WGISS Brochure Folder

Here are pictures of the previous WGISS brochure:

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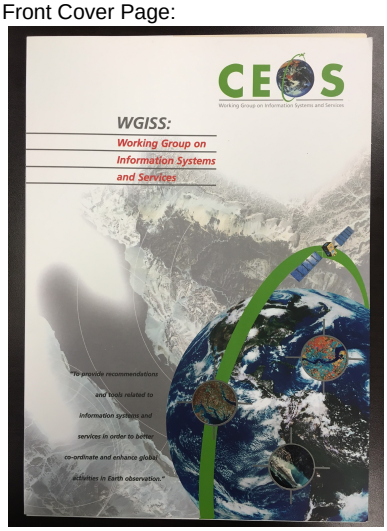

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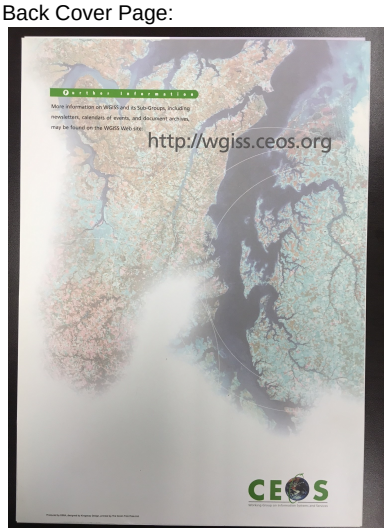

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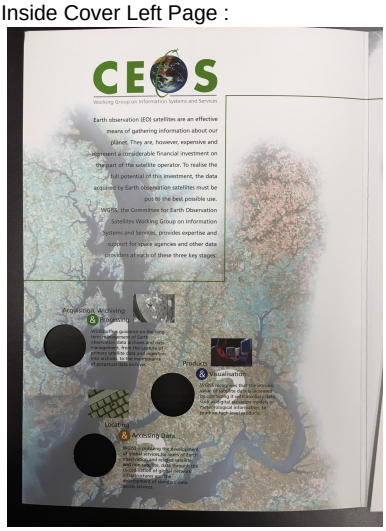

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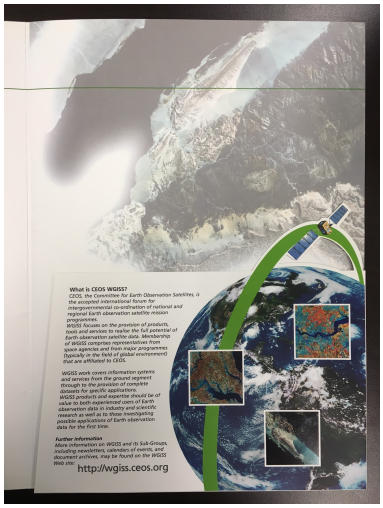


What is CEOS WGISS?

CEOS, the Committee for Earth Observation Satellites, is the accepted international forum for coordination and cooperation between civil space agencies and from major programmes (typically in the field of global environment) that are affiliated to CEOS.

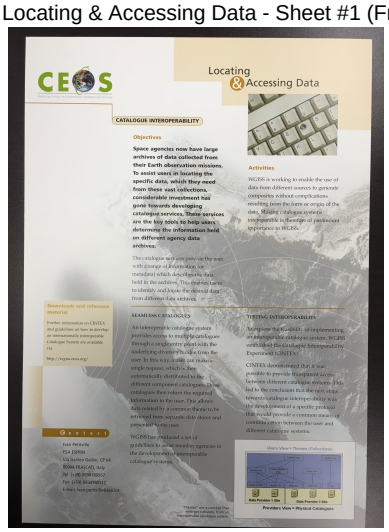
WGISS work covers information systems and services from the ground segment to the end user, and includes complete datasets for specific applications. WGISS products and expertise should be of value to both experienced users of Earth observation data in industry and scientific research as well as to those investigating possible applications of Earth observation data for the first time.

Further information

More information on WGISS and its Sub-Groups, including newsletters, calendars of events, and document archives, may be found on the WGISS Web site:

http://wgiss.ceos.org

Locating & Accessing Data - Sheet #1 (Front Page)



CEOS

Locating & Accessing Data

CATALOGUE INTEROPERABILITY

Objectives

Space agencies now have large archives of data collected from their Earth observation missions. To assist users in locating the specific data, which they need from these vast collections, considerable investment has gone towards developing catalogue services. These services are the key aim to help users determine the information held on different agency data archives.

The catalogue services pass on the user with (lists of Access Keys or metadata) which describe the data held in the archives. This enables users to identify and locate the desired data from different data archives.

Activities

WGISS is working to enable the use of data from different sources to generate composites without complications resulting from the form or origin of the data. Making catalogue systems interoperable is the focus of prominent importance to WGISS.

Downloads and reference material

Further information on CEOS's and guidelines on how to develop an internationally interoperable Catalogue System are available via:

http://wgiss.ceos.org/

SEAMLESS CATALOGUES

An interoperable catalogue system provides access to multiple catalogues through a single entry point with the underlying diversity hidden from the user. In this way, with just a single request, which is then automatically distributed to the different component catalogues, the catalogues then return the required information to the user. This allows data to be used by a common theme to be accessed from separate data stores and processed by the user.

