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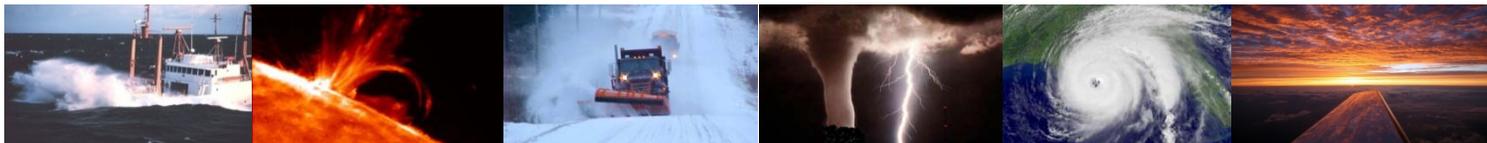
# NWS Readiness for GOES-R and SNPP/JPSS

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Director, National Weather Service*

*NOAA Satellite Conference  
College Park, MD  
April 8, 2013*





# Building a Weather Ready Nation



Building community resilience in the face of increasing vulnerability to extreme weather

- **Mission:**
  - Provide weather, water, and climate data, forecasts and warnings for the protection of life and property and enhancement of the national economy
- **Vision...a Weather Ready Nation:**
  - Society is prepared for and responds to weather dependent events
- **Success:**
  - depends on ability to forecast and warn extreme events with enough lead time for people to plan, react, and take steps to mitigate

