

Goal: To support CEOS Carbon Science Mission by providing easy discovery of and access to carbon-related data resources in CEOS member agencies

The Objectives: *1) enable carbon community to easily find their interested data in the CEOS agency collections brokered by both CWIC and FedEO; 2) allow searching and accessing data within collections using CWIC and FedEO with keywords, spatial and/or temporal constraints; and 3) provide common discovery and access of all CWIC partner holdings targeting at the CEOS Carbon Community*

Summary of progresses since WGISS'47 in May 2019:

- Refined search support by periods
- Improved search support by acquisition types
- More data format support for user-uploaded map for searching and customized clipping
- Allows searching of Essential Climate Variables (ECV)
- Release of fully developed User's Guide
- Updated release of beta version in middle July 2019

Next steps: Release of version 1 in September and tailor it to serve localized and specialized carbon projects

CEOS WGISS Carbon Community Portal (beta), Version 0.88

Keyword Search...

Collection Search Result (3397)

- LBA-ECO ND-08 Soil Respiration, Soil Fractions, Carbon and Nitrogen, Para, Brazil**
 - Identifier: C17913225-ORNL_DAAC
 - Author: CMR
 - Point: -0.86, -52.55
 - Date: 2001-07-01T00:00:00.000Z/2003-03-31T23:59:59.000Z
 - Data (https) Documentation (html) Metadata (https) Documentation (pdf)
 - CWIC Granule Open Search Descriptor Document Product metadata
- LBA-ECO CD-06 Isotopic Composition of Carbon Fractions, Amazon Basin River Water**
 - Identifier: C179003627-ORNL_DAAC
 - Author: CMR
 - Box: -16.475 -74.57W -1.82N -58.8E
 - Date: 1991-08-12T00:00:00.000Z/2003-01-26T23:59:59.000Z
 - Data (https) Documentation (html) Metadata (https) Documentation (pdf)
 - CWIC Granule Open Search Descriptor Document Product metadata
- LBA-ECO ND-11 Litter Decomposition, Carbon, and Nitrogen Dynamics in Agroforestry**
 - Identifier: C179003747-ORNL_DAAC
 - Author: CMR
 - Point: -2.52, -60.03
 - Date: 2002-07-11T00:00:00.000Z/2002-10-15T23:59:59.000Z
 - Data (https) Documentation (html) Metadata (https) Documentation (pdf)
 - CWIC Granule Open Search Descriptor Document Product metadata
- LBA-ECO CD-08 Leaf Carbon, Nitrogen, LAI, and Isotope Data, Manaus, Brazil: 2001**
 - Identifier: C179131425-ORNL_DAAC
 - Author: CMR
 - Box: -2.615 -60.21W -2.5N -60E
 - Date: 2001-08-08T00:00:00.000Z/2001-08-08T23:59:59.000Z
 - Data (https) Documentation (html) Metadata (https) Documentation (pdf)
 - CWIC Granule Open Search Descriptor Document Product metadata
- LBA-ECO ND-07 Carbon and Nitrogen in Cerrado Plants and Soils, Brasilia: 1999-2000**
 - Identifier: C179003195-ORNL_DAAC
 - Author: CMR
 - Point: -15.93, -47.85
 - Date: 1999-12-01T00:00:00.000Z/2000-09-30T23:59:59.000Z
 - Data (https) Documentation (html) Metadata (https) Documentation (ND07_15N_Leaves_Soil.PDF)
 - CWIC Granule Open Search Descriptor Document Product metadata
- LBA-ECO CD-08 Carbon Isotopes in Belowground Carbon Pools, Amazonas and Para,**

Last predefined datasets date: July 19, 2019 / Last modified date: July 19, 2019
Center for Spatial Information Science and Systems, George Mason University

Summary of Contributions to CEOS Carbon Community

- Closely collaborate with CEOS Carbon Task and Global Carbon Project in the development of the portal to ensure it is useful for the community
- Collaborators are involved in
 - Define requirements
 - Design, test, evaluation
 - Use in their studies
 - Provide feedbacks for refinement and improvement
- The beta version of the portal was released to CEOS carbon community for testing, evaluation, and use in July 2019
- The portal has been highlighted in the home page of the Global Carbon Project with a live link (See the screen capture right)
- Portal to support CEOS Chair Initiative on Forest Carbon in Mekong river basin has

