

# GOSIC

Global Observing Systems  
Information Center



## Global Observing Systems Information Center (GOSIC)

Christina J. de Groot-Lief  
Program Manager

NOAA/NESDIS/  
National Climatic Data Center  
Asheville, NC

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EUMETSAT

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.

## 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

## The GOSIC:

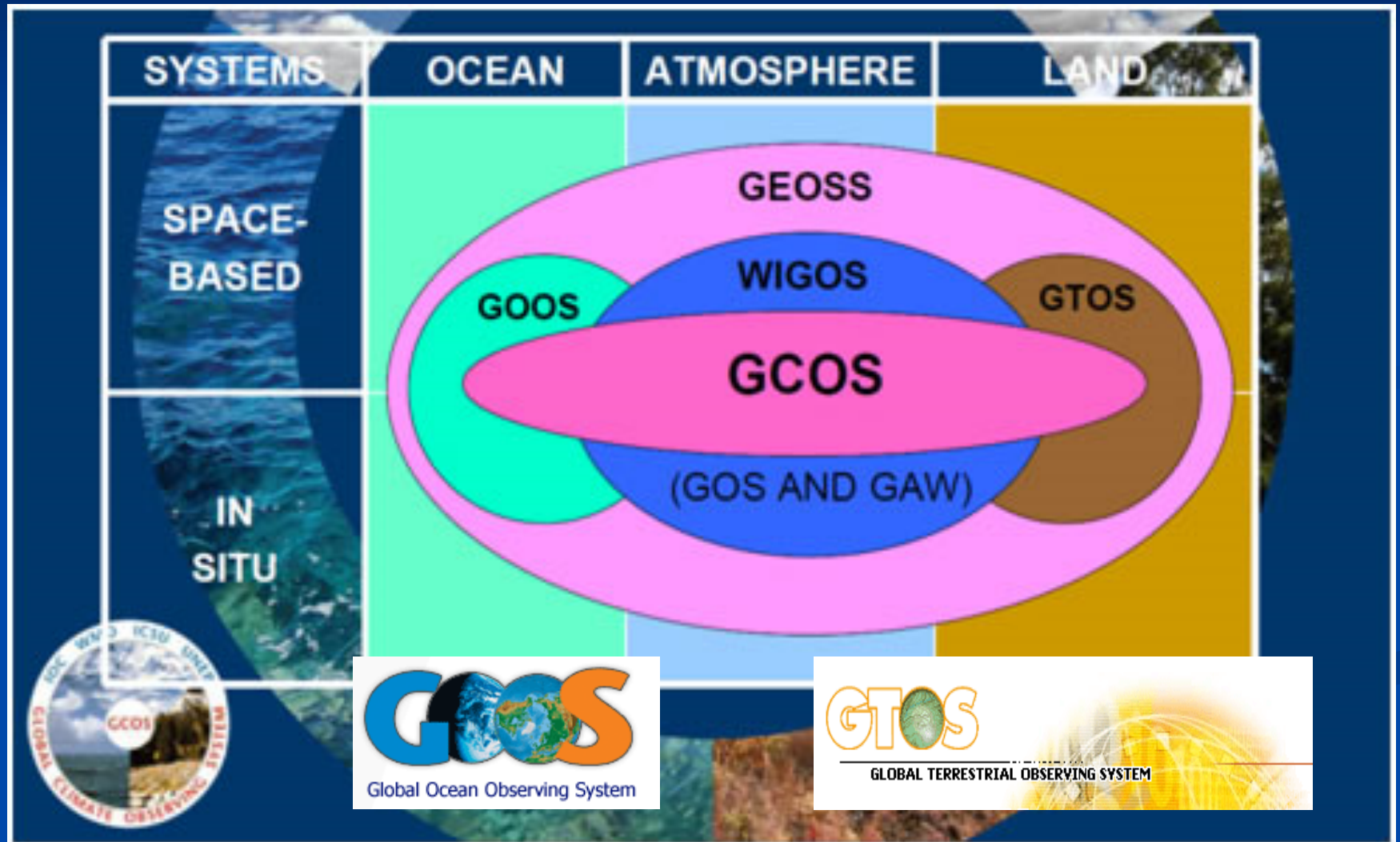
- **does not** hold data but rather links to world data center datasets where users can download data
- **was established** in 1997 by the GCOS Joint Data and Information Management Panel (JDIMP)
- **was originally** developed at the University of Delaware
- **has been** reviewed by independent panels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

