How to Find Portals and Create your own Data Collection

Madison Burrus

Computer Systems Engineer

ESS-DIVE BERKELEY LAB NERSC NCEAS DataONE U.S. DEPARTMENT OF ENERGY Office of Science

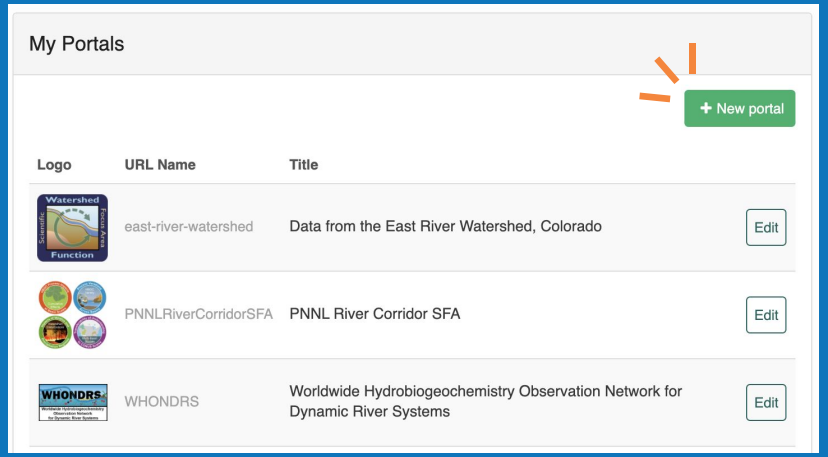
September 2021 Webinar

Objectives

- Review data portals and outline key features
- *New* Finding data portals on ESS-DIVE
- *New* Advanced data filtering in data portals
  - Refer to previous webinar recordings for in-depth guides on creating portals from scratch

We want to show you how portals can help communicate your science and get you started on creating your own data collection.

Data Portals

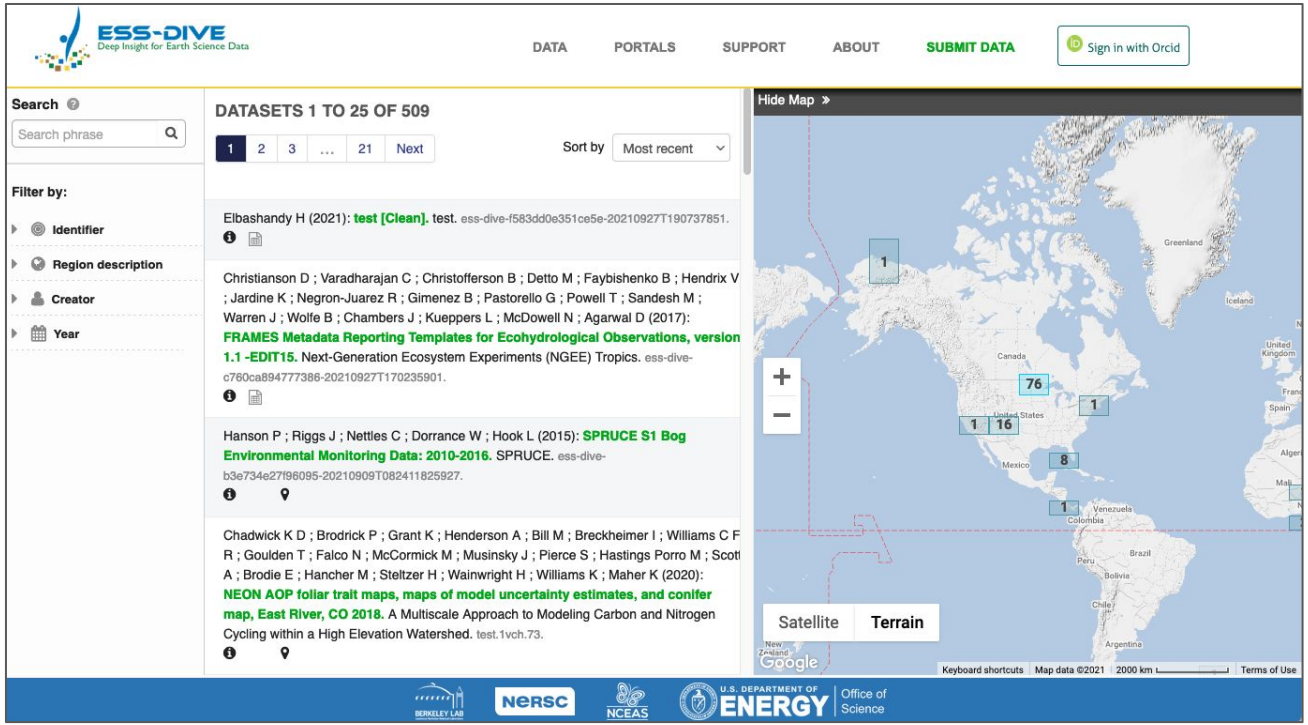


What is a data portal?

