

Product Description Document

Collaborative Aviation Weather Statement (CAWS)

Part 1 – Mission Connection

1. Product Description:

The Collaborative Aviation Weather Statement (CAWS) is a National Weather Service (NWS) product collaborated by NWS meteorologists, airline meteorologists, and other airline and Federal Aviation Administration (FAA) personnel. The CAWS focuses on specific convective forecasts impacting the Core 29 airports and high traffic en route corridors. The focus is event-driven, supporting the ability to more effectively initiate, adjust, or terminate planned or active Traffic Management Initiatives (TMI) to balance traffic demand in the constraint locations. The FAA, pursuant to Title 49 United States Code Section 44720, established requirements for this weather information and service which is necessary for the safe and efficient conduct of operations in the National Airspace System (NAS).

2. Purpose/Intended Use:

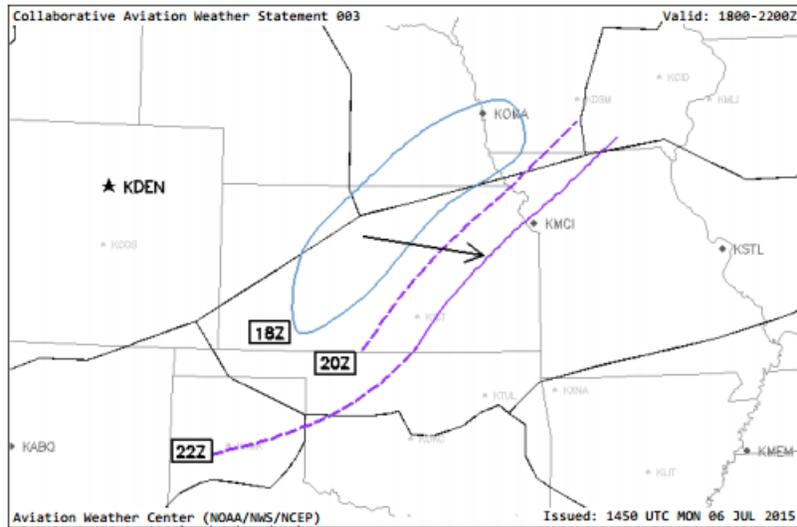
The CAWS is a step towards the FAA's collaborative Operating Bridging (OB) process. OB is a set of weather forecasting processes, communication tools, and engagement protocols between meteorologists and Air Traffic Management (ATM) decision makers. The intent is to accelerate the transition of aviation weather forecasts to be more event-driven, enabling more timely ATM decisions based on improved precision (e.g., location, duration, magnitude of weather) and NAS predictability. The CAWS will update Traffic Flow Management (TFM) planners on adverse weather that crosses thresholds determined to be critical to ATM decisions. The CAWS will provide ATM decision makers (e.g., Air Traffic Control System Command Center (ATCSCC), Air Route Traffic Control Center (ARTCC), Terminal Radar Approach Control (TRACON) TFM, etc.) with timely, highly confident, and highly relevant information about weather events likely to constrain NAS operations, including forecasts that a weather event will not materialize as previously forecast, or an active event will end sooner than expected.

3. Audience/Users:

The CAWS will support the identification of NAS constraints due to weather that impacts strategic NAS planning. The CAWS initially focuses on convective weather across the CONUS, since convection has historically caused the greatest number of NAS constraints. Describing weather trends and evolving weather events improves the predictability of weather impacts. This improvement will allow ATM decision makers to more effectively initiate, adjust, or terminate planned or active TFM initiatives, resulting in more efficient use of available airspace. The CAWS represents the evolution of the Collaborative Convective Forecast Product (CCFP). Like the CCFP, the CAWS is a collaborative effort among NWS meteorologists at the Aviation Weather Center (AWC), meteorologists at the ATCSCC and the ARTCC Center Weather Service Unit (CWSU), and airline meteorologists. The CAWS replaces the collaborative component of the manual CCFP. The manual CCFP will be replaced by an objectively generated product. The CAWS will be generated, revised, corrected, and cancelled as ATM defined weather conditions (thresholds) of relevance warrant. The FAA and the airline industry will use the CAWS to plan, manage, and execute operations in the NAS.

