



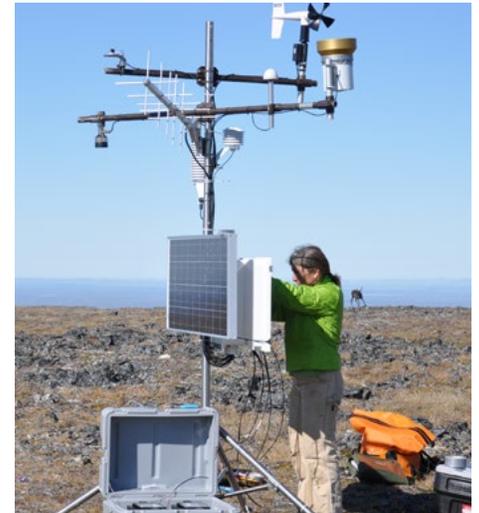
Arctic Network Central Alaska Network Southeast Alaska Network Southwest Alaska Network

Climate Inventory

Status: Complete

Introduction

Climate is a dominant factor driving the physical and ecologic processes affecting all four networks in Alaska. The large expanse covered by the networks coupled with the diverse set of climate influences, including maritime and high elevation areas, and the remote locations of many park units make adequate climate monitoring a challenge. The inventory of existing climate stations in and adjacent to park units in all 32 I&M Networks was completed in 2007. Reports for each network include information on regional climate drivers, monitoring station locations, meta-data of weather records, evaluation of adequacy of coverage, and recommendations for improvements to monitoring in each network.



NPS operates 55 Remote Area Weather Stations (RAWS) in park units throughout the state. L: Maintenance at Harding RAWS; R: Installing RAWS at Midnight Mtn

	Arctic	Central Alaska	Southeast Alaska	Southwest Alaska
Major Drivers, Average Conditions identified in Inventory Reports	Brooks Range, Chukchi Sea; long, cold winters & cool wet summers; 30-50% of precipitation falls in summer; Mean annual temperatures range from -14C inland to -6C on the coast	Full range from maritime to interior drivers; large temporal variability--PDO and recent high latitude effects of climate change	Abundant moisture & wind from Gulf of Alaska, also locally by glaciers and mountains; extreme spatial variability in precipitation; wettest in fall & driest in spring; temps from -20C to 30C	Storms from North Pacific, storm frequency greatest in summer-fall, maritime parks have small temp. variation & abundant precip., interior areas drier with more extreme temp. variations; mean annual temps. near freezing for network
Existing Stations at Time of Inventory	10 stations, 7 active at time of report	114 stations in or near park units	5 stations in GLBA, other stations in towns & cities	17 stations in or near park units, 9 in LACL; ongoing efforts by SWAN to identify new sites
Assessment of Coverage at Time of Inventory	Current coverage is very sparse, Network planning to install new stations; focus on transition areas at treeline & areas of active permafrost melt	Thorough work effort by network staff to incorporate weather in monitoring plans, protocols, SOPs; staff have also developed protocol for evaluating monitoring efforts; Work by CAKN has advanced broader NPS efforts	Need to install precip. gages in GLBA; need 1 to 2 stations in KLGO; coverage is adequate around SITK, work with partners to ensure long-term records in Sitka	Network has identified gaps and potential locations of new stations, installations are planned; recommend focusing on importance of long-term data records from stations currently operating
Current Monitoring Efforts	NPS currently operating 19 Remote Area Weather Stations in ARCN; recording temp., wind, rain, and snow (at some sites)	NPS currently operating 18 Remote Area Weather Stations in CAKN; recording temp., wind, rain, and snow (at some sites)	NPS currently operating 6 Remote Area Weather Stations in SEAN; recording temp., wind, precip.; Working with partners in Sitka	NPS currently operating 12 Remote Area Weather Stations in SWAN; recording temp., wind, rain, and snow (at some sites); 1 NOAA Climate Ref. Network Stn.

The table gives a summary of the inventory findings as well as current monitoring efforts.