NextGEN WEATHER

Improving Safety and Efficiency in the National Airspace System

REDUCE WEATHER IMPACT

NextGen Weather is a critical part of the NextGen Air Transportation System, designed to transform the management and operation of how we fly. It helps reduce weather impact, resulting in safer, more efficient and predictable day-to-day NAS operations.

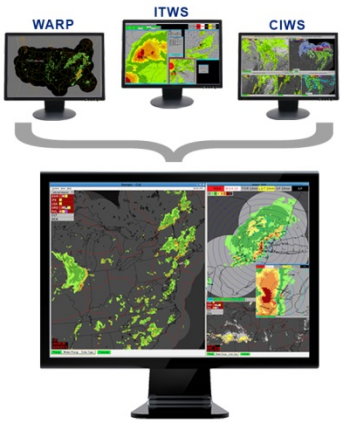
NextGen Weather harnesses massive computing power, unprecedented advances in numerical weather forecasting, translation of weather information into airspace constraints, and modernized information management services.

With this powerful combination, NextGen Weather can provide tailored aviation weather products within the NAS, helping controllers and operators develop reliable flight plans, make better decisions, and improve on-time performance.

NextGen Weather is accomplished through collaboration between FAA, NOAA, and NASA.

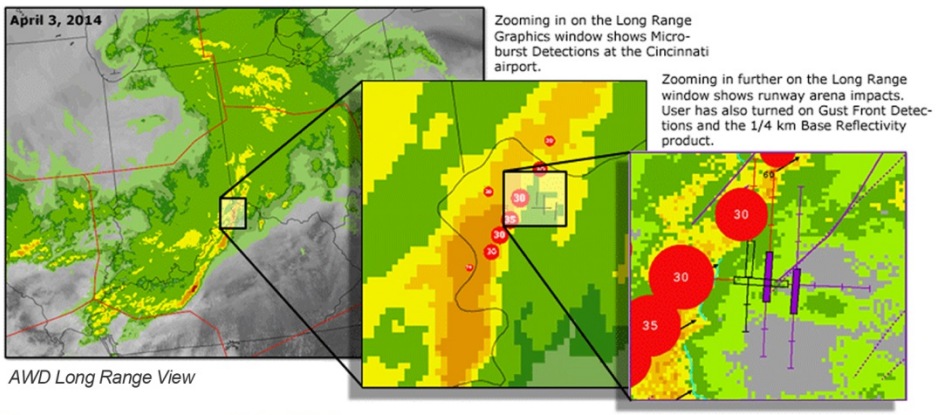
AWD

AVIATION WEATHER DISPLAY



Decision makers in the National Airspace System (NAS) require a clear, consistent presentation of weather information to ensure efficient and safe air traffic operations. In the current environment, multiple weather displays from the Weather and Radar Processor (WARP), the Integrated Terminal Weather System (ITWS) and the Corridor Integrated Weather System (CIWS) depict different information – even when nominally displaying the same product. While some weather products are effectively integrated with operational decision support tools, users still require a stand-alone, dedicated weather display.

Part of the NextGen Weather Processor (NWP), the Aviation Weather Display (AWD) consolidates today's WARP, ITWS and CIWS displays. The AWD provides consistent weather information "at a glance" for enroute and terminal users, and includes weather products from both NWP and NOAA.



AWD Long Range View

Improvements with AWD

- Consolidates legacy weather display capabilities
- Establishes new stand-alone weather display architecture
- Designed as Geographic Information System with layers of information
- Includes dedicated and web browser versions
- Supports Long Range and TRACON views
- Alerts from all TRACONs available domain-wide
- Icing & Turbulence products integrated with radar mosaics
- Provides display for new NextGen Weather capabilities

v. 2.0

AWD
AVIATION WEATHER DISPLAY

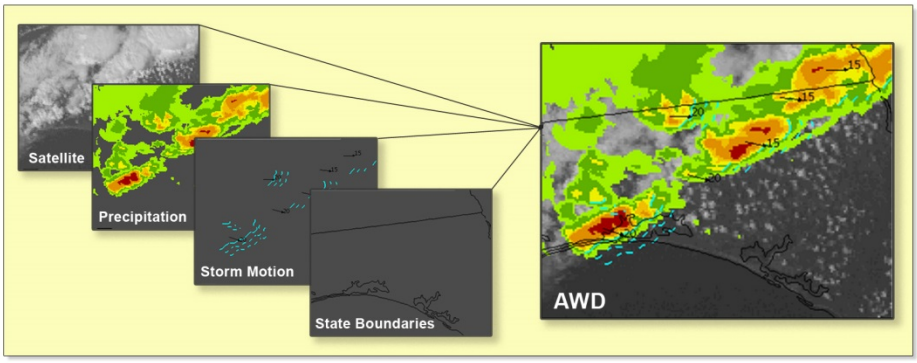
AWD Architecture

GIS: The AWD is designed as a Geographical Information System, with scalable infrastructure supported by Common Support Services – Weather (CSS-Wx). Digital weather data is rendered for display by the CSS-Wx Web Map Service, which can handle both gridded and non-gridded standardized formats. The system architecture design takes into account user performance needs, especially during heavy weather.