## 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

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# GOSIC Portal

## GOSIC Global Observing Systems Information Center



Facilitating Access to Global Observing Systems Data and Information

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-- Welcome to the GOSIC Portal

The GOSIC Portal provides convenient, central, one-stop access to data and information identified by the Global Climate Observing System (GCOS), the Global Ocean Observing System (GOOS) and the Global Terrestrial Observing System (GTOS) and their partner programs, such as the Global Atmosphere Watch (GAW) and regional observing systems, such as the GOOS Regional Alliances (GRA). The GOSIC also provides unique information about data such as the [GCOS Surface Network Performance Indicators](#) and the [GOOS National Summaries](#). The GOSIC Portal is hosted at NOAA's National Climatic Data Center ([NCDC](#)) and supported by the [U.S. GCOS Program](#). [More](#)

[New on the update of the GOSIC Portal](#)

Access to Observing System Data, Metadata & Information

- [The Global Climate Observing System \(GCOS\)](#)
- [The Global Atmosphere Watch \(GAW\)](#)
- [The U.S. GCOS program](#)
- [The Global Ocean Observing System \(GOOS\)](#) [[The GOOS National Activities Summaries](#)] [[Overview of the growth of the GOOS observation programs](#)]
- [The Global Terrestrial Observing System \(GTOS\)](#)
- [GCOS Essential Climate variables \(ECV\) Data & Information Access Matrix](#)
- [Global Observing Systems metadata search on the NASA Global Change Master Directory \(GCMD\)](#)
- [Global Observing Systems data and information access on the GEOSS GEO-portal](#)
- [Global Observing Systems data and information access by GEOSS Societal Benefit Areas \(Disasters | \[Health\]\(#\) | \[Energy\]\(#\) | \[Climate\]\(#\) | \[Water\]\(#\) | \[Weather\]\(#\) | \[Ecosystems\]\(#\) | \[Agriculture\]\(#\) | \[Biodiversity\]\(#\)\)](#)
- [Global Land Surface Databank](#)
- [Global Climate Indicators](#) (State of the Climate in 2011)
- [Global Climate Update](#) (NOAA/NCDC)

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>

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## The Global Climate Observing System (GCOS)



The Global Climate Observing System ([GCOS](#)) is sponsored by the World Meteorological Organization (WMO), the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Environment Programme (UNEP) and the International Council for Science (ICSU). Many observing systems contribute to the GCOS network of global observing systems for climate. In many cases they also serve other functions, such as weather forecasting or air-quality monitoring. The contributing systems include the climate-observing components of the IOC-led Global Ocean Observation System (GOOS), the Global Terrestrial Observing System (GTOS) led by the United Nations Food and Agriculture Organization (FAO), and the WMO Global Observing System (GOS) and Global Atmosphere Watch (GAW). A number of other research and operational systems provide important contributions. The observations themselves may be ground-based, or from airborne or satellite systems. GCOS is both supported by and supports the international scientific community, and the World Climate Research Programme (WCRP) co-sponsors the expert panels set up by GCOS for the atmospheric, oceanic and terrestrial domains. The composite observing system designated as GCOS serves as the climate-observation component of the Global Earth Observation System of Systems (GEOSS).

