### NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION UNITED STATES DEPARTMENT OF COMMERCE



# NOAA In Your State

**NOAA** is an agency that enriches life through science. Our reach goes from the surface of the sun to the depths of the ocean floor as we work to keep citizens informed of the changing environment around them. From daily weather forecasts, severe storm warnings, and climate monitoring to fisheries management, coastal restoration and supporting marine commerce, NOAA's products and services support economic vitality and affect more than one-third of America's gross domestic product. NOAA's dedicated scientists use cutting-edge research and high-tech instrumentation to provide citizens, planners, emergency managers and other decision makers with reliable information they need when they need it.

The following is a summary of NOAA facilities, staff, programs, or activities based in, or focused on, your state or territory: Starting with highlights, then by <u>congressional districts and cities or towns</u>, and then <u>statewide</u> <u>programs</u>.

## Highlights of NOAA in Nevada

California-Nevada Climate Applications Program	Reno	NV-2
Special Operations and Research Division	Las Vegas	NV-4

## Weather Forecast Offices

Elko NV-2 Reno NV-2 Las Vegas NV-4 National Weather Service (NWS) Weather Forecast Offices (WFO) are staffed 24/7/365 and provide weather, water, and climate forecasts and warnings to residents of Nevada. There are 122 WFOs nationwide of which three are in Nevada. Highly trained forecasters issue warnings and forecasts for weather events, including severe thunderstorms, tornadoes, hurricanes, winter storms, floods, and heat waves to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including wireless emergency alerts, social media,weather.gov, and NOAA Weather Radio All Hazards. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs that strengthen working relationships with local partners in emergency management, government, the media and academic communities. Forecasters provide Impact-based Decision Support Services (IDSS), both remotely and on-site during critical emergencies such as wildfires, floods, chemical spills, and major recovery efforts. To gather data for forecasting and other purposes, NWS WFO staff monitor, maintain and use Automated Surface Observing Stations and Doppler Weather Radar. In addition to the WFOs, NWS operates specialized national prediction <u>centers</u> and regional headquarters throughout the U.S. for a total of 168 operational units. Over 85% of NWS' workforce is in the field. For current Nevada weather, visit <u>www.weather.gov</u> and, on the national map, click on the relevant county or district.

# NV-2

#### Denio

#### Office of Oceanic and Atmospheric Research (OAR) - U.S. Climate Reference Network

The US Climate Reference Network (USCRN) is an operationally viable research network of more than 138 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS). ARL/ATDD manage the USCRN in partnership with NOAA's NESDIS/NCEI.

#### Elko

National Weather Service (NWS) - <u>Weather Forecast Office</u>- See Page 1 for details.

#### Reno

National Weather Service (NWS) - Weather Forecast Office - See Page 1 for details.

#### National Environmental Satellite, Data, and Information Service (NESDIS) - <u>National Centers for Environmental</u> <u>Information</u> - <u>Western Regional Climate Center</u>

NOAA NCEI's six Regional Climate Centers (RCCs) support the development and delivery of a wide range of place-based climate science and information products and services to assist decision makers with making informed decisions. The RCCs are a federal-university cooperative effort that supports the operational production and delivery of climate data and information to decision-makers at regional levels. The RCCs also participate in basic and applied climate research as well as user engagement and outreach activities. The service provided by the RCCs has evolved through time to become an efficient, user-driven program with many of the components that have been cited for effective regional climate services. The Western RCC is collocated with the Desert Research Institute. It serves MT, ID, UT, NM, AZ, NV, CA, OR, WA, AK, HI, US-affiliated Pacific Islands.

