



Alagnak

Aniakchak

Katmai

Kenai Fjords

Lake Clark

Weather and Climate

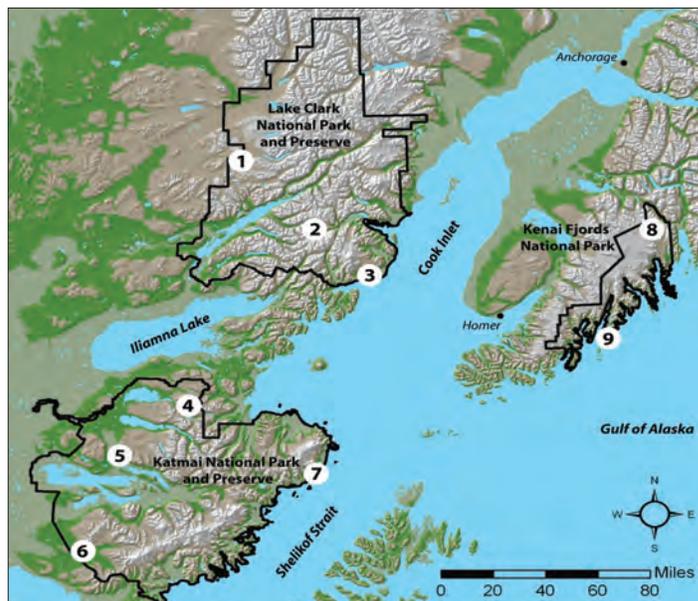
Resource Brief

Importance

Climate is considered the most important broad-scale factor influencing ecosystems. Because global climate models indicate that climate change and variability will be greatest at high latitudes, climate monitoring will be critical to understanding the changing conditions of park ecosystems. Potential effects in SWAN park units include a reduced snowpack, earlier ice break-up on lakes, warmer winters and wetter summers. These changes may affect the distribution, abundance, growth, and productivity of plants and animals.

Long-term Monitoring

In order to address the scarcity of climate information from national parks in southwestern Alaska, the SWAN recently installed seven weather stations. The objective is to record and archive weather observations in locations that are characteristic of the diverse landscape and topography within these parks. This effort will support real-time needs, identify natural variability in weather patterns and long-term climate trends, provide reliable climate data to researchers, and help interpret ecosystem changes.



SWAN weather stations: 1) Snipe Lake, 2) Chigmit Mountains*, 3) Hickerson Lake, 4) Pfaff Mine, 5) Coville, 6) Contact Creek, 7) Fourpeaked*, 8) Harding Icefield, and 9) McArthur Pass.
*Deployment scheduled for summer of 2009.

Status

Multiple government agencies and the public were involved in the site selection process; site accessibility was a key factor. The strategically placed stations form a network documenting a wide range of climate conditions—from the maritime climate of Kenai Fjords NP (KEFJ) to the continental climate of interior Lake Clark NPP (LACL). The Harding Icefield station, deployed in 2004, continues to operate under very harsh conditions. Six weather stations were deployed in 2008. Deployment of two additional stations, noted above, is scheduled for 2009. The stations are fully automated and solar powered. They record temperature, wind speed and direction, precipitation, snow depth, relative humidity, and solar radiation on an hourly basis. Data are transmitted by satellite, archived by the Western Regional Climate Center, and are available on the SWAN website at:

http://science.nature.nps.gov/im/units/swan/index.cfm?theme=weather_stations

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Bruce Giffen assembling the Pfaff Mine weather station, KATM (June, 2008).