



# **NOAA National Climatic Data Center**

**GOSIC  
NEXRAD  
NIDIS  
NOMADS**

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# NOAA National Climatic Data Center (NCDC)

- NCDC's mission is to provide access and stewardship to the Nation's resource of global climate and weather related data and information, and assess and monitor climate variation and change. This effort requires the acquisition, quality control, processing, summarization, dissemination, and preservation of a vast array of climatological data generated by the national and international meteorological services.
- NCDC's mission is global in nature and provides the U.S. climate representative to the World Meteorological Organization, the World Data Center System, and other international scientific programs.
- NCDC operates the World Data Center for Meteorology, Asheville.
- NCDC hold the World's largest archive of Climate Data with 1.8 PB
- Web site: <http://www.ncdc.noaa.gov>

# NOAA National Climatic Data Center (NCDC)

Four systems at NCDC will contribute to the AIP Phase 2 workshop:

- 1) The Global Observing Systems Information Center (GOSIC)
- 2) Next Generation Weather Radar (NEXRAD)
- 3) National Integrated Drought Information System (NIDIS)
- 4) National Operational Model Archive & Distribution System (NOMADS)

# Global Observing Systems Information Center (GOSIC)

- Serves as a integration facility for the global observing systems and provides a convenient, central, single entry point for easy access and retrieval of global observing systems data, metadata and information for the Global Climate Observing System (GCOS), the Global Terrestrial Observing System (GTOS), and the Global Ocean Observing System (GOOS) and their partner programs and regional observing systems such as the Pacific Island GCOS.
- Users have the flexibility to search and discover data and information by program elements, key words, metadata, themes, topics, using a variety of tools such as text and data registry search, portals and matrices.
- The GOSIC has been operational at the NOAA's NCDC since 2007.
- The GOSIC is part of the GEOSS task DA-07-06 and is a registered community portal of GEOSS.

# GOSIC: Proposed Contribution

- The GOSIC will contribute to the GEOSS as a community portal
- GOSIC would contribute data for the following SBAs: disasters, health, energy, climate, water, weather, ecosystems, agriculture and biodiversity.
- Data and information contributions for biodiversity would be through the GTOS data access matrix with data sets covering for example forest change cover, habitat conversion, fragmentation, threatened species, indicator species, and land cover to name a few.
- Data and information contributions for climate would be for example through the Global Climate Observing System network data access feature such as the Global Climate Observing System Surface Network (GSN).
- The GOSIC web site is available at: <http://gosic.org>
- Contact: Christina Lief – [christina.lief@noaa.gov](mailto:christina.lief@noaa.gov)

# NEXRAD

- Comprises 159 Weather Surveillance Radar-1988 Doppler (WSR-88D) sites throughout the United States and select overseas locations.
- The data comprises of three meteorological base data quantities (commonly known as Level II data): reflectivity, mean radial velocity, and spectrum width. From these quantities, computer processing generates numerous meteorological analysis products known as Level III data.
- The data is easily accessible at no cost via the NCDC radar resources web page.
- Allows for GIS and integration of radar data with other data sources (satellite, in situ, social) in an Open Geospatial Consortium (OGC) and Common Data Model (CDM) compliant environment.

# NEXRAD: Proposed Contribution

- Provide services and access to NCDC's NEXRAD radar resources for use to develop integrated products that can support several of the GEOSS themes for societal benefits.
- NEXRAD developed algorithms detect and track several weather parameters such as heavy precipitation, tornados, hail, and mesocyclones.
- While these data are used in real-time for operations and forecasting, historical data are also used for post event analysis, and deriving climate products such as flash flooding, hail and tornado climatologies.
- Support the Disaster response SBA
- Contact: Steve Delgreco - [Stephen.A.Delgreco@noaa.gov](mailto:Stephen.A.Delgreco@noaa.gov)

# NIDIS

- The goal of NIDIS is to improve the nation's capacity to proactively manage drought-related risks, by providing those affected with the best available information and tools to assess the potential impacts of drought, and to better prepare for and mitigate the effects of drought.
- One of the key goals of NIDIS is to *provide interactive delivery systems including an internet portal, as part of the early warning information system, for easily comprehensible and standardized products (databases, forecasts, geographic information system (GIS)-based products, maps, etc.)*. This is a goal supported by the USGEO near-term opportunity for NIDIS in 2007.
- Will be used to effect fuller coordination of relevant monitoring, forecasting, and impact assessment efforts at national, watershed, state, and local levels to provide a better understanding of how and why droughts affect society, the economy, and the environment, and to improve accessibility, dissemination, and use of early warning information for drought risk management. The goal is to close the gap between what is available and what is needed for proactive drought risk reduction.

# NIDIS: Proposed Contribution

- NIDIS Portal will contribute to the AIP Phase 2 as a community portal.
- It also serves as the authoritative, interagency clearinghouse for drought-related information for the United States. It is **not** a data management system but rather relies on other GEOSS registered data management systems so that it can catalog, integrate, display, and provide products and services. Currently visualization through the USDP operates based on OGC Web Mapping Service (WMS) standards to allow interoperability. The ability to handle other standard data types such as Web Feature Service (WFS), Geo TIFF, NetCDF, and ESRI Shapefiles is under development. As part of the Pilot Project, the USDP will work with other community portals and data providers to ensure data can move both to the US Drought Portal and from the US Drought Portal to other aligned systems under the Pilot Project.
- The NIDIS USDP is available immediately for participation in the GEOSS Phase 2 Pilot.
- NIDIS would contribute data useful in the following SBAs: Agriculture, Climate, Disasters, Ecosystems, Energy, Health, Water ,Weather
- Contact: Micheal J. Brewer - [Michael.J.Brewer@noaa.gov](mailto:Michael.J.Brewer@noaa.gov).

# NOMADS

- Under the GEOSS Common Infrastructure (CGI), this service would fill the role of a Model Access Component and be accessed by both the Web Portal and the Clearinghouse. This service has been operational for approximately two years with an average of 20,000 hits per day and 10 gigabytes per day transferred.
- The NOAA National Operational Model Archive and Distribution System (NOMADS) is proposing the contribution of a Model Access Component that would provide access to a large collection of numerical weather prediction and global climate models via a THREDDS Data Server (TDS).

# NOMADS: Proposed Contribution

- NOMADS will register a TDS which supports both a catalog service as well as the following open standards for data access: WCS, OPeNDAP, NetCDF Subset Services, GeoTIFF, CF-netCDF
- Following is a partial list of the data currently available via the TDS:North American Regional Reanalysis (NARR), Global Forecast System (GFS), North American Mesoscale (NAM), Rapid Update Cycle (RUC)
- This component would provide data useful in the following SBAs: Reduction and Prevention of Disasters, Climate Change, Weather Forecasting, Ecosystems, Agriculture
- Contact: Glenn Rutledge - [Glenn.Rutledge@noaa.gov](mailto:Glenn.Rutledge@noaa.gov)