WGISS has produced a set of guidelines to assist interoperability in the development of interoperable catalogue systems.

TESTING INTEROPERABILITY

Recognising the difficulty of implementing an interoperable catalogue system, WGISS established the Catalogue Interoperability Experiment (CINTEX).

CINTEX demonstrated that it was possible to provide transparent access between different catalogue systems. This led to the conclusion that the next stage towards catalogue interoperability was the design, testing of a specific protocol that would provide a common means of communication between the user and different catalogue systems.

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"Thesaurus" are a concept that provides a common "vocabulary" for heterogeneous catalogue systems.

User's View = Thesaurus (Collections)

Data Provider 1 Site

Data Provider 2 Site

Providers View = Physical Catalogues

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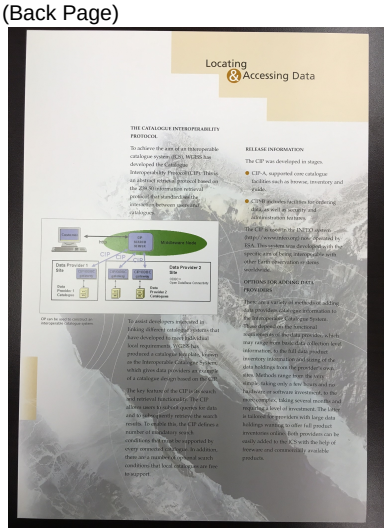


Locating & Accessing Data

THE CATALOGUE INTEROPERABILITY PROTOCOL

To achieve the aim of an interoperable catalogue system (ICS), WGISS has developed the Catalogue Interoperability Protocol (CIP). This is an abstract retrieval protocol based on the ZIR Stratum retrieval protocol that transfers data in the interaction between user and catalogues.

CIP - Z39.50 Gateway

Data Provider 1 Site

Data Provider 2 Site

User Catalogue Connector

Data Provider 1 Catalogue

Data Provider 2 Catalogue

CIP can be used to construct an interoperable catalogue system.

To assist developers interested in linking different catalogue systems that have developed to meet individual local requirements, WGISS has produced a catalogue data dictionary on the Interoperable Catalogue Systems, which gives data providers an example of a catalogue design based on ISO 8879.

The key features of the CIP are its search and retrieval functionality. The CIP allows users to interrogate specific data and to subsequently retrieve the search results. To achieve this, the CIP defines a number of mandatory search conditions that must be supported by every remote catalogue. In addition, there are a number of optional search conditions that local catalogues are free to support.

RELEASE INFORMATION

The CIP was developed in stages.

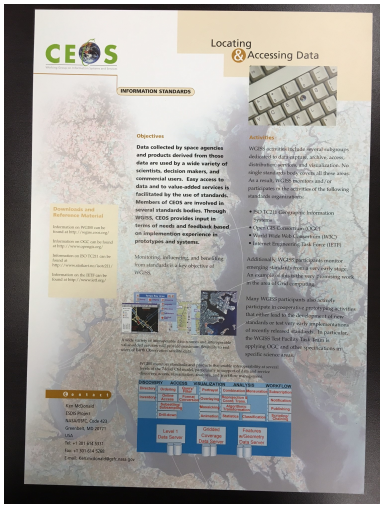
- CIP-A, supported core catalogue facilities such as browse, inventory and guide.
- CIP-B provides facilities for ordering data as well as security and administration features.

The CIP is ratified by INTEO (www.http://www.intecco.org/), chaired by ESA. This system was developed with the specific aim of being interoperable with other Earth observation or space environments.

OPTIONS FOR ADDING DATA PROVIDERS

There are a variety of methods for adding data providers Catalogue information to the Interoperable Catalogue System. These depend on the functional requirements of the data provider, which may range from basic data collection level information, to the full data product inventory information and listing of the data holdings from the provider's archive sites. Methods range from the very simple, linking only a few forms and no hardware or software investment, to the more complex, taking several months and requiring a level of investment. The latter is tailored for providers with large data holdings wishing to offer full product inventories online. Both providers can be easily added to the ICS with the help of browsers and commonly available products.

Locating & Accessing Data - Sheet #2 (Front Page)



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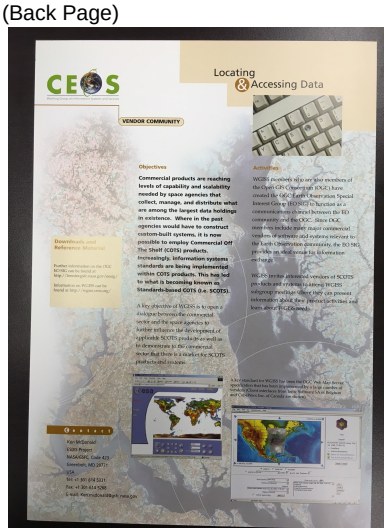
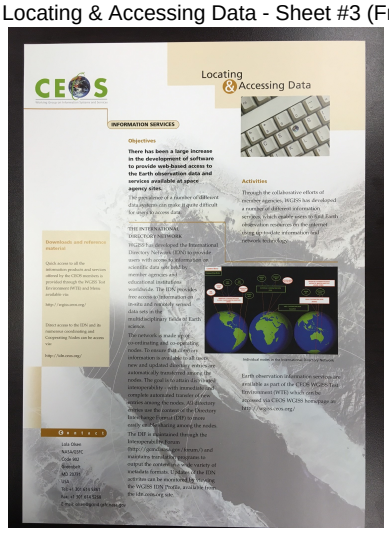


