GOSIC Global Observing Systems Information Center

Global Observing Systems Information Center (GOSIC)

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GOSIC Global Observing Systems Information Center

The goal of the GOSIC is to provide users with the data they are looking for and the tools to search for these data in a variety of ways from a simple text search, to searching by keyword, program, observation, variable, Data Center, to name a few.

Now-a-days users are not simply looking for data or products. They are looking for data they can trust. They are also not looking for a whole data set but want to download just the data they are interested in, for example for a specific station or variable.

The GOSIC operates as an in-between the Data Centers and the user community to facilitate data discovery and access.

Users can find data directly through the GOSIC Portal or contact the GOSIC staff for help.

GOSIC Global Observing Systems Information Center

The GOSIC:

- **is** a data portal administered by a Program Manager, and aided by support staff, as required
- **is** supported by NCDC and the U.S. GCOS program
- **cooperates** with the international climate community to facilitate access to global climate observing data and products
- **works** to better document data, develop value added products, and develop data discovery and access tools to assist users in effectively finding climate data and information

GOSIC Global Observing Systems Information Center

The GOSIC:

- **does not** hold data but rather links to world data center datasets where users can download data
- **was established** in 1997 by the GCOS Joint Data and Information Management Panel (JDIMP)
- **was originally** developed at the University of Delaware
- **has been** reviewed by independent panels via GCOS
- **has been** operational at NCDC since 2007

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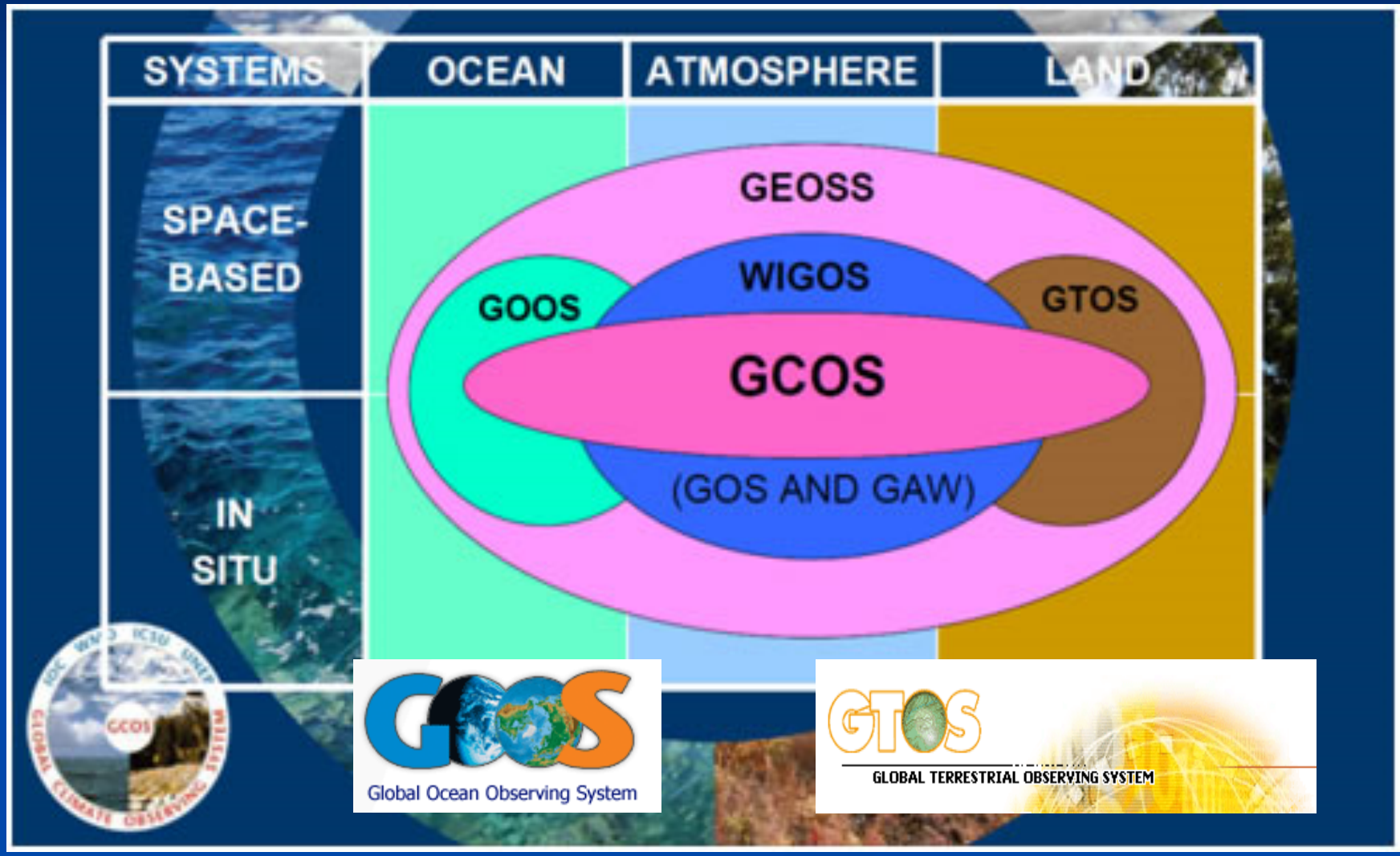
The development of unique value added products includes:

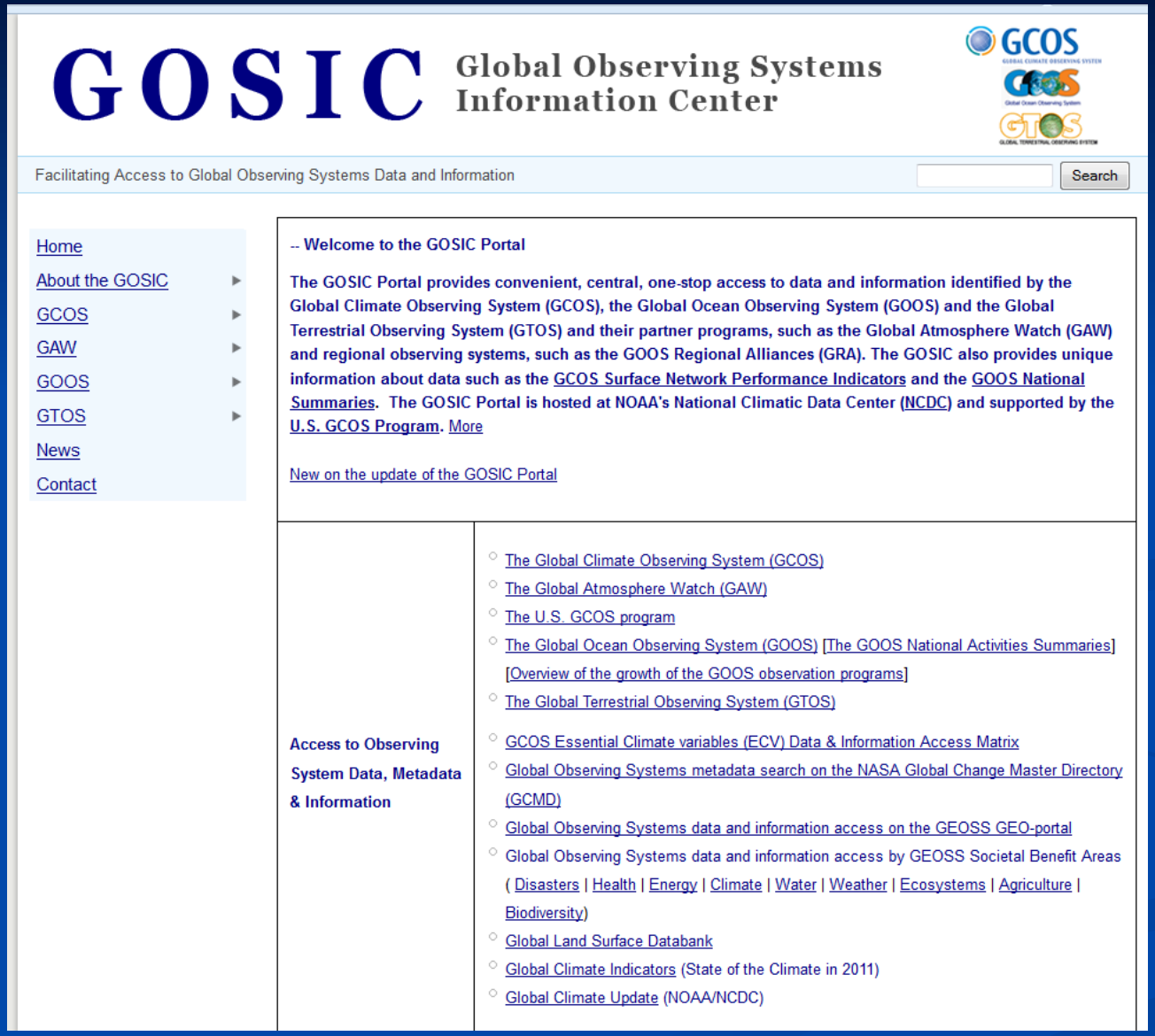
- Data Access Matrices
- Data Flow Diagrams
- GCOS Performance Indicators (e.g., GSN & GUAN)
- GOOS National Activities Summaries
- Metadata search tools
- Related programmatic information (e.g., U.S. GCOS)
- Close linkage and synergy with the goals of the World Data Center for Meteorology (e.g., World Weather Records Clearing House page)
- Cooperation with other portals such as the NOAA Climate Portal and GEO Portal to aid in more effectively serving international climate datasets