GLOBAL CARBON PROJECT




HOME | CARBON ATLAS | CARBON BUDGET | CH₄ BUDGET | N₂O BUDGET | RECCAP | URBANIZATION | SEARCH

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About GCP
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The Global Carbon Project

The Global Carbon Project (GCP) integrates knowledge of greenhouse gases for human activities and the Earth system. Our projects include global budgets for three dominant greenhouse gases — carbon dioxide, methane, and nitrous oxide — and complementary efforts in urban, regional, cumulative, and negative emissions.

<p>CEOS WGISS Carbon Community Portal</p>  <p>website</p>	<p>8th International Symposium on Non-CO₂ Greenhouse Gases 12-14 June 2019</p>  <p>meetings</p>	<p>Second State of the Carbon Cycle Report (SOCCR2)</p>  <p>website</p>
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Science Highlights

Carbon Budget 2017
[Carbon Budget 2017](#)

Methane Budget 2016
[Methane Budget 2016](#)


N₂O Budget coming soon
[N₂O Budget coming soon](#)

[More Highlights...](#)

Implementation Progress – support search with periods




- **Periods**
 - **Yearly**
 - **Monthly**
 - **Daily**
 - **Hourly**



Committee on Earth Observation Satellites

CEOS WGISS Carbon Community Portal (beta), Version 0.88





Keyword Search...

Exclude Global
 Within Results

Topic ▾

- Atmospheric Carbon
- Ecosystem Carbon
- Ocean Carbon
- Mixed-theme Carbon
- Including Non-Carbon

Period ▾

- Yearly
- Monthly
- Daily
- Hourly

Acquisition Type ▾

Refined Subject ▾

Layers (0) ▾ + ↑ ↓ ✕

Catalogs ▾

Base Map ▾

Help ▾

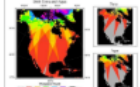
Collection Search Result (254) ⏪ ⏩



AIRS/Aqua L3 daily CO2 in the free troposphere (AIRS-only) 2.5 degrees x 2 degrees V005 (AIRS3C2D) at GES DISC [↗](#)

Identifier: C1238517258-GES_DISC
 Author: CMR
 Box: -60S -180W 90N 180E
 Date: 2010-01-01T00:00:00.000Z/2017-02-28T23:59:59.000Z


[Data \(https\)](#) [Documentation \(html\)](#) [Data \(https\)](#) [Documentation \(html\)](#) [Documentation \(https\)](#) [Documentation \(pdf\)](#)
[Documentation \(pdf\)](#) [AIRS3C2D](#) [CWIC Granule](#) [Open Search](#) [Descriptor](#) [Document](#) [Product metadata](#)



NACP: MODIS Daily Land Incident 4-km PAR Images For North America, 2003-2005 [↗](#)

Identifier: C179003309-ORNL_DAAC
 Author: CMR
 Box: 0S -180W 90N 0E
 Date: 2003-01-01T00:00:00.000Z/2005-12-31T23:59:59.000Z

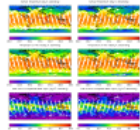
[Data \(https\)](#) [Documentation \(html\)](#) [Metadata \(https\)](#) [Documentation \(pdf\)](#) [Documentation \(spatial_metadata_bxt.zip\)](#)
[CWIC Granule](#) [Open Search](#) [Descriptor](#) [Document](#) [Product metadata](#)



BOREAS Follow-On MOD-01 Regional Daily Averaged Gridded Met. Data, 1994-1996 [↗](#)

Identifier: C179003631-ORNL_DAAC
 Author: CMR
 Box: 48S -111W 60N -90E
 Date: 1994-01-01T00:00:00.000Z/1997-01-01T23:59:59.000Z