Locating & Accessing Data - Sheet #3 (Front Page)



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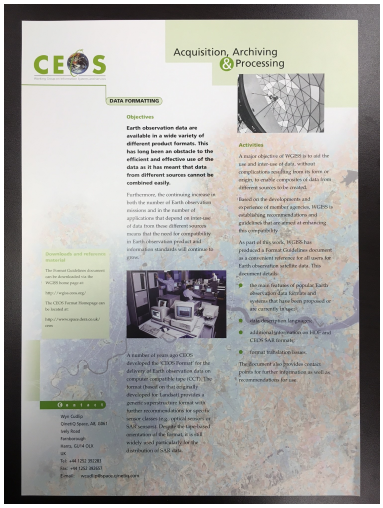
Acquisition, Archiving & Processing (Front Page)



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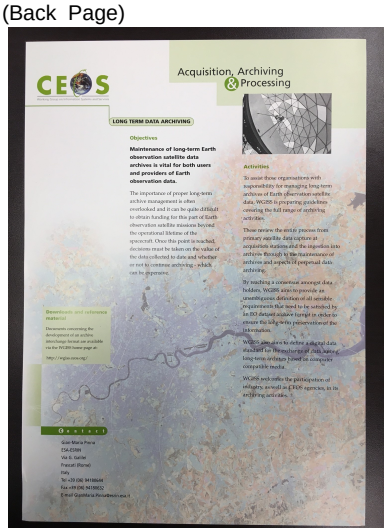
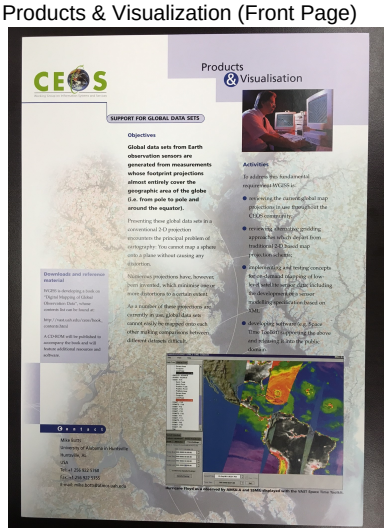


Products & Visualization (Front Page)



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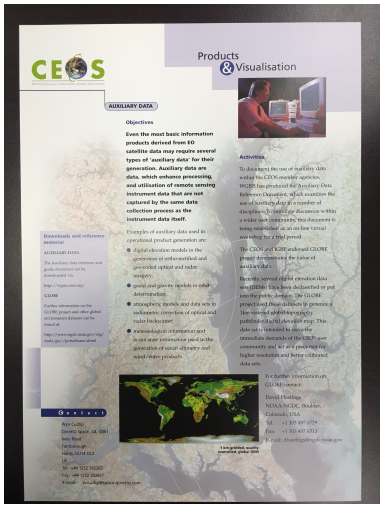

CEOS

Products & Visualisation

AUXILIARY DATA

Objectives

Even the most basic information products derived from EO satellite data may require several types of 'auxiliary data' for their generation. Auxiliary data are data, which enhance processing, and utilisation of remote sensing instrument data that are not captured by the same data collection process as the instrument data itself.

Examples of auxiliary data used in operational product generation are:

- digital elevation models in the generation of orthorectified and geocoded optical and radar imagery;
- geoid and gravity models in orbit determination;
- atmospheric models and data sets in radiometric correction of optical and radar backscatter;
- meteorological information and in-situ state information used in the generation of sea-ice altimetry and wind/wave products.

Downloads and reference material

AUXILIARY DATA

The Auxiliary data reference and guide document can be downloaded via:

http://wgcm.ceos.org/

GLOBE

Further information on the GLOBE project and other global environment datasets can be found at:

http://www.ngdc.noaa.gov/wgs/media/gis/pyramid/www.shtml

Activities

To document the use of auxiliary data within the CEOS member agencies, WGEO has produced the Auxiliary Data Reference Document, which examines the use of auxiliary data in a number of disciplines. To ensure the discussion within a wider user community, this document is being established as an on-line virtual workshop for a trial period.

The CEOS and KSIF-endorsed GLOBE project demonstrates the value of auxiliary data.

Recently, several digital elevation data sets (DEMs) have been declassified or put into the public domain. The GLOBE project used these datasets to generate a 1km-resolved global topography published in the 1st decision step. This data set is intended to meet the immediate demands of the GEO's user community and act as a precursor for higher resolution and better calibrated data sets.

1 km-resolved quality-controlled global DEM

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