



## National Weather Service Western Region and its Climate Service Activities

By Keah Schuenemann and Eileen McKim, Western Water Assessment

In the United States, the West is known not only for its extreme land, from the peaks of the Rocky Mountains to the area below sea level in Death Valley, but for its extreme climate. Yearly rainfall totals can reach 100 inches in the mountains of Washington and as little as four inches in the western deserts. Natural events such as blizzards, floods, tsunamis, severe droughts, tornadoes, and extreme heat keep the National Weather Service (NWS) in this region on their toes.

The NWS Western Region (NWSWRH) Headquarters (<http://www.wrh.noaa.gov/>) is located in Salt Lake City, Utah, but the region itself includes the states of Montana, Idaho, Washington, Oregon, California, Nevada, Utah, and Arizona. Within this region there are twenty-four Weather Forecasting Offices, three River Forecasting Centers, and four Center Weather Service Units. Together, they provide weather, hydrological, and climate forecasts and warnings for the region “for the protection of life and property and the enhancement of the national economy,” as their mission statement explains. They also provide their products and raw data to both public and private users.

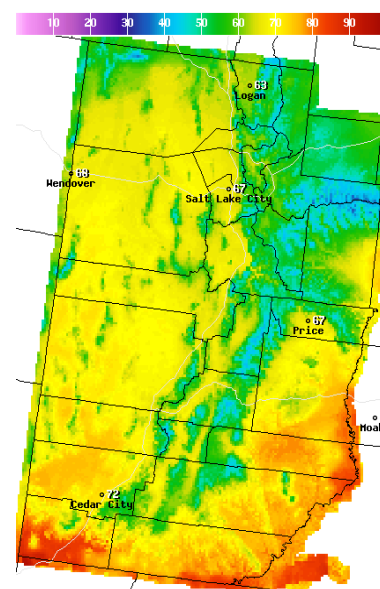
The NWSWRH provides services under three main divisions: Meteorological Services, Scientific Services, and Hydrology and Climate Services. The Meteorological Services Division (MSD) sets requirements, implements, and manages day-to-day programs of weather prediction and warnings in the Region, and weather services provided by all weather service offices located within the Region. MSD is responsible for management of public, aviation, marine, Automated Surface Observation Systems (ASOS), and fire weather forecast programs and for monitoring and evaluating the day-to-day quality of services, predictions, and warnings. Some of the activities of the Scientific Services Division (SSD) include: improving forecast services through introduction of new data sets/experimental model data into operations, improving the knowledge of current conditions in complex terrain through integration of mesonet data and better analysis systems, and developing and implementing new internet and web services. The Hydrology and Climate Services Division (HCSD), concentrates specifically on river forecasts, flood forecasts and warnings, water supply forecasts, and the use of climate prediction products. The programs within the HCSD are the Weather Forecast Office (WFO) and River Forecast Center

hydrology programs, Cooperative Observer program, Surface Observations, and the climate program.

One of the new products available at the NWSWRH website is the NOAA/NWS National Digital Forecast Database (NDFD) Experimental Graphic Forecast Displays (<http://weather.gov/forecasts/graphical/sectors/index.php>). (Figure 1) These graphics are web-based presentations of digital forecast data originating from local (WFO) digital databases and the NDFD server.

The data are displayed in a mosaic form on national and regional scales. By clicking on any point on the regional maps, local forecasts of precipitation, temperature, snow cover, wind speed, sky cover and other variables are displayed.

The NWS Strategic Plan for 2005-2010 was released January 3, 2005 and includes the goals of the National Weather Service for the next 5 years. One of the goals is to include chemical and biological components along with space, ocean, and land processes into the existing weather models. Another goal is to expand the Advanced Hydrologic Prediction Service to include soil moisture and water quality forecasts for fresh water, estuaries, and coastal zones. The climate information will also be expanded by improving predictions of climate and studying past and current climates. These goals will expand and improve the existing hydrologic tools and forecasts throughout the NWS over the next five years.



**Figure 16:** This map is one of the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) National Digital Forecast Database (NDFD) Experimental Graphic Forecast Displays showing temperature for Utah. These maps display forecasts that are normally updated every hour.

### On the Web

- For more information about NOAA/NWS Western Region, please visit: <http://www.wrh.noaa.gov/>
- For more information on the NDFD, please refer to the NDFD information web site at: <http://www.weather.gov/ndfd/>.

