

SESSION III: Acid Rain Impacts - State of the Science

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The presentations in the following section builds on the earlier discussions to focus on our scientific knowledge related to the effects and impacts of acid rain. In particular the authors discuss the last 10 to 20 years of monitoring and research. Our current monitoring system and knowledge of emissions and depositions are presented by Dr. Van Bowersox. Dr. Greg Lawrence discusses our improved understanding of the effects of acid rain on forested systems and especially the links between soil processes and changes in surface waters. Freshwater systems are addressed by Dr. Arthur Bulger who highlights fish response to acid conditions, the physiological mechanism of response and the possibility of recovery. Dr. Bob Howarth goes on to discuss coastal systems and in particular the over-enrichment resulting from nitrogen reaching these systems from terrestrial and atmospheric sources. Human health effects are discussed by Dr. Lippman who emphasizes respiratory effects and

our growing knowledge about particulates. Dr. Mary Striegel concludes this session with an update on research on treatments and mitigation of acid rain effects on stone buildings.

It is apparent that our understanding of the effects of acid rain has continued to grow over the last decade. As a scientific community we must remember that our results not only need to be analyzed and then integrated with results from other systems and disciplines, but that these results also need to be translated and disseminated to a broader audience of less technically trained individuals. Many of the authors of the following papers work with organizations that are well aware of this translation need. As policy and decision makers, we must acknowledge that funds need to be available for this translation phase of scientific study as well as for the research and analysis stages. In this way, scientific knowledge will more likely inform policy debate.

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