°C)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1975	17.2	17.4	15.5	13.3	12.8	12.9	12.9	12.9	12.9	12.9	12.9	12.9
1976	17.2	18.4	16.9	13.9	12.0	11.1	11.1	11.1	11.1	11.1	11.1	11.1
1977	16.8	18.4	16.7	13.7	11.9	11.2	11.2	11.2	11.2	11.2	11.2	11.2
1978	17.6	17.8	15.1	13.5	11.8	11.4	11.4	11.4	11.4	11.4	11.4	11.4
1979	18.2	18.5	18.5	19.4	18.8	16.7	16.1	16.1	16.1	16.1	16.1	16.1
1980	18.0	18.4	19.0	19.9	18.5	17.0	17.0	16.2	16.5	17.0	16.6	18.1
1981	17.7	18.4	19.3	19.5	18.2	16.3	15.6	16.2	16.4	17.3	17.5	18.3
1982	17.6	18.4	19.0	19.5	18.5	17.7	16.9	16.4	17.3	18.1	18.6	18.1
1983	17.7	18.6	20.4	20.6	19.4	18.8	17.4	16.7	16.8	17.2	17.9	18.4
1984	18.4	18.2	19.4	20.2	18.7	17.9	16.6	16.5	16.5	16.5	16.5	16.5
1985	17.9	19.4	18.5	19.3	18.4	16.9	16.2	16.3	16.3	16.3	16.3	16.3
1986	18.2	17.3	19.3	19.5	18.7	15.4	14.9	15.6	16.2	17.6	18.2	18.6
1987	17.7	18.0	19.2	19.8	19.1	17.4	16.1	16.2	17.2	18.1	19.3	18.8
1988	19.9	19.4	19.8	19.6	18.5	17.2	16.1	16.6	16.5	17.8	18.7	18.5
1989	18.4	17.4	19.9	18.6	18.3	16.8	16.5	15.9	17.0	17.7	18.6	19.0
1990	17.4	18.8	18.7	18.7	18.4	16.4	15.1	16.0	16.3	17.1	17.7	18.2
1991	17.4	16.9	18.2	18.9	18.2	16.2	16.1	15.2	15.2	17.1	17.7	18.3
1992	17.0	16.5	16.6	19.2	18.0	16.8	15.8	14.8	15.5	16.5	18.1	18.0
1993	17.9	16.6	17.8	19.2	18.7	17.3	15.9	15.8	15.4	17.5	18.7	19.0
1994	18.7	16.1	18.6	19.2	18.1	17.3	16.3	17.0	17.8	19.1	19.2	19.0
1995	18.6	19.2	19.8	19.9	18.9	17.9	16.4	16.6	16.6	16.6	16.6	16.6
1996	18.7	18.6	20.5	19.4	18.7	17.7	16.4	15.9	17.1	17.2	19.0	18.3
1997	18.7	18.8	19.6	19.5	18.3	17.8	17.0	16.6	17.3	18.2	18.9	19.5
1998	19.6	19.3	19.9	20.3	19.1	17.9	16.4	17.3	17.3	18.8	19.3	17.7
1999	19.0	18.8	20.0	19.4	18.4	17.3	16.9	17.1	16.8	17.4	19.2	18.7
2000	17.7	18.5	20.2	20.0	18.5	17.7	16.8	16.8	16.4	17.5	19.2	20.0
2001	19.2	19.1	19.9	19.6	19.2	17.7	16.5	16.0	16.4	17.6	18.7	18.8
2002	19.4	19.0	19.6	19.3	18.4	17.1	15.9	16.2	16.3	17.6	18.3	18.3
2003	17.0	17.8	18.7	19.6	18.7	17.1	15.6	16.7	17.0	17.8	18.5	18.0
2004	18.5	18.6	19.3	19.0	18.2	15.9	14.5	14.9	16.3	17.1	17.9	18.4

Kilimanjaro airport: Mean Maximum temperature (°C)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1973	31.8	32.3	33.8	30.3	27.0	25.2	25.3	27.1	29.4	31.3	31.7	32.6
1974	32.5	34.1	31.7	28.6	27.9	25.5	25.3	27.0	28.4	31.1	32.2	33.5
1975	33.3	34.8	30.5	28.2	26.0	26.2	26.3	28.1	30.1	32.7	32.5	
1976	33.2	32.5	32.7	29.7	27.1	25.4	26.3	27.2	29.1	31.1	32.2	31.9
1977	32.5	32.7	31.6	29.0	28.1	27.3	26.8	27.0	30.2	30.9	31.7	
1978	31.8	31.3	30.1	28.0	26.3	25.1	25.3	26.5	29.6	31.4	31.2	29.8
1979	31.0	31.0	32.0	28.6	25.5	23.9	24.6	25.9	28.2	31.1	32.6	32.2
1980	33.4	33.1	33.6	30.3	27.6	26.2	25.8	26.2	29.5	31.6	31.0	31.3
1981	33.2	34.2	32.9	28.6	26.0	25.5	25.0	26.8	29.1	30.5	32.0	31.7
1982	34.3	35.1	34.7	29.0	26.2	26.0	26.0	26.2	28.2	29.5	29.8	30.3
1983	32.8	33.8	33.6	31.8	28.7	26.7	27.1	28.0	29.9	31.3	32.8	31.9
1984	32.8	34.3	33.9	30.7	27.5	26.4	25.2	25.7	29.6	31.1	31.7	31.6
1985	33.4	31.5	32.6	29.2	26.3	25.3	26.0	26.8	29.6	30.3	30.8	31.1
1986	30.7	33.6	33.3	29.5	26.2	24.8	25.1	27.4	29.1	32.1	31.5	30.7
1987	32.0	33.7	33.3	31.3	27.6	26.0	26.5	26.9	29.7	32.1	32.4	34.6
1988	34.0	34.8	33.8	28.5	27.2	26.2	26.8	27.2	28.8	32.1	32.1	32.2
1989	30.4	33.0	33.0	28.9	26.3	25.4	25.1	25.7	28.6	31.1	31.9	31.8
1990	31.4	33.0	29.1	28.0	26.9	26.5	26.3	25.8	29.2	31.1	32.0	31.6
1991	34	34.7	33.9	31	27.2	26.1	25.8	26.7	29.2	31.2	32.6	31.7
1992	33.4	33.7	34.0	29.6	26.7	25.1	25.0	26.0	28.6	31.0	31.6	31.2
1993	30.0	31.0	32.7	31.7	29.4	25.8	26.0	26.9	29.3	30.7	33.0	33.1
1994	34.3	33.9	31.6	29.5	26.6	26.3	26.1	26.9	29.7	32.0	31.5	31.2
1995	33.5	33.2	33.1	29.9	26.5	25.2	25.5	26.7	29.3	30.9	31.7	33.0
1996	33.0	32.7	32.6	28.4	26.8	25.4	25.7	26.8	29.5	30.7	31.7	34.0
1997	34.7	35.7	33.8	28.9	26.1	25.1	24.9	26.9	29.2	30.0	29.5	29.0
1998	29.8	31.3	32.0	29.5	26.9	25.9	24.9	27.0	29.0	31.3	32.1	33.8
1999	33.7	35.1	33.2	30.7	26.9	26.5	25.1	25.0	25.8	28.2	31.0	31.7
2000	34.6	35.9	33.0	30.1	27.6	26.6	26.1	27.0	28.8	31.7	31.7	31.4
2001	29.8	31.7	31.9	29.0	27.7	26.2	25.5	27.4	29.5	31.2	31.8	32.5
2002	32.1	32.7	30.9	29.2	27.8	27.1	28.0	26.8	29.5	30.9	30.9	31.0
2003	32.9	35.4	34.8	31.9	27.4	26.2	25.7	27.0	29.8	31.6	33.1	33.9
2004	33.0	31.6	31.4	28.4	28.5	26.7	27.4	27.8	30.2	31.5	32.2	33.2

Kilimanjaro airport: Mean Minimum temperature (°C)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1975	15.6	17.3	19.3	18.0	16.4	14.5	14.7	15.1	16.7	18.7	17.8	17.8
1976	17.0	18.6	18.9	16.8	17.8	14.9	13.1	14.1	15.7	17.3	17.9	17.9
1977	18.5	17.8	19.5	19.2	18.1	14.6	14.4	14.1	14.7	16.1	18.3	17.5
1978	16.4											



(3) Sunshine duration (Data provided by Tanzania Meteorological Agency)

Arusha airport: Mean Sunshine hours

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1975	8.4	8.7	7.2	6.8	5.5	5.5	5.1	7.4	7.5	8.3	8.3	7.8
1976	8.5	7.1	7.9	7.3	6.2	6.3	7	7.5	8.1	9.1	7.8	6.4
1977	7	6.6	6.9	4.7	6.1	6.1	6.3	7.2	8.5	9.3	7.3	7.2
1978	m	m	m	5.4	m	m	m	6.2	8.4	6.8	m	m
1979	m	m	m	4.7	3.4	4	7.7	5.8	7.3	8.4	8	6.7
1980	7.9	8	7.9	6.6	5.3	6.1	5.7	6.1	7.8	8.8	6.9	6.1
1981	8.1	8.1	6.6	6.1	4.7	6.9	6.1	6.8	7.6	8.8	7.7	6.8
1982	8.6	8.6	8.6	6.3	5.2	6.4	5.8	6.9	6.6	8	7.1	7.6
1983	8.8	7.6	7.1	7.3	6.5	5.5	6.2	7	8.6	8.1	8.4	5.8
1984	8.2	9.2	7.9	6.5	7.1	6.5	4.5	5.3	8.3	8.2	7.3	7.5
1985	8.7	4.5	7.4	6.9	4.9	5.2	6.9	7.6	8.4	8.4	6.8	7.3
1986	7.7	9.9	7.6	6.3	4.5	5.6	6.9	8.3	8.6	8	7.1	6.7
1987	8.6	8.8	8	7.3	6.1	5	6.1	6.1	8	9.3	7.6	9.5
1988	7.8	8.3	6.1	6.1	6.5	6	7.1	6.1	8.6	9.6	7.5	7.5
1989	6.3	8.1	7.6	6.1	5.5	5.5	5.6	5.8	6.7	9.3	8	6.9
1990	8.1	6.7	5.5	5.3	5.9	6.8	6.6	5.3	7.9	8.3	8.2	7.7
1991	8.3	9.7	8	7.7	6.1	6.6	6.2	7	8.2	8.7	7.7	6.3
1992	8.9	m	8.1	5.4	5.6	4	m	m	7.8	8.5	m	m
1993	m	m	m	m	m	m	m	m	m	m	m	m
1994	m	m	m	m	m	m	m	7.3	8	8.7	7.4	6.3
1995	8.6	7.5	8.6	6.6	4.2	5.2	6.5	8.2	7.9	8.3	8.6	8.5
1996	8.6	8.0	6.9	6.5	5.6	5.2	5.7	5.9	7.7	8.0	7.2	9.0
1997	8.7	9.5	7.7	6.5	4.8	5.4	5.0	5.0	8.2	7.6	7.0	7.9
1998	8.8	8.8	6.7	3.0	6.4	9.2	5.3	5.9	7.0	9.2	8.0	8.5
1999	8.6	9.0	6.4	11.9	6.3	5.3	5.1	5.0	7.8	8.6	6.6	7.0
2000	9.5	8.8	7.3	7.4	6.4	5.9	5.5	7.8	7.9	9.0	6.4	7.3
2001	5.7	8.3	7.8	7.2	5.9	5.8	5.1	7.6	8.2	8.8	7.5	7.1
2002	6.6	7.9	6.9	6.5	5.9	6.7	7.5	6.2	8.1	8.3	8.5	6.9
2003	8.4	8.5	7.7	7.5	4.6	5.8	6.3	7.2	7.5	7.8	8.1	9.3
2004	7.6	6.0	6.6	5.8	6.0	6.4	8.1	7.5	7.7	7.9	8.5	7.1

Tabora: Mean Sunshine hours

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1975	7	7.8	7.6	8.3	9.3	10	9.5	10.3	8.3	8.3	8.8	7
1976	7.5	7	7.5	8.1	9.3	9.9	9.1	10	9.4	8.9	7.5	7.4
1977	m	m	m	m	m	m	m	m	m	m	m	m
1978	m	m	m	m	m	m	m	m	m	m	m	m
1979	m	m	m	m	m	m	9.8	10	9.9	9.2	5.3	6.6
1980	5.5	8.7	6.9	6.5	7.1	10.3	m	9.3	8.6	8.5	7.5	5.7
1981	8.2	7.6	6.9	5.9	8.7	10	10.4	8.9	9	8.5	8	6.6
1982	6.6	6.9	7.9	6.9	8.1	9.8	9.4	10	7.7	7.3	6.3	6.3
1983	6.7	8.2	7.9	8.4	9.4	9.9	9.9	9.6	9.6	7.6	8.1	6.2
1984	5.3	7.5	9	6.7	9.9	9.9	8.9	9.7	9.5	9.7	7.2	6.5
1985	7.4	4.1	7.5	8.3	9	10.3	10.7	10	8.7	8.4	6.3	7
1986	5.9	7.8	6.6	5.5	7.1	10.4	10.4	10.6	9.2	7.8	8.1	5
1987	4.8	6.3	8.1	6.9	8.1	9.2	10.4	10.1	8.7	8.9	6.2	7.5
1988	5.3	8.1	5.3	8.9	9.5	10.1	10.1	9.3	9.3	8.4	7.4	6.3
1989	m	m	m	m	m	m	m	m	m	m	7.5	5.6
1990	8.1	6.4	6.7	6.6	m	m	10.8	m	m	9.2	7.4	6.4
1991	3	7.7	7.6	8.6	8	10.3	10	8.9	6.1	8.3	5.9	5.9
1992	8	5.8	7.8	7.3	8.8	9.8	10.4	7.9	m	m	m	m
1993	m	m	m	m	m	m	m	m	m	m	m	m
1994	m	m	m	m	m	m	m	m	8.3	8.5	5.7	6.9
1995	5.5	6.2	7.8	9.3	7.5	9.2	9.9	m	9.5	8.2	m	7.2
1996	6.9	6.4	7.1	7.8	9.1	9.8	10.3	m	m	m	m	m
1997	m	m	m	m	m	m	m	m	m	m	m	m
1998	m	m	m	m	m	m	m	m	m	m	m	m
1999	m	8.7	5.1	10.4	10.3	9.9	10.7	8.5	9.8	10.7	8.2	m
2000	7.7	7.0	7.1	8.7	9.7	9.7	10.1	10.8	10.3	m	m	m
2001	4.4	7.9	7.9	9.1	m	m	m	9.8	9.3	7.7	8.7	m
2002	4.5	7.7	7.5	8.6	8.9	10.9	m	9.7	10.0	9.2	8.1	m
2003	m	m	7.4	9.1	7.9	9.7	10.6	10.3	m	9.0	9.0	7.9
2004	7.2	6.4	7.8	8.6	10.1	8.6	10.8	10.5	9.2	9.9	7.7	5.8

Dodoma: Mean Sunshine hours

	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
1975	7.2	8.7	7.8	7.9	9.1	9.1	9.6	9.5	9.1	8.6	10.6	7.7
1976	8.9	7.6	7.7	8.1	9	9.9	10.5	10.2	9.9	10.5	10	8.6
1977	m	m	m	m	m	m	m	m	m	m	m	m
1978	m	m	m	m	m	m	m	m	m	m	m	m
1979	m	m	7.6	m	m	m	m	m	m	m	9.9	7.4
1980	6.7	9.7	7.3	7.7	8.6	10.2	9.4	9.8	9.4	9.1	9.1	6.6
1981	9	7.6	8	6.7	8.6	9.8	10.5	9.9	10.2	9.7	10.4	8.6
1982	9	8	8.6	7.1	7.8	9.2	10	10.3	9.2	9.3	8	7.7
1983	8.3	8.9	8.2	9.1	8.2	9.8	10.4	8.2	10	10.1	10.1	5.5
1984	5.2	7.5	8.9	7.2	9.6	9.6	8.3	9.7	10.2	9.8	8.5	6.6
1985	9.3	3.8	8.4	7	7.9	10.1	10	10.1	9.4	10.3	7.9	7
1986	7.4	7.5	6.3	8.6	7.1	10.2	10.3	10.3	9.9	9.6	9.3	6.9
1987	7.3	7.7	7.9	7.9	7.9	9.5	9.9	9.6	10.3	10.3	7.8	10
1988	7.1	8.9	6.3	9.6	9.1	8.9	9.9	9.8	9.8	9.9	8.9	7.4
1989	7.9	7.5	7.7	7.9	7.5	9.3	9.7	10.4	9.8	9.7	9.4	6.5
1990	8.3	7.6	7.8	7.7	9.1	9.6	10.1	9.4	9.3	10.1	8.9	7.4
1991	7.6	9.3	7.1	8.8	8	10.4	9.4	9.3	9.3	9.4	10.4	7
1992	9.1	5.7	8	6.9	m	m	m	m	9.8	m	m	m
1993	m	m	11.3	8.2	m	m	m	m	10.3	10.5	m	m
1994	m	m	m	m	m	m	m	m	m	9.9	10.2	10.0
1995	6.8	7.2	7.7	8.8	6.6	10.7	10.2	10.4	10.3	10.5	11.1	9.4
1996	8.1	7.0	7.7	8.8	7.4	10.0	10.1	10.4	8.9	9.4	9.7	8.4
1997	8.2	6.9	8.4	7.9	7.8	8.9	9.6	10.4	10.5	9.3	8.3	6.4
1998	7.5	6.8	8.8	6.6	9.2	9.7	9.4	9.7	9.8	10.2	10.6	10.8
1999	7.3	9.6	6.3	7.6	9.1	9.4	8.3	8.7	9.8	10.5	10.5	9.1
2000	8.9	10.2	7.8	9.1	9.8	9.9	10.4	9.9	10.4	10.5	8.9	6.9
2001	5.8	7.0	8.2	8.5	8.9	9.6	9.7	10.1	9.9	10.2	10.2	7.9
2002	5.7	8.1	7.8	7.8	8.8	10.4	10.6	9.3	9.9	9.7	10.4	8.0
2003	7.9	8.4	11.2	9.3	8.1	9.8	10.1	10.4	9.8	10.0	10.7	9.4
2004	8.6	7.5	7.7	7.8	9.8	10.2	10.6	10.5	10.1	10.6	10.0	5.1

Kilimanjaro airport: Mean Sunshine hours

	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
1975	9.6	10.4	9.2	6.3	6.5	7.4	9.7	7.4	7.8	9.1	10.3	9.1
1976	10	10	8.8	7.4	7.1	7.3	8.4	8.9	9.4	8.4	10.2	10.4
1977	10.2	8.3	8.8	6.5	7.2	8.1	8.9	7.8	8.4	8.2	7.7	7.5
1978	8.2	8.9	5.6	6	4.7	3.5	4.7	5.5	8	8.1	6.8	5.4
1979	6.3	7.1	8.5	m	m	m	4	5.1	6.8	7.6	8.7	8.7
1980	8.5	9.5	9.4	7.9	7.2	8	7.2	6.3	8.6	10	8.1	9.1
1981	9.9	9.7	7.5	8.1	6.9	8.5	6.7	8	8.8	8.9	10.4	8.4
1982	10	10.4	9.2	7	4.3	4.9	6.3	8.1	m	6.7	8.2	9.7
1983	9.5	9.5	9.2	m	5.1	5.1	8	7.8	7.7	9.2	10	8.7
1984	9.1	10	8.5	6.3	7.5	6.7	7.5	7.1	8.6	8.1	8.3	9.5
1985	9.3	5.4	8.5	7.8	5.9	7.5	6.6	8	8.5	8.7	8.9	9
1986	8.3	10.6	7.7	6	5.4	8	8.5	8.9	8.3	9.3	8.8	9.5
1987	9.6	9.8	8.2	6.6	5.4	4.4	4.9	4.9	6.5	8.4	7.6	10.3
1988	8.2	9.2	5.8	5.6	4.6	4.3	5.5	4.3	6.8	9.1	8.3	8.3
1989	6.1	8.3	6.8	5.5	4.2	4.2	3.6	3.5	5.7	8	8.1	7.7
1990	9	7.9	6	5.2	5.4	5.3	5	3.8	6.7	10.7	8.9	8.3
1991	9.7	10.4	8	7.6	4.6	5.5	4.6	5.6	7.4	8.5	8.3	6.7
1992	6.1	8.6	8.2	5.8	4.7	3.5	4	5	6.3	8.3	7.9	7.7
1993	6.4	7.1	8.2	8.6	6.4	3.6	5.1	5.2	8.4	8.1	9.3	9.3
1994	9.6	11.0	6.4	5.1	3.9	3.8	5.2	5.1	6.7	7.9	7.6	8.0
1995	9.8	9.6	7.0	6.0	3.9	4.8	4.5	7.2	6.8	8.3	8.3	10.0
1996	9.6	8.3	m	5.1	3.9	3.8	4.2	7.9	m	5.7	m	10.0
1997	10.1	10.1	8.0	6.1	4.8	4.0	5.0	6.9	8.6	6.7	6.6	6.1
1998	5.3	7.7	7.8	5.3	4.7	4.8	3.5	5.3	4.5	8.9	8.1	9.9
1999	8.6	11.9	6.9	5.3	6.1	4.8	3.7	7.1	7.1	7.9	7.3	8.0
2000	10.6	10.1	8.1	7.2	5.2	4.2	4.3	5.8	7.1	9.3	7.6	8.4
2001	6.7	9.0	7.8	7.4	5.1	4.4	3.6	6.4	7.2	8.1	8.1	8.4
2002	7.3	7.9	7.4	7.2	5.7	5.1	6.7	4.5	7.5	7.9	8.7	7.6
2003	10.0	9.2	8.9	6.6	4.4	5.1	6.1	6.1	6.9	8.1	9.1	10.0
2004	8.5	7.0	7.1	6.1	5.2	4.5	7.0	6.8	8.2	7.8	8.4	8.1

(4) Pan evaporation (Data provided by Tanzania Meteorological Agency)

Kilimanjaro airport: Mean Monthly Evaporation (mm)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	296.1	324.4	231.4	169.9	142.1	117.6	137.4	153.0	201.6	233.4	252.9	268.0
1976	304.5	297.0	275.4	194.6	119.8	135.7	137.7	166.0	170.0	269.0	243.6	253.5
1977	236.8	217.5	218.2	128.4	114.5	118.2	121.5	151.7	199.6	256.9	194.8	207.4
1978	200.3	203.3	137.8	116.5	101.6	81.9	118.5	134.5	197.5	233.4	210.2	184.4
1979	201.0	166.4	232.8	147.0	97.7	88.5	97.8	134.5	169.0	210.2	260.4	232.5
1980	259.4	288.8	293.8	160.5	159.3	132.1	118.5	140.9	237.0	284.1	196.1	186.9
1981	279.4	317.4	261.9	137.0	130.4	102.7	108.9	148.5	198.5	209.7	210.4	227.8
1982	303.5	293.0	285.4	m	76.3	111.9	117.6	131.0	173.0	150.6	164.5	180.3
1983	225.0	194.5	238.1	177.8	144.1	111.7	121.3	151.5	216.0	234.4	240.2	206.7
1984	235.6	255.0	m	m	m	m	122.8	130.9	207.6	227.4	195.5	200.5
1985	256.3	164.9	255.0	148.4	100.9	94.9	119.6	157.6	195.7	218.7	181.2	203.4
1986	199.1	241.8	231.8	158.6	103.9	101.5	116.9	149.2	200.0	228.4	187.3	169.5
1987	232.3	240.4	250.4	181.9	135.2	109.3	125.3	155.5	202.0	257.4	236.0	312.0
1988	267.3	283.0	227.4	135.3	119.8	98.9	121.9	129.0	178.7	285.1	253.4	228.2
1989	141.2	183.7	283.0	m	117.2	127.5	157.5	142.4	194.8	280.2	242.0	209.0
1990	218.8	194.0	148.6	110.0	101.0	107.0	117.6	133.0	230.5	241.8	211.7	202.9
1991	257.4	293.0	299.1	185.6	106.1	145.6	163.8	157.1	213.5	322.0	285.7	233.6
1992	409.0	244.7	361.9	173.3	127.9	97.8	110.0	164.0	154.5	224.6	276.1	m
1993	221.2	213.0	263.0	m	162.2	122.3	171.0	155.2	245.5	276.0	224.0	238.5
1994	m	m	231.8	201.4	120.4	163.3	163.9	191.5	246.3	276.0	224.0	238.5
1995	250.5	234.6	206.1	163.7	124.8	126.5	178.6	m	218.0	231.6	224.0	261.3
1996	230.8	202.9	225.9	145.9	126.6	120.0	134.7	179.5	185.5	240.3	m	286.3
1997	332.7	338.5	281.1	146.3	103.8	93.1	96.1	195.0	241.0	235.6	159.0	148.6
1998	152.8	168.2	198.6	141.9	94.2	106.4	59.1	111.8	147.3	230.7	215.3	207.0
1999	3.0	281.3	194.5	124.9	110.5	99.8	91.8	m	221.8	1.6	194.8	207.7
2000	274.0	287.6	m	177.1	135.6	109.2	129.7	146.9	163.5	254.1	215.3	203.7
2001	147.4	200.1	227.5	156.2	115.4	m	m	m	m	m	m	234.8
2002	234.4	254.8	214.2	m	m	m	210.2	157.6	m	272.8	278.7	279.2
2003	380.1	280.6	334.5	198.4	129.3	130.2	112.3	181.0	238.5	255.3	m	m
2004	238.4	152.3	151.0	108.4	107.8	100.1	117.5	127.5	155.9	188.7	181.7	175.7
2005	191.3	m	174.5	106.9	98.0	m	m	m	m	m	m	m

