

Global Observing Systems Information Center (GOSIC) Overview



OneNOAA Science Seminar
Silver Spring, Maryland
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GOSIC

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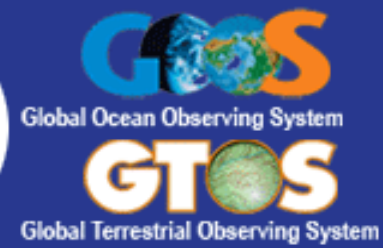
GOOS
Global Ocean Observing System

GTS
Global Terrestrial Observing System

Global Terrestrial Observing System

GOSIC

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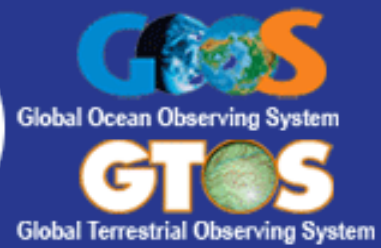


Agenda

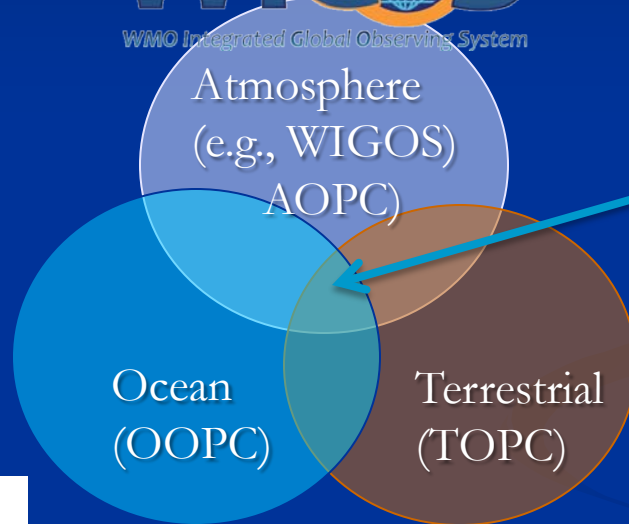
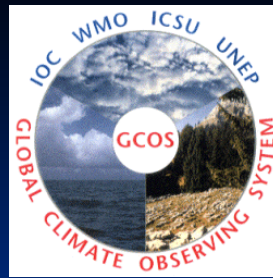
- Presentation and Overview – 20 minutes
- Brief On-Line Demonstration – 20 minutes
- Q&A Session – 15 minutes
- Wrap-Up – 5 minutes

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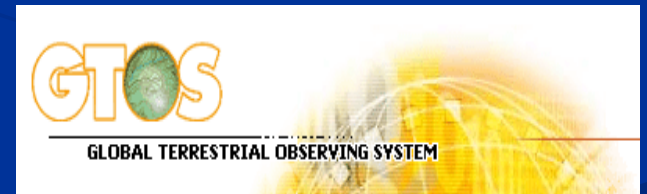
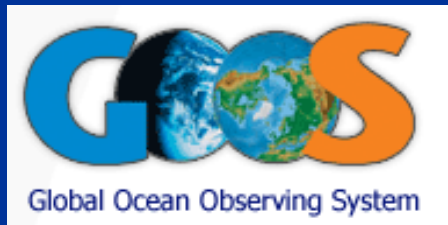
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*A common point of access to
datasets,
data products,
and services
for GCOS, GOOS, and GTOS*

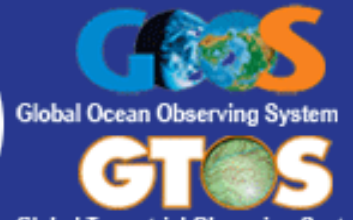


Climate Observing
Intersection



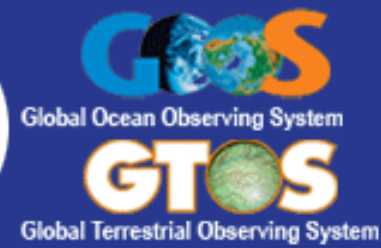
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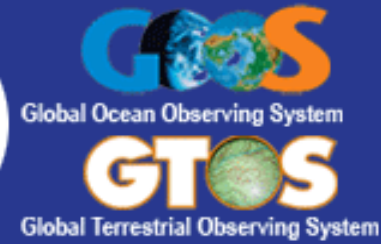


The GOSIC:

- was established in 1997 by the GCOS Joint Data and Information Management Panel (JDIMP)
- was developed at the University of Delaware
- was twice reviewed by independent panels (01/03)
- has been operational since 2007 at NOAA's National Climatic Data Center (NCDC)

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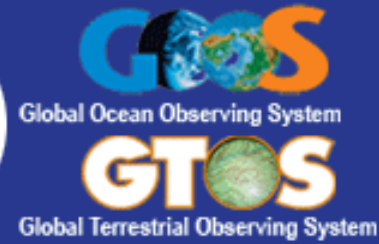


