



# JCSDA 2007 Science Workshop

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# Challenges and opportunities ahead

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- New and coming sensors
- Next-generation data assimilation systems
- The “J” in JCSDA
- Budget environment
- JCSDA priorities



# Recent sensors

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- COSMIC
- METOP
  - ATOVS
  - AVHRR
  - IASI
  - GRAS
  - ASCAT
  - GOME-2



# Coming sensors

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- NPP
  - CrIS
  - VIIRS
  - ATMS
  - OMPS
- Jason-2
- Orbiting Carbon Observatory (OCO)
- ADM/Aeolus



## Past 2010

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- NPOESS
- GOES-R
- NASA missions (response to Decadal Survey...)
- Systems deployed by China, Japan, Korea, India, Russia, ....



# Data assimilation systems

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- All current JCSDA operational systems “3D-VAR like”; classical 6-hour cycling mode
- Most competitors/collaborators abroad use 4D-VAR
- Satellite data primary “growth area” for better NWP skill
- Optimal use of satellite data requires high temporal resolution data assimilation algorithms
  - Advanced algorithms are in development both inside and outside the JCSDA



# A “Joint” center ?

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- More effective coordination of efforts in
  - Radiative transfer
  - Observation operator code
  - Observation handling; BUFRizing, calibration, etc.
  - Impact experiments



# Budget

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- NASA
  - Science budget under pressure; weather not prominently featured in the Decadal Survey
- NOAA
  - Substantial overruns on NPOESS and GOES-R
- DoD
  - Budget pressure due to extended conflicts abroad



# Priorities for the JCSDA

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- Advanced instruments, radiative transfer, clouds/precip, land, ocean, trace gases and aerosol
- Should this be rebalanced/revisited?
- Feedback and participation from JCSDA science community is appreciated