Moshi: Mean Sunshine hours

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	9.7	10.3	7.9	7.1	5.4	4	4.4	4.9	6.2	7.7	10.4	9.4
1976	10.4	8.8	8.5	7.5	5.3	5	6	5.8	7.5	8.6	8.5	9.2
1977	8.4	7.9	7.9	5.5	6.1	5.9	4.8	6	7.4	8.8	8.5	8.2
1978	8.3	9	5.5	6.5	5.3	4.6	4.6	5.4	6.8	8.4	7	6.4
1979	9.1	8.7	8.1	6.5	5.3	4.6	4.6	5.1	6.6	7.8	8.4	8.3
1980	8.7	8	7.8	6.4	4.2	4.8	4.3	4.5	7	8.9	8.1	7.9
1981	9.8	9.5	6.3	5.7	3	5.4	3.7	5.1	6.8	8.1	8.5	7.7
1982	10.1	9.8	9.2	6.5	3.7	5.3	3.9	5.3	5.5	7.1	7.9	8.8
1983	9.7	9.8	7.7	6.4	6.4	4.8	4.4	5.5	7.1	7.2	9.1	6.9
1984	8.7	9.6	7.9	6.2	5.7	5.3	3	3.3	7.8	7.8	8.3	8.1
1985	9.2	5.9	7.8	6.4	3.5	4.2	5.1	4.8	7.6	7.8	6.8	8.1
1986	8.5	10.5	7.7	6.7	3.2	4.4	5.2	7.1	7.9	8.2	7.5	7.5
1987	9.3	9.7	8.2	6.5	5.1	3.9	4.7	5.1	6.5	8.8	7.9	10.1
1988	8.9	9.3	6.8	5.8	6.3	4.8	5.5	4.4	7	8.9	8.9	8.3
1989	6.3	8.9	7.6	5.9	3.6	4.1	3.5	3.3	7.9	7.8	7.8	7.9
1990	9.1	7.6	7.3	5.2	4.5	6	5.2	3.5	6.5	7.8	8.8	11.7
1991												
1992												
1993												
1994	9.7	8.2	7.4	6.4	4.7	4.7	4.3	5.5	m	7.6	7.0	7.0
1995	9.6	7.9	6.7	6.3	3.7	4.7	4.8	7.1	7.3	7.3	8.4	9.8
1996	9.2	8.9	7.1	6.0	4.6	3.0	4.6	6.0	6.3	7.6	7.1	10.6
1997	10.0	m	7.9	6.4	4.9	3.9	3.3	m	6.5	6.6	6.3	5.8
1998	5.5	7.3	7.4	5.6	4.5	4.5	3.1	5.6	6.9	8.9	7.9	9.8
1999	9.7	9.8	6.7	5.7	5.4	4.2	3.7	7.1	6.9	7.6	7.3	8.1
2000	10.8	10.0	7.1	7.2	5.3	4.1	4.1	6.0	6.3	8.9	7.3	8.1
2001	7.3	8.5	7.7	7.4	5.2	4.3	3.7	6.6	6.8	7.7	7.9	9.1
2002	7.7	8.9	6.9	7.4	5.7	4.9	6.5	4.9	7.5	8.5	9.0	7.4
2003	3.8	9.4	8.7	6.8	4.3	5.1	4.9	6.1	7.5	6.4	m	m
2004	8.3	7.0	7.2	6.1	4.7	5.0	6.7	6.5	6.6	7.8	8.6	8.2



Arusha airport: Mean Monthly Evaporation (mm)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	169.4	170.5	160.0	140.8	112.5	102.8	119.0	147.5	168.8	214.7	210.5	m
1976	m	m	m	179.2	127.3	m	m	m	171.3	200.0	196.6	161.4
1977	158.6	143.0	128.5	121.6	119.6	106.4	120.5	142.1	166.0	228.8	159.9	m
1978	161.4	164.2	126.5	101.3	101.1	81.4	95.1	124.0	160.5	198.5	162.0	118.5
1979	97.7	113.4	171.3	106.9	94.3	66.1	84.9	116.0	151.7	199.7	185.5	m
1980	m	m	m	m	m	m	m	m	189.7	210.2	182.7	150.2
1981	186.9	163.4	177.6	130.3	94.1	101.5	74.6	m	m	m	m	m
1982	m	m	m	155.4	106.7	121.0	99.0	102.5	145.4	136.7	142.0	m
1983	m	m	m	172.7	112.0	86.2	m	130.5	144.7	m	157.3	170.0
1984	149.9	166.7	168.8	169.2	133.7	111.5	m	m	m	m	m	m
1985	-	-	-	-	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-	-	-	-	-
1987	-	-	-	-	-	-	-	-	-	-	-	-
1988	-	-	-	-	-	-	-	-	-	-	-	-
1989	-	-	-	-	-	-	-	-	-	-	-	-
1990	-	-	-	-	-	-	-	-	-	-	-	-
1991	-	-	-	-	-	-	-	-	-	-	-	-
1992	-	-	-	-	-	-	-	-	-	-	-	-
1993	-	-	-	-	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-	-
2001	m	m	m	120.9	111.2	104.9	109.0	m	m	211.0	210.8	171.3
2002	178.0	m	m	121.8	103.8	107.0	135.9	133.8	172.5	177.1	149.9	142.9
2003	152.5	168.5	166.3	146.0	89.4	89.8	111.6	138.6	180.5	m	m	m
2004	165.1	125.6	164.3	117.1	118.3	130.7	143.0	142.5	180.8	196.7	173.2	159.9
2005	175.0	182.7	167.7	127.7	104.5	m	m	124.4	m	m	m	m

Dodoma: Mean Monthly Evaporation (mm)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	201.7	220.6	190.2	203.2	217.6	208.5	189.6	236.0	268.5	272.0	301.5	200.0
1976	237.3	201.7	197.1	192.6	206.0	191.5	222.0	248.0	280.0	392.0	362.0	375.5
1977	230.4	184.5	262.1	185.5	207.4	235.5	248.5	264.0	330.0	372.0	294.2	218.5
1978	m	166.1	160.8	200.9	217.7	203.5	232.5	264.0	306.5	354.0	310.9	172.1
1979	205.8	128.9	172.3	139.2	m	m	m	m	m	m	m	m
1980	-	-	-	-	-	-	-	-	-	-	-	-
1981	-	-	-	-	-	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-	-	-	-	-	-
1983	-	-	-	-	-	-	-	-	-	-	-	-
1984	m	m	m	m	m	m	m	189.0	230.8	291.6	m	178.4
1985	193.6	m	207.1	m	160.3	190.5	167.7	216.0	218.7	203.4	163.6	m
1986	168.2	181.7	160.0	200.7	147.7	171.5	164.0	142.5	m	241.5	197.0	192.6
1987	158.1	155.2	177.6	193.2	156.1	150.0	166.5	208.2	197.0	254.5	267.1	237.3
1988	191.4	188.5	188.1	186.5	193.0	m	m	m	m	m	m	m
1989	m	177.8	157.8	186.5	m	182.0	189.5	219.0	219.0	315.7	238.6	216.8
1990	194.8	251.0	179.1	180.5	180.4	183.7	185.0	210.0	233.0	356.3	m	209.5
1991	258.1	185.6	288.5	195.7	200.5	168.0	188.0	201.5	m	287.9	218.9	m
1992	215.9	155.8	180.3	160.4	185.9	171.5	186.5	193.0	229.0	265.5	211.7	245.7
1993	210.9	184.9	192.5	193.9	204.0	193.0	204.5	219.0	265.0	281.2	301.1	330.0
1994	227.5	180.7	265.3	223.5	m	m	209.5	256.5	280.5	292.0	306.1	280.1
1995	-	-	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-	-
2003	m	m	221.4	195.2	191.1	206.5	216.5	252.0	287.5	m	m	m
2004	m	175.2	185.8	157.2	194.0	196.5	215.0	241.5	282.0	302.7	282.5	212.5
2005	210.5	m	182.3	176.1	m	200.0	m	m	m	m	m	m

Moshi: Mean Monthly Evaporation (mm)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	299.6	314.4	243.4	178.4	130.1	103.6	119.6	160.5	185.9	310.6	334.1	308.5
1976	311	256	281.8	178.4	106.2	120.7	127.9	172.1	223	290.6	263.2	259
1977	233.7	235.4	216.5	152.9	132.1	118.6	115	147.1	215.9	289.5	198.5	214.2
1978	214.2	209.6	162.6	126.6	112.9	84.2	101.4	137.4	208	281.4	200.7	157.3
1979	190.6	162	115.1	134.3	102	102.3	100.5	134.4	180.1	257.2	m	m
1980	274.7	251.8	267.3	173.7	129.3	109.2	115.9	128.6	200.8	303.6	208.6	195.7
1981	292.6	259.3	m	m	m	m	m	m	150	244.7	264.3	204
1982	275.2	281	304.8	184.7	126.6	108.2	107.2	126.2	171.3	214.5	213.4	m
1983	-	-	-	-	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-	-	-	-	-
1985	m	m	m	m	m	m	m	m	m	m	m	212.2
1986	209.6	274.9	258	159.9	109.1	96.9	108.2	163.5	207.8	265.8	236.2	168.5
1987	226.8	260.3	318	196.9	134.1	110.8	125.5	152	195.9	260.6	255.4	302.1
1988	284.3	301.6	255.8	135.7	135.4	103.4	120.7	141.3	175.4	281.2	255.5	228.6
1989	170.5	m	250.2	144.4	117	111.6	103.5	118.4	165.6	233.6	239.6	207.5
1990	197.5	199.1	186.4	111.5	110.5	119.9	109.8	111	193.5	237.8	201.7	170.9
1991	237.8	232	279.4	170.5	132.7	105.1	119.7	142.3	199.8	239.5	256.3	204.6
1992	259.9	261.9	283.4	144.9	137.6	103.7	111.4	158.1	207.8	251.6	231.3	217.3
1993	182.6	m	217.4	219.8	158.4	109.3	123.7	160	287	260.5	290.2	280.2
1994	275.2	231.4	212.1	187.4	118.8	118.4	117.7	164.7	205.7	263.3	182.5	195.1
1995	239.3	229.3	206.2	139.9	109.3	95.5	98.7	128.7	m	m	m	m
1996	m	m	m	m	m	m	107.6	m	m	m	m	m
1997	m	m	m	148.5	105.7	82.6	96.7	m	m	m	m	119
1998	125.9	137.6	150.4	134	116.3	95.9	91.4	120	184.3	227.2	230	253.6
1999	285.8	266.6	229	116.1	104.5	105.1	70.1	107.6	181.6	236.2	m	207.1
2000	m	274.5	227.1	147.8	116.1	106	122.4	m	209	286	m	226.4
2001	181.4	225.1	246.4	116	116.9	85.5	89	132.8	m	212	224	231.4
2002	204.3	197.2	m	m	76.1	114.1	149.7	116.6	m	197.3	m	164
2003	m	m	m	m	123.4	117.8	98.9	141.8	186.4	228.5	m	m
2004	203.9	162.3	183.8	106.9	109.7	112.2	139.7	153	195	216.3	219.6	222.3
2005	245.9	m	237.4	159.6	134.3	89.7	m	m	m	m	m	m

Tabora: Mean Monthly Evaporation (mm)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	164.9	135.7	152.6	145.2	149.4	120.5	163.8	207.0	202.4	205.7	198.6	195.2
1976	152.1	136.2	146.0	134.5	150.8	152.5	168.0	204.0	m	m	m	162.4
1977	125.5	123.5	147.5	124.4	115.8	m	m	m	m	m	m	107.3
1978	113.8	136.3	119.0	151.4	158.9	155.2	174.0	208.0	191.0	251.7	195.8	139.1
1979	m	123.9	m	m	m	m	m	m	m	m	139.8	128.0
1980	86.3	143.4	151.7	131.7	129.8	140.0	137.0	188.0	238.9	225.6	175.2	145.9
1981	153.2	118.2	152.9	m	90.2	132.0	121.0	197.4	226.7	276.4	m	m
1982	m	m	m	m	m	m	m	m	m	m	125.6	110.7
1983	90.2	m	m	m	148.7	m	m	m	m	m	m	m
1984	-	-	-	-	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	-	-	-	-
1986	m	m	m	m	m	m	m	189.0	237.0	216.4	156.7	107.5
1987	105.6	110.2	145.3	100.3	132.0	m	158.0	222.0	200.5	222.4	m	119.2
1988	m	129.3	100.4	m	m	109.0	160.5	187.3	200.5	213.5	175.6	140.9
1989	143.7	109.3	132.0	157.9	153.5	133.5	m	m	m	208.0	170.9	179.9
1990	144.8	166.3	141.0	123.5	m	m	m	m	m	m	228.0	215.7
1991	240.8	153.8	174.1	139.4	m	142.5	162.0	156.0	209.5	131.7	146.0	131.1
1992	134.5	101.1	132.2	91.7	122.7	103.5	140.0	189.5	240.5	m	154.5	m
1993	m	m	149.8	159.1	131.2	148.0	187.5	160.0	180.5	315.0	212.5	184.0
1994	147.1	92.3	122.1	142.8	122.8	169.5	175.5	208.5	258.5	229.1	172.3	141.4
1995	-	-	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-	-
2003	m	m	m	m	126.1	150.0	180.0	190.5	232.5	m	m	m
2004	141.8	127.2	139.8	131.3	158.0	168.3	190.0	218.5	212.8	266.3	189.3	130.5
2005	195.1	125.1	133.2	136.3	142.1	141.0	m	183.5	m	m	m	m

Shinyanga: Mean Monthly Evaporation (mm)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1987	m	m	m	m	m	m	m	m	m	m	198.1	238.7
1988	151.4	183.2	169.7	165.7	205.6	186	231.5	246	311	313.6	228	214.7
1989	108.3	137.6	178.6	171	176.7	159	245.5	266.2	246.3	305.7	251.5	170.4
1990	178.3	139.3	132.8	148.9	176.9	190	215.2	243.7	276.8	292.5	236.1	m
1991	156	158.8	192.1	161.5	150.8	191.7	233.5	236.9	251.7	201	240	172.1
1992	183.2	142.8	191.8	172.3	191.9	175.6	177.5	259	220.5	266.5	261.5	m
1993	150	138.2	158.2	201.9	184.2	221.2	262.8	294.5	354.2	320.1	237.1	269.9
1994	132.2	104.7	143.1	143.6	151.1	172	211.3	233	m	m	m	m
1995	m	m	136.2	165.5	145.7	154.3	195	176.5	248.6	244	228.6	212.8
1996	175.2	146	167.8	167.9	234.2	269.9	202.5	1867.4	1627.8	1634	1647	1595.2
1999	m	m	m	m	m	m	m	202	260	286	190.4	156.2
2000	178.6	160.9	150.5	167.8	m	m	162.5	202	m	m	m	m
2001	m	m	m	m	m	m	m	m	m	m	m	m
2002	m	m	m	m	117.5	m	m	m	m	m	m	164.5
2003	m	184.9	m	158.9	138	184	227	235.2	257.3	266.1	m	m
2004	m	167.6	170.3	163	207.6	240.7	245.5	266	244.3	316.3	217.3	173
2005	175.8	194.3	182.8	190.9	166.1	199	m	m	m	m	m	m

(5) Relative humidity (Data provided by Tanzania Meteorological Agency)

ARUSHA AIRPORT - 0600GMT (9.00am): MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	72	75	80	88	91	84	79	74	77	77	73	80
1976	75	82	84	89	90	84	80	79	77	77	73	79
1977	81	81	89	91	84	85	82	81	73	73	86	83
1978	78	86	89	94	91	90	90	85	81	81	85	88
1979	89	86	86	93	91	87	88	89	86	86	74	79
1980	71	82	77	87	89	83	83	84	77	77	80	82
1981	80	79	84	89	89	86	83	82	76	79	75	83
1982	74	71	76	87	90	86	83	80	84	84	83	80
1983	84	80	84	88	91	91	88	82	76	76	78	81
1984	79	75	83	91	88	84	86	84	83	79	88	83
1985	78	80	85	90	93	90	83	83	81	78	87	85
1986	84	73	86	92	92	87	84	81	77	80	83	84
1987	79	77	79	87	89	86	87	85	78	78	84	80
1988	77	74	81	91	88	85	84	81	78	70	81	80
1989	84	76	81	93	90	89	84	82	85	78	84	85
1990	84	80	88	91	88	86	84	83	81	83	83	83
1991	80	75	78	87	89	87	93	82	87	67	78	78
1992	85	77	75	89	90	89	83	75	81	75	75	82
1993	81	83	78	78	88	85	78	75	70	80	64	75
1994	68	66	89	87	88	82	75	73	75	75	80	90
1995	74	76	80	93	89	84	78	74	75	79	75	72
1996	76	80	78	90	86	81	71	82	77	80	92	65
1997	68	64	82	88	88	88	81	76	89	79	85	89
1998	88	83	83	78	94	88	87	81	83	83	77	77
1999	74	71	82	91	89	88	85	80	80	73	81	80
2000	70	61	80	84	85	79	80	77	79	70	79	83
2001	83	81	81	89	88	86	84	81	76	73	77	75
2002	70	80	89	91	87	87	81	81	83	81	85	83
2003	82	71	76	84	91	86	86	81	82	77	81	71
2004	79	84	85	87	84	83	79	79	80	78	78	83

ARUSHA AIRPORT - 1200GMT (3.00pm): MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	42	38	48	57	66	59	55	47	46	40	64	47
1976	40	51	48	56	65	54	53	48	45	46	40	53
1977	53	56	61	70	62	56	59	59	42	40	54	56
1978	49	55	48	71	67	67	62	59	49	44	55	67
1979	61	65	53	70	73	68	63	59	47	47	49	51
1980	41	47	45	61	66	57	56	55	44	41	52	48
1981	41	37	47	66	69	60	54	49	43	44	42	47
1982	35	31	37	56	69	63	59	53	54	55	54	57
1983	55	51	48	51	66	66	59	53	42	40	44	55
1984	46	42	43	57	62	58	61	55	42	49	66	58
1985	44	53	51	69	71	63	57	54	38	46	62	56
1986	57	43	55	66	73	64	56	48	43	45	55	62
1987	50	43	47	64	69	63	58	54	44	31	43	40
1988	45	42	52	67	59	60	56	50	50	37	44	51
1989	58	41	50	67	69	65	57	53	50	40	50	61
1990	59	50	66	70	63	58	55	57	45	48	48	57
1991	42	42	46	56	75	67	65	49	44	35	43	55
1992	38	41	38	64	68	70	57	46	51	37	46	55
1993	58	47	43	51	55	55	47	45	33	35	34	36
1994	34	36	51	55	65	58	43	46	41	36	45	59
1995	41	36	49	52	69	59	56	43	45	48	38	39
1996	41	47	47	67	65	67	67	49	42	39	41	31
1997	35	31	34	58	73	65	56	56	39	48	63	76
1998	67	48	59	74	68	64	61	79	49	65	44	36
1999	41	33	55	67	67	52	59	57	42	38	48	49
2000	33	26	47	57	59	52	53	48	44	34	54	58
2001	70	53	49	63	61	60	56	48	43	37	44	43
2002	49	53	61	66	65	60	48	54	43	47	56	59
2003	54	35	41	62	72	64	59	53	46	42	50	44
2004	54	56	57	63	59	54	47	50	46	46	48	56

Tabora met (953212) - 0600GMT: MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	81	75	82	79	72	62	65	54	53	50	68	78
1976	80	81	83	81	69	62	55	50	52	49	59	72
1977	86	82	79	84	75	60	55	53	49	48	73	83
1978	86	82	89	75	68	65	62	53	48	49	73	86
1979	76	89	82	84	72	66	59	56	49	46	66	81
1980	88	74	80	82	75	60	59	54	52	51	68	80
1981	77	84	80	82	74	63	59	57	56	52	55	72
1982	88	84	78	77	73	64	60	55	57	63	84	84
1983	82	79	79	79	71	63	58	55	49	55	63	77
1984	88	84	79	80	67	62	58	56	49	55	70	82
1985	80	90	78	79	73	65	59	56	49	50	68	74
1986	85	80	83	78	75	64	58	52	49	58	71	87
1987	88	85	81	81	73	70	62	50	50	53	65	71
1988	86	80	85	76	64	63	58	55	48	52	66	75
1989	90	85	84	78	77	65	61	56	56	48	58	85
1990	75	86	83	82	70	62	58	58	62	51	65	78
1991	85	83	77	76	68	65	60	55	53	70	60	76
1992	76	86	71	80	72	69	67	63	60	63	66	79
1993	80	84	81	73	75	61	55	56	51	48	57	58
1994	83	87	83	73	69	59	56	55	52	53	69	85
1995	85	80	80	76	73	63	57	55	49	52	55	67
1996	80	84	81	73	61	55	55	63	56	46	57	58
1997	87	78	65	81	81	64	50	61	48	51	64	87
1998	83	83	85	83	78	60	62	60	58	52	51	72
1999	90	90	87	89	85	77	70	64	61	63	79	87
2000	90	90	87	89	85	77	69	57	51	52	72	83
2001	92	90	85	86	84	80	70	58	55	52	66	75
2002	88	90	80	83	80	78	65	68	63	55	60	76
2003	85	76	76	75	78	63	58	54	54	52	58	75
2004	84	86	82	80	63	61	56	55	60	54	65	84

Tabora met (953212) - 1200GMT: MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	54	47	58	48	43	33	33	29	31	30	46	56
1976	47	51	54	54	40	31	29	26	26	27	35	46
1977	59	54	49	62	47	33	27	28	24	23	46	57
1978	52	54	61	51	40	35	28	27	24	25	45	62
1979	49	59	55	60	45	35	27	26	21	23	39	53
1980	56	41	46	53	45	32	32	35	23	29	44	56
1981	48	51	50	54	44	31	28	29	29	29	31	49
1982	56	53	49	49	47	35	30	27	30	33	56	57
1983	55	47	51	50	41	31	31	30	25	33	36	46
1984	60	55	47	49	38	32	33	30	23	32	44	54
1985	55	59	46	55	45	36	29	28	28	25	37	53
1986	55	52	57	55	51	37	29	27	26	33	45	67
1987	62	56	51	52	46	36	31	30	31	30	43	46
1988	57	49	58	50	59	34	31	31	23	27	44	52
1989	58	60	54	54	53	39	33	31	29	29	43	59
1990	48	57	53	55	41	33	28	31	35	28	38	50
1991	60	53	48	44	44	37	33	32	28	43	36	48
1992	47	47	48	54	47	43	41	34	35	36	44	57
1993	55	54	52	45	41	35	29	35	31	24	35	36
1994	57	59	56	47	69	33	31	31	31	33	46	64
1995	58	60	53	49	47	35	32	28	25	30	34	41
1996	47	50	58	58	55	31	30	25	27	25	28	41
1997	56	59	46	51	54	39	29	29	24	22	41	68
1998	46	47	44	57	47	40	35	29	26	33	24	43
1999	55	54	53	53	45	36	31	34	27	31	42	53
2000	54	53	52	52	44	35	32	29	28	31	45	64
2001	55	54	54	55	48	41	35	33	31	30	40	60
2002	53	50	50	51	50	46	40	36	34	30	32	55
2003	52	43	47	45	49	36	31	27	30	29	33	50
2004	56	57	53	52	38	30	28	28	34	29	41	65

