Contents

Acknowledgment	3
Extended Summary	
Introduction	7
1. Basic Characteristics of the Area	,
1.1 Location and Accessibility)
1.2 Population, Settlements and Health Status 20)
1.3 Land Use	7
2. Selected Physical and Geographical Settings 29	
2.1 Geomorphology	Э
2.2 Soil and Vegetation Cover)
2.3 Climatic Characteristics	
2.3.1 Climatic Zones and Measurements.	2
2.3.2 Precipitation	3
2.4 Hydrography and Hydrology of the Area	5
2.4.1 Surface Water Network Development	7
2.4.2 Surface Water Regime	
2.4.3 Baseflow	2
2.5 Water Balance	
2.6 Drought and Climate Change 59	
3. Geological Settings 65	3
3.1 Previous Work 6	3
3.2 Stratigraphy 66	
3.3 Lithology.	
3.3.1 Precambrian Formation (Basement) 64	
3.3.2 Mesozoic Sedimentary Rocks	ô
3.3.3 Tertiary Volcanic Rocks	
3.3.4 Quaternary Volcanic and Sedimentary Rocks	9
3.4 Structure)
3.5 Geological History)
4. Engineering Geologocal Settings	
4.1 General	3
4.2 Methodology 74	
4.2.1 Data Acquisition	
4.3 Information Layers	
4.4 Definition of Engineering Geological Zones	
4.5 Basic Characteristics of Important Engineering Geological Regional Units	
4.5.1 Rock mass	
5. Hydrogeology	
5.1 Water Point Inventory8	
5.2 Hydrogeological Classification/Characterization	
5.3 Elements of the Hydrogeological System of the Area (Aquifers, Aquicludes and Aquitards)9	
5.3.1 Extensive and Moderately Productive Porous Aquifers	1
5.3.2 Extensive and Highly Productive Fissured and Karstic Aquifers	
5.3.3 Extensive and Moderately Productive Fissured and Mixed Aquifers	

5.3.6 Formation with Essentially no Groundwater Resources (Aquitard)	101
5.4 Hydrogeological Conceptual Model	102
5.5 Annual Recharge in the Area	103
6. Hydrogeochemistry	105
6.1 Sampling and Analysis	
6.2 Classification of Natural Waters	106
6.2.1 Rain Water	109
6.2.2 Surface Water	110
6.2.3 Groundwater in Volcanic Rocks	110
6.2.4 Groundwater in Mesozoic and Paleozoic Sediments	110
6.2.5 Groundwater in Quaternary Sediments	111
6.3 Water Quality	
6.3.1 Domestic Use	112
6.3.2 Irrigation Use	
6.3.3 Industrial Use	114
6.4 Mineral and Thermal Water	116
7. Natural Resources of the Area	129
7.1 Economic Geology	
7.2 Water Resources	133
7.2.1 Surface Water Resources and Development	134
7.2.2 Groundwater Resources and Development	137
7.3 Human and Land Use Resources and Development	140
7.4 Wind and Solar Energy Development	
7.5 Environmental Problems and their Control / Management	140
7.6 Touristic Potential of the Area	146
Conclusions	
References	
Annex 1 - Field Inventory Data	

 Annex 2 - Water Chemistry
 183

 Annex 3 - Well Logs
 189