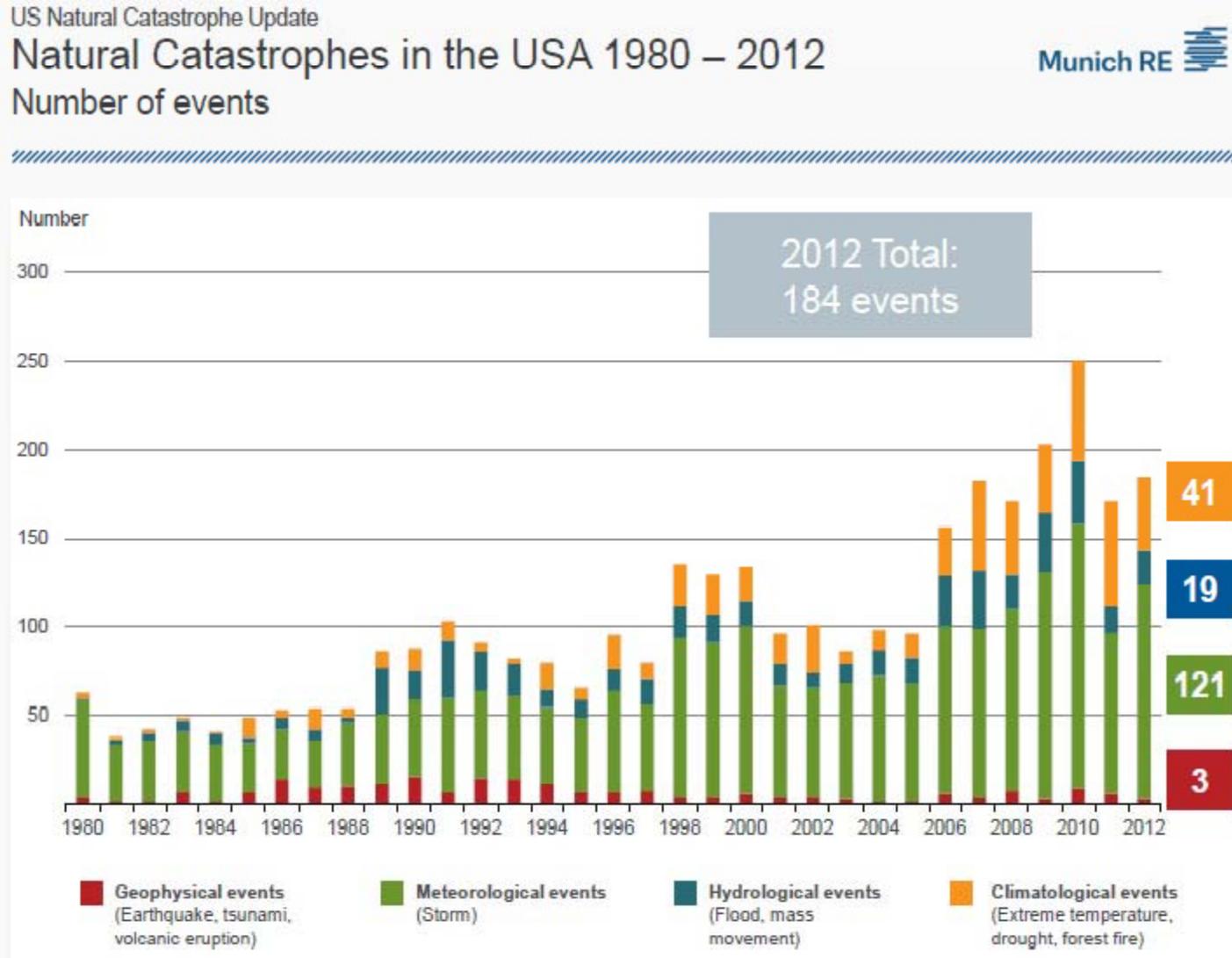


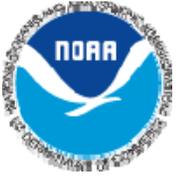


# Why a Weather Ready Nation?...



