

## Next Generation Air Transportation System (NextGen)

# NATIONAL

Oceanic and Atmospheric Administration's (NOAA's) National Weather Service (NWS) is working along with the Joint Planning and Development Office (JPDO), the Federal Aviation Administration (FAA), and other partners to evolve weather support and services to meet NextGen needs and requirements.

### What exactly is NextGen?

NextGen is a Congressionally mandated initiative to modernize the U.S Air Transportation System in order to:

- ✓ Increase capacity and reliability
- ✓ Improve safety and security
- ✓ Minimize the environmental impact of aviation

These improvements to the air transportation system will be achieved by applying:

- ✓ Space-based navigation and integrated surveillance
- ✓ Digital communications
- ✓ Layered adaptive security
- ✓ Weather integrated into decision-making
- ✓ Advanced automation of Air Traffic Management
- ✓ Net-centric information access for operations

For more details concerning the NWS aviation products and services and the future of aviation services, please visit us online at <http://www.weather.gov/aviation>



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Weather Service

National Weather Service

# AVIATION WEATHER SERVICES

"Accurate and timely weather  
information from takeoff to landing"

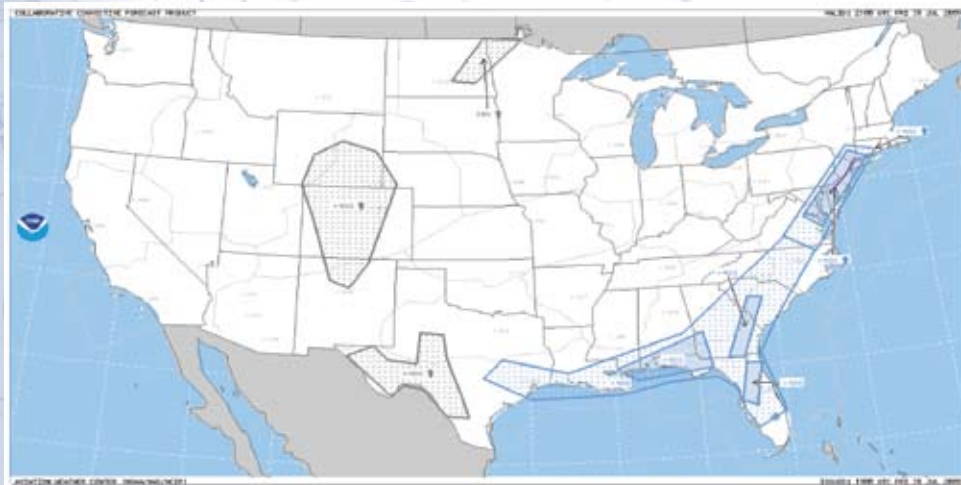
## Aviation Weather Services

**THE** National Weather Service (NWS) issues aviation products and services for the National Airspace System (NAS). These offices include the Aviation Weather Center (AWC), the Alaska Aviation Weather Unit (AAWU), Center Weather Service Units (CWSUs) and Weather Forecast Offices (WFOs). AWC, AAWU, and the WFO in Honolulu, HI (HFO) are also Meteorological Watch Offices (MWOs). MWOs are designated by the International Civil Aviation Organization to maintain a continuous watch over weather conditions that affect flight operations, and to issue necessary warnings and forecasts for the aviation community. This brochure outlines roles and responsibilities of these NWS aviation offices.

### Aviation Weather Center (AWC)

**AWC** is one of three U.S. MWOs providing weather information to the NAS, and one of two World Area Forecast Centers providing global forecasts. AWC issues a number of domestic and international forecasts. In addition, AWC maintains the Aviation Digital Data Service (ADDS). ADDS was created in partnership with the National Oceanic and Atmospheric

#### Collaborative Convective Forecast Product



Collaborative Convective Forecast Product (CCFP) is produced by the AWC after collaboration with CWSUs, WFOs, and industry. The CCFP is a strategic convective forecast used for air traffic operations

administration (NOAA) and the FAA. It is much more than just a web site; it is an online weather information database. ADDS is FAA certified as a Qualified Internet Communications Provider (QICP). QICP guarantees reliable and secure weather information delivery, assuring pilots and other operators have the most up-to-date weather observations and forecasts when planning flights and making flight-related weather decisions.

