

# Jacksonville Center Weather Service Unit (CWSU)

**Brian Schroeder**  
ZJX CWSU Meteorologist in Charge  
National Weather Service





# Overview

- CWSU Operations
- Formation of CWSUs
- CWSU Locations
- JAX ARTCC Airspace
- Our Products
- Collaboration



# CWSU Operations

- CWSU's produce specialized tailored forecasts and advisories of T-storms, turbulence, icing, and precipitation to Federal Aviation Administration (FAA) officials to ensure aviation safety for the National Air Space system.
- CWSU's provide detailed scheduled or on demand briefing of current and forecast weather several times a day for ARTCC personnel, terminal approach control personnel and Control Tower personnel.
- CWSU's coordinate with the appropriate forecast office and the Aviation Weather Center (AWC) to obtain updated aviation forecasts with suddenly changing weather conditions.
- CWSU's monitor and provide weather forecasts and advisories to the nation's 21 Air Route Traffic Control Centers (ARTCC).



# Formation of CWSUs

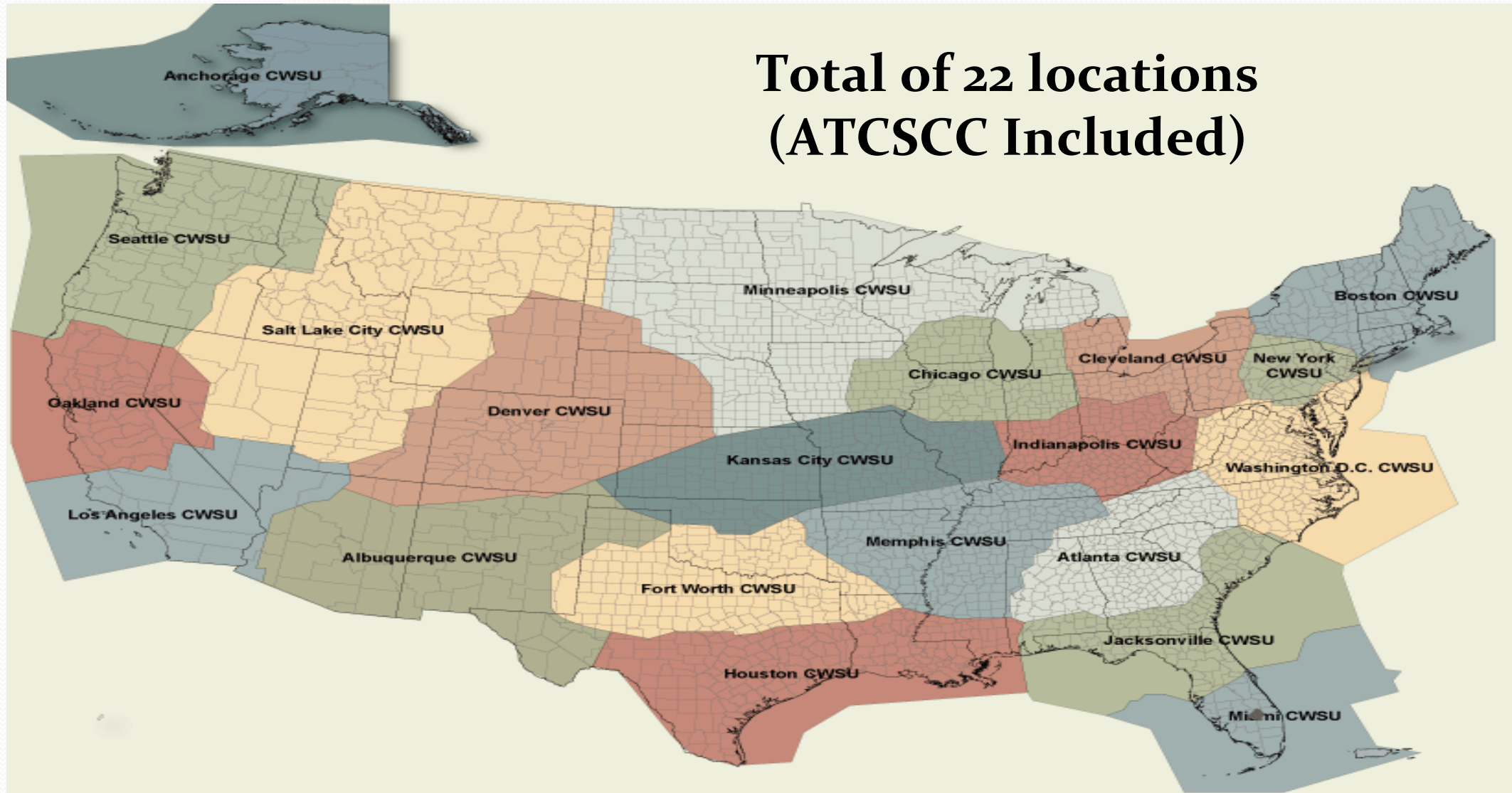
- CWSUs were formed as a result from the 1978 crash of Southern Airways FL 242, which flew into a thunderstorm and crashed en-route to Atlanta. Both engines flamed out due to hail ingestion.
- The ensuing investigation suggested that Air Traffic Controllers needed a better way to receive timely weather information, hence the CWSU program was born.





