

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

METROPOLITAN DISTRICT OF CARACAS
BOLIVARIAN REPUBLIC OF VENEZUELA

STUDY ON DISASTER PREVENTION BASIC PLAN IN THE METROPOLITAN DISTRICT OF CARACAS IN THE BOLIVARIAN REPUBLIC OF VENEZUELA

FINAL REPORT
MAPS

March 2005

PACIFIC CONSULTANTS INTERNATIONAL
In association with
OYO INTERNATIONAL CORPORATION

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Preface

Among the maps prepared in the Study as various GIS layers, important maps are presented in A3 format here.

The maps presented here are classified in five categories, namely “General Conditions”, “Hazard”, “Vulnerability”, “Risk” and “Planning”.

The category “General Conditions” includes general maps such as study area, administrative boundaries, and natural and social conditions of the area. The category “Hazard” includes hazard maps of both earthquake disasters and sediment disasters. The category “Vulnerability” contains maps of social vulnerability which were prepared in the Study as trial basis. The category “Risk” contains risk maps of both earthquake disasters and sediment disasters. The category “Planning” includes maps of disaster prevention planning such as the location map of debris flow control structures or a map showing the effect of seismic building reinforcement.

List of Maps

01 General Condition

No.	Title	Remarks
01/01	Study Area (with ADMC limits)	
01/02	Road Network	
01/03	Hydrologic Network	Rivers and Streams
01/04	Parroquia Boundary	
01/05	Population Density	
01/06	Barrio Location	
01/07	Aster Image	
01/08	Surface Geological Model for Earthquake Disaster	Symulation Grids and Location of Existing Data
01/09	Ground Water	
01/10	Geological Map	
01/11	Geology in the Avila Mountain	
01/12	Slope Classifications	Steep Slope and Landslide
01/13	Unstable Sediment on Stream Bed	
01/14	Potential Steep Slope Failure	
01/15	Mountain Stream System	Sediment Disaster Study Area
01/16	Metro Stations	
01/17	Water Supply Lines (Hidrocapital)	
01/18	Firefighting Station	
01/19	Gasoline Stations	
01/20	Government Buildings	
01/21	Police Stations	
01/22	Sports Facilities	
01/23	Health Facilities	
01/24	Educational Facilities (Universities and Technical Schools)	
01/25	Landuse	
01/26	Open Spaces (Area 1ha and more)	Central Area
01/27	Open Spaces (All)	All Area
01/28	Staff Gauge	for Water Level Observation
01/29	Heavy Machinery Distribution	
01/30	Volunteer Group	

02 Hazard

No.	Title	Remarks
02/01	Scenario Earthquakes	The location of scenario fault were defined by following manner. 1967: Through discussion with FUNVISIS based on Suarez and Nabelek(1990). 1812: Through several trial and error calculation referring Audemard(2002), calibrated by the result by Altez(2004). 1878: By personal communication with Audemard. Avila: By personal communication with Audemard.
02/02	Estimated Seismic Intensity (1967 case)	
02/03	Estimated Seismic Intensity (1812 case)	
02/04	Estimated Seismic Intensity (1878 case)	
02/05	Estimated Seismic Intensity (Avila fault case)	
02/06	Peak Ground Acceleration (1967 earthquake model)	
02/07	Peak Ground Acceleration (1812 earthquake model)	
02/08	Peak Ground Acceleration (1878 earthquake model)	
02/09	Peak Ground Acceleration (Avila fault model)	
02/10	Potential Liquefaction (1967 earthquake model)	
02/11	Potential Liquefaction (1812 earthquake model)	
02/12	Landslide Hazard	Hazard Map for Landslide and Steep Slope Failure
02/13	Debris Flow Hazard	Japanese Law Sediment Disaster Prevention
02/14	Depth Distribution of Debris Flow	FLO-2D

