



# FIS-B ENHANCEMENTS AND MOVEMENT TO MRMS

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## Flight Information Service-Broadcast (FIS-B)

- One of four services provided by the FAA's Surveillance and Broadcast Services (SBS) program
  - Automatic Dependent Surveillance-Broadcast (ADS-B)
  - ADS-Rebroadcast (ADS-R)
  - Traffic Information Services-Broadcast (TIS-B)
  - Flight Information Services - Broadcast (FIS-B)

## FIS-B is the ground-to-air broadcast service of weather and aeronautical information.

- Basic FIS-B includes 13 products
- Products are divided into three types
  - Text
  - Text with graphic overlay
  - Graphical

Product type	Basic FIS-B product
Text	METAR
	PIREP
	Winds/Temps Aloft
	TAF
	FIS-B Product Status
Text with graphic overlay	AIRMET
	SIGMET
	SUA
	NOTAM-D
	NOTAM-FDC
	NOTAM-TFR
Graphical	NEXRAD CONUS
	NEXRAD Regional

## **FIS-B has recently added six new CONUS products**

- Additional text with graphic overlay products
  - Center Weather Advisory (CWA)\*
  - Graphical-AIRMET (G-AIRMET)
- Additional graphical products
  - Icing (Severity, Probability, Supercooled Liquid Droplet)
    - Source: Forecast Icing Product (FIP)
    - Update Frequency: Hourly
  - Turbulence
    - Source: Graphical Turbulence Guidance (GTG)
    - Update Frequency: Hourly
  - Cloud Top Height
    - Source: High Resolution Rapid Refresh Analysis & Forecast System (HRRR)
    - Update Frequency: Hourly
  - Lightning
    - Source: National Lightning Detection Network (NLDN)
    - Update Frequency: 5 minutes

\*CONUS + Alaska

## **More timely, frequent, and higher-resolution source of radar data**

- Current source is Level III Product 37 mosaic at ~2km resolution updated every 5 minutes
- MRMS source is Level II composite reflectivity mosaic at ~1km resolution updated every 2 minutes

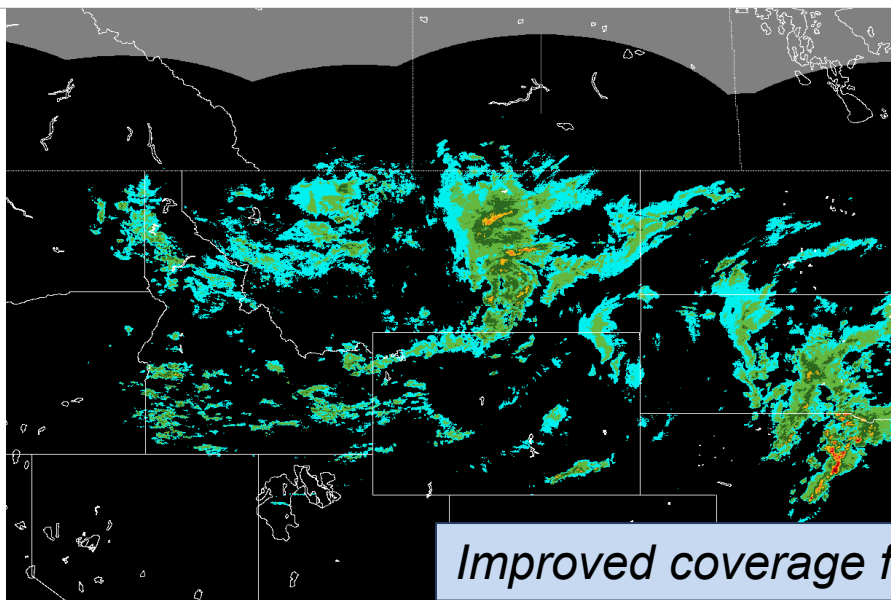
## **Consistent presentation of weather radar mosaic data to pilots**

- De-facto mosaic used at the Aviation Weather Center
- Used in the AWC's new Graphical Area Forecast product
- Composite reflectivity mosaic used by Alaska Flight Service
- Development & testing of NextGen products at FAA Aviation Weather Research Program

