

NOAA's Archive, Access, and Assessment of Satellite Data for Climate Applications

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Outline



- Archive – Summary of current status and plans for archival of data and metadata
- Access – How to get data and processing, analysis and visualization tools
- Assessment – Scientific Data Stewardship: NOAA's plans for creating climate data records

Archive – Summary of current status and plans for archival of data and metadata



- The Comprehensive Large-Array Data Stewardship System (CLASS) is an IT development system used by NOAA's data centers to service requests for satellite raw data and products:
- WWW.CLASS.NOAA.GOV
- Data sets include NOAA, GOES, DMPS, METOP, NPP, NPOESS
- For help and large orders contact:
NCDC.SATORDER@NOAA.GOV



Archive – Summary of current status and plans for archival of data and metadata



- Polar Orbiter Data (POD) users guides have recently been converted and will be linked to the CLASS web site and will be integrated into FGDC metadata:
 - <http://mesohigh.ncdc.noaa.gov/oa/pod-guide/ncdc/docs/intro.htm>
- CLASS web site has more metadata by selecting an instrument then following the link
- AVHRR and HIRS alignment and calibration manuals from the instrument manufacturer have all been scanned to pdf and will be posted soon
- What metadata would you find helpful? Let me know



Access – Obtaining Satellite Data Sets



- CLASS provides web-based access
 - Up to 100 data sets/order
 - Subscription service available
 - For large orders and media orders contact NCDC.SATORDER@NOAA.GOV
- All POES online – including SBUV
- DMSP – SSMI since 1997 – earlier data back to 1987 in progress (contact NCDC)
- GOES – since GOES-6 June 1983 and all GOES and SMS to 1978 by Jan 2007



Access – Obtaining Satellite, Model and In Situ data from Client-Servers



- NCDC's developmental client-servers (OPeNDAP/THREDDS) serve some research and climate satellite products, NCEP model output data and some in situ data sets:
 - NOMADS.NCDC.NOAA.GOV
- Handout for additional NCDC satellite data sets and contacts