### Alaska Aviation Weather Unit (AAWU)

**AAWU** is a MWO providing Alaska aviation weather products and services to the flying community. The AAWU is responsible for issuing Area Forecasts (FAs), AIRMETs, and SIGMETs for the Anchorage Flight Information Region (FIR). In addition, the AAWU serves as the Anchorage Volcanic Ash Advisory Center (VAAC). The Anchorage VAAC is one of nine international offices providing forecasts and analyses of volcanic ash plumes for eastern Russia and Alaska. There are over 100 historically active volcanoes along the North Pacific "ring of fire" that are monitored by the Anchorage VAAC.

## Weather Forecast Office Honolulu (HFO)

**HFO** is one of the three MWOs in the U. S. and maintains a meteorological watch across more than eight million square miles of the central and western Pacific. This area of responsibility covers the portion of the Oakland Oceanic FIR south of 30° N and west of 140° W. HFO issues many aviation forecasts for domestic and international travel.

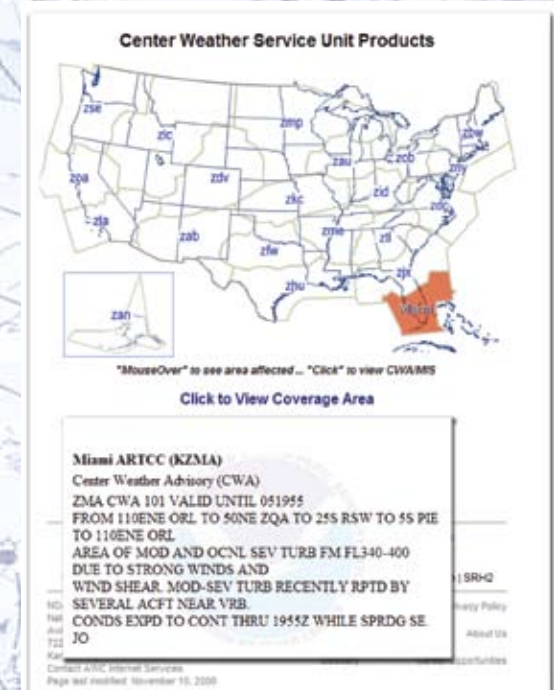
### Center Weather Service Unit (CWSU)

**CWSU** meteorologists provide decision support and weather briefing services to the 21 FAA Air Route Traffic Control Centers (ARTCCs) throughout the United States. CWSU meteorologists issue the Center Weather Advisory (CWA) and Meteorological Impact Statement (MIS), among other products, to address stakeholder concerns within and outside of the ARTCC.

CWAs are short-term weather warnings, issued for periods of two hours or less. They describe hazardous conditions not contained within national in-flight advisories (AIRMETs, SIGMETs or Convective SIGMETs). For instance, a CWA may highlight local areas of aviation concern too small for the AWC to include in a national advisory.

The MIS details weather conditions expected to adversely impact air traffic flow. The MIS is a free-form product and can contain a variety of forecast information pertinent to en route air traffic control out to 12 hours and beyond.

#### Center Weather Service Unit Products



CWSUs provide hazardous weather information in center weather advisories.

### Weather Forecast Office (WFO)

**ONE** hundred and twenty two NWS WFOs provide local expertise, forecasts, and warnings to their local aviation communities. WFOs are staffed 24 hours a day, seven days a week. The primary aviation responsibility of the WFO is the issuance of Terminal Aerodrome Forecasts (TAFs), a coded forecast consisting of the expected meteorological conditions significant to aviation interests within five statute miles of a given airport. TAFs are valid for 24 hours or 30 hours for selected international airports. TAFs are issued four times daily at 00Z, 06Z, 12Z, and 18Z, and updated as conditions warrant. TAFs include information about wind speed and direction, visibility, present weather, ceilings, and low-level wind shear. Additionally, WFOs issue an aviation discussion, highlighting forecast uncertainty and possible aviation hazards that may not be explicitly mentioned in the TAF.