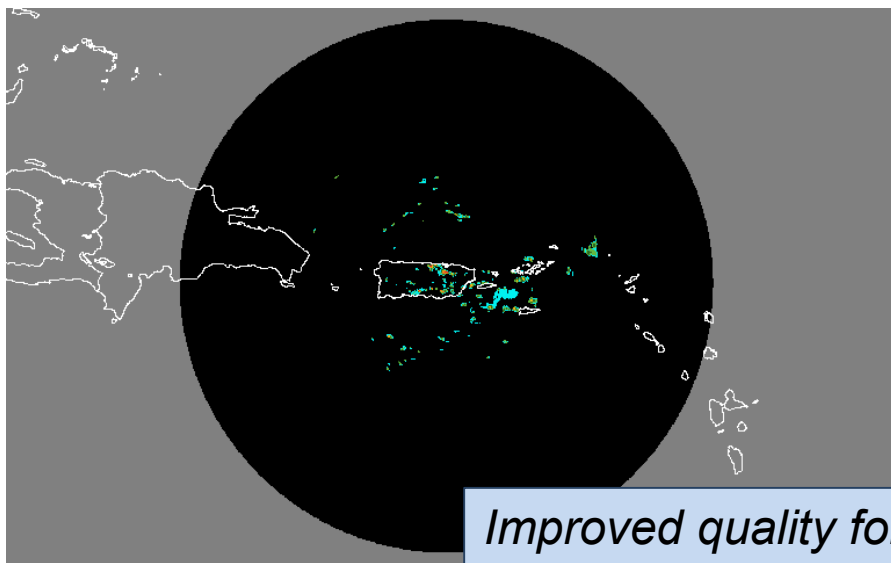
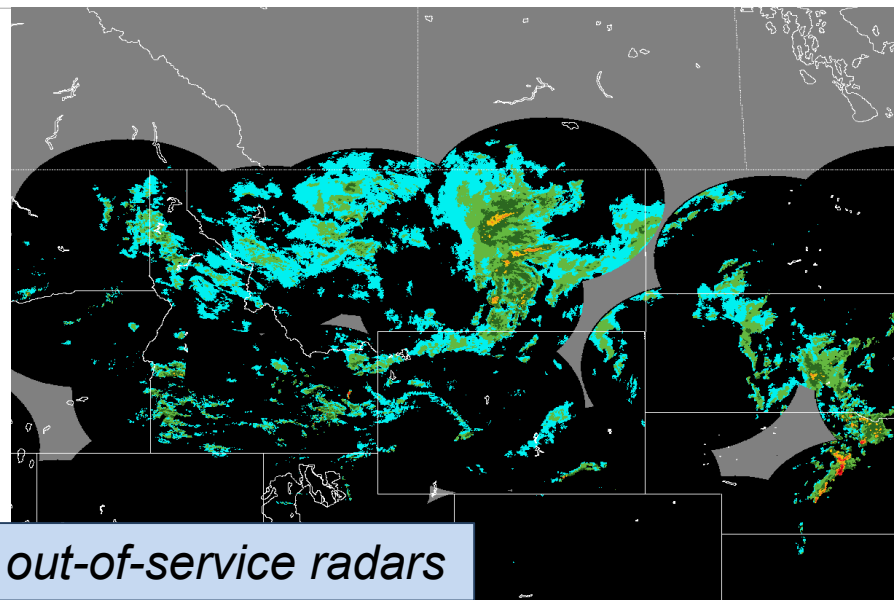
## **Scientifically supported, NWS operational, & ongoing development**

- Bulletin of the American Meteorological Society, the Monthly Weather Review, the Journal of Hydrology, and other peer reviewed journals
- Developed & maintained by National Severe Storms Lab & U. of Okla.
- Current version 11.5 (May 2018); V12.0 Scheduled (Spring 2019)

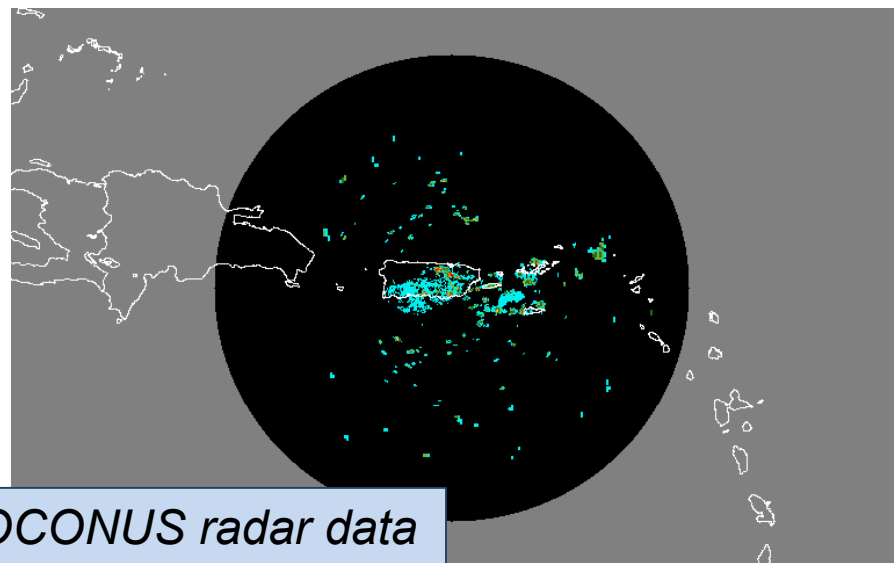
# MRMS (left) vs Current FIS-B Source (right)