GOSIC

Global Observing Systems Information Center



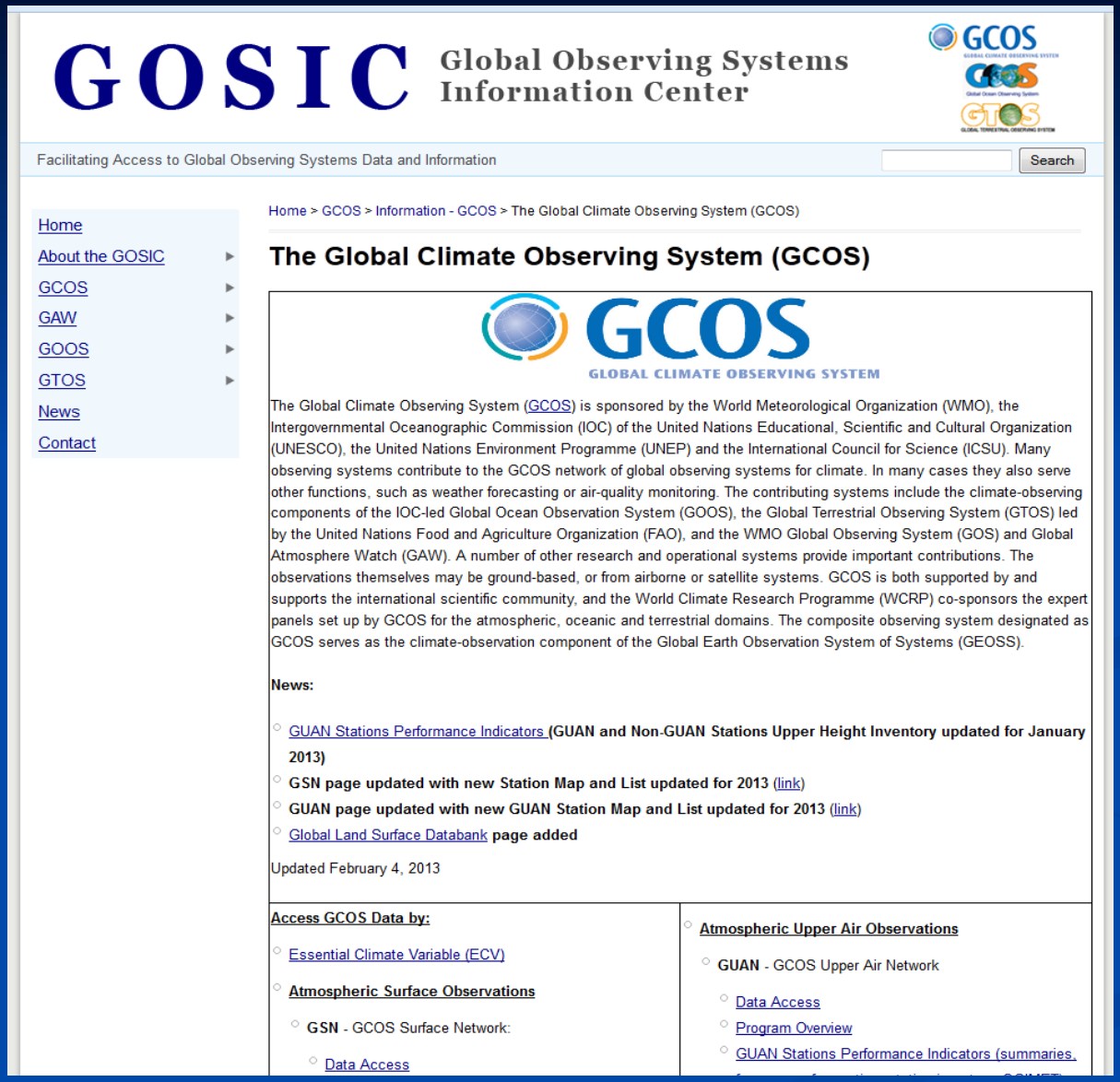
GOSIC Portal



One stop shop data access for GCOS, GOOS, GTOS and partner programs by:

- ECVs (matrix)
- Program
- Observation (Atmospheric Surface, Upper Air, Radiation, Observations, etc.)
- Individual networks (GSN, GUAN, etc.)
- Joint programs with GOOS & GTOS
- Regional Activities (US GCOS)
- Societal Benefit Areas
- Metadata
- ….

http://GOSIC.org



GCOS data & information access available on the GOSIC Portal

Applications and Tools for GOSIC Users

ATMOSPHERIC (over Land, Sea & Ice)	OCEANIC	TERRESTRIAL [2]
Surface [4]	**Surface [6]**	River Discharge (ECV T1) **
Surface Air Pressure	Carbon Dioxide Partial Pressure	Water Use (ECV T2)
Surface Air Temperature	Current **	Ground Water (ECV T3)
Surface Precipitation	Ocean Acidity *	Lakes (ECV T4) * **
Surface Radiation Budget	Ocean Color **	Snow Cover (ECV T5) **
Water Vapour (Surface humidity)	Phytoplankton *	Glacier and Ice Caps (ECV T6) *
Near-Surface Wind Speed and Direction	Sea Ice	Permafrost (ECV T7)
Upper-Air [5]	Sea Level **	Albedo (ECV T8) * **
Cloud Properties **	Sea State	Land Cover **(including Vegetation Type)** (ECV T9)
Earth Radiation Budget **(including Solar Irradiance)** *	Sea Surface Salinity **(SSS)** **	Fraction of Absorbed Photosynthetically Active Radiation (FAPAR) (ECV T10) **
Temperature	Sea Surface Temperature **(SST)** **	Leaf Area Index (LAI) (ECV T11)
Water Vapor **	**Sub-Surface**	Above Ground Biomass (ECV T12) *
Wind Speed and Direction	Carbon	Fire Disturbance (ECV T13) **
Composition	Current	Soil Moisture * **
Aerosols Properties **	Nutrients	Soil Carbon *
Carbon Dioxide	Ocean Acidity *	Ice Sheets *
Methane and other Long-Lived Green House Gases **[1]**	Oxygen *	
Ozone **	Salinity	
Precursors (supporting the Aerosols and Ozone ECVs) **[3]** *	Temperature	
	Tracers	
	Global Ocean Heat Content ***	

* Added or modified per 'Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC - August 2010, GCOS-138 (GOOS-184, GTOS-76, WMO-TD/No. 1523)' (page 19) (pdf)
** **State of the Climate in 2011** data available
*** Not an official GCOS ECV

[1] The 'Other long-lived greenhouse gases' ECV includes Nitrous Oxide (N2O), Chlorofluorocarbons (CFCs), Hydrochlorofluorocarbons (HCFCs), Hydrofluorocarbons (HFCs), Sulphur hexafluoride (SF6), and Perfluorocarbons (PFCs).
[2] Includes Runoff (m3 s-1), Ground Water Extraction Rates (m3 yr-1) and Location, Snow Cover Extent (km2) and Duration

GCOS ECV Data Access Matrix on the GOSIC Portal

- Developed in Drupal 7
- 50 ECVs (since August 2010)
- Divided by Atmospheric, Oceanic, Terrestrial domains
- Easy navigation
- Metadata for each ECV
- Links to curated in-situ and satellite data sets and products are being added
- Dataset visualization capability in development