A data portal is a **collection** of any ESS-DIVE **datasets**.

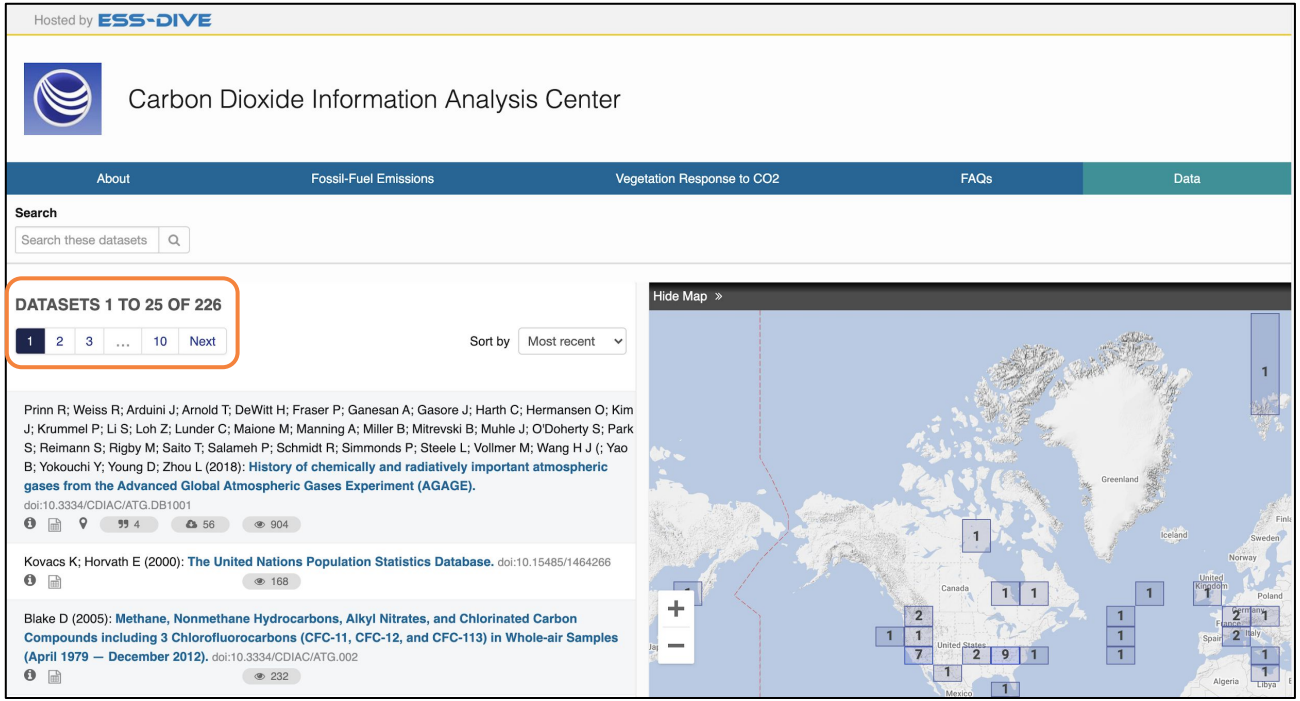
Easily **highlight and share** datasets and **research topics** using a data portal.

ESS-DIVE Data Search Page



- This is a one **data view**
- The Search Page is a **view** of **every dataset** published on ESS-DIVE

Data Portals: Creating Unique Data Views



- This is **another data view**
- A **collection** of **226 datasets** related to a specific research topic

Data Portal Example: Project Data

ESS-DIVE

ALPINE TREELINE WARMING EXPERIMENT

Alpine Treeline Warming Experiment Data Portal

The Alpine Treeline Warming Experiment (ATWE) ran from 2008-2016 on Niwot Ridge, in the Front Range of the Colorado Rocky Mountains. It combined common gardens with climate manipulations, using infrared heaters to warm soil and plant surfaces by an amount comparable to current average projections of climate warming in the year 2100. Data from from the project, initially published papers, is archived on ESS-DIVE.