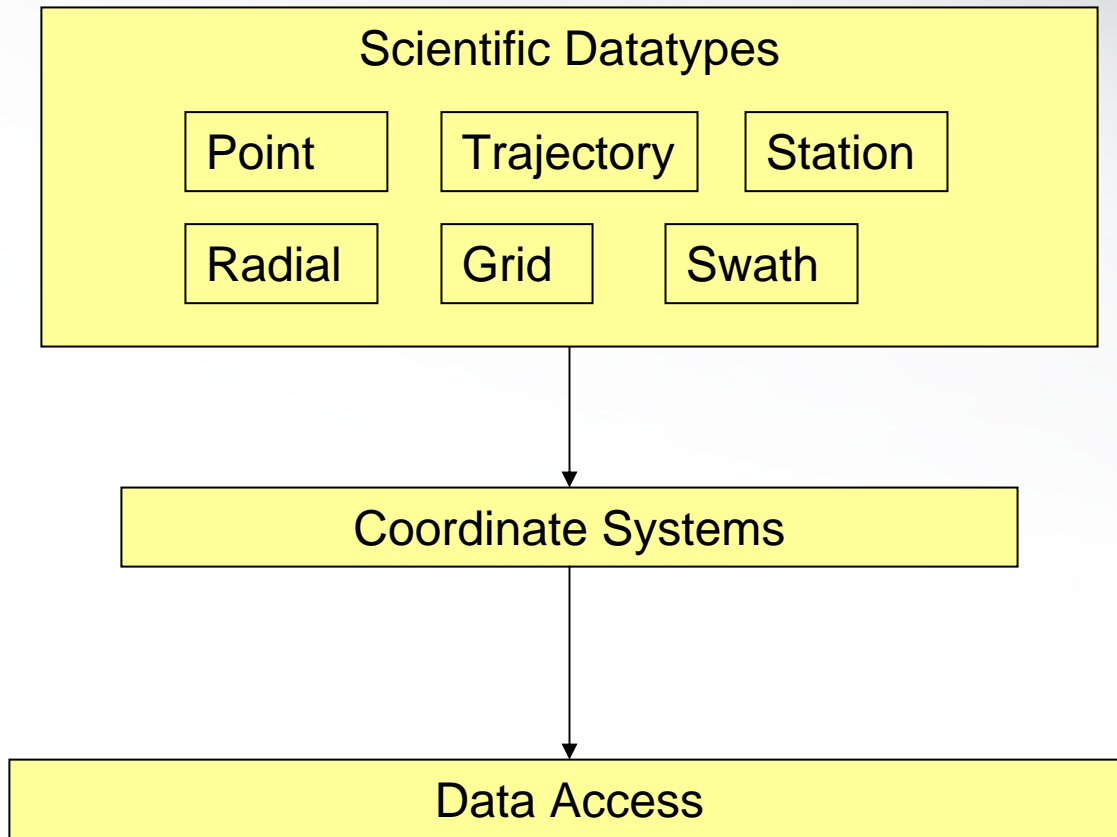


Access – Processing, Visualization and Analysis Tools

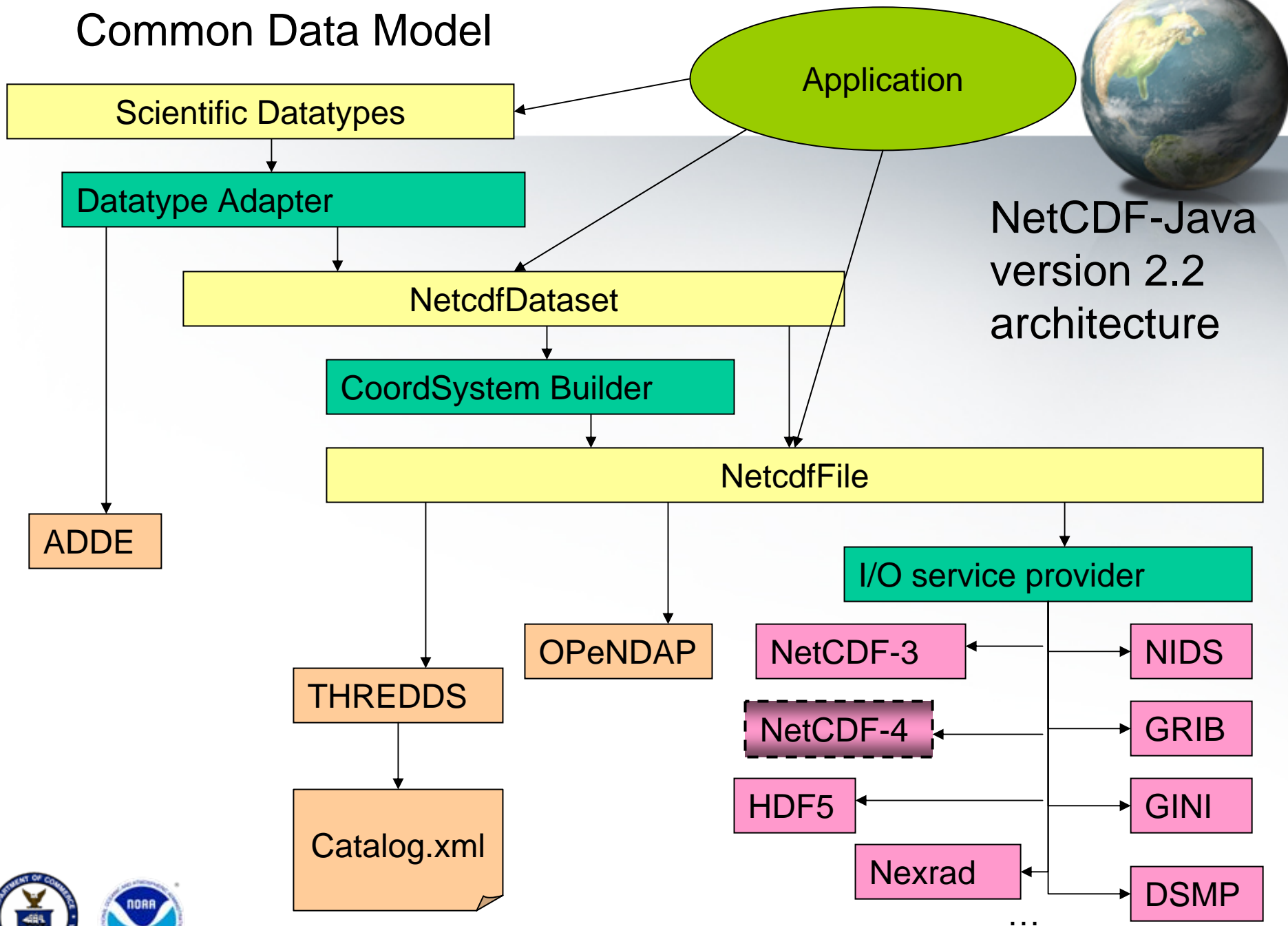


- NCDC supports tools to read and process data sets, particularly GOES and SSMI
- Interactive access to visualization and analysis tools is available from the NOMADS client-server
- We would like ITWG to consider providing JAVA versions of processing software and use of a Common Data Model framework for sharing data and tools