### News:

- [GUAN Stations Performance Indicators](#) (GUAN and Non-GUAN Stations Upper Height Inventory updated for January 2013)
- [GSN page updated with new Station Map and List updated for 2013](#) ([link](#))
- [GUAN page updated with new GUAN Station Map and List updated for 2013](#) ([link](#))
- [Global Land Surface Databank](#) page added

Updated February 4, 2013

### Access GCOS Data by:

- [Essential Climate Variable \(ECV\)](#)
- [Atmospheric Surface Observations](#)
  - GSN - GCOS Surface Network:
    - [Data Access](#)

### [Atmospheric Upper Air Observations](#)

- GUAN - GCOS Upper Air Network
  - [Data Access](#)
  - [Program Overview](#)
  - [GUAN Stations Performance Indicators \(summaries, ...\)](#)

**GCOS data & information access available on the GOSIC Portal**



# Applications and Tools for GOSIC Users

ATMOSPHERIC (over Land, Sea & Ice)	OCEANIC	TERRESTRIAL [2]
<b>Surface [4]</b>	<b>Surface [6]</b>	<b>River Discharge (ECV T1) **</b>
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)
<b>Upper-Air [5]</b>	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 **	<b>Sub-Surface</b>	Above Ground Biomass (ECV T12) *
Wind Speed and Direction	Carbon	Fire Disturbance (ECV T13) **
<b>Composition</b>	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 (N<sub>2</sub>O), Chlorofluorocarbons (CFCs), Hydrochlorofluorocarbons (HCFCs), Hydrofluorocarbons (HFCs), Sulphur hexafluoride (SF<sub>6</sub>), and Perfluorocarbons (PFCs).

[2] Includes Runoff (m<sup>3</sup> s<sup>-1</sup>), Ground Water Extraction Rates (m<sup>3</sup> yr<sup>-1</sup>) and Location, Snow Cover Extent (km<sup>2</sup>) and Duration

## [GCOS ECV Data Access Matrix on the GOSIC Portal](http://gosc.org/ios/MATRICES/ECV/ECV-matrix.htm)

- 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://gosc.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/>

**GOSIC** A Global Change Master Directory Portal for the Global Observing System Information Center

Find Data Sets by Topic:

- Agriculture**: soils, agricultural plant science ...
- Land Surface**: topography, land use land cover ...
- Atmosphere**: atmospheric temperature, atmospheric winds ...
- Oceans**: ocean temperature, marine biology ...
- Biosphere**: vegetation, ecological dynamics ...
- Paleoclimate**: land records, ocean/lake records ...
- Climate Indicators**: teleconnections, drought indices ...
- Solid Earth**: geodetics/gravity, volcanoes ...
- Cryosphere**: snow/ice, sea ice ...
- Spectral/Engineering**: visible wavelengths, infrared wavelengths ...
- Human Dimensions**: environmental impacts, boundaries ...
- Sun-Earth Interactions**: solar activity, ionosphere/magnetosphere particles ...
- Hydrosphere**: surface water, water quality/water chemistry ...

**GCMD** Search the entire GCMD database

**GEO** GROUP ON EARTH OBSERVATIONS | GEO Portal

Global Observing Systems Information Center (GOSIC)

**Abstract**: GOSIC provides access to data, metadata and information, and overviews of the structure and programs for the Global Climate Observing System (GCOS), the Global Ocean Observing System (GOOS), and the Global Terrestrial Observing System (GTOS). Some needs of GCOS, GOOS, and GTOS are provided by partner observing programs such as the Global Atmosphere Watch (GAW), the World Weather Watch (WWW), and the Joint Commission on Oceanography and Marine Meteorology (JCOMM). GOSIC provides access to data and information of these partner programs.