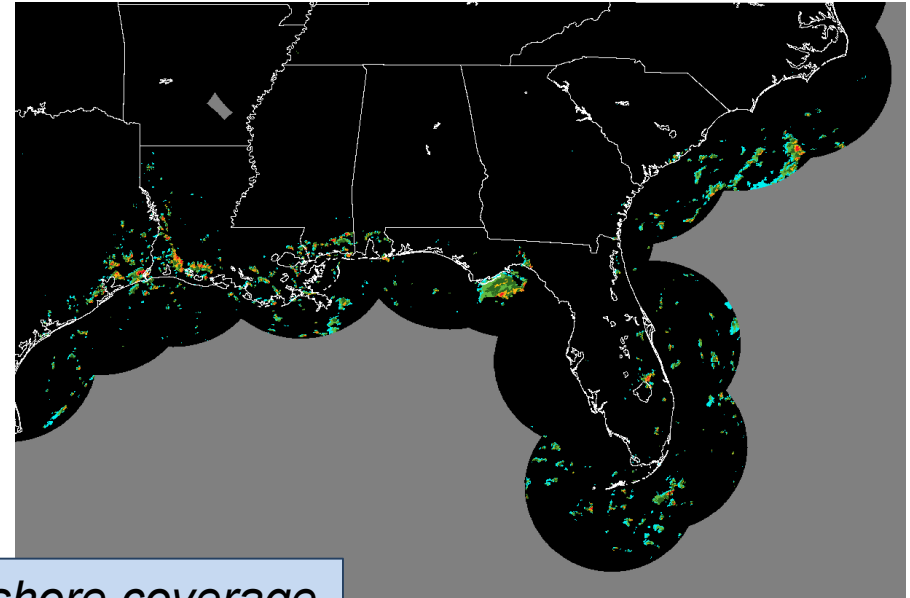
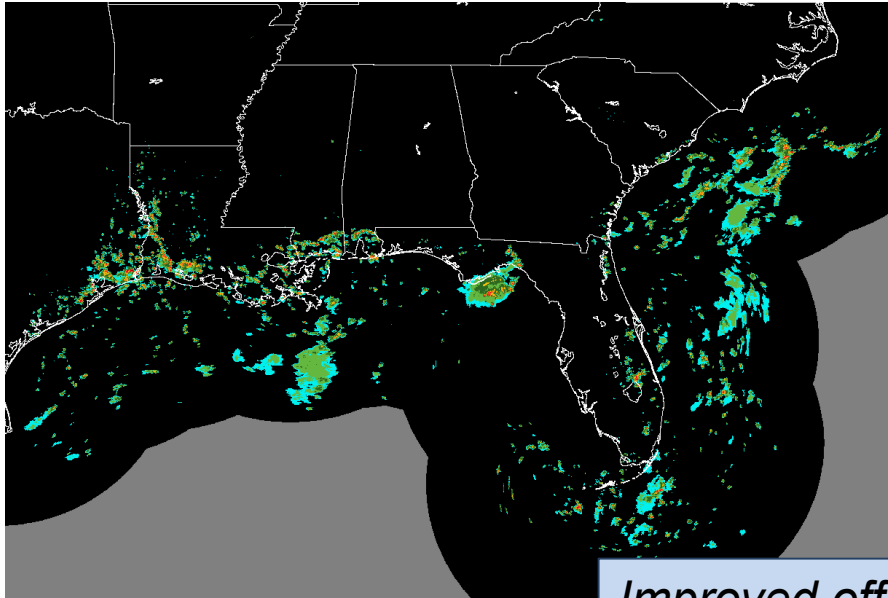
*Improved coverage for out-of-service radars*



*Improved quality for OCONUS radar data*



# MRMS (left) vs Current FIS-B Source (right)



*Improved off shore coverage*