## **Contents**

LUIC	WOL	a, by mano s. monna	*
Pref	ace		vii
Acki	nowl	edgments	xi
Con	tribu	tors	xvii
		. Past and Present Environmental and Sociological Factors Forests in the Mexico City Air Basin	
	1.	Historical Summary of the Geology, Climate, Hydrology, Culture, and Natural Resource Utilization in the Basin of Mexico Guadalupe de la Lanza Espino and José Luis García-Calderón	3
	2	Cocionamento Change and Ita Iranget on Found Decoupos	
	2.	Socioeconomic Change and Its Impact on Forest Resources in the Basin of Mexico Exequiel Ezcurra, Marisa Mazari-Hiriart, Irene Pisanty, and Adrián Guillermo Aguilar	24
	3.	Physical Geography, Hydrogeology, and Forest Soils of the Basin of Mexico Luis E. Marín, Oscar Escolero-Fuentes, and Antonio Trinidad-Santos	44

4.	Forests in the Basin of Mexico: Types, Geographic Distribution, and Condition Carlos Rodríguez-Franco	68
5.	The Climate of the Mexico City Air Basin: Its Effects on the Formation and Transport of Pollutants Ernesto Jáuregui	86
Section 2	. Air Pollution in the Mexico City Air Basin	
6.	Air Pollution Levels and Trends in the Mexico City Metropolitan Area Humberto Bravo-Alvarez and Ricardo Torres-Jardón	121
7.	Emissions Trends and Pollution Control Strategies in the Mexico City Metropolitan Area M. Esther Ruiz and Jorge Gasca	160
8.	Heavy Metals in Forest Soils, Vegetation, and Drainage Waters in the Basin of Mexico Mark E. Fenn, Juana María Castro-Servín, Tomás Hernández-Tejeda, Natalie Krage, Chris Goodson, and Thomas Meixner	194
	6. Ecological Effects of Air Pollutants in the Mexico City n: Case Studies	
9.	Oxidant Exposure and Effects on Pines in Forests in the Mexico City and Los Angeles, California, Air Basins Paul R. Miller, L.I. de Bauer, and Tomás Hernández-Tejeda	225
10.	Decline of Sacred Fir in the Desierto de los Leones National Park Dionicio Alvarado-Rosales and Tomás Hernández-Tejeda	243
11.	Histological Symptoms of Air Pollution Injury in Foliage, Bark, and Xylem of Abies religiosa in the Basin of Mexico Teresa Terrazas and Sergio Bernal-Salazar	261
12.	Lichens and Air Pollution in the Forests Surrounding Mexico City Angel Zambrano, T.H. Nash III, and M.A. Herrera-Campos	283
13.	Nitrogen and Sulfur Deposition in the Mexico City Air Basin: Impacts on Forest Nutrient Status and Nitrate Levels in Drainage Waters Mark E. Fenn, L.I. de Bauer, Karl Zeller, Abel Quevedo, Claudio Rodríguez, and Tomás Hernández-Tejada	298

Contents		XV
----------	--	----

14.	Effects of Oxidants in Ambient Air on Annual Crops in the Basin of Mexico Carlos Fredy Ortíz-García, Héctor D. Laguette-Rey, and L.I. de Bauer	320
Section 4	4. Summary, Synthesis, and Perspectives	
15.	Summary of Air Pollution Impacts on Forests in the Mexico City Air Basin Mark E. Fenn, L.I. de Bauer, and Tomás Hernández-Tejeda	337
16.	Resources at Risk and Research Needs L.I. de Bauer, Tomás Hernández-Tejeda, and Mark E. Fenn	356
Index		373