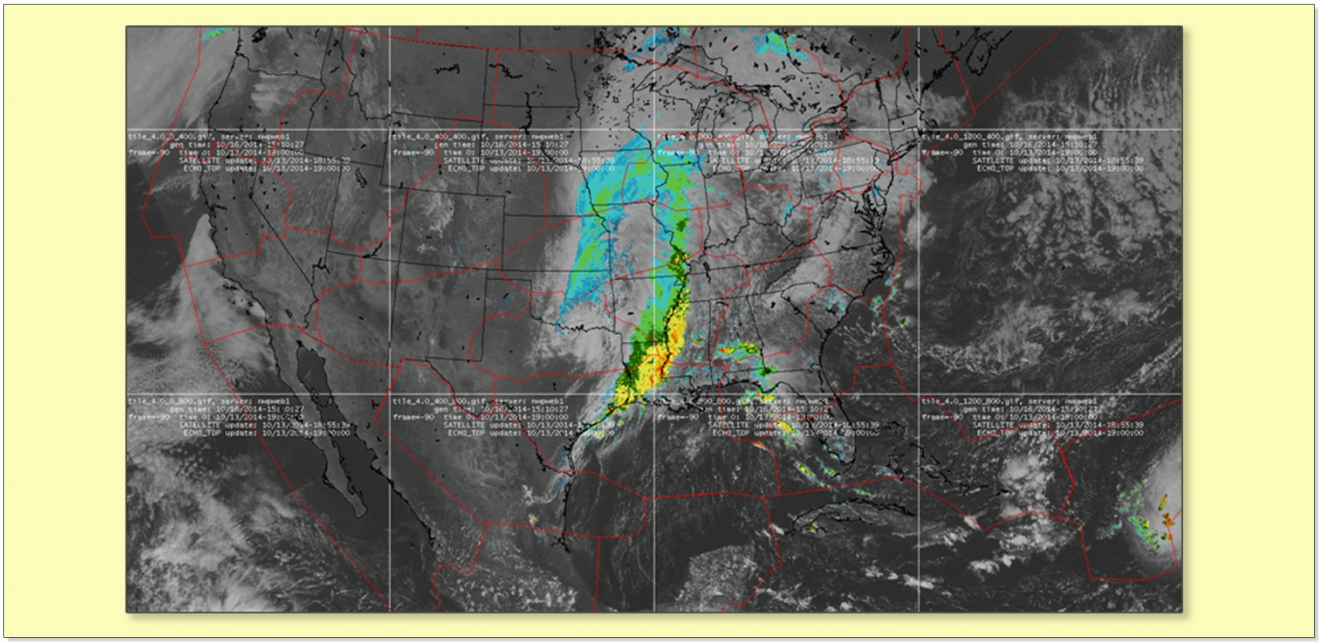
Dedicated and Web Versions: Operational users of the AWD require dedicated display platforms, but the AWD is also available via a web browser with nearly identical functionality. The dual dedicated/web operational display capability within the NAS is a key feature of the AWD system architecture.

CWSU portal: The AWD enables access to the Center Weather Service Unit (CWSU) products by operating a mirror CWSU website within the NAS. Users can configure CWSU sites for automatic viewing on their AWD, and set up alerts so they are notified when content there is updated.

In the future as FAA weather-aware systems and decision support tools are modernized, the AWD-style graphical layers can be accessed directly to support display users.



The AWD display architecture incorporates Information in graphical layers. It uses the CSS-Wx Web Map Service to read gridded and non-gridded data, and produce image layers. Each image is made up of a number of tiles (see below), depending on the zoom step and tile size settings.



FAA | CSS-WX
FAA | NWP
FAA | AWD

NOAA | RAP
NOAA | HRRR
NOAA | LAPS

NOAA | CCFP
NOAA | CIP/FIP
NOAA | GTG

NASA | CWAM
NASA | SATCAST
NASA | DWR