

CONTENTS

Preface	xi
<b>MEASUREMENT AND MONITORING OF ATMOSPHERIC DEPOSITION</b>	
1. Acidificaiton of Precipitation	2
2. Wet Deposition Chemistry	23
3. Measurement of Dry Deposition onto Surrogate Surfaces: A Review	42
4. Fog and Cloud Water Deposition	64
5. Urban Dew: Composition and Influence on Dry Deposition Rates	92
<b>METALLIC CORROSION</b>	
6. Influence of Acid Deposition on Atmospheric Corrosion of Metals: A Review	104
7. Environmental Effects on Metallic Corrosion Products Formed in Short-Term Atmospheric Exposures	119
8. Bronze, Zinc, Aluminum, and Galvanized Steel: Corrosion Rates as a Function of Space and Time over the United States	152
9. Environmental Factors Affecting Corrosion of Weathering Stell	163
10. A Laboratory Study to Evaluate the Impact of NO <sub>x</sub> , SO <sub>x</sub> , and Oxidants on Atmospheric Corrosion of Galvanized Steel	172
11. A Field Experiment to Partition the Effects of Dry and Wet Deposition on Metallic Materials	194
12. Effects of Acid Deposition on Poultrice-Induced Automotive Corrosion	200
13. Effect of Acid Rain on Exterior Anodized Aluminum Automotive Trim	213
14. Effects of Acid Rain on Indoor Zinc and Aluminum Surfaces	216
<b>MASONRY DETERIORATION</b>	
15. Limestone and Marble Dissolution by Acid Rain: An Onsite Weathering Experiment	226
16. Effects of Acid Deposition on Portland Cement Concrete	239
17. Deterioration of Brick Masonry Caused by Acid Rain	250
18. Cultural Resource Monitoring: Concurrent Aerometric and Materials Deterioration Studies at Mesa Verde National Park	259
19. Effects of Atmospheric Exposure on Roughening, Recession, and Chemical Alteration of Marble and Limestone Sample Surfaces in the Eastern United States	266
20. Elemental Analysis of Simulated Acid Rain Stripping of Indiana Limestone, Marble, and Bronze	285
21. Effects of Acid Rain on Deterioration of Coquina at Castillo de San Marcos National Monument	301

### **DEGRADATION OF ORGANICS**

22. Effects of Acid Rain on Painted Wood Surfaces: Importance of the Substrate	310
23. Effect of Acid Rain on Woody Plants and Their Products	332
24. Acid Rain Degradation of Nylon	343

### **ECONOMIC EFFECTS**

25. Materials Damage and the Law	360
26. Economic Features of Materials Degradation	369
27. Economic Effects of Materials Degradation	384
28. Model for Economic Assessment of Acid Damage to Building Materials	397
29. Application of a Theory for Economic Assessment of Corrosion Damage	411

### **INDEXES**

Author Index	433
Subject Index	433