About | Publications | Data | Metrics

Experimental Setup

PI's and Collaborators

The Alpine Treeline Warming Experiment (ATWE) was a common garden-climate manipulation experiment replicated across an elevation gradient at Niwot Ridge, CO. We hoped to answer three questions through the project, which also included growth chamber experiments and modeling:

1. Will subalpine trees, currently restricted from cooler, higher elevations, move into alpine habitat and replace alpine plant species as a result of climate warming?
2. Will subalpine trees be stressed by warmer temperatures and be less successful in their existing elevational ranges as a result of climate warming?

Data Portal Example: Experiment Data

SPRUCE Experiment Data Portal

TBD - description

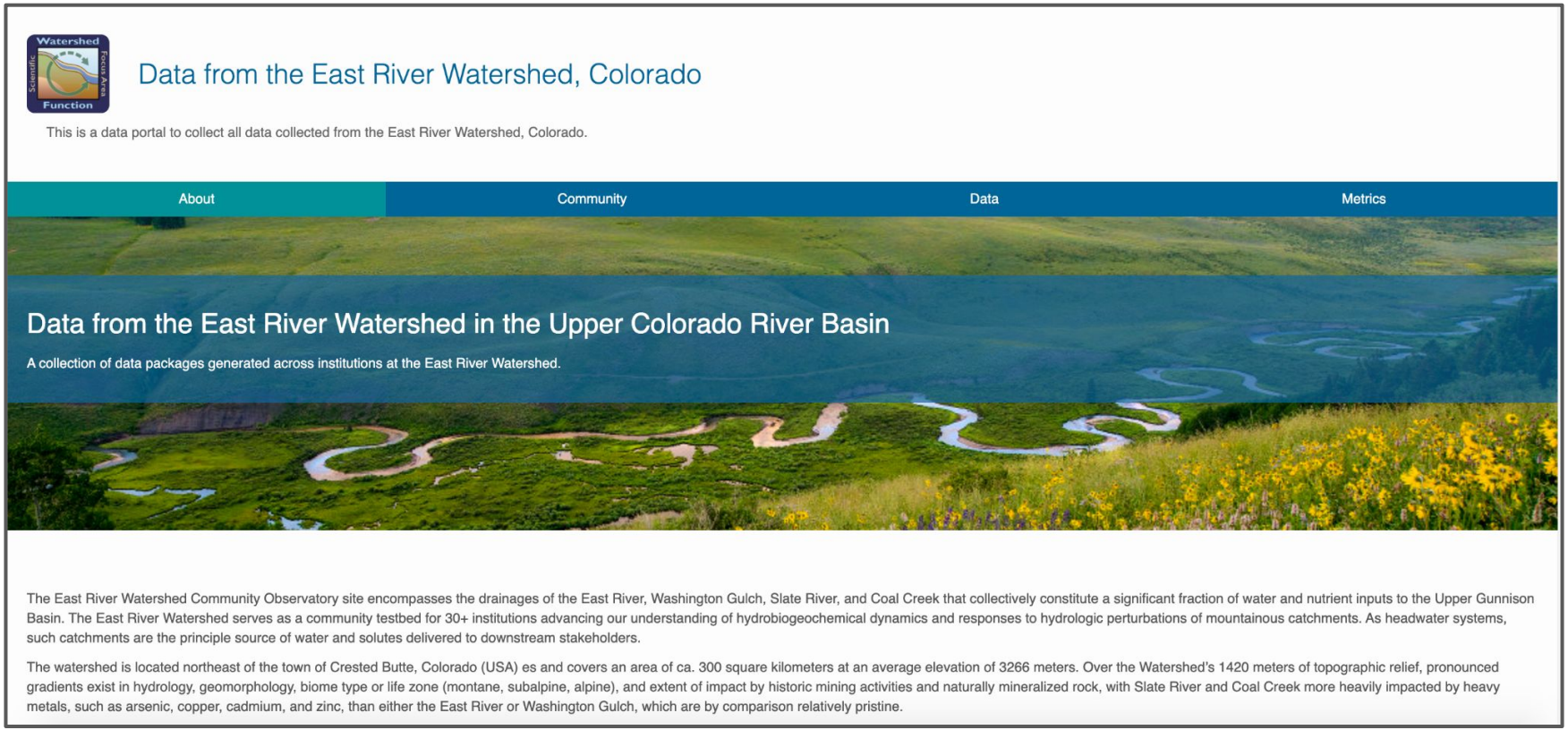
About | Data | Metrics

- About the SPRUCE Experiment
- SPRUCE (Spruce and Peatland Responses Under …
- SPRUCE Plot Characteristics
- Maps of SPRUCE Plot and Enclosure Features

