



NOAA In Your State

Montana

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 [congressional districts and cities or towns](#), and then [statewide programs](#).

Highlights of NOAA in Montana

[U.S. Climate Reference Network](#) Dillo-1, Lewistown-2, St. Mary-1, Wolf Point-2, Roosevelt County-2 MT-1,2

Weather Forecast Offices

Billings MT-2
Glasgow MT-2
Great Falls MT-2
Missoula MT-1

[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 Montana. There are 122 [WFOs nationwide](#) of which four are in Montana. 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 [centers](#) 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 Montana weather, visit [www.weather.gov](#) and, on the national map, click on the relevant county or district.

MT-1

Dillon

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

The U.S. Climate Reference Network (USCRN) is an operationally viable research network of 135 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).

Missoula

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

NOAA Office of Education - [Environmental Literacy Program](#)

The Environmental Literacy Program (ELP), administered by NOAA's Office of Education, provides grants and support for formal (K-12) and informal education to advance the agency's mission. In Montana, ELP funded a project by the University of Montana in Missoula. The project aims to build the environmental literacy of children, youth, and adults so that they can become knowledgeable about ways to increase their community's resilience to extreme weather, climate change, and other environmental hazards, and be involved in achieving that resilience. To achieve this goal, the project integrates relevant state and local resilience plans and collaborates with stakeholders who are actively implementing these plans. The University of [Montana project](#) employs NOAA resources and educational methods to promote community-level environmental literacy, enabling participants to better comprehend threats and implement solutions that build resilience to extreme weather, climate change, and other environmental hazards. Environmental literacy includes the knowledge, skills, and confidence to 1) reason about the ways that human and natural systems interact globally and locally; 2) participate in civic processes; and 3) incorporate scientific information, cultural knowledge, and diverse community values when taking action to anticipate, prepare for, respond to, and recover from environmental hazards, including mitigating and adapting to climate change.

St. Mary

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.

MT-2

Billings

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

Ft. Peck

Office of Oceanic and Atmospheric Research (OAR) - [Ultraviolet \(UV\) Monitoring Network: Surface Radiation Measurement Network](#)

NOAA's Global Monitoring Laboratory (GML) operates an instrument at this site as part of the ultraviolet (UV) monitoring network (NEUBrew). These measurements are part of GML's research on the Earth's surface radiation budget and are used in studies of variations in long-term radiation and meteorological parameters. Observations of spectral solar radiation can be used to infer the presence and quantities of atmospheric constituents and to investigate the interaction of ozone and solar radiation. GML also 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 Fort Peck. These ground-based measurements also support special research projects on radiation and climate processes in the Montana region and serve as important verification for weather forecasts.

Glasgow

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

Great Falls

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

Lewistown

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

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Wolf Point, Roosevelt County

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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 Denver, Colorado serving the Rocky Mountain region – Colorado, Montana, and Wyoming. 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, the science of measuring and understanding the Earth's geometric shape, orientation in space, and gravitational field, 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 four are in Montana.

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 17 ASOS stations in Montana.

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. These 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. In some

cases, these data are used to make billions of dollars' worth of decisions. For example, the energy sector uses COOP data to calculate the Heating and Cooling Degree Days which are used to determine individuals' energy bills monthly. There are 361 COOP sites in Montana.

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 31 NWR transmitters in Montana.

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 becomes a Type I incident (i.e., very large), 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 [NOAA's Office of Legislative and Intergovernmental Affairs](#) 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](#).