Access – Common Data Model a Services Oriented Architecture for Collaboration



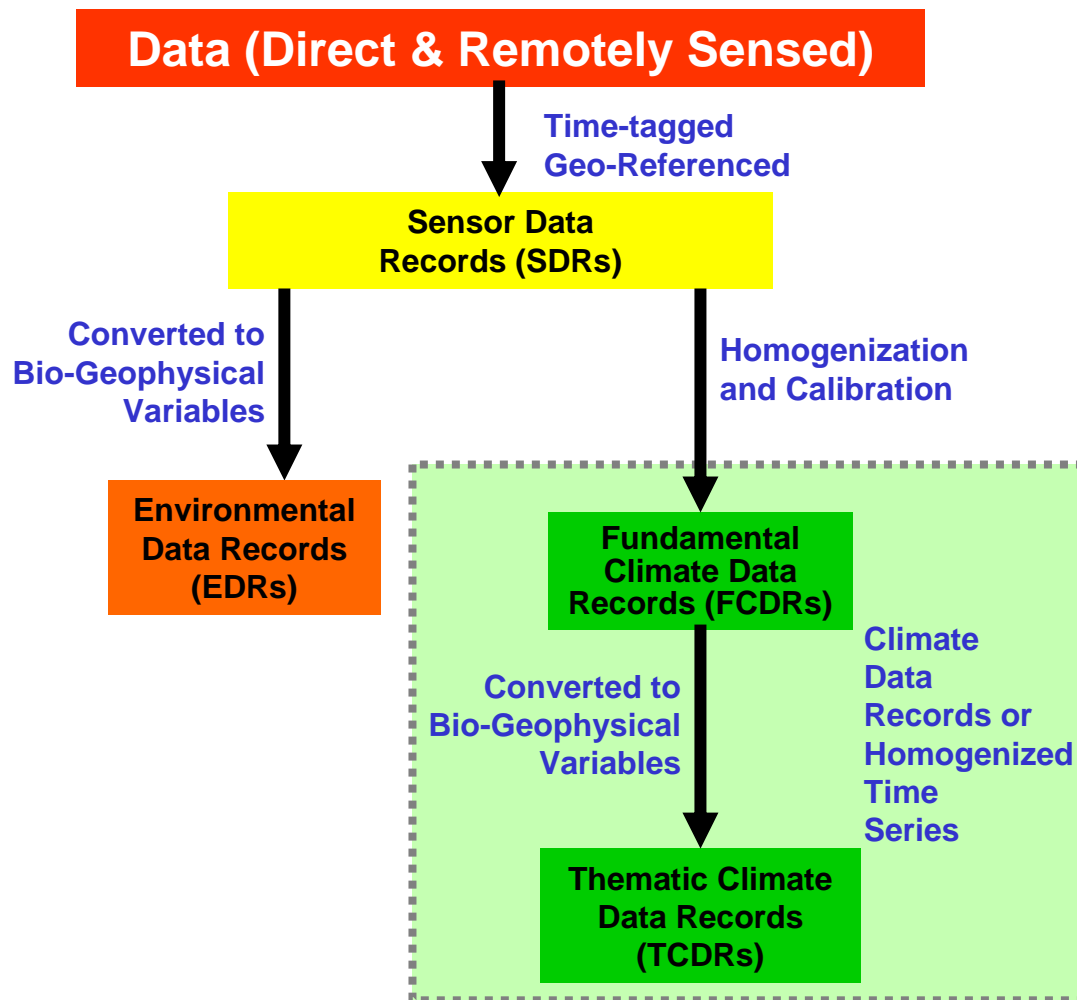
Common Data Model



Assess – Creation of Fundamental and Thematic Climate Data Records: NESDIS NCDC and STAR Collaborations