03 Vulnerability

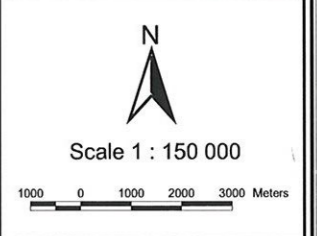
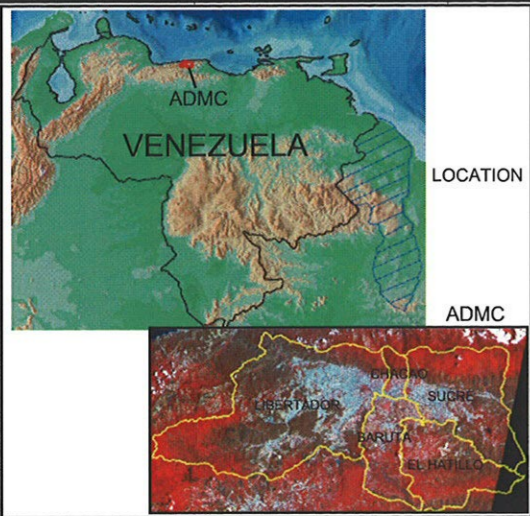
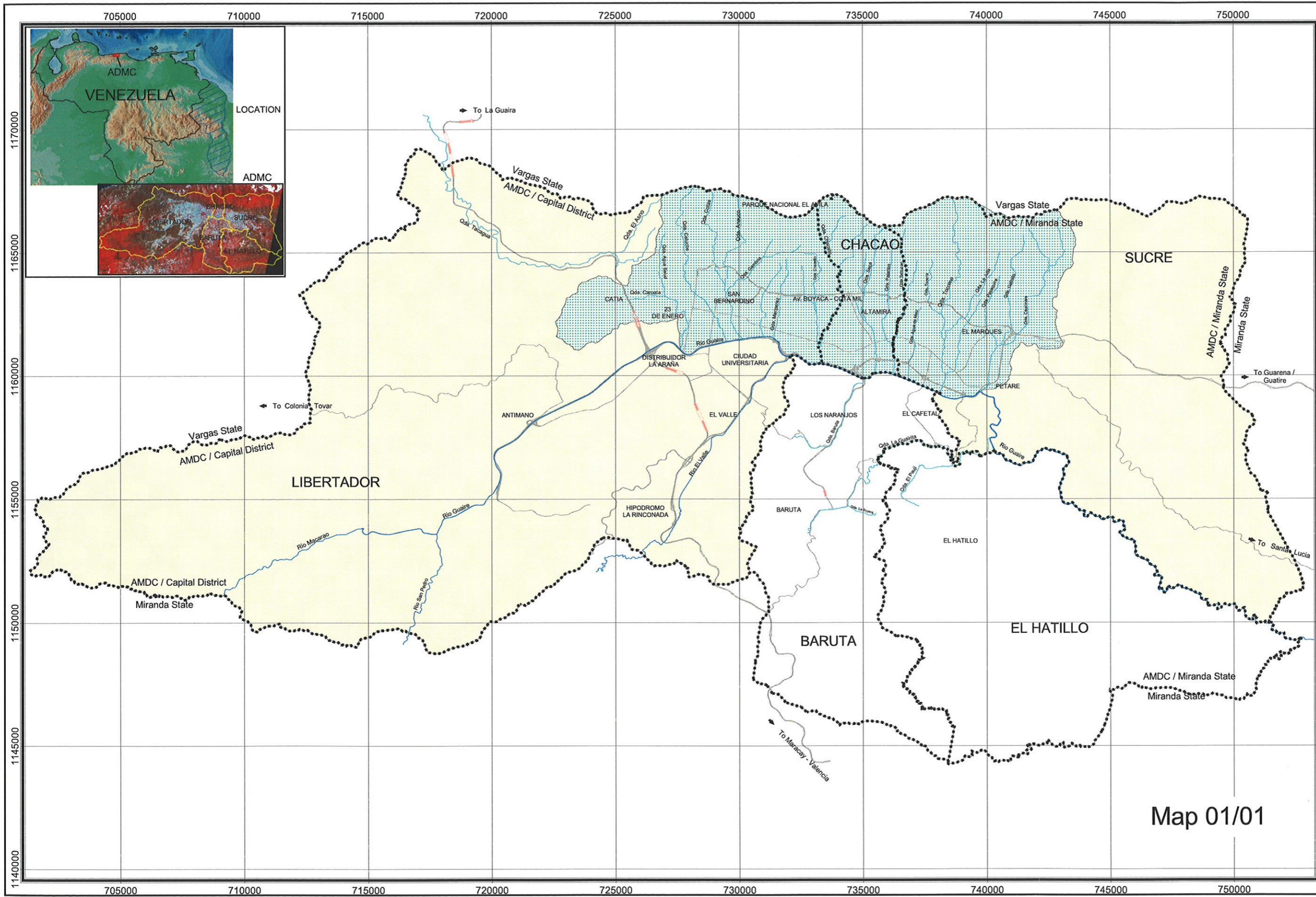
No.	Title	Remarks
03/01	Social Vulnerability Zoning	
03/02	Social Vulnerability (community)	
03/03	Social Vulnerability (demographic)	
03/04	Social Vulnerability (economic)	
03/05	Social Vulnerability (facility)	
03/06	Social Vulnerability (knowledge)	