What does GOSIC offer:

- Users can find data and information about the GCOS, GOOS and GTOS and subsystems without having to navigate the hundreds of complex and vastly different web sites of the myriad of organizations in these global observing systems
- Allows users to determine the type and quality of the data through documentation provided by the participating data centers
- Provides access to data and data download regardless of data format

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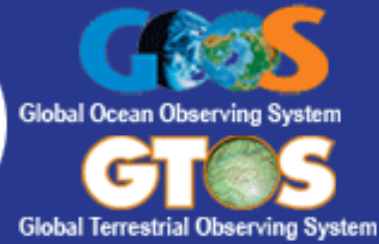


What does GOSIC offer (continued):

- Provides quick and user-friendly cross-system access to data and information
- Provides a comprehensive inventory of datasets
- Links and information are kept up to date and are quality controlled with input from the secretariats and the World Data Centers
- Eliminates redundancy

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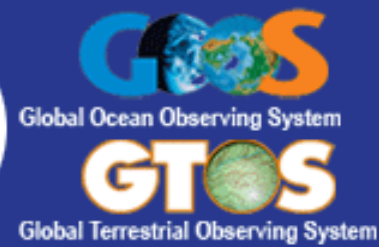


What does GOSIC offer (continued):

- Provides documentation of datasets and program elements:
 - Observing Requirements
 - Planning Documents
 - Data Management Plans
 - Publications
- Value added products:
 - Data Matrices
 - Data Flow Diagrams
- Provides several search mechanisms

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GOSIC Users:

Top level domain types:

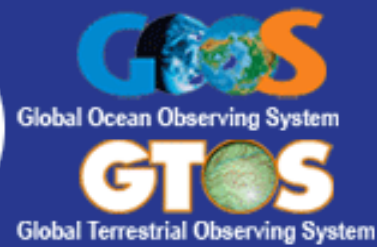
- **Academia:** ~60%
- **Government:** ~20%
- **Military:** ~20%

Web statistics:

- ~2,500 hits per day

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The GOSIC Support of Regional Observing Systems:

- Developed web sites for the Pacific Islands GCOS, GOOS and HYCOS programs:

- <http://PI-GCOS.org>
- <http://PI-GOOS.org>
- <http://Pacific-HYCOS.org>
- Some of the Pacific Islands Meteorological Services on the PI-GCOS server

- Developed a central web page for the GOOS Regional Alliances (GRA)

- The GOSIC cooperates with NASA's Global Change Master Directory (GCMD) to provide metadata for the global observing systems datasets.
- Users can access metadata via a portal on the GCMD



- Home
- About GOSIC
- GCOS
- GOOS
- GTOS
- Data Registry
- Search
- Publications
- Acronyms
- Contact Info


Facilitating Access to Global Observing Systems Data and Information

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). [More information on the GOSIC and the GOSIC Portal](#)

How do I find Climate Datasets Quickly?

- [Search Data by GCOS Essential Climate Variables](#) (e.g. Temperature, Precipitation, Sea Surface Temperature, etc.)
- [Search Global Observing Data on the GOSIC Portal](#)
- [Search using Data Access Matrices](#) (provides quick access to data download by variable, theme or program)
- [Text Search](#) (in the process of being updated)

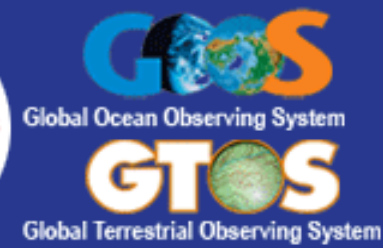
Access to Observing System Data, Metadata and Information

- [GCOS - Global Climate Observing System](#)
- [GAW - Global Atmosphere Watch](#)
- [GTOS - Global Terrestrial Observing System](#)
- [GOOS - Global Ocean Observing System](#)
- [GRA - GOOS Regional Alliances](#)
- [Global Observing Systems Metadata](#)
- [Maps and Google Earth\(TM\) Products](#)
- [Publications](#) (search by observing system, year or title keyword/cross referenced by GCOS, GOOS, GTOS, GAW, WMO and UN ID) (1985 to present)
-  [GOSIC on the GEO Portal](#)

The GOSIC Portal can be accessed at: [http:// GOSIC.ORG](http://GOSIC.ORG)

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GCOS Essential Climate Variables Matrix - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://gosis.org/ios/MATRICES/ECV/ecv-matrix.htm

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Facilitating Access to Global Observing Systems Data and Information

GCOS Essential Climate Variables (ECV)

Data Access Matrix

The **Essential Climate Variables (ECV)** are required to support the work of the **UNFCCC** and the **IPCC**. All ECV are technically and economically feasible for systematic observation. It is these variables for which international exchange is required for both current and historical observations. Additional variables required for research purposes are not included in this table. It is emphasized that the ordering within the table is simply for convenience and is not an indicator of relative priority. Currently, there are 44 ECVs plus soil moisture recognized as an emerging ECV.