[Data \(https\)](#) [Documentation \(html\)](#) [Metadata \(https\)](#) [Documentation \(0_readme.txt\)](#) [Documentation \(pdf\)](#)
[Non-CMR OpenSearch](#) [Provider](#) [Granule](#) [Open Search](#) [Descriptor](#) [Document](#) [Product metadata](#)



AIRS/Aqua L3 Daily Standard Physical Retrieval (AIRS-only) 1 degree x 1 degree V006 (AIRS3STD) at GES DISC [↗](#)

Identifier: C1238517289-GES_DISC
 Author: CMR
 Box: -90S -180W 90N 180E
 Date: 2002-08-31T00:00:00.000Z/

[Data \(https\)](#) [Documentation \(html\)](#) [Metadata \(https\)](#) [Data \(https\)](#) [Documentation \(html\)](#) [Documentation \(https\)](#) [Documentation \(pdf\)](#)



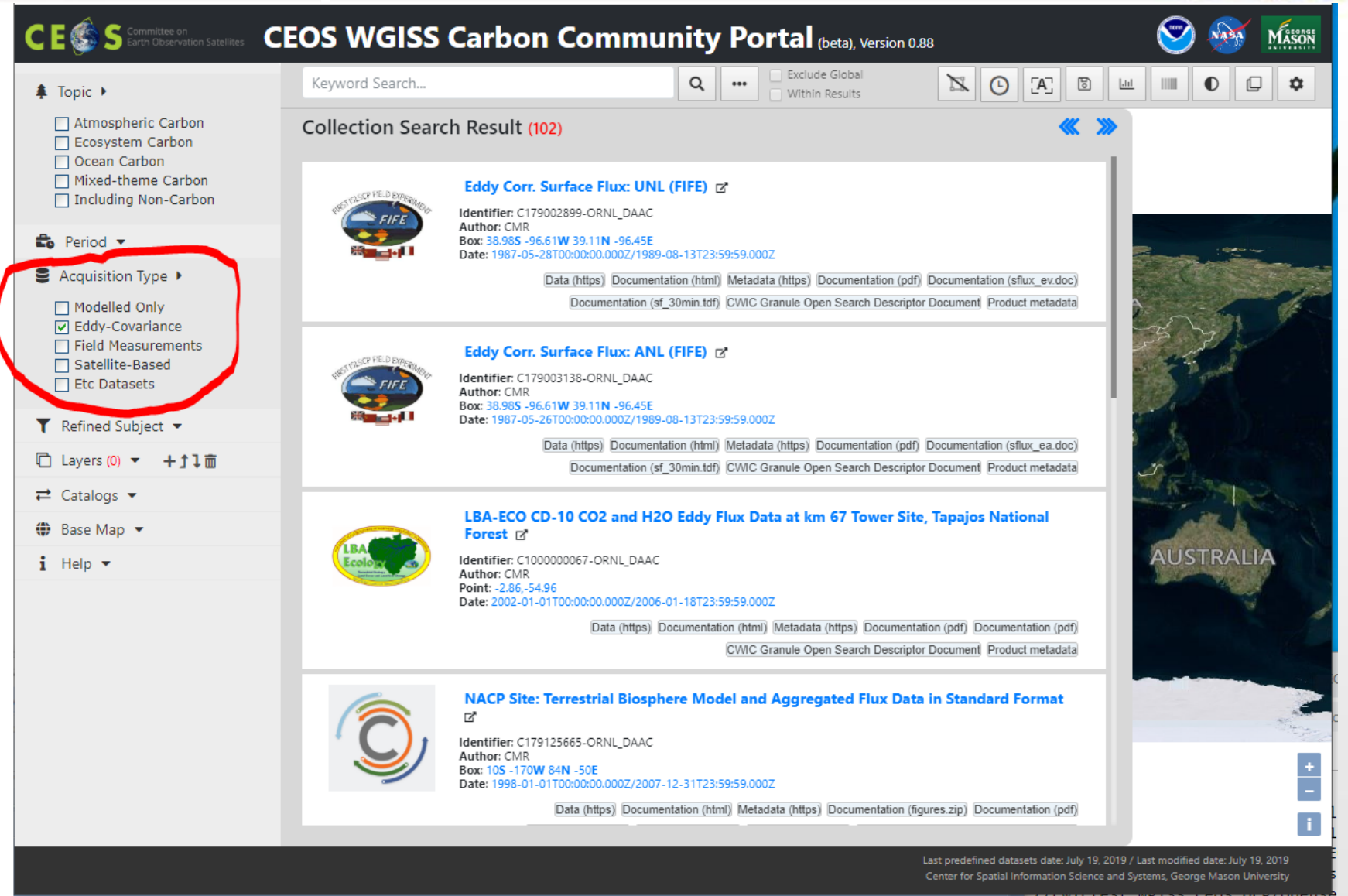
AUSTRALIA

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Implementation Progress

– support search with acquisition

- Acquisition types
 - Modeled only
 - Eddy-Covariance
 - Field measurements
 - Satellite-based



The screenshot displays the CEOS WGISS Carbon Community Portal interface. The left sidebar contains a navigation menu with the following sections:

- Topic
 - Atmospheric Carbon
 - Ecosystem Carbon
 - Ocean Carbon
 - Mixed-theme Carbon
 - Including Non-Carbon
- Period
- Acquisition Type** (highlighted with a red circle)
 - Modelled Only
 - Eddy-Covariance
 - Field Measurements
 - Satellite-Based
 - Etc Datasets
- Refined Subject
- Layers (0)
- Catalogs
- Base Map
- Help

The main content area shows search results for "Eddy Corr. Surface Flux" data. The first result is for UNL (FIFE) with the following details:

- Eddy Corr. Surface Flux: UNL (FIFE)**
- Identifier: C179002899-ORNL_DAAC
- Author: CMR
- Box: 38.98S -96.61W 39.11N -96.45E
- Date: 1987-05-28T00:00:00.000Z/1989-08-13T23:59:59.000Z
- Available formats: Data (https), Documentation (html), Metadata (https), Documentation (pdf), Documentation (sflux_ev.doc), Documentation (sf_30min.tdf), CWIC Granule Open Search Descriptor Document, Product metadata