http://gosic.org/ios/MATRICES/ECV/ECV-matrix.htm

Applications and Tools for GOSIC Users

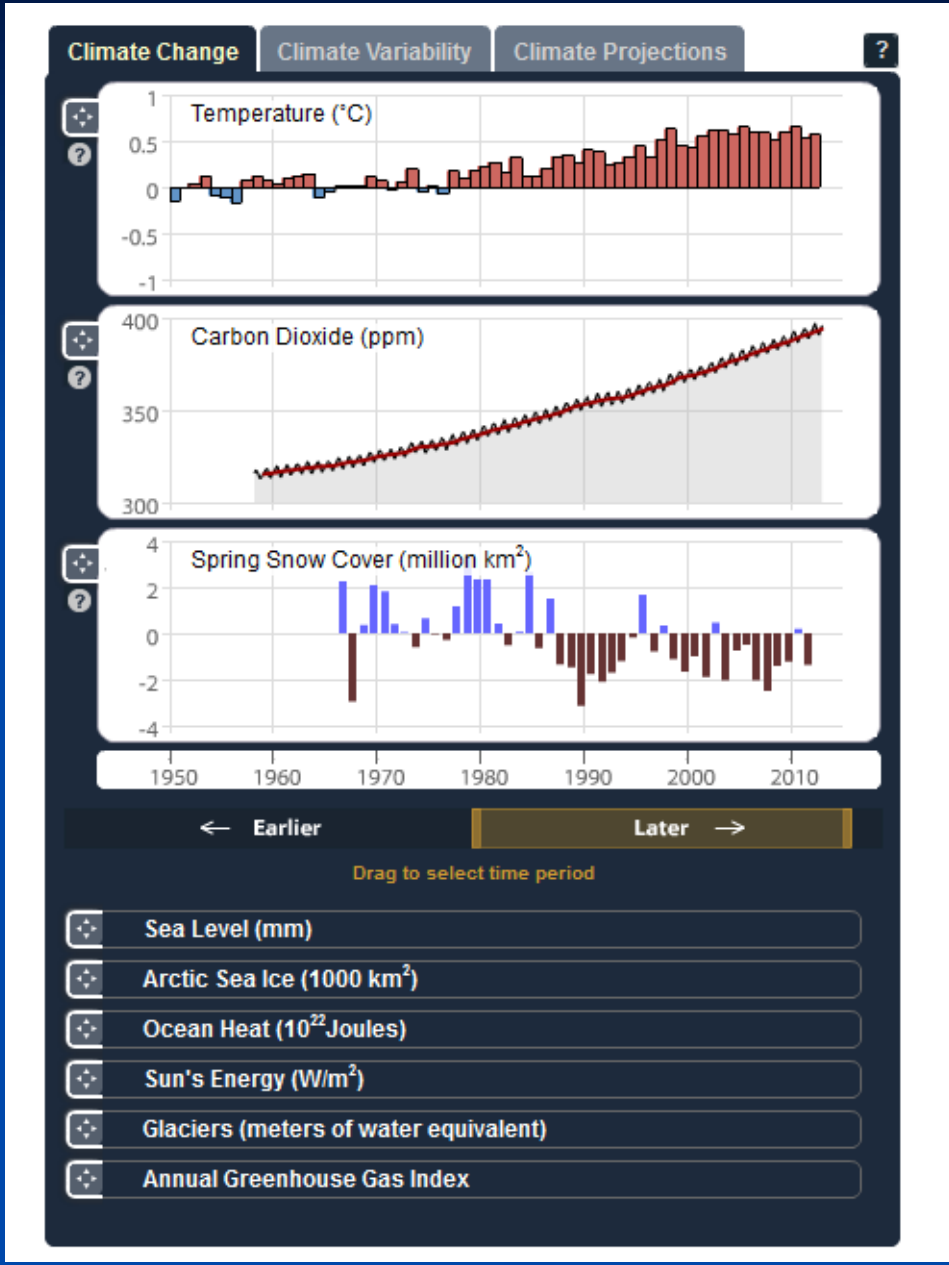
Metadata

- The GOSIC metadata records are held in the NASA Global Change Master Directory (GCMD) and can be queried through a GOSIC portal to the GCMD. This is a Cooperative effort with NASA. **http://gcmd.nasa.gov/KeywordSearch/Home.do?Portal=gosic&MetadataType=0**

- GOSIC metadata can be searched by Societal Benefit Areas on the GEO Portal.

http://www.geoportal.org/

Applications and Tools for GOSIC Users



The GOSIC works with the international climate community to aid in communicating information.