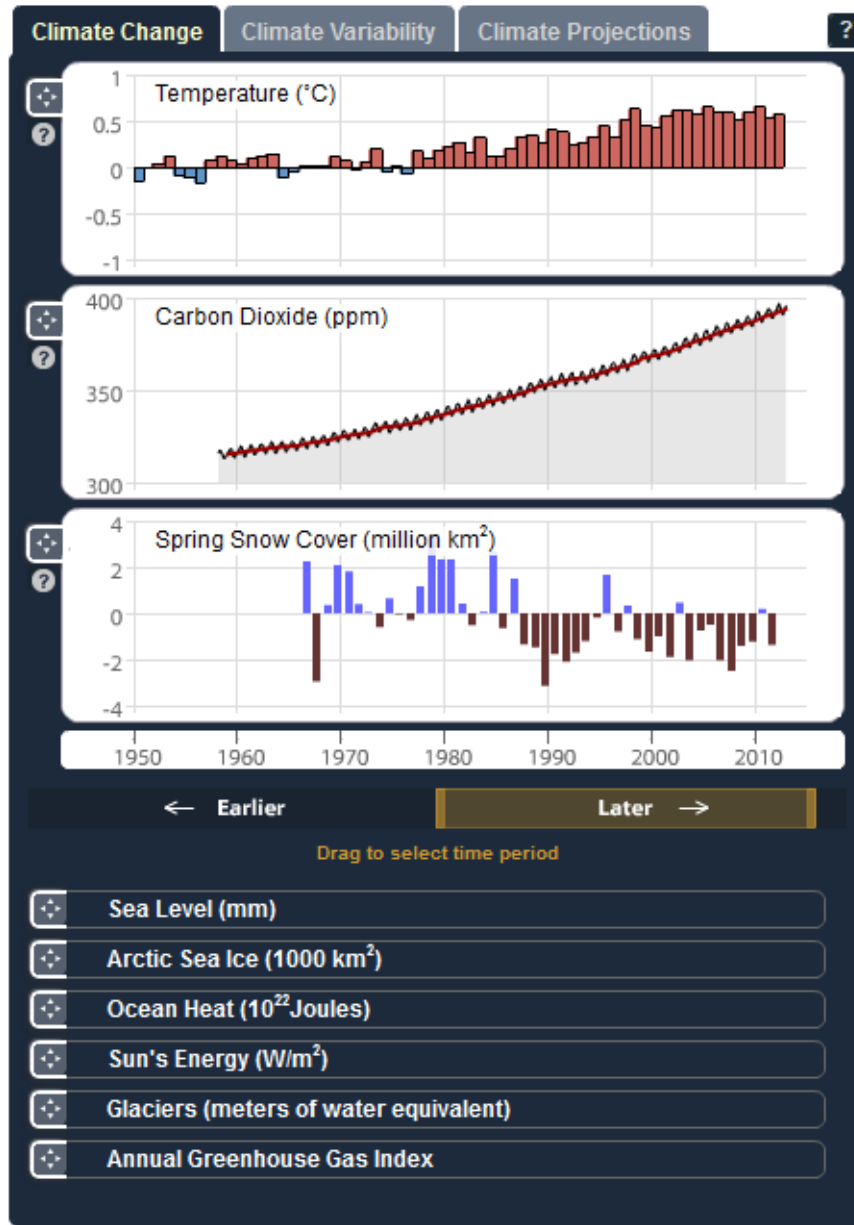
**Organization Name**: NOAA/NESDIS/NCDC

**Distributor**: NOAA/NESDIS/NCDC

**Modified**: Date stamp: 2008-10-30

**Information Documents**: <http://gpic.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>

## **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 v2.4 ISO Metadata [Edit Profile](#) [Logout](#)

Home Project Display **Project Input**

User » Projects » Documents » ISO Metadata

**Project Registration** [Edit](#)

Title: **GEWEX Surface Radiation Budget (SRB)**  
 Provider: NASA  
 Data Center: NCDC  
 Project Start: 7/3/2012  
 Modified: 8/10/2012

Form input is managed in two ways: 1) click "Save" to record your input and return to the form at a later time, or 2) click "Submit" to validate your input and submit the form to the data center for review. Form input can be modified as needed after it has been saved or submitted.

**Metadata** Identification Distribution Lineage Quality

- \* Metadata ID: The unique string that identifies this metadata record. The Metadata ID is normally assigned by the data center responsible for the dataset.
- Identify a Point of Contact responsible for this metadata record.  
 Note: NCDC User Services will also be listed as a Metadata Point of Contact by default.  
 Last Name:   
 First Name:   
 \* Organization:   
 Position:   
 Telephone:   
 Email:   
 Contact Instructions:   
 \* Role:
- \* Metadata Maintenance and Update Frequency:  
  
 Scheduled date of next metadata update:

# 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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NCDC  
Headquarters  
in Asheville,  
North Carolina



Christina J. de Groot-Lief  
NOAA/NESDIS/NCDC  
Phone: +1-828-271-4101  
e-mail: [christina.lief@noaa.gov](mailto:christina.lief@noaa.gov)