The second result is for ANL (FIFE) with the following details:

- Eddy Corr. Surface Flux: ANL (FIFE)**
- Identifier: C179003138-ORNL_DAAC
- Author: CMR
- Box: 38.98S -96.61W 39.11N -96.45E
- Date: 1987-05-26T00:00:00.000Z/1989-08-13T23:59:59.000Z
- Available formats: Data (https), Documentation (html), Metadata (https), Documentation (pdf), Documentation (sflux_ea.doc), Documentation (sf_30min.tdf), CWIC Granule Open Search Descriptor Document, Product metadata

The third result is for LBA-ECO CD-10 CO2 and H2O Eddy Flux Data at km 67 Tower Site, Tapajos National Forest:

- LBA-ECO CD-10 CO2 and H2O Eddy Flux Data at km 67 Tower Site, Tapajos National Forest**
- Identifier: C1000000067-ORNL_DAAC
- Author: CMR
- Point: -2.86, -54.96
- Date: 2002-01-01T00:00:00.000Z/2006-01-18T23:59:59.000Z
- Available formats: Data (https), Documentation (html), Metadata (https), Documentation (pdf), Documentation (pdf), CWIC Granule Open Search Descriptor Document, Product metadata

The fourth result is for NACP Site: Terrestrial Biosphere Model and Aggregated Flux Data in Standard Format:

- NACP Site: Terrestrial Biosphere Model and Aggregated Flux Data in Standard Format**
- Identifier: C179125665-ORNL_DAAC
- Author: CMR
- Box: 10S -170W 84N -50E
- Date: 1998-01-01T00:00:00.000Z/2007-12-31T23:59:59.000Z
- Available formats: Data (https), Documentation (html), Metadata (https), Documentation (figures.zip), Documentation (pdf)

The right side of the interface features a map of Australia with a red location marker. The bottom of the page includes a footer with the text: "Last predefined datasets date: July 19, 2019 / Last modified date: July 19, 2019 Center for Spatial Information Science and Systems, George Mason University".