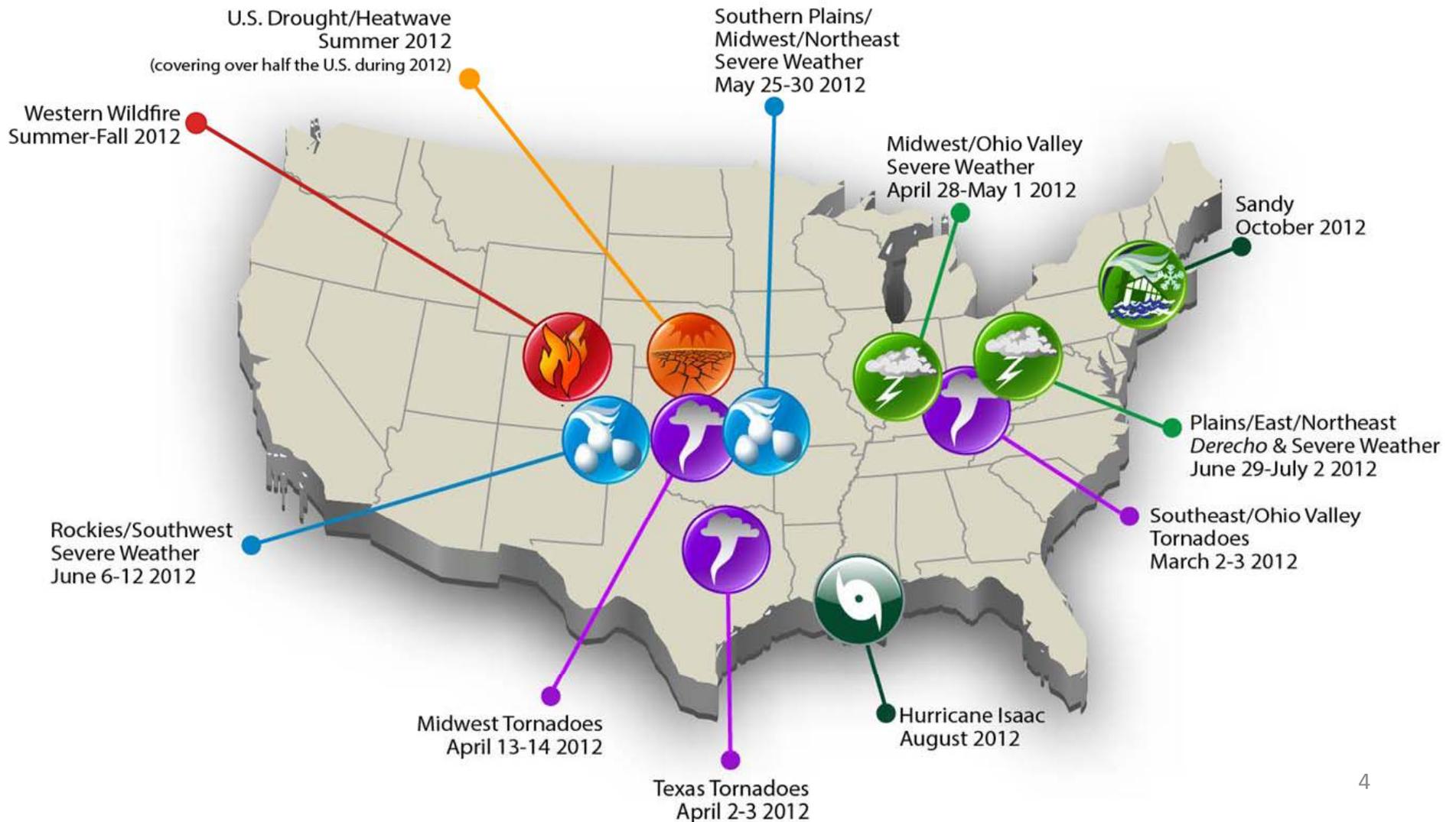
## Our Vulnerability to High-Impact Weather Has Increased