Shinyanga met. (933363) - 0600GMT: MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1987									60	58	70	67
1988	86	76	84	82	70	63	61	59	52	55	64	71
1989	91	82	79	81	80	71	63	62	59	52	65	83
1990	77	83	85	86	75	68	63	60	56	57	63	77
1991	81	79	76	79	74	62	60	58	53	69	64	78
1992	71	82	70	80	79	62	56	53	44	62	59	74
1993	76	79	77	72	73	59	56	52	46	46	58	52
1994	70	81	82	74	69	58	56	55	48	50	66	78
1995	79	84	79	72	80	64	57	58	49	52	57	60
1996	75	79	77	78	58	60	53	54	56	55	56	65
1997	96	81	63	81	60	68	58	56	48	49	68	85
1998	82	82	75	84	80	73	72	62	54	48	49	62
1999	77	60	81	79	70	64	61	59	54	49	62	69
2000	71	78	80	71	63	57	58	56	50	48	65	79
2001	85	78	78	79	72	64	64	57	56	57	67	71
2002	83	75	82	79	76	63	63	59	56	51	53	73
2003	77	63	68	77	77	62	57	56	51	51	55	69
2004	76	78	77	78	64	58	54	51	57	53	62	79

Shinyanga met. (933363) - 1200GMT: MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1987									34	35	47	41
1988	60	49	58	55	42	34	33	32	27	33	42	45
1989	68	57	51	57	48	39	34	32	30	29	39	62
1990	51	56	60	61	45	35	29	33	29	28	39	52
1991	54	50	50	50	43	36	33	28	27	43	39	55
1992	40	54	44	52	44	33	32	24	23	31	40	47
1993	59	49	52	38	45	33	26	26	21	23	30	27
1994	52	58	54	45	42	32	29	35	25	25	43	51
1995	55	58	54	50	52	35	30	29	42	30	30	33
1996	44	48	45	48	34	32	28	25	31	29	29	38
1997	39	53	35	53	52	58	32	28	21	26	41	60
1998	61	45	49	57	41	35	32	30	28	24	28	33
1999	48	34	57	55	37	33	31	32	28	26	38	45
2000	45	44	52	45	36	31	30	28	23	27	42	59
2001	60	59	47	48	42	32	35	29	34	34	44	46
2002	60	48	57	50	47	33	30	28	27	30	46	52
2003	51	38	40	48	51	35	29	28	27	28	29	42
2004	47	49	49	50	38	29	27	28	33	27	41	57

Dodoma met (963501) - 0600GMT: MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	78	72	81	77	76	73	70	70	67	66	63	73
1976	79	82	80	78	75	74	71	70	66	72	69	67
1977	81	83	82	80	74	67	70	75	75	69	79	82
1978	81	78	85	77	74	75	76	71	71	66	70	81
1979	80	87	81	85	75	66	66	72	69	62	66	75
1980	80	80	81	82	77	69	74	73	72	64	68	80
1981	76	82	79	85	77	73	74	74	68	70	69	76
1982	78	82	79	82	77	70	68	69	71	69	69	78
1983	82	79	80	75	77	72	75	71	66	64	66	75
1984	83	84	87	83	77	74	80	77	69	66	73	78
1985	78	88	82	82	79	76	76	77	74	66	72	77
1986	82	76	81	76	76	71	68	70	66	68	68	79
1987	83	80	81	79	75	70	74	75	73	71	71	73
1988	78	75	78	77	74	76	74	72	69	63	70	69
1989	87	81	85	83	80	73	74	72	68	64	67	78
1990	80	80	85	82	77	80	77	78	72	69	70	69
1991	72	70	61	78	80	67	73	72	68	65	65	73
1992	72	82	80	76	70	76	71	71	68	64	71	70
1993	79	81	80	77	74	69	70	71	71	61	63	61
1994	79	79	81	79	74	72	74	76	77	71	72	76
1995	80	82	81	74	73	61	74	76	73	68	65	75
1996	75	83	81	79	77	69	70	72	72	61	60	69
1997	71	78	73	76	72	73	72	69	68	67	65	84
1998	81	83	93	82	71	68	70	72	67	61	62	64
1999	77	77	85	81	77	73	76	75	68	63	64	70
2000	75	75	81	79	72	75	71	75	72	64	71	80
2001	74	79	79	79	75	71	72	69	68	64	67	74
2002	83	83	84	82	72	66	76	77	68	65	62	72
2003	78	77	78	74	75	69	68	66	66	68	62	71
2004	77	80	82	79	68	68	65	66	65	64	64	77

Dodoma met (963501) - 1200GMT: MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	49	42	52	46	46	44	39	38	38	36	31	46
1976	49	56	51	52	48	45	37	39	39	44	38	34
1977	53	54	51	52	47	38	40	48	47	46	55	54
1978	55	49	62	50	45	47	52	46	41	34	41	58
1979	52	62	55	58	50	40	37	37	35	28	33	46
1980	52	47	52	52	53	44	47	43	40	35	37	51
1981	45	53	50	61	53	44	43	41	39	35	37	44
1982	47	50	45	54	48	48	39	42	42	37	40	52
1983	56	48	48	45	46	43	40	37	31	35	31	46
1984	60	58	51	54	45	44	47	46	35	40	42	48
1985	44	66	53	55	50	47	44	50	42	38	40	52
1986	60	47	51	49	31	45	40	39	36	35	37	55
1987	59	53	52	49	49	46	45	43	43	38	42	43
1988	51	51	54	49	45	44	42	41	35	33	39	43
1989	62	53	59	61	52	51	42	40	36	33	36	52
1990	52	51	58	56	46	44	43	49	42	39	40	39
1991	47	49	50	47	45	40	41	35	34	32	30	43
1992	35	53	50	52	43	50	36	37	36	40	35	57
1993	51	54	50	44	60	42	40	38	31	30	28	42
1994	49	49	58	52	47	42	43	45	50	44	47	50
1995	53	56	56	44	44	37	40	49	44	37	30	42
1996	23	56	50	57	46	36	37	36	40	33	36	32
1997	38	48	36	46	41	41	37	35	32	38	44	60
1998	58	52	51	57	42	38	35	34	33	27	41	28
1999	48	40	59	58	48	43	43	44	38	35	32	40
2000	43	42	57	48	44	43	40	41	36	31	40	56
2001	65	56	49	50	46	43	40	37	37	37	37	43
2002	63	51	58	58	44	38	41	46	36	33	33	42
2003	54	47	47	45	43	37	36	33	34	35	28	40
2004	48	50	53	55	41	37	34	35	33	31	31	52

Moshi - 0600GMT: MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	70	66	76	83	85	80	80	80	78	79	72	66
1976	67	71	74	82	86	78	77	76	76	76	67	68
1977	70	72	79	87	78	79	80	79	77	77	73	78
1978	71	75	84	87	85	85	85	81	78	70	79	82
1979	80	82	76	88	88	78	84	83	79	72	68	73
1980	67	73	73	82	82	80	81	83	77	66	76	73
1981	67	70	75	86	88	80	81	81	78	75	71	76
1982	72	68	70	79	87	81	83	83	76	79	73	75
1983	74	71	71	81	87	85	82	78	74	72	66	73
1984	69	65	69	83	83	79	83	83	75	70	79	74
1985	71	74	74	80	86	81	80	77	71	71	75	77
1986	79	66	76	86	90	82	81	79	74	71	75	82
1987	75	79	65	80	84	86	78	81	74	65	75	68
1988	76	73	75	88	85	84	81	81	78	71	71	76
1989	76	71	75	89	86	82	81	82	86	75	73	76
1990	81	71	76	87	86	83	81	83	80	74	73	77
1991	72	72	68	62	87	80	86	81	80	67	72	81
1992	72	71	69	85	86	81	83	80	76	71	74	76
1993	85	78	76	81	81	73	76	78	71	76	68	70
1994	69	76	76	87	89	84	78	77	74	71	74	79
1995	68	71	76	84	85	83	82	76	80	74	70	68
1996	68	72	75	87	82	82	75	78	80	77	73	76
1997	73	64	72	85	87	84	77	76	76	80	82	86
1998	84	76	80	84	83	81	88	82	76	71	71	72
1999	68	73	74	78	87	86	82	78	78	83	75	76
2000	65	62	77	82	84	81	81	77	78	69	73	75
2001	81	75	77	87	86	82	83	79	78	73	74	71
2002	76	74	83	89	80	79	81	82	80	77	75	80
2003	73	68	69	85	87	83	80	79	74	71	69	65
2004	74	76	80	85	82	81	77	76	75	73	73	73

Moshi - 1200GMT: MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	36	33	40	47	57	59	52	47	47	38	30	36
1976	32	41	42	52	63	55	47	46	40	32	39	43
1977	41	38	48	59	59	52	51	51	41	39	50	48
1978	45	48	58	65	59	62	56	49	40	36	51	59
1979	49	57	49	66	69	62	58	54	47	39	39	45
1980	35	40	40	56	63	53	53	52	44	35	46	45
1981	37	33	41	63	65	55	53	50	43	41	40	49
1982	36	33	34	53	66	58	57	53	48	47	47	54
1983	44	39	39	48	61	60	53	48	49	36	35	46
1984	39	31	32	51	57	54	57	54	36	37	51	49
1985	37	47	42	56	65	57	52	46	38	38	47	49
1986	49	33	44	57	66	58	54	44	39	37	43	57
1987	37	39	39	49	60	56	49	54	40	36	36	37
1988	45	40	46	61	60	55	57	55	47	35	40	47
1989	55	39	44	61	60	57	58	52	43	41	48	47
1990	57	42	45	62	64	57	54	53	48	42	44	48
1991	40	39	38	52	63	58	51	49	45	37	35	48
1992	39	37	34	56	61	58	54	45	40	38	46	47
1993	52	47	43	44	52	56	44	45	35	38	33	40
1994	38	37	46	49	62	51	50	44	37	32	42	56
1995	37	42	44	57	61	59	57	45	34	38	39	40
1996	39	46	55	61	65	53	52	45	39	40	42	61
1997	31	27	45	57	63	58	53	41	36	47	58	62
1998	57	53	50	61	62	51	55	46	41	34	37	36
1999	39	41	48	55	60	59	56	45	46	40	44	44
2000	33	28	46	55	59	50	50	47	43	34	42	45
2001	59	47	42	58	59	54	52	45	42	35	32	40
2002	46	40	56	61	59	49	46	52	46	48	46	54
2003	40	53	39	55	65	78	54	51	42	51	46	36
2004	47	48	49	60	56	56	47	44	39	43	43	42

Kilimanjaro Inter. Airport (923209) - 0600GMT:

MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	68	63	74	78	82	79	77	75	76	70	66	67
1976	68	74	74	84	86	77	76	73	73	70	70	68
1977	72	73	79	86	83	79	76	78	73	70	76	72
1978	75	79	86	88	88	87	85	79	76	72	78	82
1979	80	82	79	86	87	85	87	84	76	76	68	71
1980	67	75	77	83	85	75	77	79	77	67	77	78
1981	70	73	77	87	89	86	83	82	76	75	71	73
1982	70	71	72	84	86	84	84	83	79	79	81	77
1983	76	73	77	79	83	85	78	78	71	71	69	72
1984	69	70	72	80	81	81	82	79	72	74	77	69
1985	71	80	77	83	86	84	78	74	73	73	76	75
1986	79	72	76	86	88	84	81	76	75	69	74	77
1987	74	70	76	81	86	77	82	77	74	71	73	65
1988	70	67	76	83	81	83	78	78	64	65	73	73
1989	83	70	76	86	87	83	80	80	80	74	73	73
1990	76	76	87	92	87	86	81	80	75	73	71	75
1991	71	72	72	83	86	85	82	85	77	74	73	73
1992	71	74	70	84	87	95	81	75	76	50	74	74
1993	80	80	75	82	81	76	80	80	74	77	75	75
1994	73	76	59	82	87	84	83	78	80	76	77	77
1995	69	76	83	83	87	87	81	75	80	76	75	75
1996	73	74	75	86	87	83	80	78	75	83	78	78
1997	65	73	72	88	87	88	81	85	79	79	81	81
1998	89	88	85	88	79	88	91	84	85	68	76	76
1999	68	65	79	90	89	87	86	83	75	71	76	76
2000	63	59	78	79	81	79	78	76	76	67	73	73
2001	82	77	77	85	84	79	79	76	72	71	73	66
2002	80	75	75	81	83	80	81	77	73	72	70	65
2003	75	69	70	76	87	83	84	76	74	72	67	62
2004	71	81	82	84	76	75	73	72	72	71	72	69

(6) Wind-run (Data provided by Tanzania Meteorological Agency)

Kilimanjaro Inter. Airport (923209) - 1200GMT  
MEAN MONTHLY RELATIVE HUMIDITY (%)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	33	28	40	47	55	53	48	44	43	36	32	37
1976	32	38	36	50	59	51	47	42	39	35	41	39
1977	43	40	43	59	57	79	49	47	37	34	45	44
1978	42	45	53	78	62	60	53	48	39	34	44	56
1979	46	50	41	62	69	63	57	50	41	36	38	39
1980	33	37	38	51	61	48	48	49	37	33	44	45
1981	34	33	39	60	66	55	51	47	40	36	36	41
1982	32	30	33	52	67	56	53	48	45	46	49	50
1983	40	37	39	43	53	55	47	42	34	33	36	39
1984	37	32	33	48	55	51	54	50	36	34	42	40
1985	34	45	40	48	63	56	48	43	42	38	41	45
1986	47	35	38	54	66	58	50	40	42	35	40	49
1987	43	42	39	49	61	54	51	45	39	30	35	30
1988	36	32	42	62	57	57	46	46	41	44	39	42
1989	51	38	41	56	66	56	51	51	48	38	38	44
1990	44	43	60	69	64	57	50	51	40	39	38	43
1991	35	34	37	48	66	58	54	50	52	42	35	48
1992	36	36	34	54	62	68	53	43	40	36	37	43
1993	52	48	38	40	50	52	55	46	38	38	34	44
1994	39	40	44	51	64	58	57	47	45	42	45	46
1995	46	40	59	59	68	61	53	44	47	44	53	44
1996	41	39	44	60	61	58	52	54	43	43	43	34
1997	29	30	35	58	64	63	57	49	43	43	53	64
1998	64	38	47	62	75	60	71	55	59	34	48	39
1999	35	27	45	63	64	62	57	53	40	34	43	39
2000	40	39	41	45	55	53	45	44	39	32	43	48
2001	56	43	40	56	57	52	50	42	39	34	38	36
2002	53	39	38	50	58	55	51	44	40	35	35	34
2003	40	30	32	43	62	57	51	45	39	35	31	31
2004	41	47	48	54	51	46	42	39	36	37	37	38

ARUSHA

January

HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL	
0600	1 to 3					0.6	1.6	0.3	1	0.6							4.4	
4 to 6	0.5				0.3	2	10.3	3.9	5.2	2.2							24.5	
7 to 10	0.5				1.3	3.9	1.6	2	1								10.4	
11 to 16					0.3	0.3											0.6	
17 to 21																		
Over 22					0.3	4.2	16.1	5.8	8.2	3.8								
Total		0.8														0.3	60	100

ARUSHA

February

HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL		
1200	1 to 3	0.3				0.3	1.3	0.6	0.6	0.3							3.7		
4 to 6	3	1			1	3.8	6.8	1.6	3.2	2	0.3	0.3	0.3	0.3	0.3		19.9		
7 to 10	2.5	1.8			1.3	2.5	10.1	3.2	2.6	2	1.3	0.3	0.3	1			50.7		
11 to 16	1				0.3	1	2.6	1	1.6	2.3				1.6	0.3	0.3	11		
17 to 21																	1.8		
Over 22																	0		
Total		6.9	2.6	0.3	3.3	7.4	19.5	7.4	31.7	7.2	1.6	0.9	0.6	3.9	0.6	1.2	55	22.7	100

ARUSHA

March

HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL	
0600	1 to 3					0.4	1.3	0.4	0.9	0.4	0.4						4.6	
4 to 6	0.9				0.9	5.3	8.6	6.7	3.1	0.4							24.9	
7 to 10	0.9				1.3	0.9	0.9	2	0.4	0.4							7.2	
11 to 16																	1.2	
17 to 21																	0	
Over 22																	0	
Total		3.2	0.4			2.6	11.5	5.3	10	3.9	0.4	0.4		2.1	0.4	1.3	58	100

ARUSHA

March

HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL
1200	1 to 3					0.3	0.4	0.4									3.4
4 to 6	0.8				0.8	2.6	3.6	4	2.2	1.8							20.2
7 to 10	2.2	3.1			1.3	2.6	5.7	7.5	6.6	4.9	5.1						50.4
11 to 16	0.8	0.6			0.9	3.1	2.6	0.8	1.8								11.4
17 to 21	1.3																2.5
Over 22	0.9																0.4
Total	6.2	4	1.3	4.4	13.6	14	11.9	10.7	5.3	2	0.8	3.4	3.1	1.2	2.5	14.6	100

ARUSHA

March

HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL	
0600	1 to 3					1.1	1.8	1.1									4.4	
4 to 6	0.4				4.3	7.6	3.8	6.5	1.1	0.4							20.7	
7 to 10	5				5	11.5	1.4	2.2	0.7	0.4							37.7	
11 to 16	1.4				1.4	2.9	0.4	0.4									3.7	
17 to 21	0.4																0	
Over 22	0.8	0.4															0	
Total	11	23.1	7.2	10.2	2	0.4								1.1	0.4	1.2	43	100





November

ARUSHA

HOUR (UTC)	SPEED (KNOTS)	N				E				S				W				CALM	TOTAL
		N	NE	SE	E	ENE	E	ESE	SE	SSW	SW	WSW	W	WSW	W	WNW	NW		
6 1 to 3																			
7 1 to 10																			
11 to 16																			
17 to 21																			
Over 22																			
Total		0.4																18.1	

ARUSHA

HOUR (UTC)	SPEED (KNOTS)	N				E				S				W				CALM	TOTAL
		N	NE	SE	E	ENE	E	ESE	SE	SSW	SW	WSW	W	WSW	W	WNW	NW		
6 1 to 3																			
7 1 to 10																			
11 to 16																			
17 to 21																			
Over 22																			
Total		2.5	1.9	0.4	1.6	27.7	24.1	19.2	6.7	1.9	0.4	1.1	0.4	0.7	8.9	97.8			

ARUSHA

HOUR (UTC)	SPEED (KNOTS)	N				E				S				W				CALM	TOTAL
		N	NE	SE	E	ENE	E	ESE	SE	SSW	SW	WSW	W	WSW	W	WNW	NW		
6 1 to 3																			
7 1 to 10																			
11 to 16																			
17 to 21																			
Over 22																			
Total		0.4																18.1	

ARUSHA

HOUR (UTC)	SPEED (KNOTS)	N				E				S				W				CALM	TOTAL
		N	NE	SE	E	ENE	E	ESE	SE	SSW	SW	WSW	W	WSW	W	WNW	NW		
6 1 to 3																			
7 1 to 10																			
11 to 16																			
17 to 21																			
Over 22																			
Total		2.6	1.9	0.4	1.9	29.9	24.1	19.2	6.7	1.9	0.4	1.1	0.4	0.7	8.9	109			

August

ARUSHA

HOUR (UTC)	SPEED (KNOTS)	N				E				S				W				CALM	TOTAL
		N	NE	SE	E	ENE	E	ESE	SE	SSW	SW	WSW	W	WSW	W	WNW	NW		
6 1 to 3																			
7 1 to 10																			
11 to 16																			
17 to 21																			
Over 22																			
Total		0.7	27.3	33	25.8	10	2											0.7	

ARUSHA

HOUR (UTC)	SPEED (KNOTS)	N				E				S				W				CALM	TOTAL
		N	NE	SE	E	ENE	E	ESE	SE	SSW	SW	WSW	W	WSW	W	WNW	NW		
6 1 to 3																			
7 1 to 10																			
11 to 16																			
17 to 21																			
Over 22																			
Total		0.4																6.3	

ARUSHA

HOUR (UTC)	SPEED (KNOTS)	N				E				S				W				CALM	TOTAL
		N	NE	SE	E	ENE	E	ESE	SE	SSW	SW	WSW	W	WSW	W	WNW	NW		
6 1 to 3																			
7 1 to 10																			
11 to 16																			
17 to 21																			
Over 22																			
Total		0.8	24.4	25.5	23.3	14.4	1.5											10.9	

ARUSHA

HOUR (UTC)	SPEED (KNOTS)	N				E				S				W				CALM	TOTAL
		N	NE	SE	E	ENE	E	ESE	SE	SSW	SW	WSW	W	WSW	W	WNW	NW		
6 1 to 3																			
7 1 to 10																			
11 to 16																			
17 to 21																			
Over 22																			
Total		0.6	0.3	27.2	36.9	17.2	18.6	2.1	0.3									1.4	

ARUSHA

HOUR (UTC)	SPEED (KNOTS)	N				E				S				W				CALM	TOTAL
		N	NE	SE	E	ENE	E	ESE	SE	SSW	SW	WSW	W	WSW	W	WNW	NW		
6 1 to 3																			
7 1 to 10																			
11 to 16																			
17 to 21																			
Over 22																			
Total		0.3																0.3	

DODOMA

January - 1990-1999

HOURLY (UTC)	SPEED (KNOTS)	N	NNW	N	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WWN	NW	NNW	CALM	TOTAL	
61 to 3																				
4 to 6					1.1	5.7			0.3	1.1	0.3				1.8	0.3				10.6
7 to 10		0.3	0.3	0.7	3.6	25.4	3.2	0.7	1.1	0.3	0.3	0.3	0.7			0.3				37.2
11 to 16		1.4	0.3	0.7	1.4	17.9	1.1	0.3	0.3	0.3										21
17 to 21						7.2														7.2
Over 22						0.3														0.6
Total		0.3	0.3	1	6.1	56.5	4.3	1	0.3	2.5	0.3	0.3	0.7	1.8	0.6					22.6

March 1990-1999

HOURLY (UTC)	SPEED (KNOTS)	N	NNW	N	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WWN	NW	NNW	CALM	TOTAL	
121 to 3																				
4 to 6					0.6	1.8	7.2	2	0.3	0.3	0.3	0.3	0.3			0.6	1.6	0.3		18.3
7 to 10		1.3	2.3	2.6	5.5	18.7	2.3	0.6	1	1.6	0.6	0.3	1.5	0.3	1.6	0.3				46.6
11 to 16		0.6	0.6	1	1.6	12.1	2	0.3	0.3	0.3	0.3	0.3								20.4
17 to 21						2.6														2.6
Over 22						0.3														0.3
Total		3.9	3.5	4.2	8.7	40.9	6.3	1.2	1.6	2.8	1.2	0.9	1.5	1.9	3.5	0.3	0.3		16.7	

DODOMA

February 1990-1999

HOURLY (UTC)	SPEED (KNOTS)	N	NNW	N	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WWN	NW	NNW	CALM	TOTAL	
121 to 3																				
4 to 6					1.4	0.3	6	0.3	1.1	1.4	0.3	0.3	1.4	1.8	0.7	0.7				18.9
7 to 10		2.1	0.3	1.4	5.7	12.4	2.8	0.7	0.3	1.8	1.1	1.1	3.2	5	0.3	0.7				38.8
11 to 16		1.4	0.3	0.7	2.1	8.9	0.3				0.3	0.3	2.8							17.1
17 to 21						0.3	2.1													2.4
Over 22						0.3														0.3
Total		4.9	0.9	3.9	9.8	29.4	3.1	2.1	1.7	2.1	1.4	1.7	5.2	10.2	1	1.4				40.8