# CWSU Locations

**Total of 22 locations  
(ATCSCC Included)**





# JAX ARTCC Airspace



- 2nd busiest ARTCC in the country
- 210,000 sq. miles
- Approx. 2.6 mil/yr.
- MCO 9<sup>th</sup> busiest WW



# ZJX CWSU

Jax Center Weather is located at the Federal Aviation Administration (FAA) Air Route Traffic Control Center (ARTCC) in Hilliard FL. The CWSU is staffed by four National Weather Service (NWS) meteorologists. The CWSU provides up to the minute weather information and briefings to the ZJX Traffic Management Unit (TMU) and operations supervisors. Special emphasis is given to weather conditions that would be hazardous to aviation or would impede the flow of air traffic in the National Airspace System (NAS). CWSU meteorologists also issue two unscheduled products: 1) The Center Weather Advisory (CWA) is an aviation weather warning for thunderstorms, icing, turbulence, and low IFR ceilings and visibilities. And 2) The Meteorological Impact Statement (MIS) is a 2-12 hour forecast for weather conditions which are expected to impact ARTCC operations.

## *“Jax” Center (ZJX ARTCC)*

Jax center (one of 20 centers in the continental United States) is responsible for approximately 160,000 square miles of airspace — airspace that covers parts of five states: Alabama, Georgia, Florida, North and South Carolina. Center-wide average daily traffic count is approximately 8600 operations, with peak traffic being over 9770 operations in one day. Fifty percent of traffic is air carrier, thirty percent general aviation, and twenty percent is military. Jax center is now the 2nd-busiest in the United States



# Our Products

- Pre-Duty Weather Briefings
  - Presentation [\[link\]](#)
  - Includes PIREP solicitation
- Center Weather Advisories ([more info on next slide](#))
  - Reference: NWSI 10-803
- Meteorological Impact Statement (MIS)
  - The MIS is a brief non-technical discussion of meteorological events causing or expecting to cause a hazard and impact to the safe flow of air traffic, including specifics describing the hazard: area, altitudes, and movement
  - Reference: NWSI 10-803
- Collaborate on the Traffic Flow Management Convective Forecast (TCF)
  - The TCF is a high confidence graphical representation of forecasted convection meeting specific criteria of coverage, intensity, and echo top height. The TCF graphics are produced through a collaborative forecast process every 2 hours and valid at 4-, 6-, and 8-hours after issuance time.