For example, input for NOAA's Climate Change Dashboard is powered by the GOSIC

http://climate.gov

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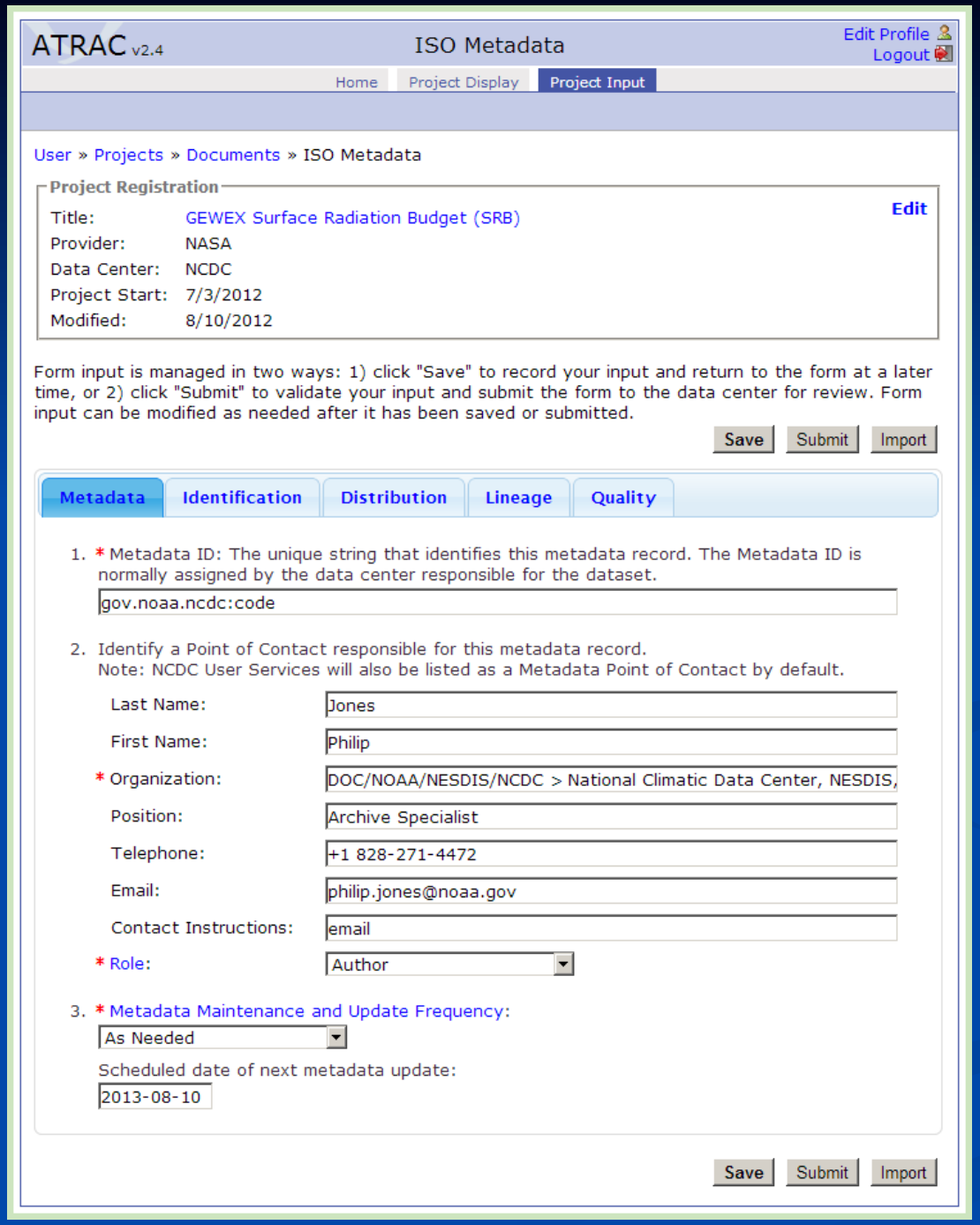
GOSIC will continue to evolve by:

- **Serving** as a clearinghouse for the in-situ and satellite communities to identify and steward curated ECV data sets to the users community
- **Facilitating** better communication with users via a Media Wiki
- **Providing** data access and discovery tool(s) to in-situ and satellites ECV data sets and documentation working with a diverse group of organizations and groups (e.g., WCRP, TOPC, GEO, and CEOS)
- **Supporting** metadata creation by implementing new tools (e.g., ATRAC 2.5 Metadata Creation Tool)
- **Maintaining** up-to-date links and information
- **Implementing** the latest vetted web tools to continue to foster an efficient and effective access to global climate data and information



ATRAC Metadata Creation Tool

Development of user-friendly metadata creation tool by the NCDC Archive Branch.

Input is in plain text with drop down menus for keywords etc.
No longer need to know ISO or XML to create metadata records.

Input is converted into standard metadata record and can be downloaded by the user.

http://www.ncdc.noaa.gov/atrac/index.html

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