



NOAA Research in Arizona



AZ-1 through 6 (Statewide)

Climate and Global Change Program

NOAA is responsible for providing climate information to the nation in order to prepare and protect climate sensitive sectors of society and the economy. To carry out this mission, NOAA's Climate and Global Change Program conducts focused scientific research to understand and predict variations of climate. The Program is comprised of a number of research elements, each focusing on a specific aspect of climate variability. Taken together, this research contributes to improved predictions and assessments of the effects of climate variability and change on different environments over a continuum of time scales from season to season, year to year, and over the course of a decade and beyond. This research is accomplished through the strong support of the academic and private sectors, as well as NOAA and other federal laboratories. In FY 2001, NOAA's Climate and Global Change Program provided approximately \$1,228,200 in support of climate research in the State of Arizona. For more information please visit <http://www.ogp.noaa.gov>

AZ-1 through 6 (Statewide)

Climate Diagnostics Center Climate Research

NOAA's Climate Diagnostics Center (CDC) is conducting research on the monitoring and prediction of climate variability in Arizona associated with El Niño/Southern Oscillation (ENSO) and long-term changes in Pacific Ocean sea surface temperatures. Droughts associated with La Niña, in particular the great Southwest drought of the mid-1940s to mid-1950s, and increased flood risks associated with El Niño are among a range of climate/weather issues facing Arizona. The interaction with users of climate data and information, provided by CDC through its close interaction with the University of Arizona's CLIMAS project, will assist NOAA in developing improved climate services for decision makers. In 2002, activities will focus on understanding the impact of climatic variability in the U.S./Mexico Border Region. Collaborating institutions include the Desert Laboratory of the University of Arizona and the U.S. Geological Survey in Tucson. CDC also works in collaboration with university social scientists to investigate the process of how climate information and products are being used or could be used by Arizona water resource managers, to provide NOAA with a knowledge base for enhanced decision support. CDC has prepared climate-briefing documents and provided on-line demonstrations of climate products to representatives of the Navajo tribe. In support of these projects, CDC has developed a website with links to regional climate resources at <http://www.cdc.noaa.gov/ClimateInfo>

AZ-5 (Fort Huachuca)

Environmental Technology Laboratory Wind Profiler

NOAA's Environmental Technology Laboratory (ETL) has built and installed a 449-MHz radar wind profiler at Fort Huachuca to assist in the operation of the Fort's Aerostat, a large radar-equipped blimp that helps authorities detect airborne drug traffickers in southern Arizona. The ETL instrument will measure how wind speed and direction change from the surface up into the high atmosphere. Knowledge of winds aloft will help the operators of the Aerostat avoid high winds and wind shear, thereby preventing costly accidents. For more information please visit <http://www.etl.noaa.gov>

AZ-5 (Tucson)

Climate and Global Change Program Climate Assessment Project for the Southwest

NOAA's Climate and Global Change Program provides support for CLIMAS, the Climate Assessment Project for the Southwest at the University of Arizona. CLIMAS was established in 1998 with the mission to improve the ability of the region to respond sufficiently and appropriately to climatic events and climate changes. CLIMAS aims to foster participatory, iterative research involving researchers, decision makers, resource users, educators, and others who need more and better information about climate and its impacts. In support of these efforts, the project fosters research on the nature, causes, and consequences of climate change and variability in the southwestern United States and supports efforts to improve climate forecasting in the region. For more information please visit <http://www.ispe.arizona.edu/climas/>

AZ-6 (Flagstaff)

Forecast Systems Laboratory GPS Meteorological Observing System

NOAA's Forecast Systems Laboratory (FSL) established a rapidly expanding network of GPS Meteorological (GPS-Met) Observing Systems to monitor the total quantity of precipitable water vapor in the atmosphere. Currently, there are 93 systems over the contiguous 48 states and Alaska, and plans are being made to extend these observations to Hawaii, Puerto Rico, the Caribbean Islands, and Central America. Water vapor is an important but under-observed component of the atmosphere that plays a major role in severe weather events and the global climate system. GPS-Met systems provide accurate water vapor measurements under all weather conditions, including thick cloud cover and precipitation, and do so at very low cost. The network is being developed by FSL in cooperation with federal, state and local government agencies, universities, and the private sector. The GPS stations provide high-accuracy surveying and navigation services for National defense, automated agriculture, safe land and marine transportation, government infrastructure management, and 911 emergency response services. Fortunately, these systems can also be used for meteorology with the addition of surface weather sensors. A GPS-Met system operated by the U.S. Department of Transportation is located near Flagstaff and another is planned near Tucson. For more information please visit <http://www.gpsmet.noaa.gov/jsp/index.jsp>