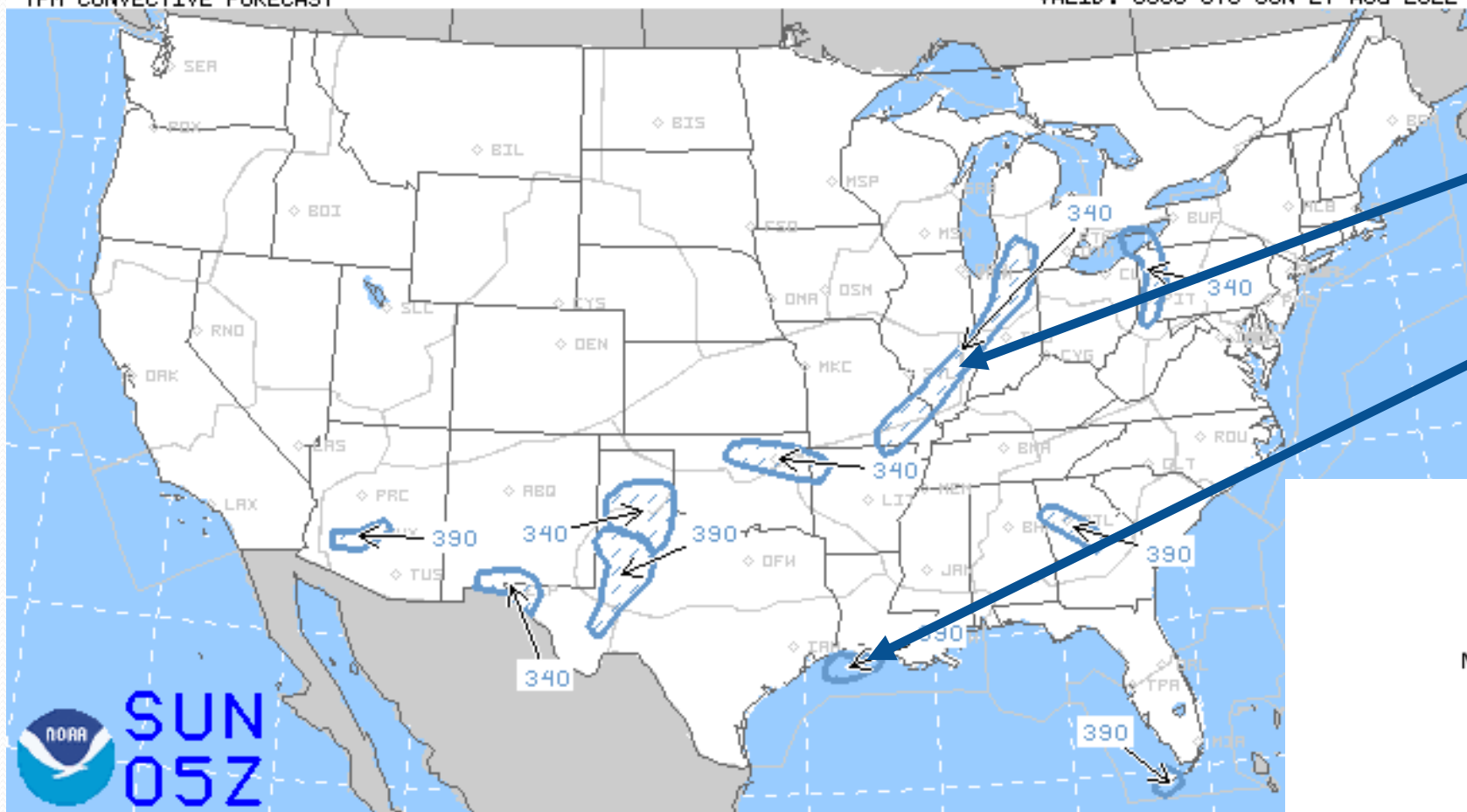




# TCF Example

TFM CONVECTIVE FORECAST

VALID: 0500 UTC SUN 21 AUG 2022



Sparse  
Coverage

Medium  
Coverage

## COVERAGE

SPARSE  
25-39%  
MEDIUM  
40-74%



## HEIGHT

TOPS: 100's OF FEET MSL  
25000 - 29000 290  
30000 - 34000 340  
35000 - 39000 390  
40000+ >400

## LINES

SOLID 75-100%

AVIATION WEATHER CENTER (NOAA/NWS/NCEP)

ISSUED: 0100 UTC SUN

To



# Center Weather Advisories

Issue when...

1. There is no existing AWC or AAWU advisory in effect.
2. Any of the following condition occur:
  - Conditions meeting Convective Significant Meteorological Information (SIGMET) criteria (See NWSI 10-811).
  - Icing – moderate or greater.
  - Turbulence – moderate or greater.
  - Mountain waves which cause a significant change in altitude and/or significant change in air speed.
  - Heavy and extreme precipitation.
  - Freezing precipitation.
  - Conditions at or approaching Low IFR (See NWSI 10-813).
  - Surface wind gust at or above 30 knots.
  - Low Level Wind Shear (Surface – 2000 feet AGL. See NWSI 10-813).
  - Volcanic ash, dust storms or sandstorms.
  - When a hazard has grown significantly outside of the boundary defined by the AWC or AAWU advisory.
  - To upgrade/supplement a thunderstorm advisory to include severe thunderstorms.
  - To upgrade/supplement an AIRMET to include isolated severe turbulence or icing
  - To define a line of thunderstorms within a larger area covered by an AWC or AAWU advisory.
  - To better define hazards at a major terminal already within an AWC or AAWU advisory



# CWA continued

Issue when...

3. Anything that in the judgment of the forecaster will add value to an existing advisory.
4. In the forecaster's judgment, any other condition that adversely impacts the safe flow of air traffic.

Example Text CWA (for embedded TS):

ZMA4 CWA 181410

ZMA CWA 402 VALID UNTIL 181500

15SSW MIA

ISOL EMBD TS DIAM 10NM MOV FROM 21025KT TOP FL370. TS VC  
KMIA THRU 15Z

WIND GUST 35KT POSS.

[back to](#)



# Collaboration

- Aviation Weather Center (AWC) – Kansas City, MO
- ZJX FAA Center – Hilliard, FL
- Neighboring CWSU's: ZTL – Atlanta, ZMA – Miami\*, ZHU - Houston & ZDC – Washington D.C.
- Orlando TRACON (Terminal Radar Approach Control Facilities)
  - Top 10 busiest airport in the world
- National Hurricane Center (NHC) – Miami, FL
- Neighboring National Weather Service WFO (Weather Forecast Office)
  - - Jacksonville WFO, Tallahassee WFO, Tampa WFO, **Melbourne WFO**,  
Charleston WFO, and Wilmington WFO.

\*Backup CWSU for ZJX



# Questions?