April 1990-1999

HOURLY (UTC)	SPEED (KNOTS)	N	NNW	N	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WWN	NW	NNW	CALM	TOTAL	
61 to 3																				
4 to 6					0.4	1.1	4.8	1.8												0.4
7 to 10		0.4	0.4	5.9	25.3	4.8	0.7													38.9
11 to 16		1.5	0.4	1.5	27.4	2.2	0.4													31.5
17 to 21						0.7	10.7	0.7		0.4										12.5
Over 22						0.4														0.4
Total		0.4	0.8	9.2	69.5	9.5	1.1	0.4												8.1

DODOMA

February 1990-1999

HOURLY (UTC)	SPEED (KNOTS)	N	NNW	N	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WWN	NW	NNW	CALM	TOTAL	
61 to 3																				
4 to 6					1.4	2.8	2.8	0.3	0.3		1.1	1.8	2.1							13.2
7 to 10		3.2	0.3	2.8	14.8	7.1	2.8	0.3	0.3		1.1	1.1	0.3							30.7
11 to 16		0.3	0.3	0.3	3.9	4.6	0.3				0.3	0.3	0.3							9.4
17 to 21						1.8	1.8	0.7												4.6
Over 22						0.7														0.7
Total		0.9	0.9	4.5	24.1	18.3	4.1	0.3	0.3	2.2	2.9	2.4								40.8

May 1990-1999

HOURLY (UTC)	SPEED (KNOTS)	N	NNW	N	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WWN	NW	NNW	CALM	TOTAL	
121 to 3																				
4 to 6					0.4	1.1	3.7	0.7	0.4		1.1	0.7	0.7	1.1						11.7
7 to 10		1.8	0.4	1.5	6.7	22.2	4.4	0.7	2.6	0.7	1.1	0.4								42.5
11 to 16		0.7				1.7	5.5	1.1	0.4	1.1										28.1
17 to 21						0.4	6.7	1.1	0.4											8.6
Over 22						0.4														0.4
Total		3.2	0.8	1.6	8.9	30.8	11.8	2.6	3	2.9	0.7	1.1	1.9							85

DODOMA

March 1990-1999

HOURLY (UTC)	SPEED (KNOTS)	N	NNW	N	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WWN	NW	NNW	CALM	TOTAL	
121 to 3																				
4 to 6					0.3	0.3	1.4	0.7	2.1	1.8	0.3	1.1	0.7	2.1	2.1	1.4				9.9
7 to 10		3.2	1.8	0.7	1.8	9.5	2.5	0.3	1.9	0.7	0.3	1.8	4.4	1.8						24.6
11 to 16		0.7				0.3	4.6	0.7	0.3	1.1	0.3									9.7
17 to 21						1.8														11.6
Over 22						0.3														2.8
Total		7.4	1.8	1.3	8.5	22.9	5.3	2.1	2.1	2.9	4.5	0.3	6.7	11.6	3.2					23.2

May 1990-1999

HOURLY (UTC)	SPEED (KNOTS)	N	NNW	N	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WWN	NW	NNW	CALM	TOTAL	
61 to 3																				
4 to 6					0.6	1.9	0.3	0.3												0.3
7 to 10		3.2	1.8	0.7	1.8	9.5	2.5	0.3	1.9	0.7	0.3	1.8	4.4	1.8						24.6
11 to 16		0.7				0.3	4.6	0.7	0.3	1.1	0.3									9.7
17 to 21						1.8														11.6
Over 22						0.3														2.8
Total		9.9	7.7	8	12	0.3														22

DODOMA

March 1990-1999

HOURLY (UTC)	SPEED (KNOTS)	N	NNW	N	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WWN	NW	NNW	CALM	TOTAL	
61 to 3																				
4 to 6					0.3	1.9	2.9	0.6	0.3	0.3										0.3
7 to 10		0.3	0.3	0.3	3.5	28.5	2.9													35.4
11 to 16						5.5	22.3	0.3												28.4
17 to 21						0.6	7.4													8
Over 22						0.3														0.3
Total		0.3	0.6	1.3	11.5	61.4	3.5			0.3	0.3	0.3	0.3	1.3	1	0.3	0.6		16.2	

May 1990-1999

HOURLY (UTC)	SPEED (KNOTS)	N	NNW	N	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WWN	NW	NNW	CALM	TOTAL	
121 to 3																				
4 to 6					0.3	0.3	2.9	1	0.3	0.3										0.3
7 to 10		0.6				22.6	2.9	1.6	0.3											28.4
11 to 16						2.6	30	2.6</												





Kilimanjaro airport

March

HOURS/SPEED (UTC) (KNOTS)	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E	ENE	NE	NNE	TOTAL
1200	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	2.1
4 to 6	0.6	1.3	1.9	2.3	10.4	6.2	1.3	2.3	3.9	1	0.3	0.3	1.3	0.3	0.6	32.3
7 to 10	0.3	1.3	2.3	20.4	0.1	1.6	3.6	1.3	0.3	0.3	0.3	0.3	0.3	0.3	0.6	45.3
11 to 16	1	0.3	0.3	7.8	2.3	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	13.3
17 to 21	0.3	0.3	1.9	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4
Over 22	1.9	4.3	3.2	6.7	40.5	17.2	4.1	6.2	5.9	1.3	0.6	0.3	1.9	0.6	1.2	1.9
Total	1.9	4.3	3.2	6.7	40.5	17.2	4.1	6.2	5.9	1.3	0.6	0.3	1.9	0.6	1.2	1.9

Kilimanjaro airport

April

HOURS/SPEED (UTC) (KNOTS)	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E	ENE	NE	NNE	TOTAL
0600	1.0	0.3	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4.7
4 to 6	1.7	1.7	2.3	11	6.3	1.3	1.7	2.3	1.3	0.7	0.7	0.7	0.7	0.7	0.7	32
7 to 10	0.3	0.3	0.7	3.7	1.7	0.7	2.3	1	0.7	0.7	0.3	0.3	0.3	0.3	0.3	13.8
11 to 16	1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4
17 to 21	2.4	2.4	2	3.7	15	9	2.3	4.7	3.3	2	1.4	1.3	0.3	0.3	0.7	50.5
Over 22	4.8	4.8	4	7.4	30	16	4.6	9.4	6.6	4	2.6	2.6	0.6	1.4	0.6	149.8
Total	4.8	4.8	4	7.4	30	16	4.6	9.4	6.6	4	2.6	2.6	0.6	1.4	0.6	149.8

Kilimanjaro airport

April

HOURS/SPEED (UTC) (KNOTS)	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E	ENE	NE	NNE	TOTAL
1200	1.0	0.3	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	2.7
4 to 6	1.7	1.7	2.3	5	13	8	1	4	3.7	0.3	0.7	0.3	0.7	0.3	0.7	41.4
7 to 10	0.3	0.3	0.7	1.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	9.6
11 to 16	0.3	0.3	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	7.3
17 to 21	0.3	0.3	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.7
Over 22	3	2.7	3.7	10.7	35.4	17.3	2.6	5.3	5.4	0.3	0.3	1	0.7	0.6	0.3	87
Total	3	2.7	3.7	10.7	35.4	17.3	2.6	5.3	5.4	0.3	0.3	1	0.7	0.6	0.3	99.7

Kilimanjaro airport

May

HOURS/SPEED (UTC) (KNOTS)	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E	ENE	NE	NNE	TOTAL
0600	1.0	0.3	0.3	0.6	1	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	3.5
4 to 6	1.9	4.2	0.6	3.2	2.6	2.6	3.2	4.5	0.3	0.3	0.3	1	0.3	0.3	0.3	26.3
7 to 10	0.3	1	0.3	1.3	0.6	0.3	1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	5.1
11 to 16	1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	34.9
17 to 21	2.5	5.2	0.6	4.1	4.9	4.2	2.2	3.5	5.5	0.3	0.3	1	0.3	0.3	0.3	0.7
Over 22	5	10.4	1.2	8.2	9.6	8.4	4.4	7	11	0.6	0.6	2	0.6	0.3	0.3	70.1
Total	5	10.4	1.2	8.2	9.6	8.4	4.4	7	11	0.6	0.6	2	0.6	0.3	0.3	70.1

Kilimanjaro airport

May

HOURS/SPEED (UTC) (KNOTS)	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E	ENE	NE	NNE	TOTAL
1200	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.2
4 to 6	2.6	5.2	4.8	4.5	15.5	5.5	1	1.9	9	0.3	0.3	1.3	0.3	0.3	0.6	82
7 to 10	2.6	3.2	2.2	4.8	17	2.6	1	1.9	1.3	0.3	0.3	0.3	0.3	0.3	0.3	57.4
11 to 16	1	0.3	0.3	0.6	1.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	2.5
17 to 21	5.5	8.4	7	10.2	34.5	8.1	2	4.1	3.2	0.6	0.3	1.5	0.3	0.3	0.3	86.7
Over 22	11	16.8	14	20.4	69	16.2	4	8.2	6.4	1.2	0.6	3.2	0.3	0.3	0.3	129
Total	11	16.8	14	20.4	69	16.2	4	8.2	6.4	1.2	0.6	3.2	0.3	0.3	0.3	186.3

Kilimanjaro airport

June

HOURS/SPEED (UTC) (KNOTS)	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E	ENE	NE	NNE	TOTAL
0600	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	3.6
4 to 6	1	1.3	0.7	3	9	3.3	1.7	4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	27.2
7 to 10	0.3	0.3	0.3	1.3	1.3	0.7	1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	5.6
11 to 16	1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4
17 to 21	1	1.3	1.3	5	10.9	5.3	0.7	2.4	6	0.3	0.3	0.3	0.3	0.3	0.3	63.3
Over 22	1	1.3	1.3	5	10.9	5.3	0.7	2.4	6	0.3	0.3	0.3	0.3	0.3	0.3	63.3
Total	1	1.3	1.3	5	10.9	5.3	0.7	2.4	6	0.3	0.3	0.3	0.3	0.3	0.3	99.7

Kilimanjaro airport

June

HOURS/SPEED (UTC) (KNOTS)	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E	ENE	NE	NNE	TOTAL
1200	1.0	0.3	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	3.9
4 to 6	2.7	5	4.3	7	17	5.7	1.3	1.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	47.6
7 to 10	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	3.2
11 to 16	1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.3
17 to 21	3	7.7	8	13.3	35	9	2	2.3	2	0.6	0.3	0.3	0.3	0.3	0.3	84.8
Over 22	6	15.4	16	26.6	70	18	4	4.6	4	1.2	0.6	0.6	0.6	0.6	0.6	184.6
Total	6	15.4	16	26.6	70	18	4	4.6	4	1.2	0.6	0.6	0.6	0.6	0.6	184.6

Kilimanjaro airport

July

HOURS/SPEED (UTC) (KNOTS)	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E	ENE	NE	NNE	TOTAL
0600	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4.1
4 to 6	0.3	1.6	1.9	10.3	1.9	1.6	1.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	24.9
7 to 10	0.6	0.6	1.9	4.3	1	1.3	0.8	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	9.7
11 to 16	1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
17 to 21	1.6	2.5	1.3	4.4	15.6	3.5	1.6	2.9	2.5	0.6	0.3	1	0.3	0.3	0.3	39
Over 22	3.2	5	3.8	8.8	31.2	7	3.2	5.8	5	1.2	0.6	1.2	0.6	0.6	0.6	136.5
Total	3.2	5	3.8	8.8	31.2	7	3.2	5.8	5	1.2	0.6	1.2	0.6	0.6	0.6	136.5

Kilimanjaro airport

July

HOURS/SPEED (UTC) (KNOTS)	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E	ENE	NE	NNE	TOTAL
1200	1.0	0.3	0.6	1	0.6	1.3	0.3	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	5
4 to 6	1.9	4.2	6.4	19.7	5.2	0.6	2.2	1.3	0.6	0.3	0.3	0.6	0.6	0.6	0.6	46.1
7 to 10	0.6	1	2.6	6.1	16.4	4.8	1	1.3	0.6	0.3	0.3	0.3	0.3	0.3	0.3	34.7
11 to 16	1	0.3	0.3	1.6	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	2.8
17 to 21	2.5	3.8	7.8	14.7	38.3	10	1.9	3.8	2.5	0.6	0.3	0.3	0.3	0.3	0.3	88.9
Over 22	5	7.6	15.6	29.4	76.6	20	3.8	7.6	5	1.2	0.6	0.6	1.2	1.2	1.2	188.1
Total	5	7.6	15.6	29.4	76.6	20	3.8	7.6	5	1.2	0.6	0.6	1.2	1.2	1.2	188.1

Kilimanjaro airport

August

HOURS/SPEED (UTC) (KNOTS)	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E	ENE	NE	NNE	TOTAL
0600	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	8.2
4 to 6	1.3	2.6	1.3	4.2	10.3	3.5	1.9	2.2	3.5	0.3	0.3	0.6	0.6	0.6</		

Kilimanjaro airport

HOURS/SPEED (UTC) (KNOTS)	August																	
	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	NNW	NW	WNW	W	W	TOTAL
1200	1 to 3				0.3	0.3	0.3	0.3										1.2
4 to 6	1.9	4.8	2.9	5.5	16.6	5.3	1.3	1.6	1.6	0.5	0.3	0.3					43.4	
7 to 10	0.3	1.3	6.1	21.7	6.5	1.3	1.3	0.3									41.7	
11 to 16			0.3	1.9	3.2	0.6	0.3	1									7.3	
17 to 21																	0.3	
Over 22	2.2	6.7	4.5	13.5	42	13.2	3.2	3.9	2.9	0.9	0.3	0.3					98.9	
Total	4.4	13.4	9	27	84	28.4	6.4	7.8	5.3	1.8	0.6	0.6					52	

Kilimanjaro airport

HOURS/SPEED (UTC) (KNOTS)	September																	
	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	NNW	NW	WNW	W	W	TOTAL
1200	1 to 3				1.3	1	0.3	0.7	0.3									5.3
4 to 6	1	2.3	1.7	3.7	10.7	4.7	0.7	1.3	4.3	0.7	0.3	0.3					31.7	
7 to 10			0.3	0.3	1	3	1.7	0.3	1								8.6	
11 to 16																		
17 to 21																		
Over 22	1	3.3	2.7	4.7	15	7.4	1.3	3	5.6	0.7	0.3	0.6					45.6	
Total	2	6.5	5.4	9.4	30	14.8	2.6	6	11.2	1.4	0.6	1.2					54.2	

Kilimanjaro airport

HOURS/SPEED (UTC) (KNOTS)	September																	
	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	NNW	NW	WNW	W	W	TOTAL
1200	1 to 3																	0.6
4 to 6	0.3	0.3	4.4	9.7	3.7	0.3	1.3	0.3										20.3
7 to 10	0.3	1.7	6	30.2	6.4	2.7	2.3	0.3	0.3									50.5
11 to 16			2	19.1	2.7	0.8												24.4
17 to 21					0.7	0.3												1.3
Over 22	0.9	2.9	12.4	59.7	13.1	3.3	3.9	0.9	0.3									97.1
Total	1.8	4.6	24.8	119	26.2	6.6	7.8	1.8	0.6									196.2

Kilimanjaro airport

HOURS/SPEED (UTC) (KNOTS)	October																	
	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	NNW	NW	WNW	W	W	TOTAL
1200	1 to 3																	5.4
4 to 6	1	0.6	0.3	0.3	2.6													38.3
7 to 10	0.3	1.3	1.6	5.4	15.2	5.8	2.3	0.6	2.6	0.3	0.3	1.3					17.3	
11 to 16																		1.6
17 to 21																		
Over 22	1.3	1.9	2.2	10.2	28.2	9	2.6	0.9	3.2	0.3	0.3	1.3					65.6	
Total	2.6	3.8	4.4	20.4	56.4	19	5.2	1.8	6.4	0.6	1.2	2.6					165.1	

Kilimanjaro airport

HOURS/SPEED (UTC) (KNOTS)	October																	
	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	NNW	NW	WNW	W	W	TOTAL
1200	1 to 3																	0.3
4 to 6	1.9	0.3	2.6	7.8	3.9	1	0.3											16.8
7 to 10	1	8.1	31.4	15.9	3.2	1.6	0.9	0.3										58.8
11 to 16			1	3.5	9.7	3.9	1.6	1	0.3									21
17 to 21																		1.2
Over 22	0.3	3.9	1.3	14.5	49.5	20	5.8	2.6	0.6	0.3								98.1
Total	0.6	7.8	2.6	29	99	40	11.6	5.8	1.2	0.6								196.8

Kilimanjaro airport

HOURS/SPEED (UTC) (KNOTS)	November																	
	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	NNW	NW	WNW	W	W	TOTAL
1200	1 to 3				0.3	0.3	0.7	2.7	0.7									4.7
4 to 6	0.7	1	2.3	6	17.1	6	0.7	1.3	1	0.3								37.3
7 to 10			0.3	0.3	3	17.6	4.4	0.3	0.7	0.3								27.1
11 to 16					0.3	3.3	1.3											4.9
17 to 21																		0.3
Over 22	0.7	1.6	2.9	10	41.2	12.4	1	2	1.3	0.3								98.5
Total	0.7	1.6	2.9	10	41.2	12.4	1	2	1.3	0.3								98.5

Kilimanjaro airport

HOURS/SPEED (UTC) (KNOTS)	November																	
	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	NNW	NW	WNW	W	W	TOTAL
1200	1 to 3																	1
4 to 6	0.7	0.7	2.3	7.3	3.3													15.6
7 to 10	0.3	1.3	5	23.1	8.7	0.7	1.3	1	0.3									43.6
11 to 16			0.3	0.7	2	19.1	7.3	0.3	0.3	0.3								31.5
17 to 21					0.3	4.7	0.3											5.6
Over 22	0.6	2	2.7	9.6	54.8	20.3	1.3	2.3	1.6	0.3	0.3	0.3	0.3	0.6				98.3
Total	0.6	2	2.7	9.6	54.8	20.3	1.3	2.3	1.6	0.3	0.3	0.3	0.3	0.6				98.3

Kilimanjaro airport

HOURS/SPEED (UTC) (KNOTS)	December																	
	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	NNW	NW	WNW	W	W	TOTAL
1200	1 to 3																	5.9
4 to 6	1.3	1	2.2	5.5	19.7	3.2	0.3	0.6	1	0.3								37.4
7 to 10			1	1.6	3.2	15.8	2.2	0.3	0.3									26
11 to 16					0.3	2.2												2.5
17 to 21																		
Over 22	2.3	2.3	4.1	9	40.9	6	0.9	0.9	1.3	0.3	0.3	1.6						95.5
Total	2.3	2.3	4.1	9	40.9	6	0.9	0.9	1.3	0.3	0.3	1.6						95.5

Kilimanjaro airport

HOURS/SPEED (UTC) (KNOTS)	December																	
	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	NNW	NW	WNW	W	W	TOTAL
1200	1 to 3																	0.9
4 to 6	1.3	0.6	0.6	1.6	8.4	3.2	0.3	0.3	0.3	1.3	0.3							20.8
7 to 10	2.8	0.5	1.6	4.8	21	7.4	0.5	0.6	1.9	0.3	0.3							43
11 to 16					0.3	3.5	13.5	5.2										24.8
17 to 21																		4.4
Over 22	4.9	1.2	2.8	9.9	46.4	16.4	1.2	1.2	3.5	1.6	0.6	0.3	1.3	0.3	0.3	2		96.4
Total	4.9	1.2	2.8	9.9	46.4	16.4	1.2	1.2	3.5	1.6	0.6	0.3	1.3	0.3	0.3	2		96.4

MOSHI: Ten (10) year mean Surface wind frequency

MOSHI		January															
HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	WNW	NNW	CALM	TOTAL	
0600	1 to 3																
	4 to 6	0.9	0.3	0.9	3.8	1.6	0.6	0.9	5.2	0.3	1.3	4.2	0.9	0.6	0.8	0.3	
	7 to 10	0.3	0.3		1.9	0.9	0.9	0.9	0.6	0.3		3.5	0.3	0.3	0.3	22.2	
	11 to 16															9	
	17 to 21															0.3	
	Over 22																
Total		1.2	0.3	0.3	0.9	5.2	2.6	0.6	1.8	5.8	0.6	1.3	7.7	1.2	0.9	1.2	67.4

MOSHI		February															
HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	WNW	NNW	CALM	TOTAL	
1200	1 to 3																
	4 to 6	0.6	0.3	0.6	2.3	3.9	0.6	1.3	1.6	0.3	0.6	0.9	0.3	0.3	0.6	13.9	
	7 to 10	1.6	0.6	0.3	1.3	6.6	7.6	2.9	4.7	5.2	1.6	0.6	1.3	0.3	0.3	34.5	
	11 to 16	1.9	0.9	0.9	0.3	1.9	5.5	1.9	5.5	4.9	0.6	0.6	1.6	0.3	0.3	25.9	
	17 to 21	0.3			1.6	1.6	0.3	1.3	0.6							6.3	
	Over 22	0.3			0.3	0.3			0.6							1.5	
Total		4.7	1.8	0.3	2.2	12.9	19.1	5.7	12.9	12.3	2.5	0.6	1.2	4.1	0.6	0.3	9.9

MOSHI		March															
HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	WNW	NNW	CALM	TOTAL	
0600	1 to 3																
	4 to 6	0.7			1.4	1.4	1.8	0.7	4.6							0.3	
	7 to 10	1.1			2.5	1.4	0.3	2.1	1.4	0.3						17.7	
	11 to 16															1.1	
	17 to 21															0.3	
	Over 22																
Total		0.7			1.4	3.9	3.2	0.3	3.1	6	0.6	1.4	6.4	1.4	0.3	0.7	70.2

MOSHI		April															
HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	WNW	NNW	CALM	TOTAL	
1200	1 to 3																
	4 to 6	0.3	0.3	0.3	0.3	3.2	1.4	0.3	1.8	1.8						1	
	7 to 10	0.7	0.3	0.7	6.4	6	1.4	4.9	7.5	1.1	0.7	1.1	0.3	0.3	0.3	11.7	
	11 to 16	1.1	0.7	0.3	3.2	3.2	1.1	4.6	6.4	0.3	0.3	0.7	0.7	1.1	1.1	32.2	
	17 to 21	1.1	0.7	0.7	1.4	2.5	0.3	2.5	0.7							24.4	
	Over 22	0.7	0.7		0.3	0.3			0.3							10.8	
Total		3.9	2.7	0.3	1.7	15.2	13.4	3.1	14.1	19.4	1.4	0.3	1.3	3.5	1.3	0.6	3.2

MOSHI		May														
HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	WNW	NNW	CALM	TOTAL
0600	1 to 3															
	4 to 6	0.6	0.6	0.6	0.3	2.6	2.6		1.6	3.2	0.3	0.3	0.3	0.3	0.6	1.2
	7 to 10	0.9			0.3	3.9	4.2		4.5	3.2	0.3	0.3	1.3	0.3	0.3	19.5
	11 to 16								3.2	1.6	0.6	0.6				6.9
	17 to 21															
	Over 22															
Total		1.6	0.6		0.6	9.7	8.4		7.3	7.3	0.6	0.3	2.8	0.3	0.9	55.7

MOSHI		June															
HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	WNW	NNW	CALM	TOTAL	
1200	1 to 3																
	4 to 6	1.3	0.8		0.6	0.3	3.5	3.9	0.9	1.6	2.9	0.3	0.6	0.3	0.6	2.4	
	7 to 10	0.9	0.6		0.6	0.6	3.4	3.2	4.5	0.3	0.3	0.3	2.6	1.6	0.3	34.9	
	11 to 16															21.5	
	17 to 21															8.5	
	Over 22															2.1	
Total		3.1	1.5		1.8	19.9	20.9	3.7	10.9	15.1	0.6	0.3	1.2	4.4	1.9	0.9	13.3

MOSHI		July															
HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	WNW	NNW	CALM	TOTAL	
0600	1 to 3																
	4 to 6	0.4			0.4	3.8	3.3	0.3	4.6	6.7	0.4					0.4	
	7 to 10	0.8			0.4	3.3	2.3	0.4	1.3	6.3	0.4	0.4				21.2	
	11 to 16															3.3	
	17 to 21																
	Over 22																
Total		1.2			0.8	9.2	6.2	1.6	5.9	13.4	0.4	0.4	0.4	0.4	0.4	0.4	58.8