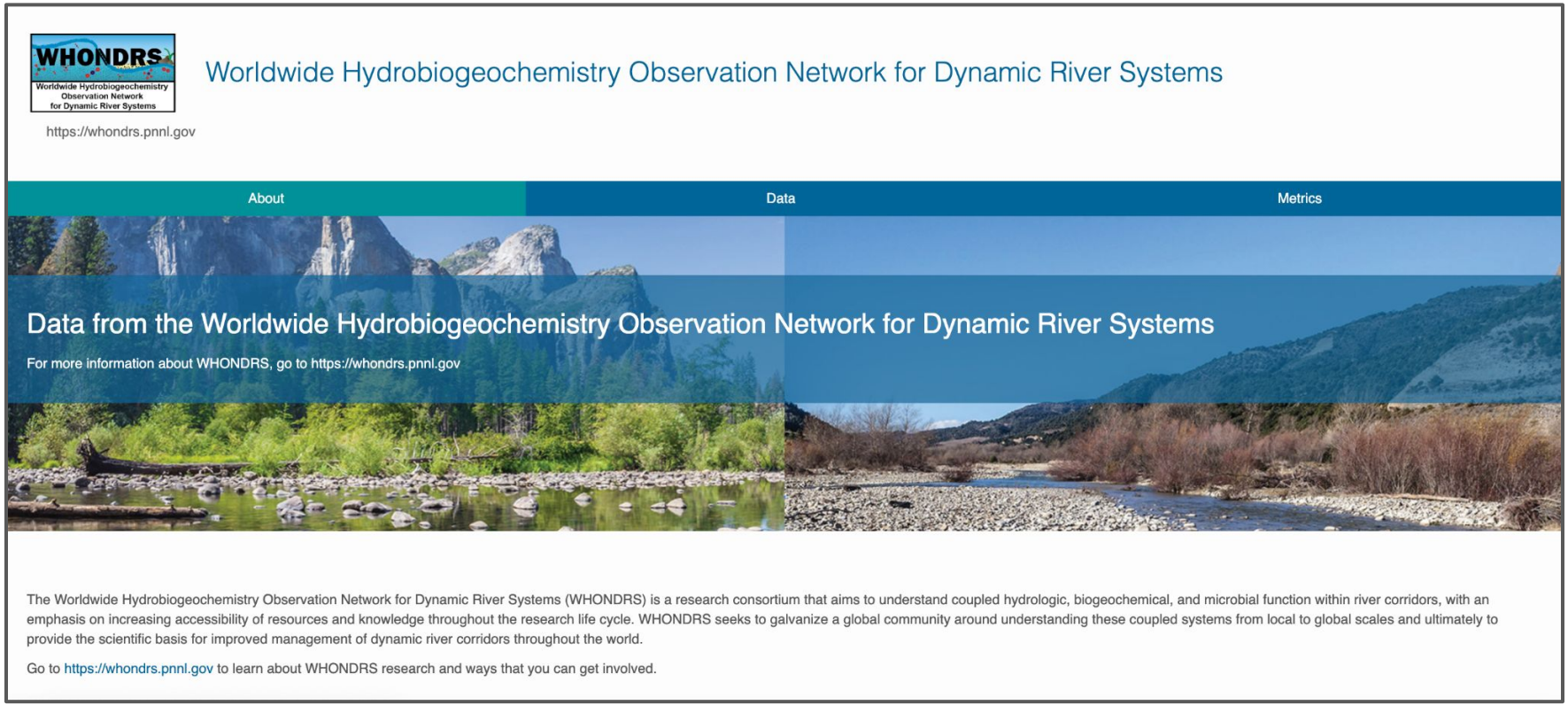
About the SPRUCE Experiment

SPRUCE (Spruce and Peatland Responses Under Changing Environments) is an experiment to assess the response of northern peatland ecosystems to increases in temperature and exposures to elevated atmospheric CO2 concentrations.