Climate Data Records



HIRS Climate Data Records



- Neural network scheme for deriving temperature and water vapor profiles.
- HIRS data quality control (also VTPR)
- Inter-satellite calibration.
- Global distributions of temperature and water vapor.
- Clear sky data set and retrievals beta version complete from 1979-2005 – Contact Lei.Shi@noaa.gov



SSMI Climate Data Records



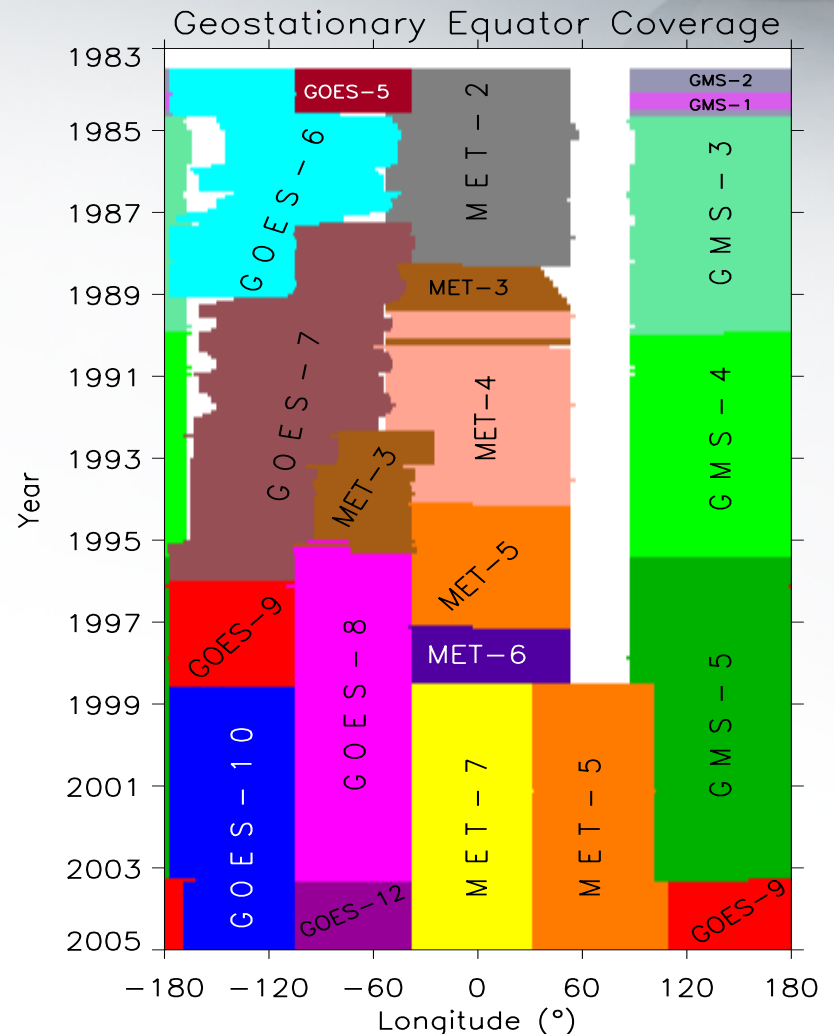
- Inventory and rescue of all SSMI data back to 1987
- Data prior to 1997 is error prone – we are conducting extensive QC and updating read software (may provide reformatted)
- Will apply simultaneous nadir overpass to intercalibrate
- Will derive a suite of products
- Archive contact for data set:
Hilawe.Semunegus@noaa.gov



GOES Climate Data Records



- Rescue of all GOES data from Wisconsin archive is nearing completion; available in CLASS
- Some multifile problems
- Global GEO data set available; ISCCP B1U (10km, 3 hourly, all GEO)
- Contact
Ken.Knapp@noaa.gov



Conclusion



- NOAA's archive, access, and assessment activities are providing a suite of metadata and data available to all free of charge
- NOAA would like to work with our international partners on both archive and access activities
- The common data model may provide a framework for increased interoperability and sharing of data and software
- More data to more people is always good – please use listed points of contact, we want to hear from you!



International TOVS Study Conference, 15th, ITSC-15, Maratea, Italy, 4-10 October 2006
Madison, WI, University of Wisconsin-Madison, Space Science and Engineering Center,
Cooperative Institute for Meteorological Satellite Studies, 2006.