# In 2012...

## U.S. 2012 Billion-dollar Weather and Climate Disasters





Today: Everything you read, see or hear about weather, climate and ocean forecasts begins with numerical prediction models



## Key components of a successful forecast

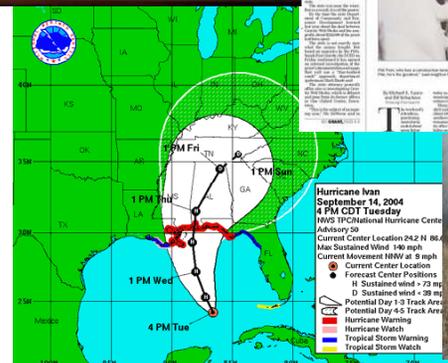
- Global Observing System
- Computers (supercomputers, work stations)
- Data Assimilation & Modeling/Science
- Trained workforce



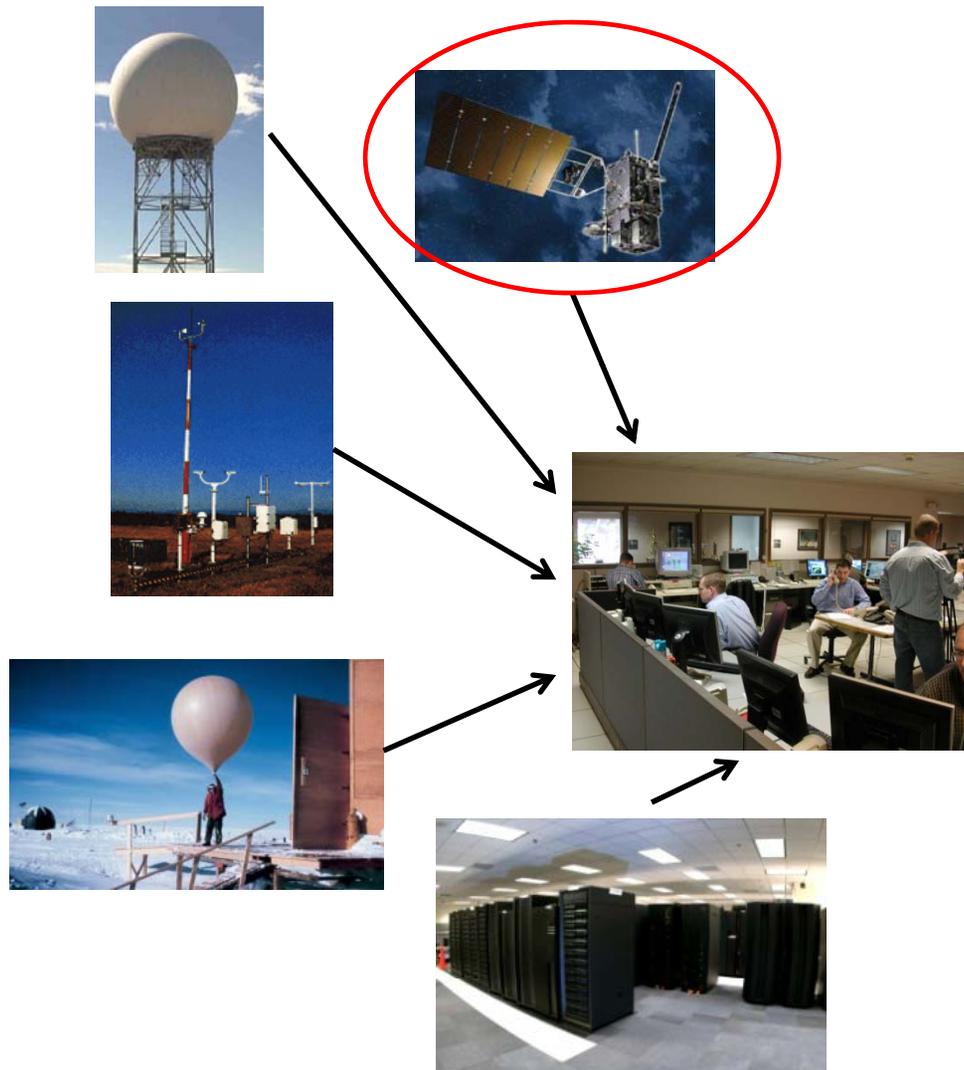
## Global Observing System

- ~2 Billion / day
- 99.9 % remotely sensed, mostly from satellites
- 35 different satellites now used