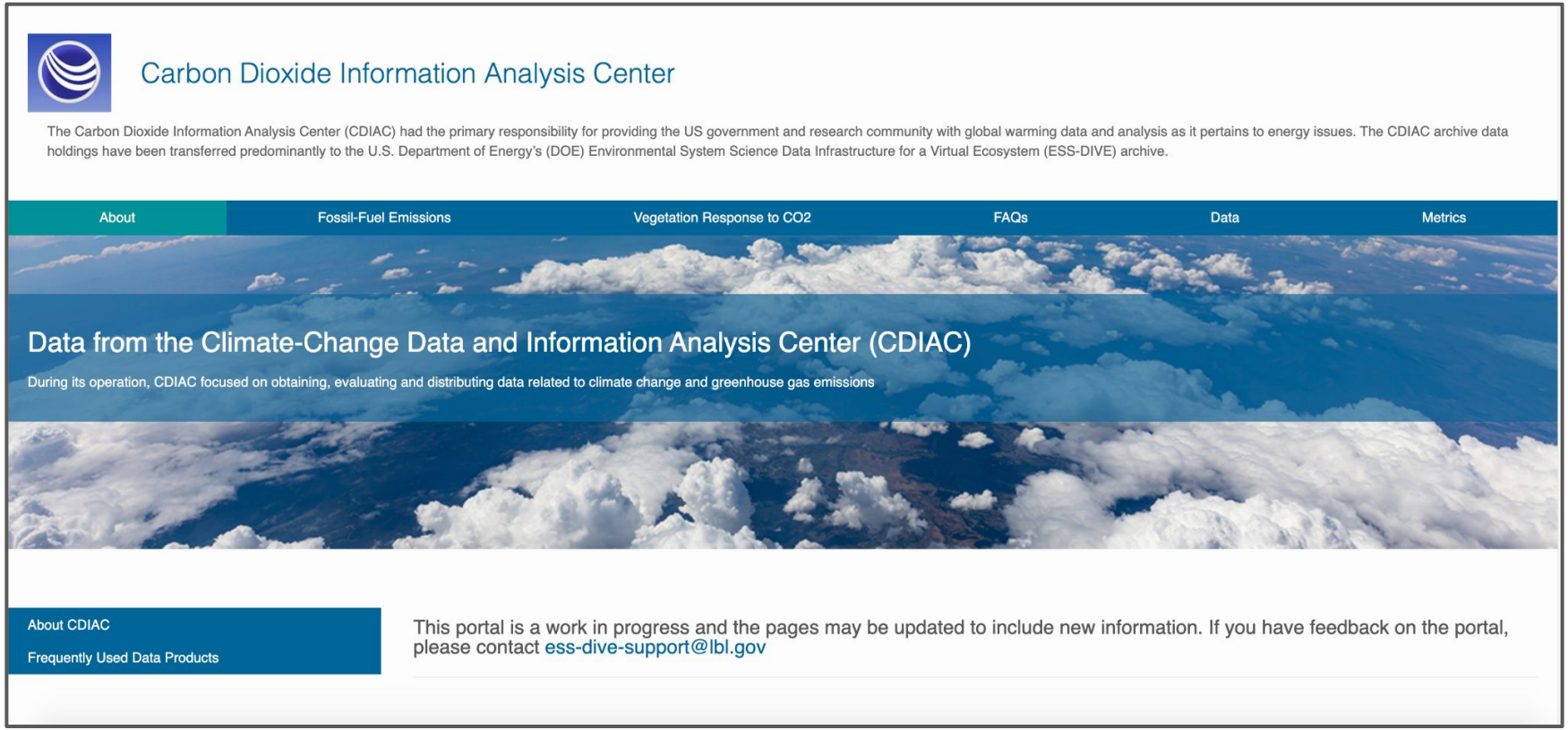
Data Portal Example: Field Site



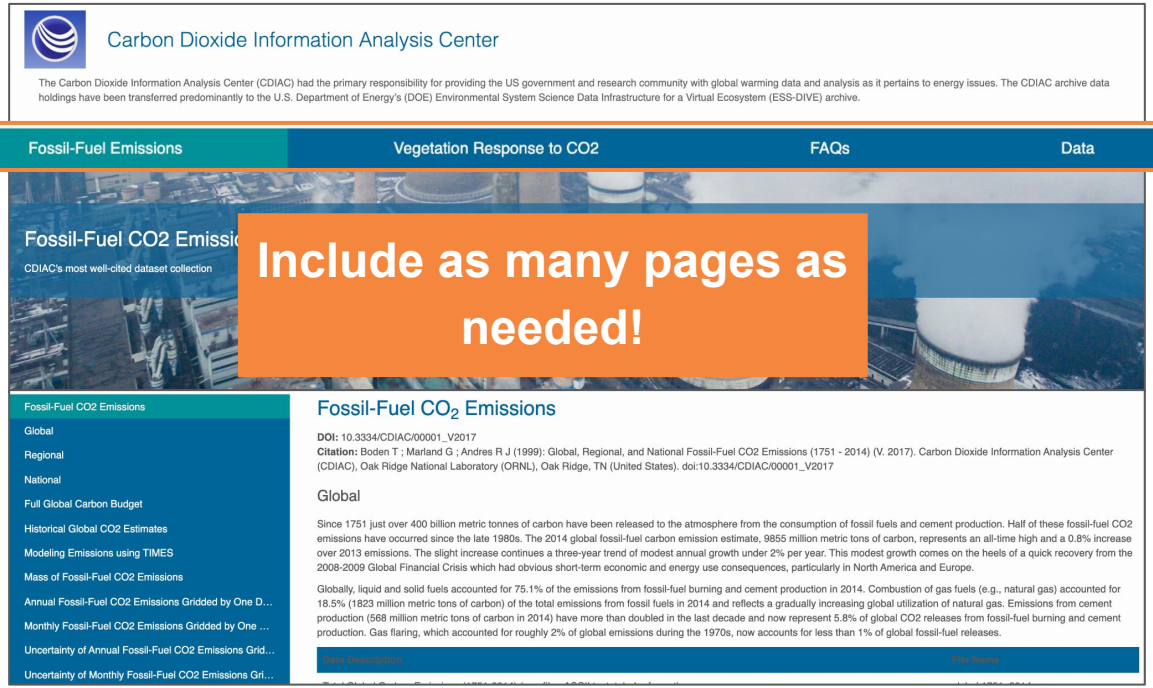
Data Portal Example: Research Topic



Data Portal Example: Research Topic



Data Portal Feature: Freeform pages

