

Resource Stewardship: Meeting the Challenges

in 2000



and Beyond

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Program and Abstracts

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Air Resource Management, Acadia National Park (poster)

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Acadia National Park (ANP), Maine, is the only National Park in the northeastern United States. With more than 35,000 acres it is one of the largest publicly owned and protected natural areas in the region. Primarily as a result of long-range transport by prevailing winds, ANP periodically experiences high concentrations of a variety of air pollutants. Located along the mid-coast, the park is downwind from large urban and industrial areas in states to the south and west. The National Park Service (NPS) has established a comprehensive Air Resource Management program at ANP, a Class I area under the Clean Air Act (CAA), to better assess air pollution impacts and protect air quality related resources. The air resource program at ANP, which began in the early 1980's, includes monitoring, research, and regulatory interaction with state and federal agencies. Core program elements include long-term monitoring for ozone, sulfur dioxide, nitrogen oxides, volatile organic compounds (VOCs), fine particulates, visibility, mercury deposition acid precipitation, and ultraviolet radiation. In addition, there is an ongoing effort to determine the biological effects of selected air pollutants on park resources. Specific research studies include: deposition patterns and impacts of atmospheric contaminants on park watersheds (1998-2001); effects of ozone on native vegetation (1989-1997); pathological assessment of needle injury on eastern white pine (1993-1997); water resource baseline data and analysis of acid deposition impacts (1985, >87, >94); acid fog impacts to red spruce (1986-89), and mercury contamination in freshwater aquatic habitats (1995-1997). The air resource program at ANP is a collaborative effort involving the National Park Service Air Resources Division (ARD) and Northeast Regional Office, the Maine Department of Environmental Protection (MDEP), and park natural resource staff. In addition, there are a number of other important partnerships with the US Geological Survey, US Environmental Protection Agency, universities, and other state and regional agencies for conducting air related research and monitoring at ANP.