Mediterranean Coast Network
Climate Change Resource Brief

Pacific West Region
Inventory & Monitoring
National Park Service
U.S. Department of the Interior

Channel Islands Prototype Monitoring Program

The 20+ years of ecological monitoring data collected by Channel Islands (CHIS) staff is an extraordinary resource for scientists engaged in identifying and evaluating effects of climate change. The program includes monitoring of weather; terrestrial vertebrates (including the endangered island fox), sea and land birds, pinnipeds; and rocky intertidal, kelp forest, beach, and lagoon habitats. In addition, park and Mediterranean Coast Network (MEDN) network staff are working to ensure long-term availability of this wealth of data by modernizing data management, publishing monitoring protocols, and increasing web access to data, reports, and other monitoring products.

Kelp forest monitoring at Channel Islands National Park.

Kelp Forest Monitoring

The mixing of warm and cold currents off the coast of southern California fosters a highly productive and diverse (more than 1,000 species) kelp forest community—an ecosystem likely to be highly sensitive to changes in sea temperatures and currents. CHIS staff have monitored the kelp forest for over 20 years to investigate long-term dynamics in species composition, distribution and abundance, and to identify threats to the health of the ecosystem.

Climate/Weather Monitoring

Climate data will be a key variable needed to examine and predict impacts of climate change on ecosystems. CHIS staff are collecting data on precipitation, temperature, wind direction and speed, solar radiation, fuel moisture and temperature, barometric pressure, and dew point for a variety of uses, including evaluation of climate patterns and long-term trends. Data are accessible via the web in near-real time. The other network parks can access data from the many weather stations operated by local agencies.

Coastal sage scrub habitat, Santa Monica Mountains.

Plant Community Monitoring

Vegetation community monitoring is a key component of the CHIS prototype monitoring program and has been extended to Cabrillo National Monument (CABR) as well. The network is also developing a less intensive vegetation monitoring program for Santa Monica Mountains (SAMO) which will, nonetheless, be designed to monitor changes from local anthropogenic impacts as well as more ubiquitous stressors such as climate change.

Amphibian Monitoring

Amphibian declines, occurring globally, have been linked to both direct and indirect effects of climate change. The network is monitoring aquatic amphibians at SAMO in order to assess long-term trends in population abundance, distribution, and breeding success, as well as environmental and physical habitat features.

A red-legged frog (*Rana aurora*) discovered during aquatic amphibian monitoring at the Santa Monica Mountains National Recreation Area.

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