Note: The 'Other long-lived greenhouse gases' [1] fall under a single ECV but are listed separately in the matrix below.

[Reference Documentation](#)

Updated July 24, 2009

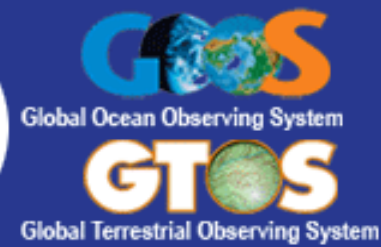
Atmospheric (over land/sea/ice)	Oceanic	Terrestrial [2]
Surface	Surface	River Discharge -- (ECV T1 Standards)
Air Pressure	Sea Surface Temperature**	Water Use -- (ECV T2 Standards)
Air Temperature	Sea Surface Salinity	Ground Water -- (ECV T3 Standards)
Precipitation**	Sea Level**	Lake Levels** -- (ECV T4 Standards)
Surface Radiation Budget	Sea State**	Snow Cover** -- (ECV T5 Standards)
Water Vapor	Sea Ice**	Glacier and Ice Caps** -- (ECV T6 Standards)
Wind Speed and Direction	Current	Permafrost and Seasonally-Frozen Ground -- (ECV T7 Standards)
Upper-Air	Ocean Color (for biological Activity)	Albedo** -- (ECV T8 Standards)
Cloud Properties	Carbon Dioxide Partial Pressure	Land Cover (including vegetation type)** -- (ECV T9 Standards)
		Fraction of Absorbed Photosynthetically Active Radiation

http://gosis.org/ios/MATRICES/ECV/TERRESTRIAL/ECV-GCOS-TERRESTRIAL-Ground-Water.htm

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The GOSIC's overriding goal is to best serve the data access needs of all of GCOS (atmosphere, ocean, and terrestrial), and as such, we believe that serves as a data portal for GCOS.

That in no means that it is the sole route to such data, however, the GOSIC has the potential to serve as a unifying facility for GCOS that reaches across the various observing domains (e.g., atmosphere, ocean, terrestrial) and gets GCOS out of the mold of being perceived as being only about the GSN and GUAN.

The GOSIC facility also helps GCOS reach out to the greater GEOSS community as well by having established linkages in the GEOSS Data Registry as well as membership on the GEO Data Architecture team dealing with data integration and analysis



Thank You and Now on to the Demo Special Recognition to Christina Lief

Diamond, H. J., and C. J. Lief (2009), A Comprehensive Data Portal for Global Climate Information, Eos Trans. AGU, 90(39), 341-342, doi:10.1029/2009EO390001

EOS

EOS, TRANSACTIONS, AMERICAN GEOPHYSICAL UNION

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A Comprehensive Data Portal for Global Climate Information

The Global Observing Systems Information Center (GOSIC), initiated in 1997 at the request of the Global Climate Observing System (GCOS) Steering Committee (see <http://www.wmo.int/pages/prog/gcos/Publications/gcos-39.pdf>), responds to a need identified by the global climate observing community for easier and more effective access to observational climate data and information. GOSIC manages an online portal providing an entry point for users of climate-related global observing systems data and information systems.

Following its initial development and

make up each system. In addition, the portal provides the opportunity for users to overlap observing systems, allowing users, for instance, to search for data that two observing systems have in common.

The portal provides data and metadata search capabilities through various search mechanisms and matrices, which are optimized to facilitate access to a worldwide set of observations and derived products. For example, the GOSIC Data Registry (<http://GOSIC.org/Datasets/ds-report.asp>) provides quick access to data and information. In addition, the portal pro-

Improving Stream Studies With a Small-Footprint Green Lidar

Technology is changing how scientists and natural resource managers describe and study streams and rivers. A new generation of airborne aquatic-terrestrial lidars is being developed that can penetrate water and map the submerged topography inside a stream as well as the adjacent subaerial terrain and vegetation in one integrated mission. A leading example of these new cross-environment instruments is the Experimental Advanced Airborne Research Lidar (EAARL), a NASA-built sensor now operated by the U.S. Geological Survey (USGS) [Wright and Brock, 2002]. Standard airborne terrestrial lidars, which

but these may require some local calibration [Feurer *et al.*, 2008; Gao, 2009]. EAARL offers an unusual combination of attributes: aquatic and terrestrial mapping at up to watershed scales (hundreds of kilometers of channel length), done with relatively high precision, accuracy, and spatial resolution [Kinzel *et al.*, 2007; McKean *et al.*, 2008].

EAARL Performance and Applications

One test of the performance of EAARL is how well it maps in-channel topographic

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