

CESUs, Integrative Partnerships, and the National Park Service's Western Airborne Contaminants Assessment Project (WACAP): The Whole is More than a Sum of "Parks"

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The National Park Service (NPS) initiated the Western Airborne Contaminants Assessment Project (WACAP) in 2002 to determine the risk to ecosystems and food webs in twenty western U.S. and Alaska national parks. Concentration of airborne contaminants in air, snow, water, sediment, lichen, conifer needles, and fish was determined in eight core parks: Denali, Gates of the Arctic, Glacier, Mount Rainier, Noatak, Olympic, Rocky Mountain, and Sequoia. More limited assessment focusing on vegetation was conducted in twelve secondary parks.

Released in late February 2008, the WACAP report indicated that airborne contaminants were detected at measurable levels in all twenty park ecosystems investigated. While the study found that concentrations of most of the airborne contaminants detected were below levels of concern, others (e.g., mercury and the pesticide dieldrin) appear to be accumulating in sensitive resources such as fish, and exceeding concentrations relevant to established human and wildlife health thresholds. The evidence suggests that such toxic, persistent contaminants are carried in air masses from sources local and as far away as Europe and Asia.

The Pacific Northwest Cooperative Ecosystem Studies Unit (CESU) was instrumental in facilitating the participation of world-class scientists in this project. Conducted over six years, WACAP was unique for a NPS-sponsored project because of its large scope, scale, duration, and number of cooperators. Coordinated by NPS Air Resources Division and led by a US Environmental Protection Agency senior scientist, the WACAP team also consisted of faculty scientists from the University of Washington and Oregon State University, and other partners from federal agencies US Geological Survey and USDA Forest Service. Together they developed a unique integrative partnership with NPS through implementation of the project. Investigators also collaborated on data analysis, results, and publications; resulting in products where the whole is really more than a sum of the "parks".