04 Risk

No.	Title	Remarks
04/01	Building Damage Ratio (Total) by Microzone 1967 case	
04/02	Building Damage Ratio (Total) by Parroquia 1967 case	
04/03	Building Damage Ratio (Total) by Microzone 1812 case	
04/04	Building Damage Ratio (Total) by Parroquia 1812 case	
04/05	Human Casualty 1967 (Injury) by Prroquia	
04/06	Human Casualty 1812 (Injury) by Prroquia	
04/07	Damage to Water Supply (1967 earthquake model)	
04/08	Damage to Water Supply (1812 earthquake model)	
04/09	Landslide Risk	Risk Map for Landslide and Slope Failure
04/10	Debris Flow Risk	Risk Map for Debris Flow

05 Planning

No.	Title	Remarks
05/01	Emergancy Routes	
05/02	Building Damage Ratio (Total) by Parroquia for 1967 Case after Structural Measures	
05/03	Building Damage Ratio (Total) by Parroquia for 1812 Case after Structural Measures	
05/04	Structure for Sediment Control	Sabo Dam and Channel Work
05/05	Debris Flow Risk after Structural Measures	



LEGEND

- Road Network
- Tunnel
- Municipality Boundary
- River
- Stream
- Sediment Disaster Study Area
- Earthquake Disaster Study Area

Note: All the administrative limits used in this study are obtained from different institutional sources

JICA study team carefully checked and interpreted these limits based upon the existing and available information.

However, the administrative limits used for this study do not replace the existing legal and official boundaries and should be used for the context of this study.

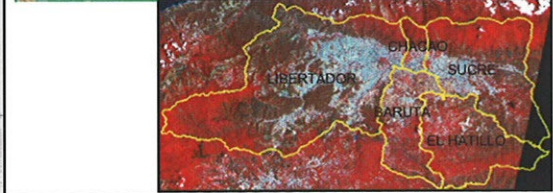
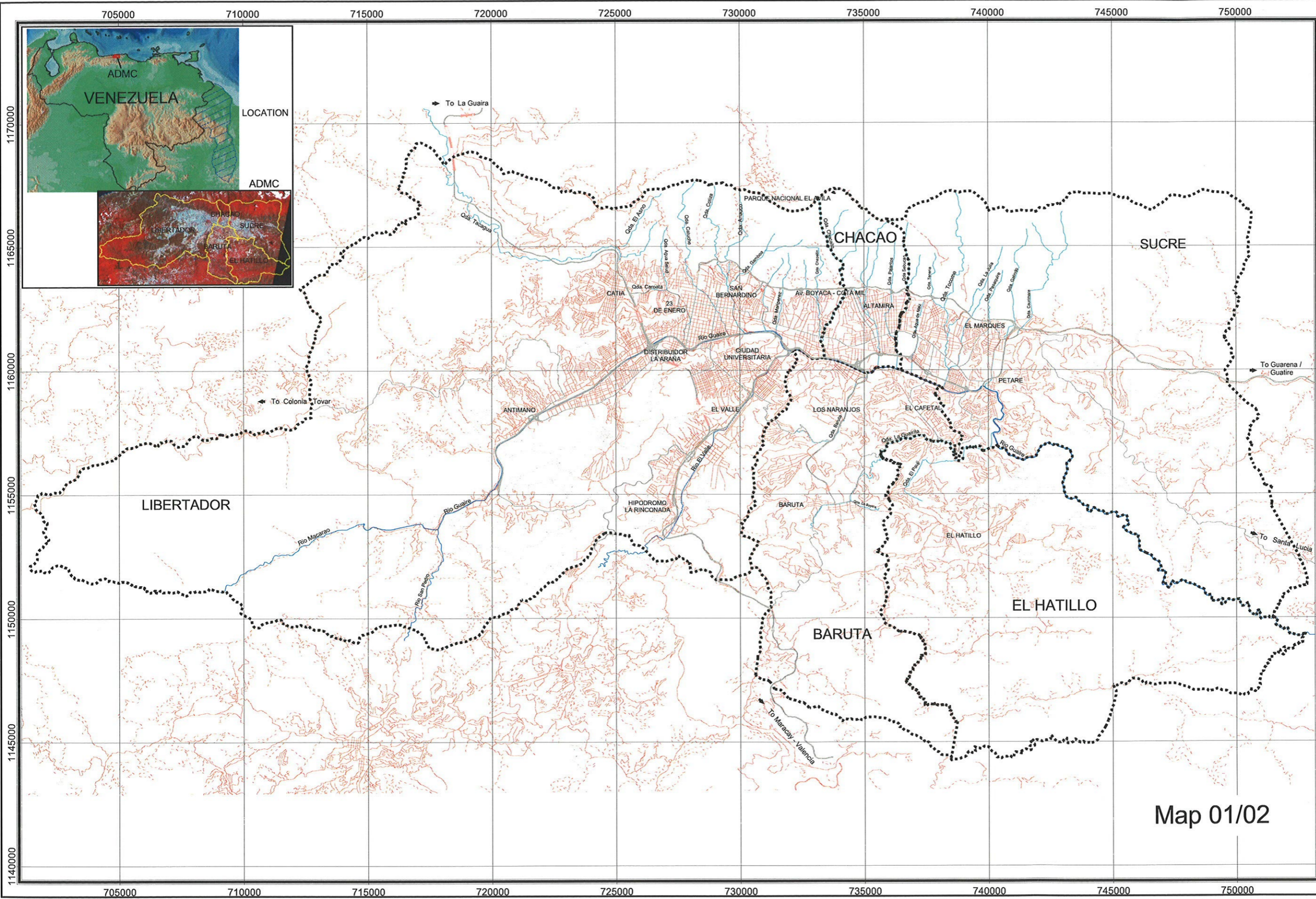
MAP PROJECTION PARAMETERS