MOSHI		August														
HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	WNW	NNW	CALM	TOTAL
1200	1 to 3															
	4 to 6	1.7	1.3		0.9	2.9	2.9	0.4	5.4	4.2						0.4
	7 to 10	2.1	0.4		0.4	3.2	5.8	0.4	3.3	8.7	2.1	5.8	4.2	0.8	0.4	24.1
	11 to 16	1.3	0.4		1.3	2.5	4.2	0.4	1.7	4.2	0.4	2.9	0.8	0.8	0.3	24.2
	17 to 21															6.2
	Over 22															
Total		5.5	2.1		2.5	14.6	14.1	1.2	11.2	17.1	6.7	9.1	5.4	2.8	7	26.8

MOSHI		September														
HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	WNW	NNW	CALM	TOTAL
0600	1 to 3															
	4 to 6	1.6	0.4		2.8	2	0.4	3.2	2.4	0.4						13.6
	7 to 10	0.4	0.4		0.8	1.2		1.6	6.5							11.3
	11 to 16															1.2
	17 to 21															
	Over 22															
Total		2	0.8		4	3.2	0.4	4.8	9.7	0.4						73.4

MOSHI		October														
HOUR (UTC)	SPEED (KNOTS)	N	NNE	NE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	WNW	NNW	CALM	TOTAL
1200	1 to 3															
	4 to 6	0.4			3.3	4.5	0.8	1.6	2.9	1.6	0.4	0.8				0.4
	7 to 10	0.8	0.8		2.9	6.1	5.7	0.8	6.1	6.1	0.4	0.4				23.2
	11 to 16															35
	17 to 21															6.1
	Over 22															
Total		5.7	2	0.8	6.2	11.4	11	1.6	10.8	9.8	0.4	1.8	0.9	1.2	0.4	1.2





SHINYANGA: Ten (10) year mean wind frequency

**SHINYANGA** **January**

HOUR/SPEED (UTC) (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL
0600	1 to 3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.9
4 to 6	0.3	0.3	0.6	3.5	3.9	1	3.5	4.5	3.5	0.3	1	0.6	0.3	0.3	0.3	23
7 to 10	0.3	0.6	0.3	6.5	6.5	0.3	8.4	6.8	0.6	0.3	0.3	0.6	0.3	0.3	0.3	31.2
11 to 16	0.3	1.9	2.9	0.6	1.9	1										8.6
17 to 21	0.3	0.6	0.3	0.3	0.3											1.5
Over 22																
Total	0.3	1.2	1.2	12.5	13.6	1.9	14.4	12.6	4.1	0.3	0.6	1.9	0.6	0.6	0.6	34.8

**SHINYANGA** **February**

HOUR/SPEED (UTC) (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL
0600	1 to 3	2.6	0.6	1.9	4.2	0.3	2.6	0.3	1.3	1.0	0.3	1.3	3.2	0.6	1.6	21.3
4 to 6	5.2	2.9	2.9	5.3	5.3	1.9	3.2	2.8	0.1	0.8	1.6	1.3	4.3	1.0	0.3	40.3
7 to 10	3.2	0.3	0.3	4.2	0.3	2.9	0.6	3.5	1.0	1.9	0.3	4.8	0.6	0.3	0.6	23.2
11 to 16	0.3	0.3	0.3	0.3	0.3	0.3										0.9
17 to 21	0.6															0.9
Over 22																
Total	12.3	0.9	6.4	14.8	1.9	9	3.5	15.1	2.6	3.8	2.9	13.5	2.2	1.9	3.7	100

**SHINYANGA** **March**

HOUR/SPEED (UTC) (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL
0600	1 to 3	1.6	0.3	1.3	4.5	0.3	4.6	1.6	5.2	0.6	0.3	1.3	2.6			24.1
4 to 6	1.6	1.6	1.6	7.1	2.2	9.7	3.9	12.9	3.5	0.6	1.3	3.5	0.6	1.3	0.3	45.7
7 to 10	1	1.3	0.3	4.2	0.6	7.7	1	3.9	1	0.3	0.3	1	0.3	0.3	0.3	21.6
11 to 16	0.6	0.3	0.3	0.3	0.3	0.3										3.1
17 to 21	0.3															0.9
Over 22																
Total	5.1	0.3	4.5	0.3	15.1	3.1	23.2	6.8	22.6	0.6	4.8	2.2	4.2	0.3	0.3	4.2

**SHINYANGA** **January**

HOUR/SPEED (UTC) (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL
0600	1 to 3	1.4	1.8	3.5	0.7	2.8	2.8	7.4	0.7	0.7	1.4	0.7	0.3			24.2
4 to 6	4.6	4.6	0.7	2.8	4.6	2.5	5	1.4	10.3	1.8	1.1	5.3	1.1			41.9
7 to 10	1.4	3.2	2.5	0.3	3.9	0.3	6	2.8	0.7	1.4	0.3	0.3	0.3			22.8
11 to 16	0.3	0.3	0.3	0.3	0.3											1.8
17 to 21																0.3
Over 22																0.3
Total	7.7	1	8.1	0.7	10.9	3.5	12	4.5	23.7	5.3	2.5	8.4	0.7	0.3	2	78

**SHINYANGA** **February**

HOUR/SPEED (UTC) (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL
0600	1 to 3	1.4	1.8	3.5	0.7	2.8	2.8	7.4	0.7	0.7	1.4	0.7	0.3			24.2
4 to 6	4.6	4.6	0.7	2.8	4.6	2.5	5	1.4	10.3	1.8	1.1	5.3	1.1			41.9
7 to 10	1.4	3.2	2.5	0.3	3.9	0.3	6	2.8	0.7	1.4	0.3	0.3	0.3			22.8
11 to 16	0.3	0.3	0.3	0.3	0.3											1.8
17 to 21																0.3
Over 22																0.3
Total	7.7	1	8.1	0.7	10.9	3.5	12	4.5	23.7	5.3	2.5	8.4	0.7	0.3	2	78

**SHINYANGA** **February**

HOUR/SPEED (UTC) (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL
0600	1 to 3	0.7	0.3	1.4	3.2	0.3	0.3	3.2	1.1	1.1	3.9	0.3	1.1			16.9
4 to 6	5.3	2.1	0.3	5	0.3	4.6	0.7	6.1	0.3	3.2	1.8	9.2	0.7	1.1	1.8	44.5
7 to 10	4.2	2.5	1.4	0.3	2.1	0.7	5	0.3	1.4	1.1	4.2	1.4	0.3	0.7	1.4	24.6
11 to 16	0.7	0.7	0.3	0.3	0.3	0.3	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	5.7
17 to 21	0.7															1.6
Over 22	0.3															0.6
Total	11.9	0.3	6.7	0.3	9.9	0.9	7.3	1.7	17	0.6	6	4	19	1	2.4	49

**SHINYANGA** **December**

HOUR/SPEED (UTC) (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL
0600	1 to 3	0.4	0.4	0.7	0.4	1.1	2.5	2.9	0.4	0.7	0.4	0.7	0.7			11.3
4 to 6	1.1	0.4	2.2	4.3	7.9	1.8	6.1	2.5	0.7	0.4	0.4	1.1	0.7			31.4
7 to 10	2.2	0.7	1.4	5.1	5.8	1.4	5.1	2.9	0.4	0.4	0.7	1.1	1.1			27.5
11 to 16	0.7	0.7	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4			11.6
17 to 21	0.4															0.4
Over 22	0.4															0.4
Total	6.9	2.2	0.4	5.1	12.7	19.1	4.7	16.2	8.7	0.7	0.8	1.5	1.8	2.6	15.9	100

**SHINYANGA** **January**

HOUR/SPEED (UTC) (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL
0600	1 to 3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.9
4 to 6	0.3	0.3	0.6	3.5	3.9	1	3.5	4.5	3.5	0.3	1	0.6	0.3	0.3	0.3	23
7 to 10	0.3	0.6	0.3	6.5	6.5	0.3	8.4	6.8	0.6	0.3	0.3	0.6	0.3	0.3	0.3	31.2
11 to 16	0.3	1.9	2.9	0.6	1.9	1										8.6
17 to 21	0.3	0.6	0.3	0.3	0.3											1.5
Over 22																
Total	0.3	1.2	1.2	12.5	13.6	1.9	14.4	12.6	4.1	0.3	0.6	1.9	0.6	0.6	0.6	34.8

**SHINYANGA** **February**

HOUR/SPEED (UTC) (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL
0600	1 to 3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.9
4 to 6	0.3	0.3	0.6	3.5	3.9	1	3.5	4.5	3.5	0.3	1	0.6	0.3	0.3	0.3	23
7 to 10	0.3	0.6	0.3	6.5	6.5	0.3	8.4	6.8	0.6	0.3	0.3	0.6	0.3	0.3	0.3	31.2
11 to 16	0.3	1.9	2.9	0.6	1.9	1										8.6
17 to 21	0.3	0.6	0.3	0.3	0.3											1.5
Over 22																
Total	0.3	1.2	1.2	12.5	13.6	1.9	14.4	12.6	4.1	0.3	0.6	1.9	0.6	0.6	0.6	34.8

**SHINYANGA** **December**

HOUR/SPEED (UTC) (KNOTS)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NNW	CALM	TOTAL
0600	1 to 3	0.4	0.4	0.7	0.4	1.1	2.5	2.9	0.4	0.7	0.4	0.7	0.7			11.3
4 to 6	1.1	0.4	2.2	4.3	7.9	1.8	6.1	2.5	0.7	0.4	0.4	1.1	0.7			31.4
7 to 10	2.2	0.7	1.4	5.1	5.8	1.4	5.1	2.9	0.4	0.4	0.7	1.1	1.1			27.5
11 to 16	0.7	0.7	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4			11.6
17 to 21	0.4															0.4
Over 22	0.4															0.4
Total	6.9	2.2	0.4	5.1	12.7	19.1	4.7	16.2	8.7	0.7	0.8	1.5	1.8	2.6	15.9	100

SHINYANGA

March														
HOURS(SPEED (UTC) (KNOTS)	N	NNW	NNE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	W		
0600	1.0	0.3	1.3	4.5	0.3	1	4.5	0.3	1	4.5	0.3	1.6		
4.0	0.6	3.9	1.6	5.8	1.3	5.2	0.3	9.7	0.5	1.3	4.9	0.3		
7.0	10	0.3	2.2	5.8	0.6	4.2	0.6	6.4	0.3	1.9	0.3	1.6		
11.0	16	0.3	1	0.3	4.5	0.6	1.2	0.3	0.6	0.3	0.6	0.3		
17.0	21	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Over 22	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Total	9	0.3	6.1	0.3	20.6	2.8	12.9	1.2	21.2	0.9	2.9	8.3	1.3	
													3.8	
														100

SHINYANGA

June														
HOURS(SPEED (UTC) (KNOTS)	N	NNW	NNE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	W		
0600	1.0	0.3	0.3	0.7	0.7	1.3	0.7	1.3	0.7	1.3	0.7	1.3		
4.0	0.6	0.3	0.3	5.5	2	8.3	5.7	8	0.3	0.3	0.3	0.3		
7.0	10	0.3	0.3	5.3	3.7	22.7	5.7	0.7	0.3	0.3	0.3	0.3		
11.0	16	0.3	0.3	1.3	1.7	9	2	7	0.3	0.3	0.3	0.3		
17.0	21	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Over 22	0.3	0.3	0.3	12.3	8.1	41.3	14.1	28.3	0.3	0.3	0.3	0.3		
Total	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
													1	
														100

SHINYANGA

April														
HOURS(SPEED (UTC) (KNOTS)	N	NNW	NNE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	W		
0600	1.0	0.3	0.7	3.7	0.7	2.7	4.7	0.3	0.7	0.3	0.7	0.3		
4.0	0.6	1.3	0.3	7.7	3.7	12.7	10.3	0.7	0.3	0.3	0.3	0.3		
7.0	10	0.3	1.7	2.3	1.3	10.3	9	8.3	0.3	0.7	0.3	0.3		
11.0	16	0.3	0.3	0.7	1.3	0.7	1	0.3	0.3	0.3	0.3	0.3		
17.0	21	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Over 22	0.3	0.3	0.3	14.4	5.7	27	10.4	24.3	1	1.6	0.3	2.3		
Total	2	0.6	4.7	0.3	20.6	2.8	12.9	1.2	21.2	0.9	2.9	8.3		
													1.3	
														100

SHINYANGA

July														
HOURS(SPEED (UTC) (KNOTS)	N	NNW	NNE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	W		
0600	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
4.0	0.6	0.3	0.3	3.2	2.2	12.9	3.9	4.3	0.3	0.3	0.3	0.3		
7.0	10	0.3	0.3	3.2	4.2	20.3	5.8	10.3	0.3	0.3	0.3	0.3		
11.0	16	0.3	0.3	2.9	2.2	11.3	4.8	3.2	0.3	0.3	0.3	0.3		
17.0	21	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Over 22	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Total	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
													0.6	
														100

SHINYANGA

April														
HOURS(SPEED (UTC) (KNOTS)	N	NNW	NNE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	W		
0600	1.0	0.3	0.3	4.3	0.3	0.7	2.3	0.3	0.3	0.3	0.3	0.3		
4.0	0.6	1.3	1.7	0.3	10	2.3	1.7	8	1	0.3	1.7	0.3		
7.0	10	0.3	0.7	5.3	5.7	4	10.7	0.3	0.7	1.3	0.3	0.3		
11.0	16	0.3	1.4	2	0.7	4.7	3.7	1	0.3	0.3	0.3	0.3		
17.0	21	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Over 22	0.3	0.3	0.3	14.4	5.7	27	10.4	24.3	1	1.6	0.3	2.3		
Total	5.1	1.6	2.4	0.3	21.6	4	15.7	7.7	24.7	0.6	2.7	0.3		
													4.6	
														100

SHINYANGA

May														
HOURS(SPEED (UTC) (KNOTS)	N	NNW	NNE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	W		
0600	1.0	0.3	1.6	0.3	3.2	0.6	3.9	0.3	1.3	0.3	0.3	0.3		
4.0	0.6	0.6	1.3	5.8	2.2	10	2.2	7.7	0.6	1	0.3	0.3		
7.0	10	0.3	0.6	3.5	1.6	21.5	3.9	8.1	0.3	0.3	0.3	0.3		
11.0	16	0.3	1.3	1.3	2.2	6.8	1	1.6	0.3	0.3	0.3	0.3		
17.0	21	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Over 22	0.3	0.3	0.3	3.5	1.6	6.1	1	2.5	0.3	0.3	0.3	0.3		
Total	0.6	0.6	3.5	0.3	13.9	6.6	42.6	7.4	19.7	0.6	1.3	0.3		
													3.9	
														100

SHINYANGA

May														
HOURS(SPEED (UTC) (KNOTS)	N	NNW	NNE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	W		
0600	1.0	0.3	1	4.2	0.6	1	0.6	2.2	0.3	0.3	0.3	0.3		
4.0	0.6	1	0.3	5.4	1.6	5.8	2.2	12.9	0.6	0.6	1.6	0.3		
7.0	10	0.3	0.6	7.4	1.6	8.7	1.3	12.9	0.3	0.3	0.3	0.3		
11.0	16	0.3	0.3	3.5	1.6	6.1	1	2.5	0.3	0.3	0.3	0.3		
17.0	21	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Over 22	0.3	0.3	0.3	2.9	0.3	1.9	5.1	30.6	0.6	1.5	0.9	2.2		
Total	2.9	0.3	1.9	0.6	23.5	5.4	21.9	5.1	30.6	0.6	1.5	0.9		
													0.3	
														100

SHINYANGA

August														
HOURS(SPEED (UTC) (KNOTS)	N	NNW	NNE	ENE	E	ESE	SE	SSE	SSW	SW	WSW	W		
0600	1.0	0.3	0.6	1.9	0.3	1.3	1	1	0.3	0.3	0.3	0.3		
4.0	0.6	0.6	1.6	2.6	8.4	1.6	3.5	0.3	0.3	0.3	0.3	0.3		
7.0	10	0.3	5.2	4.5	20.3	5.5	5.2	0.3	0.3	0.3	0.3	0.3		
11.0	16	0.3	5.8	3.5	16.8	3.2	2.8	0.3	0.3	0.3	0.3	0.3		
17.0	21	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Over 22	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Total	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
													1	
														100

SHINYANGA

HOURSPEED (UTC) (KNOTS)	August																					
	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E										
1200	1.0	0.3							2.6	0.3	1.6	2.9	0.3									
4.0	6								5.5	1.6	1.1	4.2	1.1	0.6	0.6							
7.0	32.2								3.5	2.2	1.3	4.5	13.5	2.2	0.3							
11.0	40								1.9	0.6	5.8	1.9	7.7	0.3								
17.0	18.5																					
Over 22									13.5	4.7	28	10.9	35.1	0.3	3.5	0.9	0.6					
Total	0.3																					0.3

SHINYANGA

HOURSPEED (UTC) (KNOTS)	September																					
	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E										
0600									0.7	0.7	0.7											
4.0									3.7	2	4.7	1.3	4	0.3								
7.0									7.7	2	17.4	3.7	3.7	0.7								
11.0									0.7	9	5	17.7	4	1.3	0.3							
17.0									1	1.3	2	0.7										
Over 22									0.3													
Total	1.6								0.6	0.7	22.4	10.3	49.5	10	9.7	1	0.3					

SHINYANGA

HOURSPEED (UTC) (KNOTS)	September																					
	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E										
1200	1.0	0.3							9	0.3	1.7	0.3	3.3	0.3								
4.0	10.2								5.7	2	5.3	2.7	15	1.3	0.7							
7.0	37.3								7	1	8.4	1.3	9.7	0.7	0.3							
11.0	32.7								0.3	4.7	1.3	4.7	2.3	3.7	0.7							
17.0	18																					
Over 22									2.3	0.6	3.3	0.3	20.4	4.6	20.8	6.6	32	1.3	2.4	0.3	2.7	0.3
Total	0.3																					1.3

SHINYANGA

HOURSPEED (UTC) (KNOTS)	October																					
	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E										
0900									3.2	0.3	2	0.3	2.6									
4.0									8.1	1.9	7.4	1.9	2.6	0.6								
7.0									0.3	0.3	11.6	2.2	15.9	2.6	2.9	0.3						
11.0									9	2.9	9.3	0.6	1.6									
17.0									1	0.3	1											
Over 22									0.3	0.6												
Total	0.9								0.6	0.3	2.5	0.3	32.9	7.9	36.1	5.4	9.7					0.9

SHINYANGA

HOURSPEED (UTC) (KNOTS)	October																					
	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E										
1200	1.0	0.3							1.9	0.3	1.6	0.3	4.5	0.3	1.3	0.3	3.5	0.3	0.3			
4.0	14.9								7.7	1.9	5.5	3.9	12.6	1	1	0.3	0.3	0.3	0.3			
7.0	39.3								7.4	1.6	7.1	3.5	8.1	0.6	1	0.3	0.3	0.3	0.3			
11.0	31.4								1.6	2.9	1	1.9										
17.0	9								0.3	0.3	0.3	0.3	0.3									
Over 22									4.4	1.2	2.5	0.6	21.5	3.8	17.1	9	26.1	1.3	2.5	2	1.5	1.3
Total	0.6																					2.2

SHINYANGA

HOURSPEED (UTC) (KNOTS)	November																					
	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E										
0600	1.0	0.3							2	1.3	0.3	4.4	2.3	2	1	2.3						
4.0	17.8								3.4	0.7	11.4	1.3	8.4	1.7	4							
7.0	34.2								0.7	10.4	1.7	9.4	1.7	2	0.7							
11.0	27.6																					
17.0	19.6								0.3	0.3	0.7	5	1	5	0.3	1.3						
Over 22									4.7	2	6.7	1	31.9	6.3	23.1	4.7	10.2					
Total	0.3																					0.3

SHINYANGA

HOURSPEED (UTC) (KNOTS)	November																					
	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E										
1200	1.0	0.3							0.7	6	0.3	1	0.7	0.7	0.3	1.3						
4.0	14.7								2	0.7	13.1	1.7	2.7	2.3	6	0.7	0.3	0.7	2.7			
7.0	38.2								8.4	1.3	5.7	4	5	0.3	1	3.4	0.3	0.3				
11.0	35.4								2.7	0.7	1.3	0.7	2									
17.0	9.6								0.3	0.3	0.7											
Over 22									5.6	0.6	4.3	1.4	30.9	4	10.7	8	15.7	1.7	2	2.3	8.4	0.6
Total	0.3																					0.3

SHINYANGA

HOURSPEED (UTC) (KNOTS)	December																					
	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E										
0600	1.0	0.3							0.8	1.9	0.6	10	1.3	3.9	1	2.9	0.3	0.3	1	1.3		
4.0	27								3.2	0.6	14.2	1.3	7.1	7.1	0.6	2.2	0.3	0.6				
7.0	41.8								0.3	3.2	6.8	1.3	3.9	1	3.2	0.3						
11.0	2																					
17.0	3.3								0.3	0.3												
Over 22									2.6	1.6	8.6	1.2	32.9	3.9	17.8	3.6	13.2	0.9	2.8	1.3	2.5	0.6
Total	0.3																					0.3

SHINYANGA

HOURSPEED (UTC) (KNOTS)	December																					
	N	NNW	NW	W	WSW	SW	SSW	S	SSE	SE	ESE	E										
0900	1.0	0.3							1.9	0.6	2.6	0.6	3	1.9	1.9	1	2.6	0.6	3.5			
4.0	22.1								3.2	0.6	2.2	7.7	5.6	2.6	7.4	1.6	1.2	1.8	5.2	0.6	0.3	1
7.0	32.3								0.3	0.3	0.3	3.5	1.3	3.9	1.3	3.3	0.6	0.6				
11.0	22.2								0.6	0.6	0.6	0.3	7.3	1								
17.0	3.6								0.3	0.3												
Over 22									9.7	1.8	6.7	0.8	14.7	4.5	12.6	4.9	14.8	2.2	2.5	2.8	10.3	1.2
Total	0.9																					0.9





2.2 Hydrology

(1) Hydrometric stations in IDB

GSN	NAME	LOCATION	LAT	LONG	Operating	Start	Stop
Z44	Penyivi	Oldonyo Sambu	-2.37	35.90			
2C2A	Ngara Nan.	Below Vet Dip	-3.17	36.87			
2C5	Materi	Namanga	-2.58	36.78			
2H1A	Kirurumo	Mto wa Mbu Br.	-3.38	35.95			
2H2A	Simba	Mto wa Mbu Rd.Br	-3.38	35.95			
2H3A	Mto wa Mbu	Mto wa Mbu Brg.	-3.32	35.95			
2H5A	Dudumera	Kiru Rd.Br.	-4.12	35.72			
2H14	Makuyuni	Makuyuni D/S Br	-3.55	36.15			
2H15	L Babati	Babati	-4.22	35.90			
2K3A	L Basuto	Basuto	-4.38	35.08			
2K4A	Barai	Blw Rd Crossing	-3.10	35.07			
2K6A	Kironda	Kirondatal	-4.63	34.33			
2K7	Ndurumo	Isheinga	-4.40	34.95			
2K11	Manunga	Iyokele	-3.98	33.95			
2K12	Lake Eyasi	Mangola	-3.48	35.28			
2K13	L Kitangir	i Kitaka	-4.13	34.33			
2K14	Mepiriga	Masange	-4.78	33.85			
2K15	Nhwala	Loya	-4.97	33.90			
2K16	Ndurumo	Mgamba	-4.50	34.67			
2K17	Tambarale	Kiabili	-4.03	33.10			
2K18	Manonga	Kagera(Isaka)	-3.90	32.98			
2K19	Lekala	Lekala	-3.65	34.73			
2K20	Mango	Badr-Shia	-3.97	33.97			
2K21	Nhumbu	Shinyanga Rd.	-3.67	33.43			
2K22	Usia Dam	Usia	-3.92	33.17			
2K26	Usia	Usia	-3.83	33.17			
2K27	Tungu	Lubaga	-3.57	33.78			
2K28	Gasa	Mwanzila	-3.53	33.68			
2K29	Nhala	Lubaga	-3.57	33.78			
2K30	Sola Dam	Sola/Maswa Br	-3.15	33.80			
2K31	Tungu	Rukiko	-3.43	33.67			
2K32	Ndurumo	Jambi Lepro.	-4.33	34.93			
2K33	Nerezi	Nerezi Bridge	-3.65	33.65			
2K34	Mhala	Budakwa	-3.43	33.82			
2K35	Tungu	Kabile	-3.37	33.62			
2K38	Tungu	Sarjo	-3.80	33.93			
2K38	Nyamuli	Bugarama	-3.32	33.73			
2K40	Semu	Isengwa	-3.45	34.20			
2K41	Mango	Sarjo	-3.80	33.97			
2K42	Manonga	Ruveye	-4.00	33.95			
2K43	Tungu	Masanga	-3.80	33.98			
2K47	Hani	Quamquam	-3.88	35.50			
2R1A	Durutha	Mangola	-3.45	35.52			
2R1A	Bubu	Farkwa Rd.Br.	-6.32	35.58			
2R4	Bubu	Bahi	-5.98	35.30			
2R15A	Mkondoa	D/S Kondoafrang	-4.90	35.77			
2R17	Masi	Kigere	-6.10	35.47			
2R23	Mponde	U/S Mponde	-5.47	35.20			
2R24	Bubu	Kinyika	-5.82	35.77			
2R25	Msemembo	U/S Msemembo	-5.47	34.88			
2R26	Maduma	D/S Makuru	-5.42	34.95			
2R27	Mkinki	Ndromoni	-5.15	35.45			
2R28	Mkinki Eas	Mombose	-5.35	35.57			
2R29	Bubu	Thawi	-4.63	35.08			
2R30	Kelena	Dalai	-5.05	35.58			
2R31	Sola	Kinyika	-5.90	35.33			

