

# NOAA Climate Prediction Center: A History

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## Overview

The Climate Prediction Center (CPC) is one of the National Centers for Environmental Prediction (NCEP), which is an arm of the NOAA's National Weather Service (NWS). Other NCEP offices include the Space Environment Center, Storm Prediction Center, Tropical Prediction Center, and the Ocean Prediction Center. These centers provide a wide variety of national and international weather guidance products to National Weather Service field offices, government agencies, emergency managers, private sector meteorologists, and meteorological organizations and societies throughout the world. Therefore, NCEP is the starting point for nearly all weather forecasts in the United States.

The mission of CPC is to *serve the public by assessing and forecasting the impacts of short-term climate variability, emphasizing enhanced risks of weather-related extreme events, for use in mitigating losses and maximizing economic gains.*

CPC's products include operational predictions of climate variability, real-time monitoring of climate and the required databases, and assessments of the origins of major climate anomalies. The products cover time scales from a week to seasons, extending into the future as far as technically feasible, and cover the land, the

ocean, and the atmosphere, extending into the stratosphere. CPC forecasts include several official forecasts reprinted in the Intermountain West Climate Outlook.

The Seasonal Temperature and Seasonal Precipitation Outlooks and found on pages 10 and 11 and the U.S. Seasonal Drought Outlook is on page 12.

Some of CPC's activities include preparing long-range outlooks (with lead times from one week to one year) and developing and operating systems for verification of its forecasts. CPC communicates its forecasts via the internet, National Weather Service offices and the media. **CPC's website** is located at <http://www.cpc.noaa.gov/indexnew.html>.

By applying dynamical, empirical, and statistical techniques to improve and extend the range of climate outlooks, CPC tests new forecast methods and models and conducts extensive research into new forecast methods.

CPC also conducts applied research to identify the important physical factors responsible for climate fluctuations, monitors the state of the coupled ocean-atmosphere climate system, and develops statistical and physically-based climate prediction techniques. CPC participates in research projects such as the North American Monsoon Experiment (See <http://www.ofps.ucar.edu/name/>).

## Products

Seasonal forecasts are one of many types of products that CPC produces. For example, CPC observes and monitors many aspects of climate and weather such as stratospheric ozone, which it uses to create UV forecasts. It also conducts a variety of assessments including assembling, analyzing, interpreting and disseminating current global climate data, which other NOAA offices can use to diagnose and predict future climate scenarios. Finally, CPC assesses climate impacts on society and has an active outreach program to educate the public on the climate system so people can have a better understanding of possible climate impacts. Some highlights of CPC's outreach efforts include a climate glossary and an El Niño-Southern Oscillation tutorial. (See box below for more CPC products.)

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## CPC PRODUCTS

### Expert Assessments

- U.S. Hazards Assessment
- U.S. Drought Assessment (Drought Monitor, Seasonal Drought Outlook)
- U.S. Degree Days Assessment
- Global Climate Assessment
- ENSO Assessment and Diagnostic Discussion

### Outlooks & Forecasts

- Monthly and Seasonal Temperature

and Precipitation Outlooks

- Extended Range Outlooks (Temperature and Precipitation out 6-10 and 8-14 days, and Excessive Heat Outlook)
- Special Outlooks (Palmer Drought, UV Daily Forecast, Soil Moisture Outlook, Degree Day Outlooks, Probability of Exceedance Outlooks and Verification of Outlooks)

### Observations & Monitoring

- U.S. Climate Data and Maps
- Global Climate Data and Maps
- Pacific Island Climate Data and Maps
- Monitoring Model Forecast and Performance

### Outreach & Educational Materials

- Climate Glossary
- Meetings, Presentations and Publications