#### Office of Oceanic and Atmospheric Research (OAR) - California-Nevada Climate Applications Program

The California-Nevada Climate Applications Program (CNAP) is a cooperative agreement between NOAA's Climate Program Office (CPO), Scripps Institution of Oceanography, and the Desert Research Institute. It is one of several Climate

Adaptation Partnerships (CAP/RISA), formerly Regional Integrated Sciences and Assessments, teams contributing to the advancement of equitable climate adaptation through sustained regional research and community engagement. California and Nevada have made significant progress in addressing climate variability and climate change impacts to their state and local communities, but both states remain vulnerable to climate change impacts. Among these are public health threats from extreme heat and wildfire smoke, impacts on water resources from extended drought, reduced snowpack, and extreme precipitation events, and in California, flooding, beach erosion and degradation of coastal infrastructure and communities. CNAP, in response to these challenges, aims to improve resilience in California and Nevada by providing decision makers with usable climate information through integrating cutting edge physical and social science. Their work emphasizes partnerships and supporting frontline communities that have been and are impacted by social and environmental inequities. CNAP's research projects address: (1) extreme heat impacts in urban low income, unhoused, and vulnerable populations in Southern Nevada; (2) the impact of changing hydroclimatic conditions and water use policy on water availability in California's southern San Joaquin Valley, a key agricultural region in the midst of water and energy transitions; (3) integrated scientific approaches to address uncertainty in coastal planning in Southern California; (4) public health impacts on Northern California and Nevada communities from compound climate hazards of wildfire smoke and heat on under-resourced households; (5) the mental health challenges of climate change professionals, directed through the Adaptive Mind project — a set of skills and capacities designed to support practitioners in the adaption sciences; and (6) supporting climate assessment activities in both states through research and data customization. Core partners of CNAP include the Scripps Institution of Oceanography, the Desert Research Institute, the Western Regional Climate Center, the University of Nevada Las Vegas, the University of Nevada Reno, the University of California Merced, Anderson Smith Consulting, and Kern Community College District. Contact information and more details about this team can be found here.

#### *NV-3*

#### Baker

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#### **Desert Rock**

#### Office of Oceanic and Atmospheric Research (OAR) - Surface Radiation Measurement Network

The Earth System Research Laboratory Global Monitoring Laboratory(ESRL/GML) operates seven stations as part of its surface radiation budget network (SURFRAD). The station measurements support regional and global weather and climate research with accurate, continuous, long-term measurements of the surface radiation budget over the United States. Solar radiation is the driving energy for geophysical and biological processes that control weather and affect planetary life; understanding the global surface energy budget is therefore key to understanding climate and the environmental consequences to agriculture and other statewide concerns. Because it is impractical to cover the whole earth with monitoring stations, the answer to global coverage lies in reliable satellite-based observations. Accurate and precise ground-based measurements across a range of climate regions are essential to refine and verify the satellite observations. One of these stations is located near Desert Rock. These ground-based measurements also support special research projects on radiation and climate processes in the Nevada region and serve as important verification for weather forecasts.

#### NV-4 Mercury

#### Office of Oceanic and Atmospheric Research (OAR) - U.S. Climate Reference Network

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#### Las Vegas

#### Office of Oceanic and Atmospheric Research (OAR) - Special Operations and Research Division

The Special Operations Research Division (SORD) of NOAA's Air Resources Laboratory is located in Las Vegas, NV. SORD conducts basic and applied research in atmospheric dispersion, particle resuspension, particle deposition, and the effects of airborne particles on atmospheric opacity. The Division supports issues of mutual interest to NOAA and the Department of Energy that relate to the Nevada Test Site, its atmospheric environment, and its emergency preparedness and emergency response activities.

National Weather Service (NWS) - Weather Forecast Office - See Page 1 for details.

#### Statewide

#### National Ocean Service (NOS) – Regional Geodetic Advisor

The Regional Geodetic Advisor is a National Ocean Service (NOS) employee that resides in a region and serves as a liaison between the National Geodetic Survey (NGS) and its public, academic and private sector constituents within their assigned region. NGS has a Regional Geodetic Advisor stationed in La Jolla, CA serving the Pacific Southwest region – California and Nevada. The Geodetic Advisor provides training, guidance and assistance to constituents managing geospatial activities that are tied to the National Spatial Reference System (NSRS), the framework and coordinate system for all positioning activities in the Nation. The Geodetic Advisor serves as a subject matter expert in geodesy and regional geodetic issues, collaborating internally across NOS and NOAA to ensure that all regional geospatial activities are properly referenced to the NSRS