TABORA

November 90-99

Hour (UTC)	Speed (knots)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NW	CALM	TOTAL
12	10.3				0.3	0.3												0.6
13	10.6	0.7			2	2	1	0.3	0.6	1.3	0.7	0.3	0.3	0.3	0.3	0.7		11.6
14	10.9	0.3	2.1	1.7	4	3.3	3.7	1	0.3	0.3	0.7	0.3	0.3	0.3	0.3	2		32.6
15	10.16	1	3.7	1.3	1	3.9	7.3	0.3	1									29.2
16	10.21		3		0.7	0.3	0.9											0.9
over 22																		
Total		2	10.4	4	8	27.2	14.3	1.9	1.6	1.3	0.7	1	0.3	1	0.9	0.5	2.7	21.3
																		100

TABORA

November 90-99

Hour (UTC)	Speed (knots)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NW	CALM	TOTAL
12	10.3	0.3				1	0.3											1.9
13	10.6	2	0.3	1.3	4	3.3	0.7	1.3	2.7	0.3	0.3	1	0.3	0.3	2			22.8
14	10.16	4	2	1.3	4.3	11	6.7	1	2.3	2.3	0.3	0.7	0.3	0.7	1.3			38.5
15	10.21	2	2	0.3	2.3	2	2.7	1.3	1.7	0.7								15.3
over 22							0.7											0.7
Total		8.3	6	1.9	7.9	18	13.7	3	5.3	4.3	3	1	0.9	1.7	0.9	3.3	20.3	100

TABORA

December 90-99

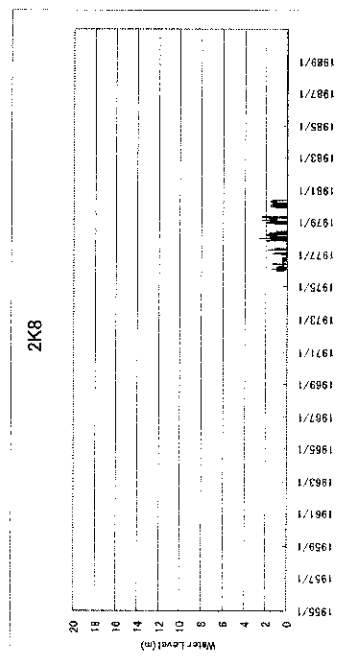
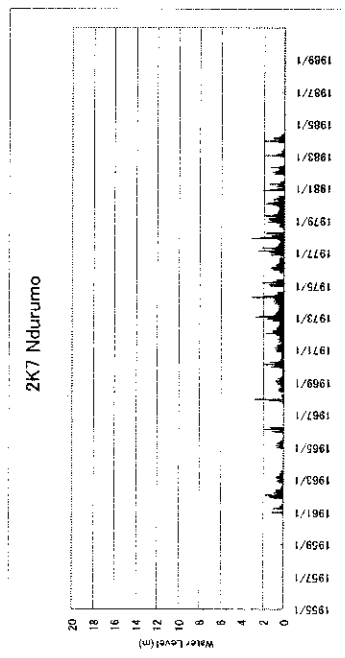
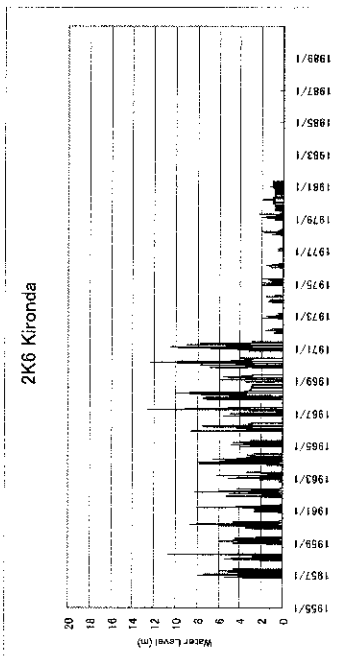
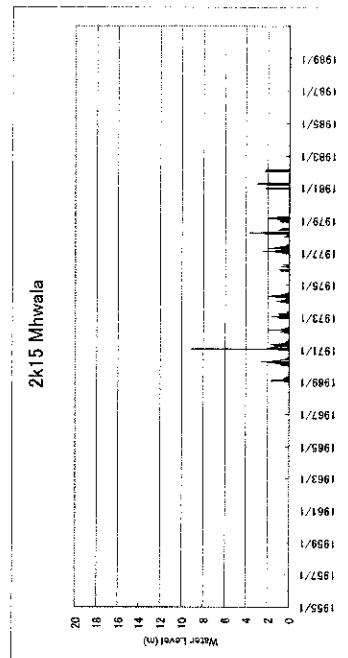
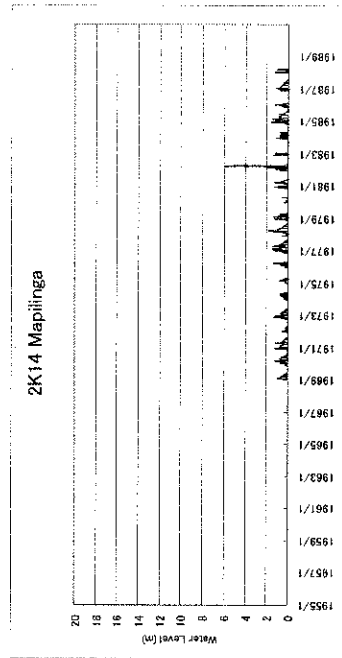
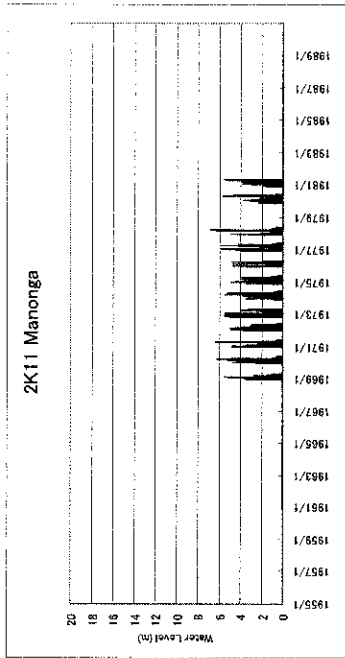
Hour (UTC)	Speed (knots)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NW	CALM	TOTAL
12	10.3				0.3	0.3	0.3											1.5
13	10.10	0.3	3.5	1.3	2.2	8.7	3.8	1.3	1	1.3		0.6	1	0.6	0.6			15.4
14	10.16	0.6	2.6	0.6	1.3	4.2	1.6	0.6	1									26.3
15	10.21		0.3			1												1.3
over 22																		
Total		1.9	7.7	3.8	5.7	16.8	8.7	2.2	3	3.2		0.9	1.3	1.2		0.6	42.6	100

TABORA

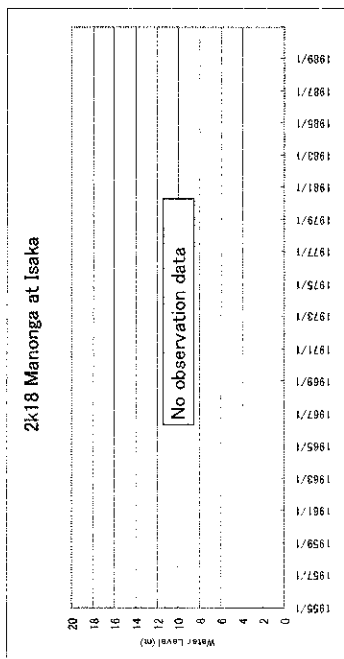
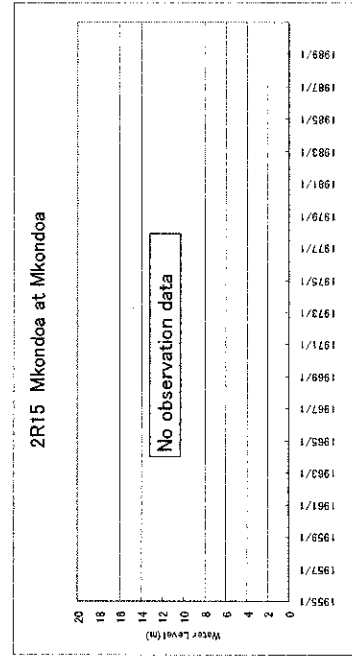
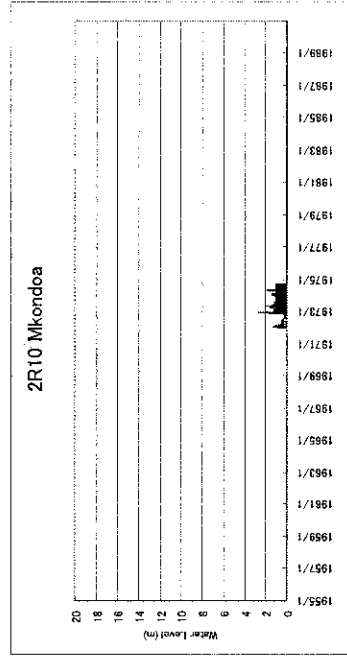
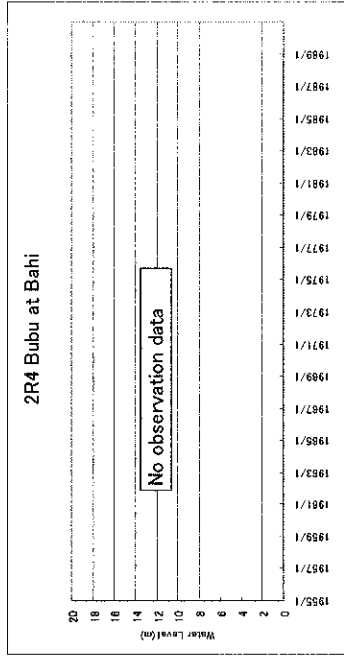
December 90-99

Hour (UTC)	Speed (knots)	N	NNE	NE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NW	CALM	TOTAL
12	10.3																	
13	10.6	1.9	1.3	0.6	2.9	3.9	0.3	0.3	2.2	0.3	0.3	0.6	1.6	0.3	0.3	1.6		3.6
14	10.16	1.8	3.5	2.2	3.2	8.7	3.9	1.6	1.6	1.6	1.9	0.3	1	0.3	2.6			36.6
15	10.21				1.6	0.8	2.8	0.3	0.3	1.3				0.3	0.3	1		10.8
over 22																		0.9
Total		4.1	5.1	3.4	7.7	14.4	10.7	2.5	2.8	6.7	0.6	2.2	3.1	3.5	1.9	0.6	4.2	35.2
																		100

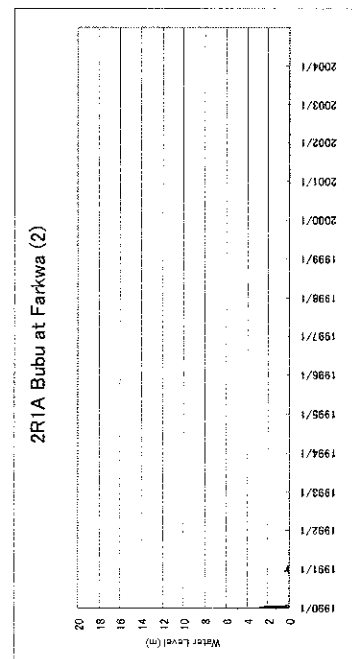
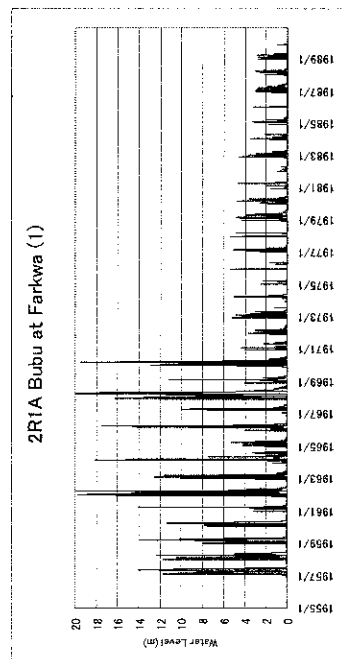
(2) Records of hydrometric stations in the IDB; Water level (m)  
 1) Lake Eyasi Sub-basin (Original electronic data file provided by MoW)

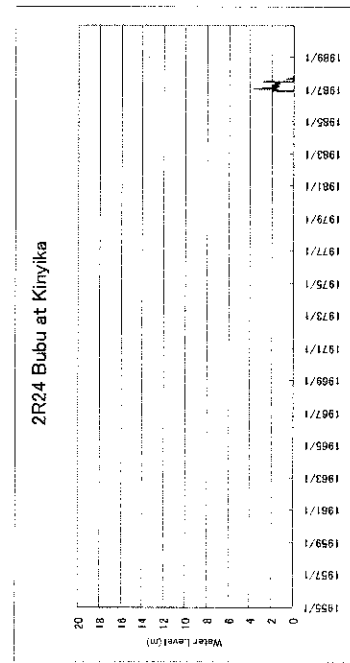
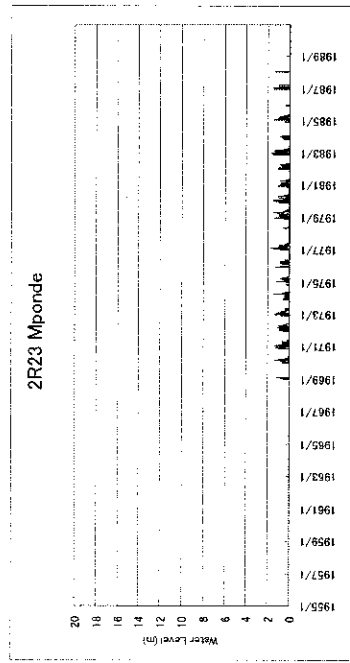
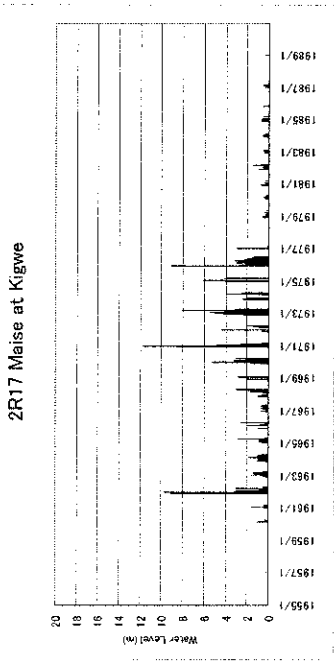
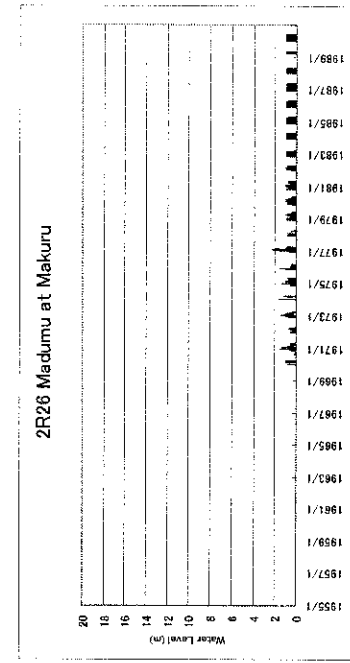
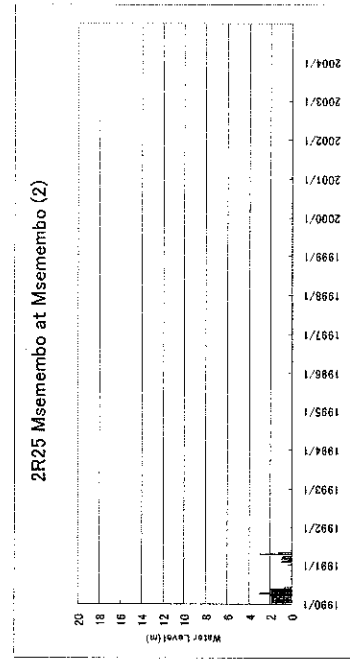
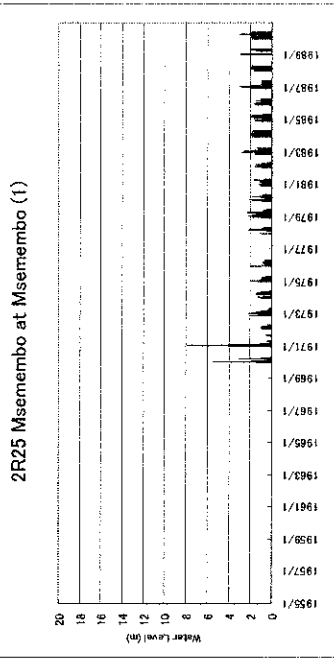






**2) Bahi Sub-basin (Original electronic data file provided by MoW)**





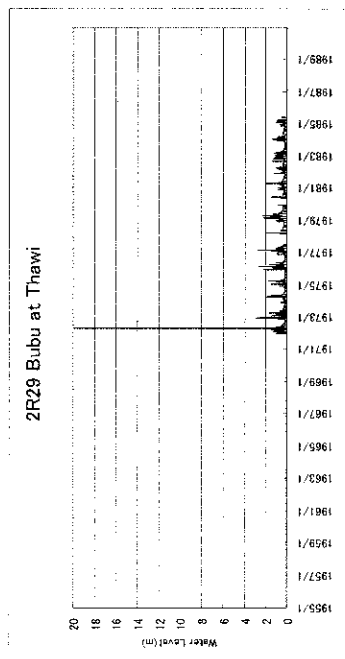
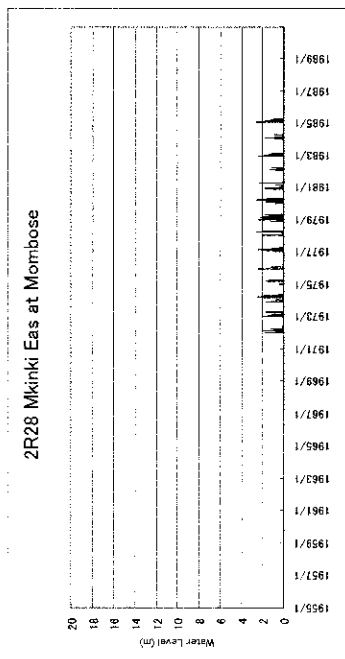
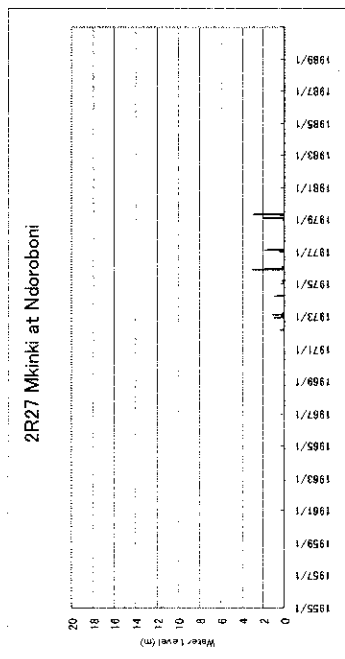
(4) Lake water level: Lake Kitangiri (2K13)  
 Data inputted by JICA study team using raw data provided by CIDB office

DATE	MEAN VALUE(m)	REMARKS
1979/9/1	3.55	
1979/7/1	3.54	
1979/6/2	3.54	
1979/8/3	3.53	
1978/8/4	3.52	
1978/8/5	3.52	
1978/8/6	3.18	
1978/8/7	3.50	
1978/8/8	3.48	
1978/8/9	3.47	
1978/7/10	3.46	
1978/7/11	3.45	
1978/7/12	3.44	
1978/7/13	3.43	
1978/7/14	3.42	
1978/7/15	3.41	
1978/7/16	3.40	
1978/7/17	3.39	
1978/7/18	3.38	
1978/7/19	3.37	
1978/7/20	3.36	
1978/7/21	3.35	
1978/7/22	3.34	
1978/7/23	3.34	
1978/7/24	3.33	
1978/7/25	3.31	
1978/7/26	3.30	
1978/7/27	3.29	
1978/7/28	3.28	
1978/7/29	3.27	
1978/7/30	3.26	
1978/7/31	3.25	

DATE	MEAN VALUE(m)	REMARKS
1978/10/1	2.90	
1978/10/2	2.89	
1978/10/3	2.88	
1978/10/4	2.87	
1978/10/5	2.86	
1978/10/6	2.86	
1978/10/7	2.84	
1978/10/8	2.83	
1978/10/9	2.82	
1978/10/10	2.81	
1978/10/11	2.80	
1978/10/12	2.79	
1978/10/13	2.78	
1978/10/14	2.77	
1978/10/15	2.76	
1978/10/16	2.76	
1978/10/17	2.75	
1978/10/18	2.74	
1978/10/19	2.73	
1978/10/20	2.72	
1978/10/21	2.70	
1978/10/22	2.69	
1978/10/23	2.68	
1978/10/24	2.67	
1978/10/25	2.66	
1978/10/26	2.65	
1978/10/27	2.64	
1978/10/28	2.63	
1978/10/29	2.62	
1978/10/30	2.61	

DATE	MEAN VALUE(m)	REMARKS
1978/10/1	M	No data
1978/10/2	M	No data
1978/10/3	M	No data
1978/10/4	M	No data
1978/10/5	M	No data
1978/10/6	M	No data
1978/10/7	M	No data
1978/10/8	M	No data
1978/10/9	M	No data
1978/10/10	M	No data
1978/10/11	M	No data
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1978/10/13	M	No data
1978/10/14	M	No data
1978/10/15	M	No data
1978/10/16	M	No data
1978/10/17	M	No data
1978/10/18	M	No data
1978/10/19	M	No data
1978/10/20	M	No data
1978/10/21	M	No data
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1978/10/23	M	No data
1978/10/24	M	No data
1978/10/25	M	No data
1978/10/26	M	No data
1978/10/27	M	No data
1978/10/28	M	No data
1978/10/29	M	No data
1978/10/30	M	No data
1978/10/31	M	No data