Projection System - Universal Transverse Mercator (UTM)
 UTM Zone 19
 Datum - Provisional South American 1956
 Hemisphere - North

STUDY AREA (with AMDC limits)

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Map 01/01



Scale 1 : 150 000



LEGEND

- Municipality Boundary
- Major Road Network
- Tunnel
- Paved Road
- Secondary Road
- Path Road
- River
- Stream

Source: IGVS 2001 Edition.
Elaboration Date: 2004

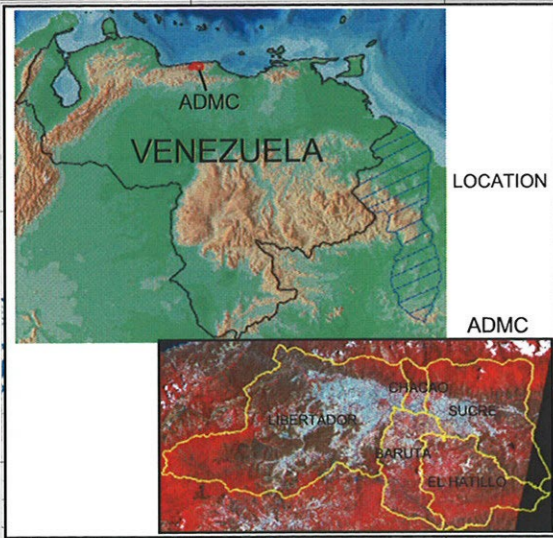
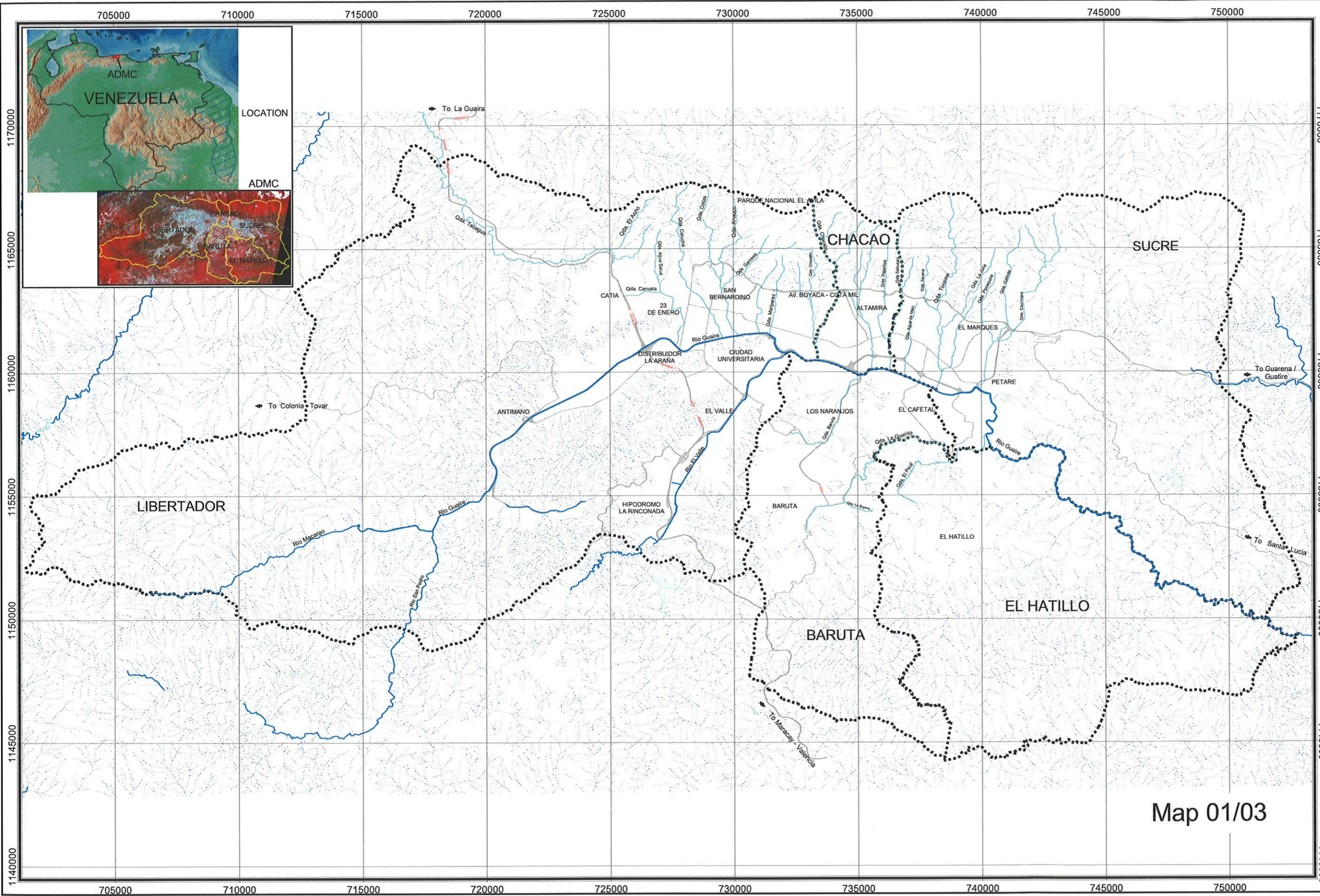
MAP PROJECTION PARAMETERS

Projection System - Universal Transverse Mercator (UTM)
UTM Zone 19
Datum - Provisional South American 1956
Hemisphere - North

ROAD NETWORK

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Map 01/02



N

Scale 1 : 150 000

1000 0 1000 2000 3000 Meters

LEGEND

- Municipality Boundary
- Road Network
- Tunnel
- River
- Major Streams
- Other Rivers and Streams
- Reservoir