Satellite contribution dominated by LEO



# Key components of a successful Warning



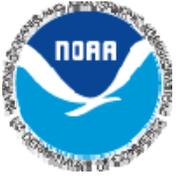
Satellite contribution dominated by GEO

## Services/products

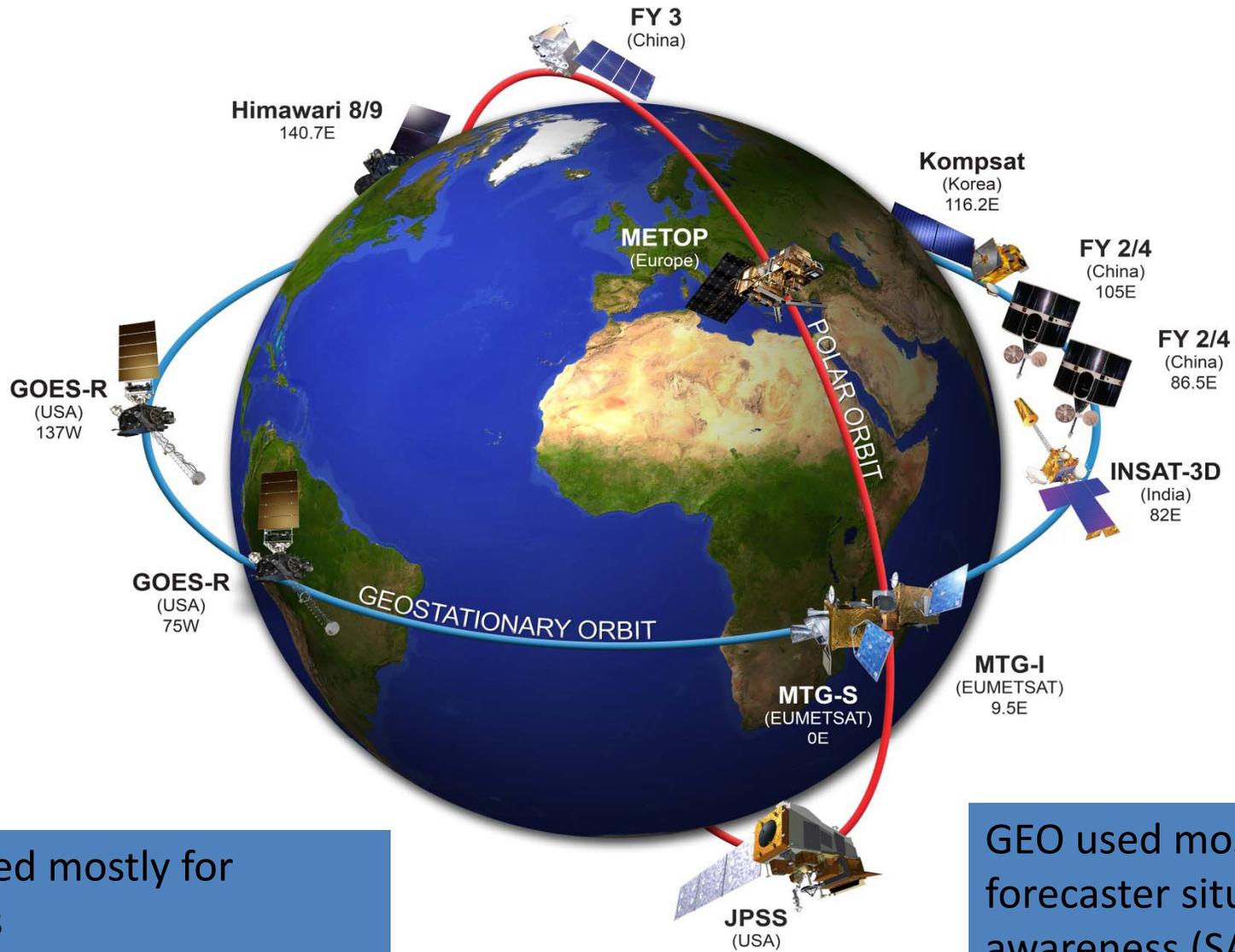
The services/products provided include:

- Web Briefing
- Recorded Briefing
- Live Virtual Briefing
- IC Center On-site
- IC Incident On-site

- situational awareness
- rapid data access
- increasingly remotely sensed observations
- decision support services /training



# LEO vs GEO use is blurring



LEO used mostly for models

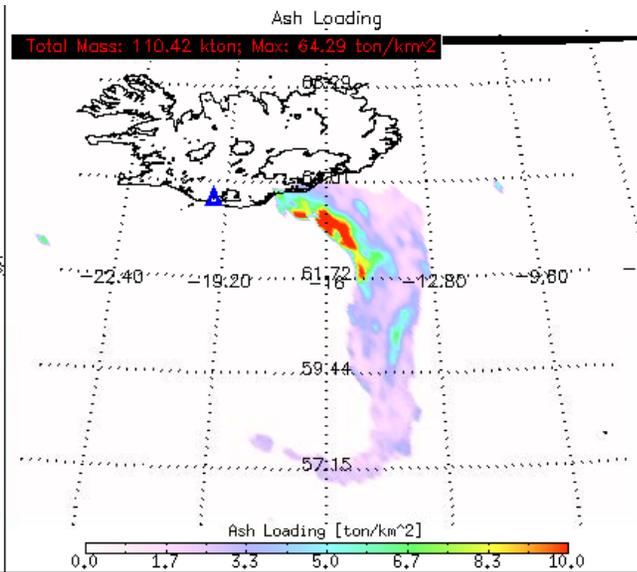
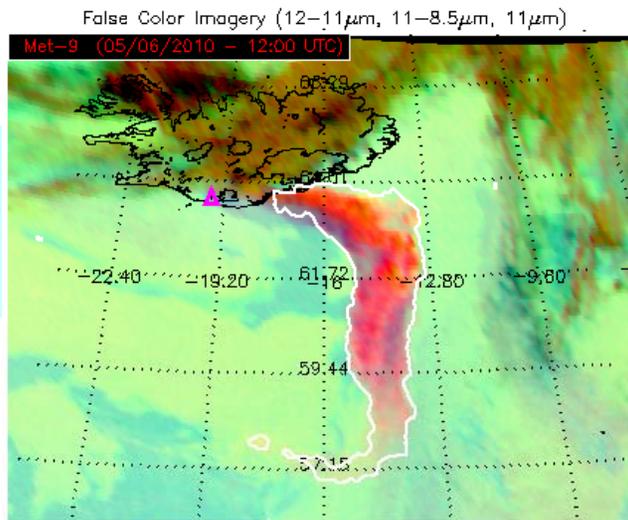
GEO used mostly for forecaster situational awareness (SA)