DATE	MEAN VALUE(m)	REMARKS
1978/9/1	2.90	
1978/9/2	2.89	
1978/9/3	2.88	
1978/9/4	2.87	
1978/9/5	2.86	
1978/9/6	2.86	
1978/9/7	2.84	
1978/9/8	2.83	
1978/9/9	2.82	
1978/9/10	2.81	
1978/9/11	2.80	
1978/9/12	2.79	
1978/9/13	2.78	
1978/9/14	2.77	
1978/9/15	2.76	
1978/9/16	2.76	
1978/9/17	2.75	
1978/9/18	2.74	
1978/9/19	2.73	
1978/9/20	2.72	
1978/9/21	2.70	
1978/9/22	2.69	
1978/9/23	2.68	
1978/9/24	2.67	
1978/9/25	2.66	
1978/9/26	2.65	
1978/9/27	2.64	
1978/9/28	2.63	
1978/9/29	2.62	
1978/9/30	2.61	



DATE	MEAN VALUE(m)	REMARKS
1979/4/1	3.99	
1979/4/2	4.00	
1979/4/3	4.00	
1979/4/4	4.01	
1979/4/5	4.03	
1979/4/6	4.13	
1979/4/7	4.14	
1979/4/8	4.15	
1979/4/9	4.16	
1979/4/10	4.16	
1979/4/11	4.17	
1979/4/12	4.19	
1979/4/13	4.19	
1979/4/14	4.22	
1979/4/15	4.22	
1979/4/16	4.23	
1979/4/17	4.23	
1979/4/18	4.25	
1979/4/19	4.26	
1979/4/20	4.27	
1979/4/21	4.28	
1979/4/22	4.28	
1979/4/23	4.31	
1979/4/24	4.37	
1979/4/25	4.42	
1979/4/26	4.44	
1979/4/27	4.45	
1979/4/28	4.45	
1979/4/29	4.44	
1979/4/30	4.42	

DATE	MEAN VALUE(m)	REMARKS
1979/3/1	3.99	
1979/3/2	4.00	
1979/3/3	4.00	
1979/3/4	4.01	
1979/3/5	4.03	
1979/3/6	4.03	
1979/3/7	4.02	
1979/3/8	4.02	
1979/3/9	4.00	
1979/3/10	3.98	
1979/3/11	3.97	
1979/3/12	3.95	
1979/3/13	3.95	
1979/3/14	3.95	
1979/3/15	3.95	
1979/3/16	3.97	
1979/3/17	3.99	
1979/3/18	4.00	
1979/3/19	4.02	
1979/3/20	4.02	
1979/3/21	4.03	
1979/3/22	4.03	
1979/3/23	4.04	
1979/3/24	4.04	
1979/3/25	4.08	
1979/3/26	4.08	
1979/3/27	4.09	
1979/3/28	4.10	
1979/3/29	4.10	
1979/3/30	4.12	
1979/3/31	M	No data

DATE	MEAN VALUE(m)	REMARKS
1978/6/1	4.04	
1978/6/2	4.02	
1978/6/3	4.00	
1978/6/4	3.98	
1978/6/5	3.98	
1978/6/6	3.84	
1978/6/7	3.82	
1978/6/8	3.91	
1978/6/9	3.90	
1978/6/10	3.88	
1978/6/11	3.86	
1978/6/12	3.86	
1978/6/13	3.85	
1978/6/14	3.85	
1978/6/15	3.85	
1978/6/16	3.84	
1978/6/17	3.83	
1978/6/18	3.82	
1978/6/19	3.82	
1978/6/20	3.81	
1978/6/21	3.80	
1978/6/22	3.80	
1978/6/23	3.78	
1978/6/24	3.78	
1978/6/25	3.77	
1978/6/26	3.76	
1978/6/27	3.74	
1978/6/28	3.73	
1978/6/29	3.72	
1978/6/30	3.70	

DATE	MEAN VALUE(m)	REMARKS
1978/5/1	4.40	
1978/5/2	4.39	
1978/5/3	4.37	
1978/5/4	4.36	
1978/5/5	4.35	
1978/5/6	4.35	
1978/5/7	4.34	
1978/5/8	4.34	
1978/5/9	4.33	
1978/5/10	4.33	
1978/5/11	4.32	
1978/5/12	4.32	
1978/5/13	4.30	
1978/5/14	4.29	
1978/5/15	4.26	
1978/5/16	4.25	
1978/5/17	4.24	
1978/5/18	4.22	
1978/5/19	4.21	
1978/5/20	4.20	
1978/5/21	4.18	
1978/5/22	4.16	
1978/5/23	4.15	
1978/5/24	4.14	
1978/5/25	4.12	
1978/5/26	4.10	
1978/5/27	4.08	
1978/5/28	4.07	
1978/5/29	4.06	
1978/5/30	4.04	
1978/5/31	M	No data

DATE	MEAN VALUE(m)	REMARKS
1978/12/1	M	No data
1978/12/2	M	No data
1978/12/3	M	No data
1978/12/4	M	No data
1978/12/5	M	No data
1978/12/6	M	No data
1978/12/7	M	No data
1978/12/8	M	No data
1978/12/9	M	No data
1978/12/10	M	No data
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1978/12/25	M	No data
1978/12/26	M	No data
1978/12/27	M	No data
1978/12/28	M	No data
1978/12/29	M	No data
1978/12/30	M	No data
1978/12/31	M	No data

DATE	MEAN VALUE(m)	REMARKS
1978/1/1	M	No data
1978/1/2	M	No data
1978/1/3	M	No data
1978/1/4	M	No data
1978/1/5	M	No data
1978/1/6	M	No data
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1978/1/8	M	No data
1978/1/9	M	No data
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1978/1/24	M	No data
1978/1/25	M	No data
1978/1/26	M	No data
1978/1/27	M	No data
1978/1/28	M	No data
1978/1/29	M	No data
1978/1/30	M	No data

DATE	MEAN VALUE(m)	REMARKS
1979/2/1	3.49	
1979/2/2	3.48	
1979/2/3	3.47	
1979/2/4	3.46	
1979/2/5	3.46	
1979/2/6	3.49	
1979/2/7	3.54	
1979/2/8	3.60	
1979/2/9	3.66	
1979/2/10	3.72	
1979/2/11	3.73	
1979/2/12	3.74	
1979/2/13	3.75	
1979/2/14	3.75	
1979/2/15	3.76	
1979/2/16	3.78	
1979/2/17	3.80	
1979/2/18	3.82	
1979/2/19	3.84	
1979/2/20	3.86	
1979/2/21	3.87	
1979/2/22	3.89	
1979/2/23	3.90	
1979/2/24	3.92	
1979/2/25	3.94	
1979/2/26	3.96	
1979/2/27	3.98	
1979/2/28	3.98	

DATE	MEAN VALUE(m)	REMARKS
1979/1/1	3.36	
1979/1/2	3.37	
1979/1/3	3.39	
1979/1/4	3.40	
1979/1/5	3.41	
1979/1/6	3.44	
1979/1/7	3.46	
1979/1/8	3.48	
1979/1/9	3.48	
1979/1/10	3.52	
1979/1/11	3.51	
1979/1/12	3.52	
1979/1/13	3.54	
1979/1/14	3.55	
1979/1/15	3.57	
1979/1/16	3.56	
1979/1/17	3.56	
1979/1/18	3.59	
1979/1/19	3.60	
1979/1/20	3.62	
1979/1/21	3.63	
1979/1/22	3.64	
1979/1/23	3.64	
1979/1/24	3.64	
1979/1/25	3.63	
1979/1/26	3.63	
1979/1/27	3.60	
1979/1/28	3.56	
1979/1/29	3.56	
1979/1/30	3.54	
1979/1/31	3.50	





DATE	MEAN VALUE (m)	REMARKS
1980/11/1	M	No data
1980/11/2	M	No data
1980/11/3	M	No data
1980/11/4	M	No data
1980/11/5	M	No data
1980/11/6	M	No data
1980/11/7	M	No data
1980/11/8	M	No data
1980/11/9	M	No data
1980/11/10	M	No data
1980/11/11	M	No data
1980/11/12	M	No data
1980/11/13	M	No data
1980/11/14	M	No data
1980/11/15	M	No data
1980/11/16	M	No data
1980/11/17	M	No data
1980/11/18	M	No data
1980/11/19	M	No data
1980/11/20	M	No data
1980/11/21	M	No data
1980/11/22	M	No data
1980/11/23	M	No data
1980/11/24	M	No data
1980/11/25	M	No data
1980/11/26	M	No data
1980/11/27	M	No data
1980/11/28	M	No data
1980/11/29	M	No data
1980/11/30	M	No data

DATE	MEAN VALUE (m)	REMARKS
1980/12/1	M	No data
1980/12/2	M	No data
1980/12/3	M	No data
1980/12/4	M	No data
1980/12/5	M	No data
1980/12/6	M	No data
1980/12/7	M	No data
1980/12/8	M	No data
1980/12/9	M	No data
1980/12/10	M	No data
1980/12/11	M	No data
1980/12/12	M	No data
1980/12/13	M	No data
1980/12/14	M	No data
1980/12/15	M	No data
1980/12/16	M	No data
1980/12/17	M	No data
1980/12/18	M	No data
1980/12/19	M	No data
1980/12/20	M	No data
1980/12/21	M	No data
1980/12/22	M	No data
1980/12/23	M	No data
1980/12/24	M	No data
1980/12/25	M	No data
1980/12/26	M	No data
1980/12/27	M	No data
1980/12/28	M	No data
1980/12/29	M	No data
1980/12/30	M	No data
1980/12/31	M	No data

DATE	MEAN VALUE (m)	REMARKS
1981/1/1	3.13	
1981/1/2	3.14	
1981/1/3	3.14	
1981/1/4	3.14	
1981/1/5	3.11	
1981/1/6	3.12	
1981/1/7	3.12	
1981/1/8	3.13	
1981/1/9	3.13	
1981/1/10	3.13	
1981/1/11	3.14	
1981/1/12	3.14	
1981/1/13	3.14	
1981/1/14	3.14	
1981/1/15	3.13	
1981/1/16	3.12	
1981/1/17	3.12	
1981/1/18	3.10	
1981/1/19	3.09	
1981/1/20	3.08	
1981/1/21	3.07	
1981/1/22	3.06	
1981/1/23	3.05	
1981/1/24	3.04	
1981/1/25	3.03	
1981/1/26	3.01	
1981/1/27	3.00	
1981/1/28	2.98	
1981/1/29	2.97	
1981/1/30	2.96	
1981/1/31	2.95	

DATE	MEAN VALUE (m)	REMARKS
1981/3/1	2.98	
1981/3/2	2.97	
1981/3/3	2.97	
1981/3/4	2.96	
1981/3/5	2.95	
1981/3/6	2.94	
1981/3/7	2.93	
1981/3/8	2.93	
1981/3/9	2.92	
1981/3/10	2.91	
1981/3/11	2.90	
1981/3/12	2.89	
1981/3/13	2.88	
1981/3/14	2.88	
1981/3/15	2.87	
1981/3/16	2.86	
1981/3/17	2.85	
1981/3/18	2.84	
1981/3/19	2.83	
1981/3/20	2.82	
1981/3/21	2.80	
1981/3/22	2.85	
1981/3/23	2.88	
1981/3/24	2.93	
1981/3/25	2.97	
1981/3/26	2.99	
1981/3/27	3.05	
1981/3/28	3.07	
1981/3/29	3.12	
1981/3/30	M	No data
1981/3/31	M	No data

DATE	MEAN VALUE (m)	REMARKS
1981/4/1	3.25	
1981/4/2	3.30	
1981/4/3	3.35	
1981/4/4	3.40	
1981/4/5	3.47	
1981/4/6	3.52	
1981/4/7	3.56	
1981/4/8	3.62	
1981/4/9	3.72	
1981/4/10	3.81	
1981/4/11	3.87	
1981/4/12	3.89	
1981/4/13	3.97	
1981/4/14	4.00	
1981/4/15	4.03	
1981/4/16	4.04	
1981/4/17	4.06	
1981/4/18	4.07	
1981/4/19	4.07	
1981/4/20	4.08	
1981/4/21	4.10	
1981/4/22	4.12	
1981/4/23	4.16	
1981/4/24	4.14	
1981/4/25	4.18	
1981/4/26	4.21	
1981/4/27	4.21	
1981/4/28	M	No data
1981/4/29	M	No data
1981/4/30	M	No data

DATE	MEAN VALUE (m)	REMARKS
1981/5/1	4.15	
1981/5/2	4.12	
1981/5/3	4.10	
1981/5/4	4.08	
1981/5/5	4.06	
1981/5/6	4.04	
1981/5/7	4.04	
1981/5/8	4.03	
1981/5/9	4.02	
1981/5/10	4.01	
1981/5/11	4.00	
1981/5/12	4.00	
1981/5/13	3.99	
1981/5/14	3.96	
1981/5/15	3.96	
1981/5/16	3.94	
1981/5/17	3.97	
1981/5/18	3.96	
1981/5/19	3.95	
1981/5/20	3.94	
1981/5/21	3.93	
1981/5/22	3.92	
1981/5/23	3.92	
1981/5/24	3.91	
1981/5/25	3.90	
1981/5/26	3.90	
1981/5/27	3.89	
1981/5/28	3.88	
1981/5/29	3.87	
1981/5/30	3.86	
1981/5/31	3.85	

DATE	MEAN VALUE (m)	REMARKS
1981/6/1	3.84	
1981/6/2	3.82	
1981/6/3	3.80	
1981/6/4	3.79	
1981/6/5	3.78	
1981/6/6	3.77	
1981/6/7	3.76	
1981/6/8	3.74	
1981/6/9	3.73	
1981/6/10	3.71	
1981/6/11	3.70	
1981/6/12	3.68	
1981/6/13	3.67	
1981/6/14	3.66	
1981/6/15	3.65	
1981/6/16	3.64	
1981/6/17	3.62	
1981/6/18	3.61	
1981/6/19	3.60	
1981/6/20	3.59	
1981/6/21	3.58	
1981/6/22	3.56	
1981/6/23	3.54	
1981/6/24	3.53	
1981/6/25	3.52	
1981/6/26	3.50	
1981/6/27	3.48	
1981/6/28	3.48	
1981/6/29	3.45	
1981/6/30	3.45	

DATE	MEAN VALUE (m)	REMARKS
1981/12/1	M	No data
1981/12/2	M	No data
1981/12/3	M	No data
1981/12/4	M	No data
1981/12/5	M	No data
1981/12/6	M	No data
1981/12/7	M	No data
1981/12/8	M	No data
1981/12/9	M	No data
1981/12/10	M	No data
1981/12/11	M	No data
1981/12/12	M	No data
1981/12/13	M	No data
1981/12/14	M	No data
1981/12/15	M	No data
1981/12/16	M	No data
1981/12/17	M	No data
1981/12/18	M	No data
1981/12/19	M	No data
1981/12/20	M	No data
1981/12/21	M	No data
1981/12/22	M	No data
1981/12/23	M	No data
1981/12/24	M	No data
1981/12/25	M	No data
1981/12/26	M	No data
1981/12/27	2.02	
1981/12/28	2.05	
1981/12/29	2.07	
1981/12/30	2.10	
1981/12/31	2.13	

DATE	MEAN VALUE (m)	REMARKS
1981/11/1	M	No data
1981/11/2	M	No data
1981/11/3	M	No data
1981/11/4	M	No data
1981/11/5	M	No data
1981/11/6	M	No data
1981/11/7	M	No data
1981/11/8	M	No data
1981/11/9	M	No data
1981/11/10	M	No data
1981/11/11	M	No data
1981/11/12	M	No data
1981/11/13	M	No data
1981/11/14	M	No data
1981/11/15	M	No data
1981/11/16	M	No data
1981/11/17	M	No data
1981/11/18	M	No data
1981/11/19	M	No data
1981/11/20	M	No data
1981/11/21	M	No data
1981/11/22	M	No data
1981/11/23	M	No data
1981/11/24	M	No data
1981/11/25	M	No data
1981/11/26	M	No data
1981/11/27	M	No data
1981/11/28	M	No data
1981/11/29	M	No data
1981/11/30	M	No data

DATE	MEAN VALUE (m)	REMARKS
1982/1/1	3.07	
1982/1/2	3.08	
1982/1/3	3.10	
1982/1/4	3.13	
1982/1/5	3.15	
1982/1/6	3.13	
1982/1/7	3.13	
1982/1/8	3.21	
1982/1/9	3.22	
1982/1/10	3.24	
1982/1/11	3.25	
1982/1/12	3.25	
1982/1/13	3.26	
1982/1/14	3.27	
1982/1/15	3.28	
1982/1/16	3.28	
1982/1/17	3.29	
1982/1/18	3.30	
1982/1/19	3.31	
1982/1/20	3.30	
1982/1/21	3.32	
1982/1/22	3.33	
1982/1/23	3.34	
1982/1/24	3.35	
1982/1/25	3.36	
1982/1/26	3.36	
1982/1/27	3.37	
1982/1/28	3.38	

DATE	MEAN VALUE (m)	REMARKS
1982/1/1	2.13	
1982/1/2	2.13	
1982/1/3	2.21	
1982/1/4	2.21	
1982/1/5	2.23	
1982/1/6	2.30	
1982/1/7	2.34	
1982/1/8	2.38	
1982/1/9	2.32	
1982/1/10	2.13	
1982/1/11	2.13	
1982/1/12	2.54	
1982/1/13	2.53	
1982/1/14	2.53	
1982/1/15	2.59	
1982/1/16	2.60	
1982/1/17	2.63	
1982/1/18	2.63	
1982/1/19	2.64	
1982/1/20	2.63	
1982/1/21	2.11	
1982/1/22	2.19	
1982/1/23	2.19	
1982/1/24	2.23	
1982/1/25	2.23	
1982/1/26	2.32	
1982/1/27	2.53	
1982/1/28	3.04	
1982/1/29	3.04	
1982/1/30	0.03	
1982/1/31	3.06	

DATE	MEAN VALUE (m)	REMARKS
1981/8/1	3.10	
1981/8/2	3.09	
1981/8/3	3.08	
1981/8/4	3.06	
1981/8/5	3.05	
1981/8/6	3.04	
1981/8/7	3.04	
1981/8/8	3.02	
1981/8/9	3.01	
1981/8/10	3.00	
1981/8/11	2.99	
1981/8/12	2.98	
1981/8/13	2.97	
1981/8/14	2.95	
1981/8/15	2.94	
1981/8/16	2.93	
1981/8/17	2.93	
1981/8/18	2.92	
1981/8/19	2.90	
1981/8/20	2.88	
1981/8/21	2.88	
1981/8/22	2.88	
1981/8/23	2.87	
1981/8/24	2.86	
1981/8/25	2.85	
1981/8/26	2.84	
1981/8/27	2.83	
1981/8/28	2.82	
1981/8/29	2.80	
1981/8/30	2.79	
1981/8/31	2.78	

DATE	MEAN VALUE (m)	REMARKS
1981/7/1	3.44	
1981/7/2	3.44	
1981/7/3	3.43	
1981/7/4	3.42	
1981/7/5	3.41	
1981/7/6	3.40	
1981/7/7	3.39	
1981/7/8	3.38	
1981/7/9	3.37	
1981/7/10	3.36	
1981/7/11	3.33	
1981/7/12	3.34	
1981/7/13	3.32	
1981/7/14	3.31	
1981/7/15	3.30	
1981/7/16	3.28	
1981/7/17	3.28	
1981/7/18	3.24	
1981/7/19	3.23	
1981/7/20	3.22	
1981/7/21	3.21	
1981/7/22	3.20	
1981/7/23	3.19	
1981/7/24	3.19	
1981/7/25	3.17	
1981/7/26	3.16	
1981/7/27	3.15	
1981/7/28	3.14	
1981/7/29	3.13	
1981/7/30	3.12	
1981/7/31	M	No data

DATE	MEAN VALUE (m)	REMARKS
1981/10/1	2.20	
1981/10/2	2.19	
1981/10/3	2.17	
1981/10/4	2.15	
1981/10/5	2.14	
1981/10/6	2.12	
1981/10/7	2.10	
1981/10/8	2.08	
1981/10/9	2.07	
1981/10/10	2.05	
1981/10/11	2.04	
1981/10/12	2.03	
1981/10/13	2.02	
1981/10/14	2.01	
1981/10/15	2.00	
1981/10/16	2.35	
1981/10/17	2.34	
1981/10/18	2.33	
1981/10/19	2.33	
1981/10/20	2.30	
1981/10/21	2.31	
1981/10/22	2.30	
1981/10/23	2.29	
1981/10/24	2.29	
1981/10/25	2.28	
1981/10/26	2.27	
1981/10/27	2.26	
1981/10/28	2.25	
1981/10/29	2.24	
1981/10/30	2.23	
1981/10/31	2.22	

DATE	MEAN VALUE (m)	REMARKS
1981/9/1	2.77	
1981/9/2	2.76	
1981/9/3	2.75	
1981/9/4	2.73	
1981/9/5	2.72	
1981/9/6	2.71	
1981/9/7	2.70	
1981/9/8	2.68	
1981/9/9	2.67	
1981/9/10	2.66	
1981/9/11	2.65	
1981/9/12	2.64	
1981/9/13	M	No data
1981/9/14	M	No data
1981/9/15	M	No data
1981/9/16	M	No data
1981/9/17	M	No data
1981/9/18	M	No data
1981/9/19	M	No data
1981/9/20	M	No data
1981/9/21	M	No data
1981/9/22	M	No data
1981/9/23	M	No data
1981/9/24	M	No data
1981/9/25	M	No data
1981/9/26	M	No data
1981/9/27	M	No data
1981/9/28	M	No data
1981/9/29	M	No data
1981/9/30	M	No data



DATE	MEAN VALUE (m)	REMARKS
1982/3/1	3.40	
1982/3/2	3.39	
1982/3/3	3.38	
1982/3/4	3.38	
1982/3/5	3.37	
1982/3/6	3.36	
1982/3/7	3.35	
1982/3/8	3.35	
1982/3/9	3.34	
1982/3/10	3.33	
1982/3/11	3.32	
1982/3/12	3.32	
1982/3/13	3.31	
1982/3/14	3.30	
1982/3/15	3.30	
1982/3/16	3.29	
1982/3/17	3.28	
1982/3/18	3.28	
1982/3/19	3.27	
1982/3/20	3.27	
1982/3/21	3.26	
1982/3/22	3.26	
1982/3/23	3.31	
1982/3/24	3.32	
1982/3/25	3.34	
1982/3/26	3.30	
1982/3/27	3.37	
1982/3/28	3.38	
1982/3/29	3.40	
1982/3/30	3.41	No data
1982/3/31	M	

DATE	MEAN VALUE (m)	REMARKS
1982/4/1	2.80	
1982/4/2	2.78	
1982/4/3	2.78	
1982/4/4	2.76	
1982/4/5	2.75	
1982/4/6	2.74	
1982/4/7	2.74	
1982/4/8	2.73	
1982/4/9	2.71	
1982/4/10	2.70	
1982/4/11	2.70	
1982/4/12	2.69	
1982/4/13	2.68	
1982/4/14	2.68	
1982/4/15	2.67	
1982/4/16	2.65	
1982/4/17	2.65	
1982/4/18	2.64	
1982/4/19	2.62	
1982/4/20	2.61	
1982/4/21	2.60	
1982/4/22	2.58	
1982/4/23	2.57	
1982/4/24	2.56	
1982/4/25	2.55	
1982/4/26	2.54	
1982/4/27	2.53	
1982/4/28	2.51	
1982/4/29	2.50	
1982/4/30	2.49	
1982/4/31	2.48	

DATE	MEAN VALUE (m)	REMARKS
1982/5/1	3.48	
1982/5/2	3.48	
1982/5/3	3.47	
1982/5/4	3.46	
1982/5/5	3.45	
1982/5/6	3.44	
1982/5/7	3.42	
1982/5/8	3.41	
1982/5/9	3.40	
1982/5/10	3.39	
1982/5/11	3.39	
1982/5/12	3.38	
1982/5/13	3.37	
1982/5/14	3.36	
1982/5/15	3.35	
1982/5/16	3.34	
1982/5/17	3.33	
1982/5/18	3.32	
1982/5/19	3.30	
1982/5/20	3.29	
1982/5/21	3.28	
1982/5/22	3.27	
1982/5/23	3.26	
1982/5/24	3.25	
1982/5/25	3.24	
1982/5/26	3.23	
1982/5/27	3.22	
1982/5/28	3.20	
1982/5/29	3.19	
1982/5/30	3.17	
1982/5/31	3.16	