Implementation Progress

– Support of more feature format

- Added GML support for User-input
 - In addition to GeoJSON and ESRI Shapefile
 - Uploaded map can be used for clipping by polygon

CEOS WGIS Carbon Community Portal (beta), Version 0.88

Keyword Search...

Exclude Global
Within Results

SHP (File)

Topic ▶

- Atmospheric Carbon
- Ecosystem Carbon
- Ocean Carbon
- Mixed-theme Carbon
- Including Non-Carbon

Period ▼

Acquisition Type ▶

- Modelled Only
- Eddy-Covariance
- Field Measurements
- Satellite-Based
- Etc Datasets

Refined Subject ▼

Layers (0) + -

Catalogs ▼

Base Map ▼

Help ▼

Upload Shapefile

Choose File mekong_basin_boundary.gml

File Type:

- Shapefile (.zip)
- GeoJSON (.geojson, .json)
- GML (.gml)

EPSG: Default: 4326

Encoding: Default: UTF-8

Update Close

Attributes and Values

MAJ_BAS	5018
MAJ_NAME	Mekong
MAJ_AREA	803303
LEGEND	18

Close

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Implementation Progress – Release of User’s Guide



- **User’ Guide**
 - **Documented**
 - **Released in middle June, 2019**

CEOS WGISS Carbon Community Portal

User Guide

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CEOS WGISS Carbon Community Portal | 6/3/2019

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CEOS WGISS Carbon Community Portal

User Guide

CEOS WGISS CARBON PORTAL DEVELOPMENT TEAM

June 3, 2019

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Implementation Progress

– Updated release of beta version-0.88

- An updated release of beta version (v.0.88) to public on July 19, 2019

CEOS Committee on Earth Observation Satellites **CEOS WGISS Carbon Community Portal** (beta), Version 0.88

Keyword Search... Exclude Global Within Results

Collection Search Result (3397)

LBA-ECO ND-08 Soil Respiration, Soil Fractions, Carbon and Nitrogen, Para, Brazil

Identifier: C179132225-ORNL_DAAC
 Author: CMR
 Point: -0.86,-52.55
 Date: 2001-07-01T00:00:00.000Z/2003-03-31T23:59:59.000Z

[Data \(https\)](#) [Documentation \(html\)](#) [Metadata \(https\)](#) [Documentation \(pdf\)](#)
[CWIC Granule Open Search Descriptor Document](#) [Product metadata](#)

About

The CEOS Carbon Strategy

In 2010, the Group on Earth Observations (GEO) published a Carbon Observation Strategy for the world. This Strategy called for an Integrated Global Carbon Observing system (IGCO) that would provide relevant scientific information about the

Special attention because ever-increasing concentrations of carbon dioxide and methane play a central role in climate change, which is fundamental to the entire Earth-system, across all atmospheric domains. Therefore, satellite observations, as well as how carbon moves back and forth between the land and ocean, are essential for carbon data, but making sure meaningful data is collected, analyzed, and understood is a scientific understanding and meet societal needs. The CEOS Carbon Strategy, which will monitor the impacts of climate change on the world, will monitor the impacts of climate change, so that we can make informed decisions.

User's Feedback

User's Feedback

The CEOS WGISS Carbon Community Portal Beta Version is currently under review and testing. Enjoy it and help us in improving it sending your feedback to: gyu@gmu.edu

Or

[Use feedback form](#)

Always show at start up

Always show at start up

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 Center for Spatial Information Science and Systems, George Mason University

- **Incorporating revision comments and new requirements from CEOS Carbon and Global Carbon Project into the new version of the portal**
- **Release Version 0.9 in September 2019**
- **Supporting CEOS Chair carbon initiative**
 - **Tailor the portal to be fit for supporting the forest carbon project at Mekong river basin**
 - **Specially customized portal**
 - **Pre-populated products**
 - **Specific datasets for Mekong**
 - **Collaborate with VNSC**