4. Presentation Format:

An example of the CAWS guidance is shown below:



Collaborative Aviation Weather Statement 003
NWS Aviation Weather Center Kansas City MO
1450 UTC Mon 06 Jul 2015

Weather: Thunderstorms
Valid: 1800-2200Z

ARTCCs affected: ZFW, ZKC, ZMP
Terminals affected:

CCFP: 15Z - Coverage too low

SUMMARY: Thunderstorms expected to develop across ZKC by 18Z and intensify into a line by 20-22Z.

DISCUSSION: Current storms across N KS/SE Neb will continue to intensify after 18Z and move slowly eastward forming a broken line by 20Z and a significant solid line by 22Z with tops FL400+. Further south across the panhandle TX and W OK a broken line should begin to form around 22Z. CCFP tops are good for the valid time periods.

An additional CAWS may be needed as the storms pushes eastward.

BOUNDING BOX: 42.82,-90.30 33.90,-95.67 33.78,-104.40 42.70,-101.48

5. Dissemination Methods

The CAWS will be available from:

- The AWC website: <https://www.aviationweather.gov/caws>

- NWS Telecommunications Gateway:
 - WMO header for the text product FAUS11 KKCI
 - WMO ID for the png graphic is PMNC00 KKCI
 - AWIPS ID is AWSTS.
- The FAA Air Traffic Control System Command Center: An advisory will be issued when CAWS is issued.

6. Feedback Method:

The evaluation period to refine the CAWS requirements will continue in 2016, allowing input to be collected as part of a comprehensive suitability assessment aimed at improving the operational value of OB and the CAWS. The FAA's Aviation Weather Division will lead the evaluation, focusing on usability, effectiveness, and areas of potential improvement for OB and the CAWS. FAA engineering research psychologists will manage the collection of feedback which will be obtained from the joint government and industry Collaborative Decision Making (CDM) community through the National Traffic Management Log (NTML), customer comments, an FAA hosted online survey, onsite interviews, and questionnaires.

Public comments will be collected via the survey below:

www.nws.noaa.gov/survey/nws-survey.php?code=CAWS

Comments can also be provided to the <http://www.aviationweather.gov/> webmaster. Opportunities for face-to-face responses will occasionally occur in the context of media workshops, public outreach events, and other activities.

For further information, please contact:

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Part 2 – Technical Description

1. Format and Science Basis:

In recent years, science and technology advances have introduced new high-resolution convective forecasts, enabling the meteorology community to provide more detailed forecast information in support of TFM decisions. In addition, ensemble weather models are now providing reliable probabilistic forecasts of convection. However, these multiple products often provide differing forecasts and could make it difficult at times for TFM planners to agree on a plan for the NAS. To address these issues, the CDM Stakeholders Group (CSG) tasked the Weather Evaluation Team (WET) to explore concepts that:

- Reconcile the variety of convective forecasts available to ATM decision makers (current and future);
- Account for the evolving role of the meteorologist in forecast production, and move towards using the Human Over the Loop (HOTL) model; and
- Address the use of probabilistic weather forecast information in support of strategic TFM planning.

The CAWS is the vehicle through which unscheduled, event-driven updates to impacting forecast aviation weather will be communicated in a standard process on a national basis. It will be issued based on specific meteorological thresholds identified as being key for a specific area (e.g., Core 29 airports, Sector, Metroplex, etc.). Any person identified as a collaborator may initiate the process, and once published will supersede any other scheduled product used by TFM. This will enable proactive initiation or cancellation of TMI to balance traffic demand against greater predictability in constraint locations, magnitudes, and durations.

The expected benefits to the aviation community should be a reduction in fuel cost and expenses associated with flight delays, cancellations, and diversions due to timely adjustments to the forecast weather and more efficient TMI management. These adjustments may include the ability to manage TMIs to account for previously unforeseen weather that is now expected to develop, that is not expected to develop, or not expected to develop to the extent previously forecast.

The CAWS will be generated 24 hours a day during the period March 1 – October 28, 2016. It will be disseminated on an unscheduled basis, and collaborated among meteorologists from all stakeholder groups. Initially it will address convective weather likely to cause constraints in the NAS.

2. Training:

No additional training is required to generate or use the product.

3. Availability:

The experimental CAWS guidance will be available 7 days a week during the period from March 1, 2016, through October 28, 2016. This product is event driven. The CAWS will be available at: <https://www.aviationweather.gov/caws> The WMO header is FAUS11 KKCI for the text product and PMNC00 KKCI for the PNG graphic. The AWIPS ID is AWSTS for the Text Product..