LEO and GEO now being used in models and by forecasters for SA



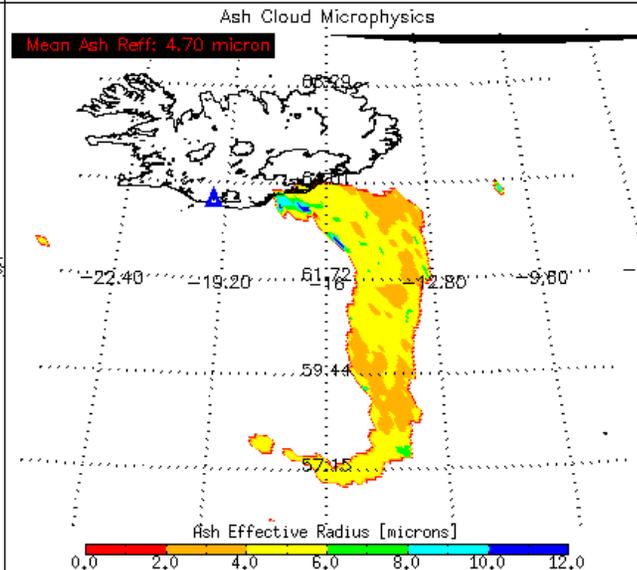
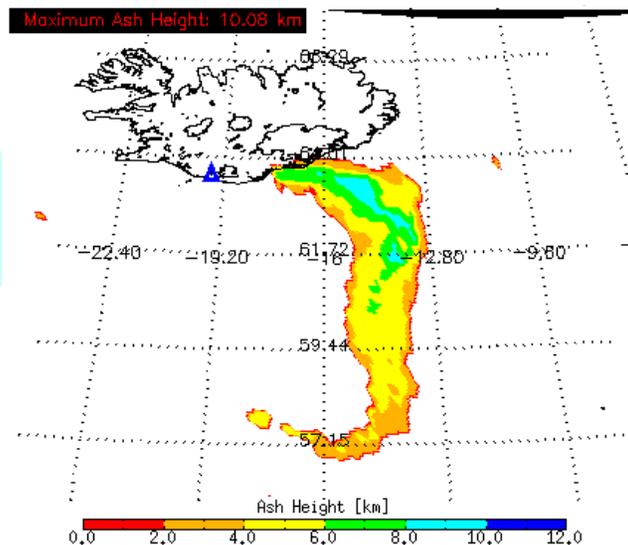
# Proving Grounds – Testbeds – JCSDA R20-O2R