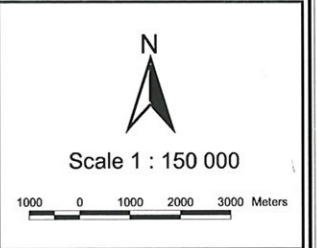
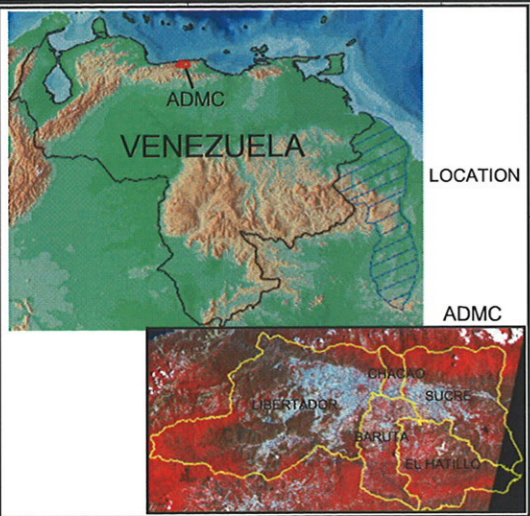
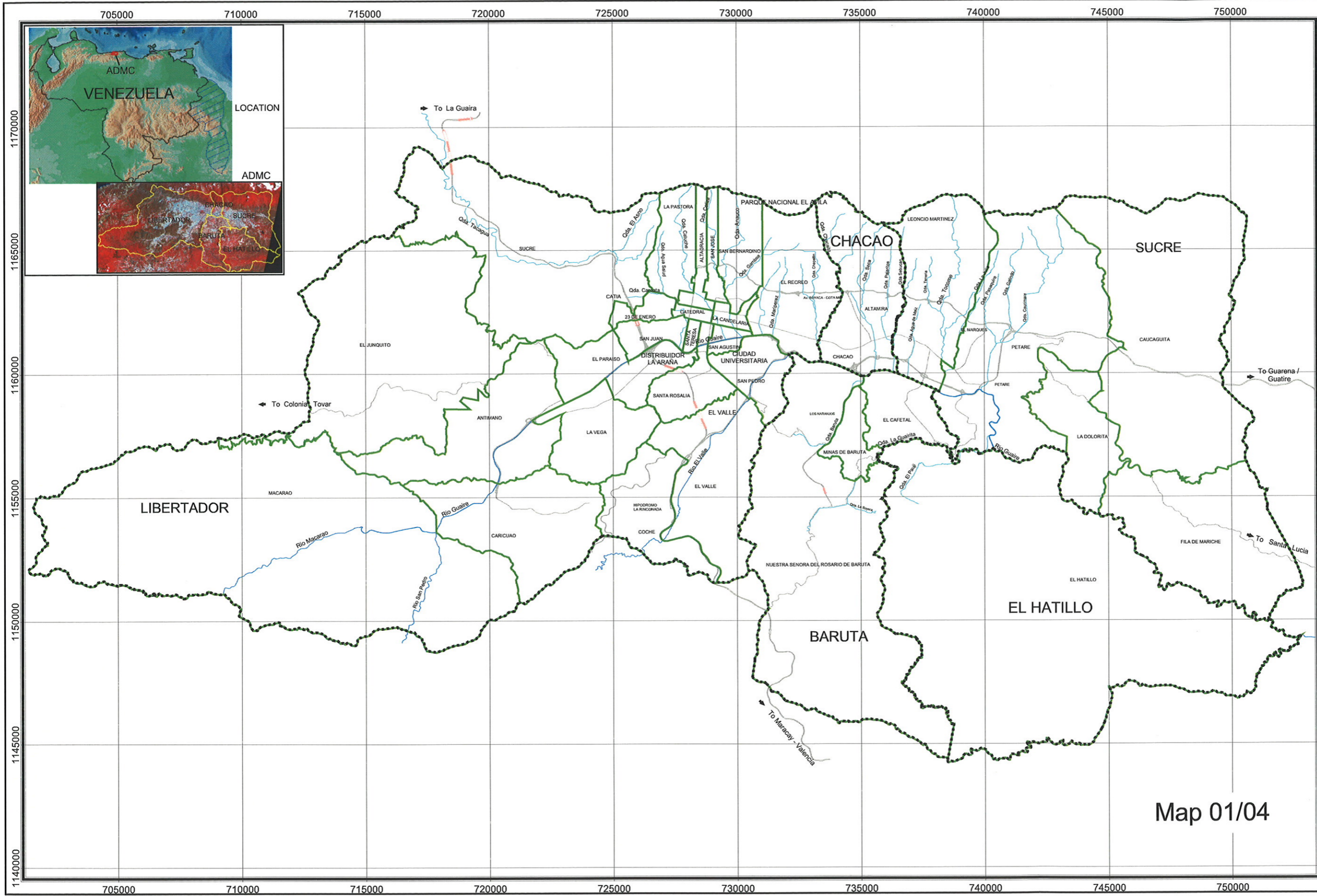
Source: IGVS. 2001 Edition.
Elaboration Date: 2004

MAP PROJECTION PARAMETERS
 Projection System - Universal Transverse Mercator (UTM)
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HYDROLOGIC NETWORK

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Map 01/03



LEGEND

- Municipality Boundary
- ▭ Parroquia Boundary
- Road Network
- ⚡ Tunnel
- River
- Stream

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MAP PROJECTION PARAMETERS

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UTM Zone 19

Datum - Provisional South American 1956

Hemisphere - North

PARROQUIA BOUNDARY

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Map 01/04