DATE	MEAN VALUE (m)	REMARKS
1982/6/1	3.16	
1982/6/2	3.14	
1982/6/3	3.12	
1982/6/4	3.11	
1982/6/5	3.10	
1982/6/6	3.09	
1982/6/7	3.08	
1982/6/8	3.07	
1982/6/9	3.06	
1982/6/10	3.05	
1982/6/11	3.04	
1982/6/12	3.03	
1982/6/13	3.02	
1982/6/14	3.01	
1982/6/15	3.00	
1982/6/16	3.00	
1982/6/17	2.98	
1982/6/18	2.96	
1982/6/19	2.95	
1982/6/20	2.94	
1982/6/21	2.93	
1982/6/22	2.92	
1982/6/23	2.90	
1982/6/24	2.88	
1982/6/25	2.87	
1982/6/26	2.86	
1982/6/27	2.85	
1982/6/28	2.84	
1982/6/29	2.83	
1982/6/30	2.82	

DATE	MEAN VALUE (m)	REMARKS
1982/7/1	2.80	
1982/7/2	2.78	
1982/7/3	2.78	
1982/7/4	2.76	
1982/7/5	2.75	
1982/7/6	2.74	
1982/7/7	2.74	
1982/7/8	2.73	
1982/7/9	2.71	
1982/7/10	2.70	
1982/7/11	2.70	
1982/7/12	2.69	
1982/7/13	2.68	
1982/7/14	2.68	
1982/7/15	2.67	
1982/7/16	2.65	
1982/7/17	2.65	
1982/7/18	2.64	
1982/7/19	2.62	
1982/7/20	2.61	
1982/7/21	2.60	
1982/7/22	2.58	
1982/7/23	2.57	
1982/7/24	2.56	
1982/7/25	2.55	
1982/7/26	2.54	
1982/7/27	2.53	
1982/7/28	2.51	
1982/7/29	2.50	
1982/7/30	2.49	
1982/7/31	2.48	

DATE	MEAN VALUE (m)	REMARKS
1982/8/1	M	No data
1982/8/2	M	No data
1982/8/3	M	No data
1982/8/4	M	No data
1982/8/5	M	No data
1982/8/6	M	No data
1982/8/7	M	No data
1982/8/8	M	No data
1982/8/9	M	No data
1982/8/10	M	No data
1982/8/11	M	No data
1982/8/12	M	No data
1982/8/13	M	No data
1982/8/14	M	No data
1982/8/15	M	No data
1982/8/16	M	No data
1982/8/17	M	No data
1982/8/18	M	No data
1982/8/19	M	No data
1982/8/20	M	No data
1982/8/21	M	No data
1982/8/22	M	No data
1982/8/23	M	No data
1982/8/24	M	No data
1982/8/25	M	No data
1982/8/26	M	No data
1982/8/27	M	No data
1982/8/28	M	No data
1982/8/29	M	No data
1982/8/30	M	No data
1982/8/31	M	No data

DATE	MEAN VALUE (m)	REMARKS
1982/9/1	2.10	
1982/9/2	2.09	
1982/9/3	2.08	
1982/9/4	2.07	
1982/9/5	2.06	
1982/9/6	2.05	
1982/9/7	2.04	
1982/9/8	2.03	
1982/9/9	2.02	
1982/9/10	2.01	
1982/9/11	2.01	
1982/9/12	M	No data
1982/9/13	M	No data
1982/9/14	M	No data
1982/9/15	M	No data
1982/9/16	M	No data
1982/9/17	M	No data
1982/9/18	M	No data
1982/9/19	M	No data
1982/9/20	M	No data
1982/9/21	M	No data
1982/9/22	M	No data
1982/9/23	M	No data
1982/9/24	M	No data
1982/9/25	M	No data
1982/9/26	M	No data
1982/9/27	M	No data
1982/9/28	M	No data
1982/9/29	M	No data
1982/9/30	M	No data

DATE	MEAN VALUE (m)	REMARKS
1982/10/1	M	No data
1982/10/2	M	No data
1982/10/3	M	No data
1982/10/4	M	No data
1982/10/5	M	No data
1982/10/6	M	No data
1982/10/7	M	No data
1982/10/8	M	No data
1982/10/9	M	No data
1982/10/10	M	No data
1982/10/11	M	No data
1982/10/12	M	No data
1982/10/13	M	No data
1982/10/14	M	No data
1982/10/15	M	No data
1982/10/16	M	No data
1982/10/17	M	No data
1982/10/18	M	No data
1982/10/19	M	No data
1982/10/20	M	No data
1982/10/21	M	No data
1982/10/22	M	No data
1982/10/23	M	No data
1982/10/24	M	No data
1982/10/25	M	No data
1982/10/26	M	No data
1982/10/27	M	No data
1982/10/28	M	No data
1982/10/29	M	No data
1982/10/30	M	No data
1982/10/31	M	No data

DATE	MEAN VALUE (m)	REMARKS
1982/10/1	M	No data
1982/10/2	M	No data
1982/10/3	M	No data
1982/10/4	M	No data
1982/10/5	M	No data
1982/10/6	M	No data
1982/10/7	M	No data
1982/10/8	M	No data
1982/10/9	M	No data
1982/10/10	M	No data
1982/10/11	M	No data
1982/10/12	M	No data
1982/10/13	M	No data
1982/10/14	M	No data
1982/10/15	M	No data
1982/10/16	M	No data
1982/10/17	M	No data
1982/10/18	M	No data
1982/10/19	M	No data
1982/10/20	M	No data
1982/10/21	M	No data
1982/10/22	M	No data
1982/10/23	M	No data
1982/10/24	M	No data
1982/10/25	M	No data
1982/10/26	M	No data
1982/10/27	M	No data
1982/10/28	M	No data
1982/10/29	M	No data
1982/10/30	M	No data
1982/10/31	M	No data

DATE	MEAN VALUE (m)	REMARKS
1982/11/1	M	No data
1982/11/2	M	No data
1982/11/3	M	No data
1982/11/4	M	No data
1982/11/5	2.03	
1982/11/6	2.06	
1982/11/7	2.06	
1982/11/8	2.12	
1982/11/9	2.14	
1982/11/10	2.17	
1982/11/11	2.21	
1982/11/12	2.23	
1982/11/13	2.26	
1982/11/14	2.26	
1982/11/15	2.27	
1982/11/16	2.30	
1982/11/17	2.34	
1982/11/18	2.36	
1982/11/19	2.39	
1982/11/20	2.41	
1982/11/21	2.45	
1982/11/22	2.47	
1982/11/23	2.50	
1982/11/24	2.53	
1982/11/25	2.57	
1982/11/26	2.59	
1982/11/27	2.62	
1982/11/28	2.64	
1982/11/29	2.67	
1982/11/30	2.71	

DATE	MEAN VALUE (m)	REMARKS
1982/12/1	2.75	
1982/12/2	2.78	
1982/12/3	2.81	
1982/12/4	2.83	
1982/12/5	2.85	
1982/12/6	2.88	
1982/12/7	2.92	
1982/12/8	2.95	
1982/12/9	2.97	
1982/12/10	2.99	
1982/12/11	3.02	
1982/12/12	3.05	
1982/12/13	3.08	
1982/12/14	3.11	
1982/12/15	3.15	
1982/12/16	3.18	
1982/12/17	3.19	
1982/12/18	3.22	
1982/12/19	3.26	
1982/12/20	3.29	
1982/12/21	3.32	
1982/12/22	3.35	
1982/12/23	3.40	
1982/12/24	3.43	
1982/12/25	3.47	
1982/12/26	3.49	
1982/12/27	3.52	
1982/12/28	3.55	
1982/12/29	3.58	
1982/12/30	3.61	
1982/12/31	3.62	

DATE	MEAN VALUE (m)	REMARKS
1983/1/1	3.95	
1983/1/2	3.96	
1983/1/3	3.94	
1983/1/4	3.94	
1983/1/5	3.93	
1983/1/6	3.92	
1983/1/7	3.91	
1983/1/8	3.90	
1983/1/9	3.89	
1983/1/10	3.88	
1983/1/11	3.88	
1983/1/12	3.87	
1983/1/13	3.87	
1983/1/14	3.86	
1983/1/15	3.85	
1983/1/16	3.84	
1983/1/17	3.84	
1983/1/18	3.83	
1983/1/19	3.82	
1983/1/20	3.81	
1983/1/21	3.80	
1983/1/22	3.79	
1983/1/23	3.79	
1983/1/24	3.78	
1983/1/25	3.77	
1983/1/26	3.76	
1983/1/27	3.75	
1983/1/28	3.74	
1983/1/29	3.74	
1983/1/30	3.73	
1983/1/31	3.72	

DATE	MEAN VALUE (m)	REMARKS
1983/1/1	3.71	
1983/1/2	3.70	
1983/1/3	3.70	
1983/1/4	3.69	
1983/1/5	3.68	
1983/1/6	3.68	
1983/1/7	3.67	
1983/1/8	3.66	
1983/1/9	3.66	
1983/1/10	3.66	
1983/1/11	3.65	
1983/1/12	3.64	
1983/1/13	3.63	
1983/1/14	3.62	
1983/1/15	3.62	
1983/1/16	3.61	
1983/1/17	3.60	
1983/1/18	3.59	
1983/1/19	3.58	
1983/1/20	3.57	
1983/1/21	3.56	
1983/1/22	3.56	
1983/1/23	3.55	
1983/1/24	3.54	
1983/1/25	3.54	
1983/1/26	3.53	
1983/1/27	3.52	
1983/1/28	3.52	
1983/1/29	3.51	
1983/1/30	3.51	

DATE	MEAN VALUE (m)	REMARKS
1983/1/1	3.85	
1983/1/2	3.67	
1983/1/3	3.70	
1983/1/4	3.74	
1983/1/5	3.76	
1983/1/6	3.79	
1983/1/7	3.81	
1983/1/8	3.85	
1983/1/9	3.87	
1983/1/10	3.92	
1983/1/11	3.95	
1983/1/12	3.98	
1983/1/13	4.01	
1983/1/14	4.07	
1983/1/15	4.13	
1983/1/16	4.16	
1983/1/17	4.15	
1983/1/18	4.14	
1983/1/19	4.13	
1983/1/20	4.12	
1983/1/21	4.11	
1983/1/22	4.10	
1983/1/23	4.08	
1983/1/24	4.08	
1983/1/25	4.07	
1983/1/26	4.06	
1983/1/27	4.05	
1983/1/28	4.04	
1983/1/29	4.03	
1983/1/30	4.02	
1983/1/31	4.01	

DATE	MEAN VALUE (m)	REMARKS
1983/2/1	4.01	
1983/2/2	3.99	
1983/2/3	3.98	
1983/2/4	3.97	
1983/2/5	3.97	
1983/2/6	3.96	
1983/2/7	3.97	
1983/2/8	3.98	
1983/2/9	3.98	
1983/2/10	4.02	
1983/2/11	4.02	
1983/2/12	4.03	
1983/2/13	4.04	
1983/2/14	4.05	
1983/2/15	4.06	
1983/2/16	4.07	
1983/2/17	4.09	
1983/2/18	4.09	
1983/2/19	4.07	
1983/2/20	4.06	
1983/2/21	4.05	
1983/2/22	4.03	
1983/2/23	4.03	
1983/2/24	4.02	
1983/2/25	4.01	
1983/2/26	4.98	
1983/2/27	4.98	
1983/2/28	3.97	

DATE	MEAN VALUE (m)	REMARKS
1983/5/1	3.51	
1983/5/2	3.50	
1983/5/3	3.49	
1983/5/4	3.48	
1983/5/5	3.47	
1983/5/6	3.46	
1983/5/7	3.45	
1983/5/8	3.44	
1983/5/9	3.42	
1983/5/10	3.40	
1983/5/11	3.39	
1983/5/12	3.38	
1983/5/13	3.37	
1983/5/14	3.36	
1983/5/15	3.35	
1983/5/16	3.34	
1983/5/17	3.33	
1983/5/18	3.32	
1983/5/19	3.30	
1983/5/20	3.29	
1983/5/21	3.28	
1983/5/22	3.27	
1983/5/23	3.26	
1983/5/24	3.25	
1983/5/25	3.24	
1983/5/26	3.23	
1983/5/27	3.22	
1983/5/28	3.20	
1983/5/29	3.20	
1983/5/30	3.19	
1983/5/31	3.18	

DATE	MEAN VALUE (m)	REMARKS
1983/6/1	3.17	
1983/6/2	3.16	
1983/6/3	3.15	
1983/6/4	3.13	
1983/6/5	3.12	
1983/6/6	3.11	
1983/6/7	3.10	
1983/6/8	3.09	
1983/6/9	3.07	
1983/6/10	3.06	
1983/6/11	3.05	
1983/6/12	3.05	
1983/6/13	3.03	
1983/6/14	3.02	
1983/6/15	3.01	
1983/6/16	3.00	
1983/6/17	2.99	
1983/6/18	2.98	
1983/6/19	2.97	
1983/6/20	2.96	
1983/6/21	2.95	
1983/6/22	2.95	
1983/6/23	2.94	
1983/6/24	2.93	
1983/6/25	2.92	
1983/6/26	2.91	
1983/6/27	2.90	
1983/6/28	2.89	
1983/6/29	2.87	
1983/6/30	2.86	

DATE	MEAN VALUE(m)	REMARKS
1983/8/1	2.54	
1983/8/2	2.53	
1983/8/3	2.52	
1983/8/4	2.51	
1983/8/5	2.50	
1983/8/6	2.49	
1983/8/7	2.47	
1983/8/8	2.46	
1983/8/9	2.45	
1983/8/10	2.44	
1983/8/11	2.43	
1983/8/12	2.42	
1983/8/13	2.40	
1983/8/14	2.39	
1983/8/15	2.38	
1983/8/16	2.37	
1983/8/17	2.35	
1983/8/18	2.34	
1983/8/19	2.33	
1983/8/20	2.32	
1983/8/21	2.31	
1983/8/22	2.30	
1983/8/23	2.29	
1983/8/24	2.28	
1983/8/25	2.27	
1983/8/26	2.26	
1983/8/27	2.25	
1983/8/28	2.23	
1983/8/29	2.22	
1983/8/30	2.21	
1983/8/31	2.20	

DATE	MEAN VALUE(m)	REMARKS
1983/7/1	M	No data
1983/7/2	M	No data
1983/7/3	M	No data
1983/7/4	M	No data
1983/7/5	M	No data
1983/7/6	M	No data
1983/7/7	M	No data
1983/7/8	M	No data
1983/7/9	M	No data
1983/7/10	M	No data
1983/7/11	M	No data
1983/7/12	M	No data
1983/7/13	M	No data
1983/7/14	M	No data
1983/7/15	M	No data
1983/7/16	M	No data
1983/7/17	M	No data
1983/7/18	M	No data
1983/7/19	M	No data
1983/7/20	M	No data
1983/7/21	M	No data
1983/7/22	M	No data
1983/7/23	M	No data
1983/7/24	M	No data
1983/7/25	M	No data
1983/7/26	M	No data
1983/7/27	M	No data
1983/7/28	M	No data
1983/7/29	M	No data
1983/7/30	M	No data
1983/7/31	M	No data

DATE	MEAN VALUE(m)	REMARKS
1983/9/1	2.18	
1983/9/2	2.17	
1983/9/3	2.16	
1983/9/4	2.14	
1983/9/5	2.13	
1983/9/6	2.12	
1983/9/7	2.10	
1983/9/8	2.09	
1983/9/9	2.08	
1983/9/10	2.07	
1983/9/11	2.06	
1983/9/12	2.05	
1983/9/13	2.04	
1983/9/14	2.03	
1983/9/15	2.02	
1983/9/16	2.01	
1983/9/17	2.00	

***Data E***  
***River Discharge***  
***Observation Survey***

Summary of description of discharge measurement station, methods used and results for Kirurumo River.

Parameter	Description	Remarks
Name of the river	Kirurumo River	
Site Location	LONG. 35.84044 °E LAT. 3.36809 °S	The measuring station is located under the bridge.
Elevation (amsl) [m]	1001	
GPS Set accuracy (m)	8	
Date, time and duration of measurement	Date: 17 March 2006 Starting time: 15:15 Hours Finishing time: 16:10 Hours Duration: 55 Min.	
Site Description	A bridge column and a side of rock were used as artificial banks (Plate 4.1.1)	Gauging stations could not be located after looking for it 30 m upstream and downstream the bridge. The gauging station was probably demolished during construction of the new bridge. Within the accessible reach of the river, the best flow measuring section was identified to be under the bridge.
Weather Conditions	Calm and slightly sunny	
Means of Measurement	Velocity and area were measured by wadding across the river as Plate 4.1.2 shows.	This method was used because the maximum depth of water in the river was not prohibitive for wadding.
Type of Instrument Used	Meter Type: A. OTT Number: PYGMY Propeller Number: 4-188212	Small Current Meter was used because of low depth and velocity.
Mean gauge Height (m)	Not Available	River gauges could not be found
Width of the river (m)	6.30	
Number of Velocity Measurements per depth	One-point	
Mean velocity (m/sec)	0.649 ± 0.084	
Area (m <sup>2</sup> )	1.583	
Discharge (m <sup>3</sup> /sec)	First measurement: 1.037 Second measurement: 1.083 <b>Mean ± SD = 1.028 ± 0.013</b>	Discharge measurement field data for Kirurumo River are shown in Appendix 1.1.

Summary of description of discharge measurement station, methods used and results for Dudumera River.

Parameter	Description	Remarks
Name of the river	Dudumera River	
Site Location	LONG. 35.72419 °E LAT. 4.09114 °S	The measuring station was located at the gauging station.
Elevation (amsl) [m]	1044	
GPS Set accuracy (m)	7	
Date, time and duration of measurement	Date: 17 March 2006 Starting time: 11:47 Hours Finishing time: 12:30 Hours Duration: 43 Min.	
Site Description	Natural banks with few vegetation (Plate 4.2.1)	
Weather Conditions	Cloudy and calm	
Means of Measurement	Velocity and area were measured by wadding across the river as Plate 4.2.2 shows.	This method was used because the maximum depth of water in the river was not prohibitive for wadding.
Type of Instrument Used	Meter Type: A. OTT Number: PYGMY Propeller Number: 4-188212	Small Current Meter was used because of low depth and velocity.
Mean gauge Height (m)	0.460	
Width of the river (m)	13.10	
Number of Velocity Measurements per depth	One-point	
Mean velocity (m/sec)	0.564 ± 0.050	
Area (m <sup>2</sup> )	2.118	
Discharge (m <sup>3</sup> /sec)	First measurement: 1.119 Second measurement: 1.119 <b>Mean ± SD = 1.119 ± 0.000</b>	Discharge measurement field data for Dudumera River are shown in Appendix 1.2.

Summary of description of discharge measurement station, methods used and results for Kironda River.

Parameter	Description	Remarks
Name of the river	Kironda River	
Site Location	LONG. 34.33479 °E LAT. 4.37876 °S	The measuring station was located about 20 m upstream the gauging station.
Elevation (amsl) [m]	1384	
GPS Set accuracy (m)	8	
Date, time and duration of measurement	Date: 16 March 2006 Starting time: 10:20 Hours Finishing time: 11:25 Hours Duration: 65 Min.	
Site Description	Natural banks with no vegetation cover (Plate 4.3.1)	
Weather Conditions	Clear	
Means of Measurement	Velocity and area were measured by wadding across the river as Plate 4.3.2 shows.	This method was used because the maximum depth of water in the river was not prohibitive for wadding.
Type of Instrument Used	Meter Type: A. OTT Number: PYGMY Propeller Number: 4-188212	Small Current Meter was used because of low depth and velocity.
Mean gauge Height (m)	0.060	
Width of the river (m)	8.55	
Number of Velocity Measurements per depth	One-point	
Mean velocity (m/sec)	0.706 ± 0.039	
Area (m <sup>2</sup> )	0.757	
Discharge (m <sup>3</sup> /sec)	<b>First measurement: 0.556</b> <b>Second measurement: 0.556</b> <b>Mean ± SD = 0.556 ± 0.000</b>	Discharge measurement field data for Kironda River are shown in Appendix 1.3.

Summary of description of discharge measurement station, methods used and results for Tungu River.

Parameter	Description	Remarks
Name of the river	Tungu River	
Site Location	LONG. 33.78125 °E LAT. 3.57176 °S	
Elevation (amsl) [m]	1012	
GPS Set accuracy (m)	9	
Date, time and duration of measurement	Date: 18 March 2006 Starting time: 9:30 Hours Finishing time: 10:40 Hours Duration: 70 Min.	
Site Description	Natural banks with no vegetation cover (Plate 4.4.1)	
Weather Conditions	Clear	
Means of Measurement	Velocity and area were measured by wadding across the river as Plate 4.4.2 shows.	This method was used because the maximum depth of water in the river was not prohibitive for wadding.
Type of Instrument Used	Meter Type: A. OTT Number: PYGMY Propeller Number: 4-188212	Small Current Meter was used because of low depth and velocity.
Mean gauge Height (m)	Not Available	River gauges could not be located
Width of the river (m)	4.70	
Number of Velocity Measurements per depth	One-point	
Mean velocity (m/sec)	0.050 ± 0.000	
Area (m <sup>2</sup> )	0.977	
Discharge (m <sup>3</sup> /sec)	<b>First measurement: 0.049</b> <b>Second measurement: 0.049</b> <b>Mean ± SD = 0.049 ± 0.000</b>	Discharge measurement field data for Tungu River are shown in Appendix 1.4.

Summary of description of discharge measurement station, methods used and results for Bubu River.

Parameter	Description	Remarks
Name of the river	Bubu River	
Site Location	LONG. 35.55566 °E LAT. 5.31486 °S	The measuring station was located about 10 m upstream the gauging station at Farkwa Road Bridge.
Elevation (amsl) [m]	1094	
GPS Set accuracy (m)	6	
Date, time and duration of measurement	Date: 16 March 2006 Starting time: 16:00 Hours Finishing time: 16:55 Hours Duration: 55 Min.	
Site Description	Natural banks with no vegetation cover (Plate 4.5.1)	
Weather Conditions	Cloudy and calm	
Means of Measurement	Velocity and area were measured by wadding across the river as Plate 4.5.2 shows.	This method was used because the maximum depth of water in the river was not prohibitive for wadding.
Type of Instrument Used	Meter Type: A. OTT Number: PYGMY Propeller Number: 4-188212	Small Current Meter was used because of low depth and velocity.
Mean gauge Height (m)	0.050	
Width of the river (m)	6.35	
Number of Velocity Measurements per depth	One-point	
Mean velocity (m/sec)	0.239 ± 0.003	
Area (m <sup>2</sup> )	0.977	
Discharge (m <sup>3</sup> /sec)	<b>First measurement: 0.205</b> <b>Second measurement: 0.199</b> <b>Mean ± SD = 0.202 ± 0.004</b>	Discharge measurement field data for Bubu River are shown in Appendix 1.5.

Summary of Discharge Measurement Results for selected rivers in the Internal Drainage Basin

N	Date	Station Number	Name of River	Location	LAT (°S)	LONG (°E)	Mean Gauge Height (m)	Span (m)	Mean Area (m <sup>2</sup> )	Mean Velocity (m/sec.)	Mean Discharge (m <sup>3</sup> /sec.)
	17/3/2006	2H1A	Kirurumo	Bridge of Mto wa Mbu River	3.36809	35.84044	N/A	6.30	1.583	0.649	<b>1.028 ± 0.013</b>
	17/3/2006	2H5A	Dudumera	Loya	4.09114	35.72419	0.460	13.10	2.118	0.564	<b>1.119 ± 0.000</b>
	16/3/2006	2K6A	Kironda	Kirondatal	4.37876	34.33479	0.060	8.55	0.757	0.706	<b>0.556 ± 0.000</b>
	19/3/2006	2K27	Tungu	Lubaya	3.57176	33.78125	N/A	4.70	0.977	0.050	<b>0.049 ± 0.000</b>
	16/3/2006	2R1A	Bubu	Farkwa Road Bridge	5.31486	35.55566	0.050	6.35	0.977	0.239	<b>0.202 ± 0.004</b>

- Not Available