False color  
for  
reference



Mass  
loading

Ash height



Effective  
particle  
radius



# Key Challenges

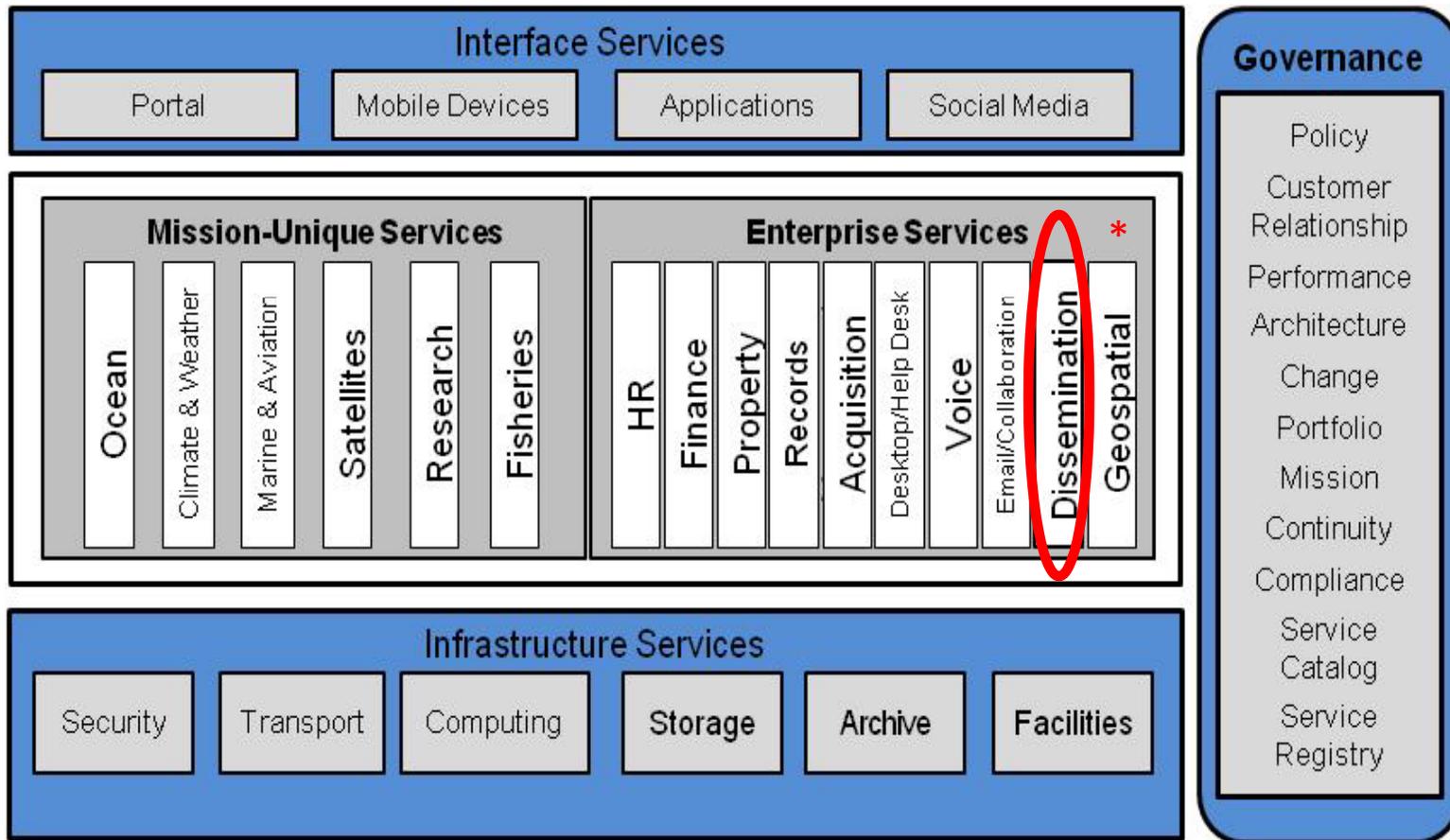


- Full Integration of LEO & GEO
  - Operational & Research
  - Traditional (e.g. IR-MW) & Emerging (e.g. GPSRO)
  - Remotely Sensed & In-Situ
- Latency
  - 2.5 hour data assimilation (DA) window, data loses value quickly when used in later DA cycles
  - Minutes latency relevant to severe weather warnings





# NOAA Enterprise Shared Services Model Dissemination





# In Summary



- Satellite data remains critically important to the forecast and warning mission of NWS
- Data access / latency needs are driving integrated dissemination plans
- Testbeds / Proving Grounds focused on use of GEO and LEO will have to come to grips with blurring categories of satellite data