#### National Weather Service - NEXRAD (WSR-88D) Systems

NEXRAD is used to warn the people of the United States about dangerous weather and its location. This radar technology allows meteorologists to warn the public to take shelter with more notice than ever before. The NEXRAD network provides significant improvements in severe weather and flash flood warnings, air traffic safety, flow control for air traffic, resource protection at military bases, and management of water, agriculture, forest, and snow removal. NEXRAD radar has a range of up to 250 nautical miles, and can provide information about wind speed and direction, as well as the location, size, and shape of precipitation. There are 159 operational NEXRAD radar systems deployed throughout the United States and overseas, of which three are in Nevada.

#### National Weather Service (NWS) - Automated Surface Observing Systems Stations

The Automated Surface Observing Systems (ASOS) program is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). ASOS serves as the Nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations and,

at the same time, support the needs of the meteorological, hydrological, and climatological research communities. ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year observing basic weather elements, such as cloud cover, precipitation, wind, sea level pressure, and conditions, such as rain, snow, freezing rain, thunderstorms, and fog. There are 10 ASOS stations in Nevada.

#### National Weather Service (NWS) - Cooperative Observer Program Sites

The National Weather Service (NWS) Cooperative Observer Program (COOP) is truly the Nation's weather and climate observing network of, by and for the people. More than 10,000 volunteers take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The data are representative of where people live, work and play. The COOP was formally created in 1890 under the NWS Organic Act to provide observational meteorological data, usually consisting of daily maximum and minimum temperatures, snowfall, and 24-hour precipitation totals, required to define the climate of the United States and to help measure long-term climate changes, and to provide observational meteorological data in near real-time to support forecast, warning and other public service programs of the NWS. The data are also used by other federal (including the Department of Homeland Security), state and local entities, as well as private companies (such as the energy and insurance industries). There are 107 COOP sites in Nevada.

#### National Weather Service (NWS) - NOAA Weather Radio All Hazards Transmitters

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service (NWS) forecast office. NWR broadcasts official NWS warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "All Hazards" radio network, making it the single source for comprehensive weather and emergency information. In conjunction with federal, state, and local emergency managers and other public officials, NWR also broadcasts warning and post-event information for all types of hazards – including natural (such as earthquakes or avalanches), environmental (such as chemical releases or oil spills), and public safety (such as AMBER alerts or 911 Telephone outages). Known as the "Voice of NOAA's National Weather Service," NWR is provided as a public service by the NWS. NWR includes 1,100 transmitters covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. There are 14 NWR transmitters in Nevada.

#### National Weather Service (NWS) - Incident Meteorologists

The NWS, as mandated by Congress, provides fire weather forecast products and services to the fire and land management community for the protection of life and property, promotion of firefighter safety, and stewardship of America's public wildlands. Since 1928, this effort has included providing critical on-scene support to wildfire managers via specially-trained NWS forecasters called Incident Meteorologists (IMETs). When a fire reaches a large enough size, IMETs are rapidly deployed to the incident and set-up a mobile weather center to provide constant weather updates and forecast briefings to the fire incident commanders. IMETs are very important members of the firefighting team, as changes in the fires are largely due to changes in the weather.

#### National Ocean Service (NOS) - Students for Zero Waste Week

Students are inviting their local communities to "Go Green and Think Blue" by joining them in the annual *Students for Zero Waste Week campaign*. During this campaign led by the Office of National Marine Sanctuaries, students focus on reducing land-based waste in order to protect the health of local marine environments. These young leaders are raising awareness of how single-use plastic and other types of litter affect the health of local watersheds, national marine sanctuaries, and the ocean. In addition, some schools are looking at ways to reduce their energy use on campus with hopes of raising awareness of how the burning of fossil fuels also impacts the health of the ocean.

NOAA In Your State is managed by <u>NOAA's Office of Legislative and Intergovernmental Affairs</u> and maintained with information provided by NOAA's Line, Corporate, and Staff Offices. Questions about specific programs or offices should be directed to the NOAA Line, Corporate, or Staff Office listed.

More information for those offices may be found at NOAA.gov.