



Progress and Plans for Satellite Radiance Assimilation in the NCEP Global Data Assimilation System

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ABI: GOES-18 and **GOES-19*** Channels 8-10

AHI: Himawari-9 Channels 8-10

AMSU-A: NOAA-15 Channels 1-5, 7-10, 12-13, 15

NOAA-18 Channels 1-4, 6-7, 10-15

NOAA-19 Channels 1-6, 9-15

Metop-B Channels 8-14

Metop-C Channels 1-15

MHS: NOAA-19 Channels 1,2,4,5

Metop-B Channels 1-5

Metop-C Channels 1-5

ATMS: SNPP, NOAA-20, NOAA-21 Channels 1-22

GMI: GPM* Channels 1-13

SSMIS: DMSP-17 Channels 1, 5-7, 24

IASI Metop-B 174 Channels

Metop-C 174 Channels

CrIS: SNPP, NOAA-20, NOAA-21 100 Channels

AVHRR: Metop-B, Metop-C, NOAA-18, NOAA-19 Channels 3-5

VIIRS: S-NPP, NOAA-20 Channels 12, 15, 16

Radiances assimilated in
NOAA GFS Model

*** To be implemented June
2025.**



Planned Upgrades:

June 2025:

GPM GMI

GOES-19 CSRs

Preparation for Metop-SG

Improved QC of water vapor Jacobians

GFSv17 (Summer 2026)

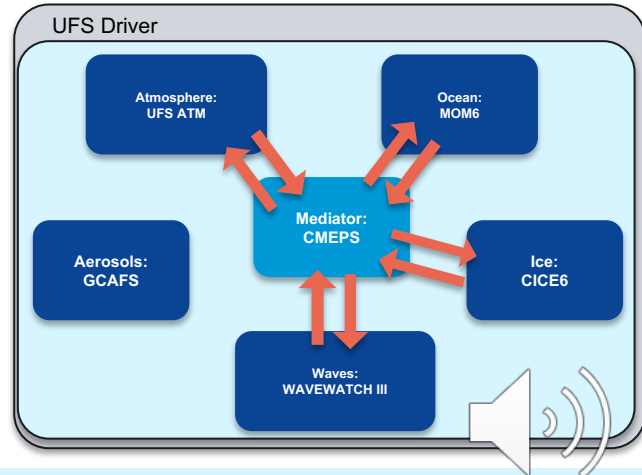
- Atmospheric DA still GSI – all other components JEDI
- Upgrade to Thompson microphysics
- Assimilate Meteosat All Sky Radiance products
- MTG-IRS?
- TROPICS?

GFSv18 (2027?)

- JEDI for atmospheric DA

Impact of GMI is mostly neutral, but shows a small improvement in SSTs via the NSST framework.

GFS v17 will be 4-way coupled



NOAA/NWS/NCEP/EMC DA Review and 10-year Plan

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Centers for Environmental Prediction
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Data Assimilation Strategy for NOAA/NWS/NCEP/EMC

Current State of Data Assimilation Capabilities at NCEP's Environmental Modeling Center

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NOAA/NWS/NCEP Environmental Modeling Center

College Park, Maryland

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Data Assimilation Strategy and Development Plan for NCEP's Environmental Modeling Center

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