# Questions?

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# Backups

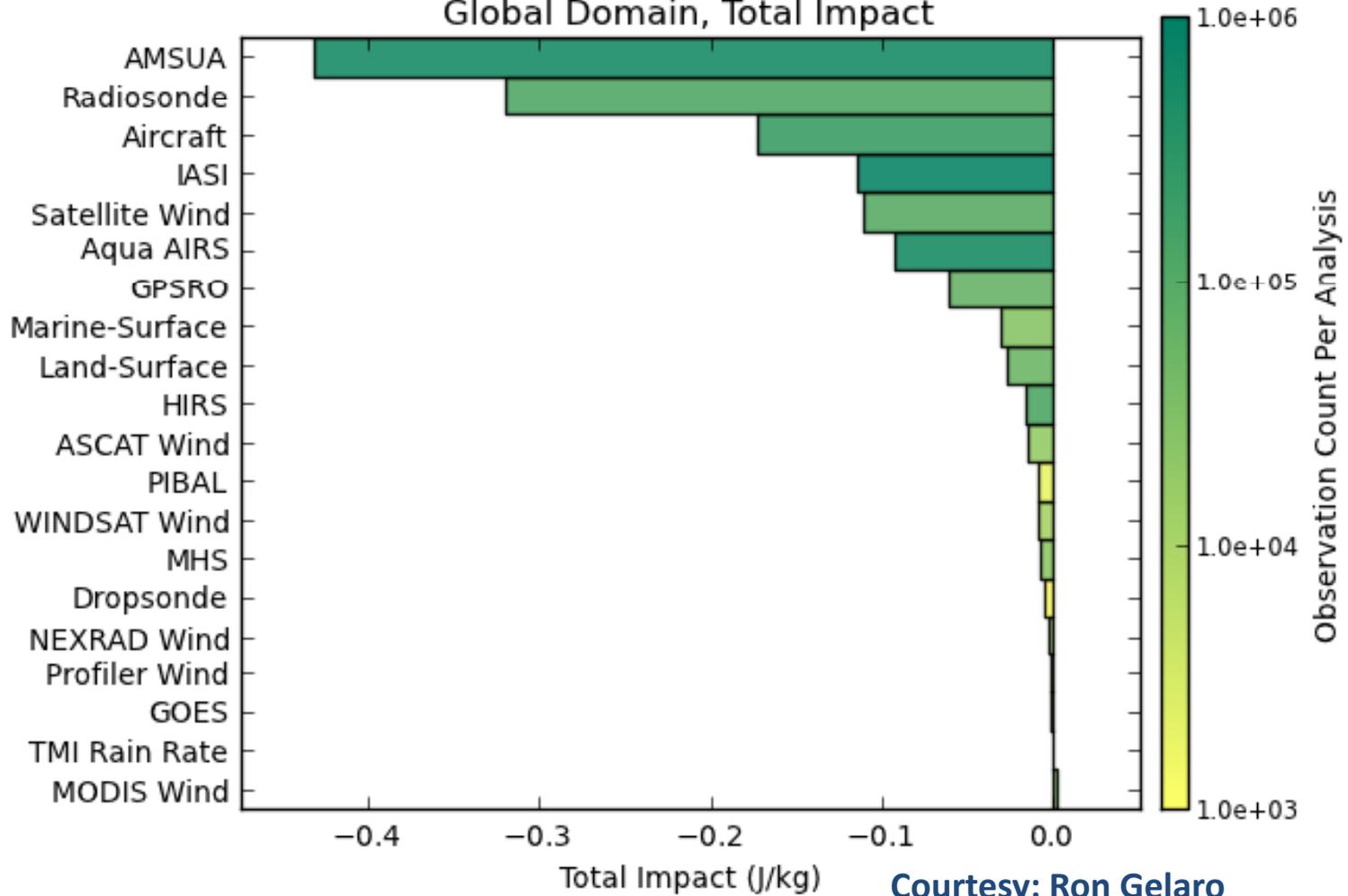
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# Observation Impact to NWP

GEOS-5 24h Observation Impact Summary  
17 May 2011-15 May 2012 00z  
Global Domain, Total Impact



Courtesy: Ron Gelaro  
NASA / GMAO