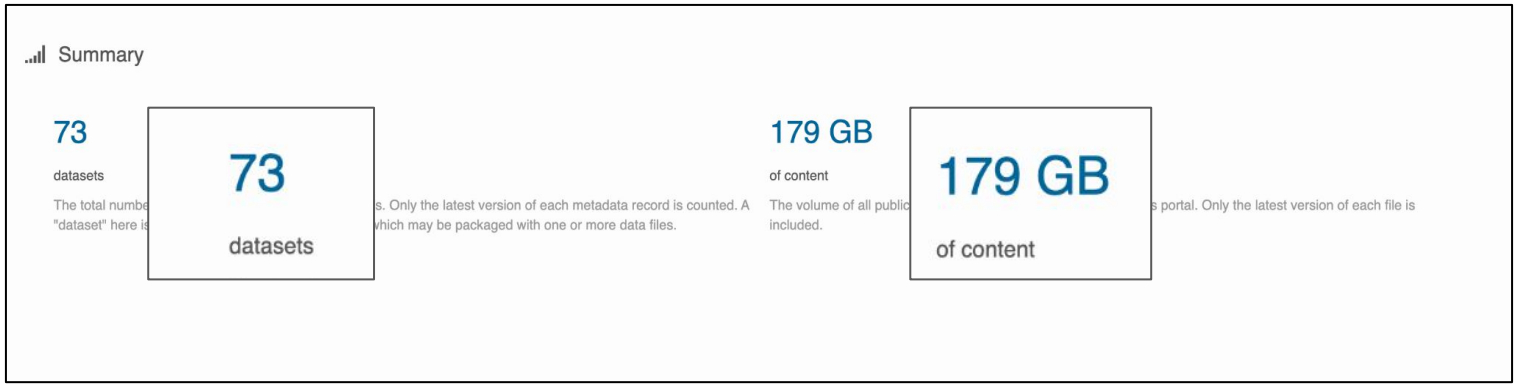


Descriptive freeform pages give your data collection broader **scientific context** beyond dataset metadata alone

Review: Why create data portals

Why create a data portal?

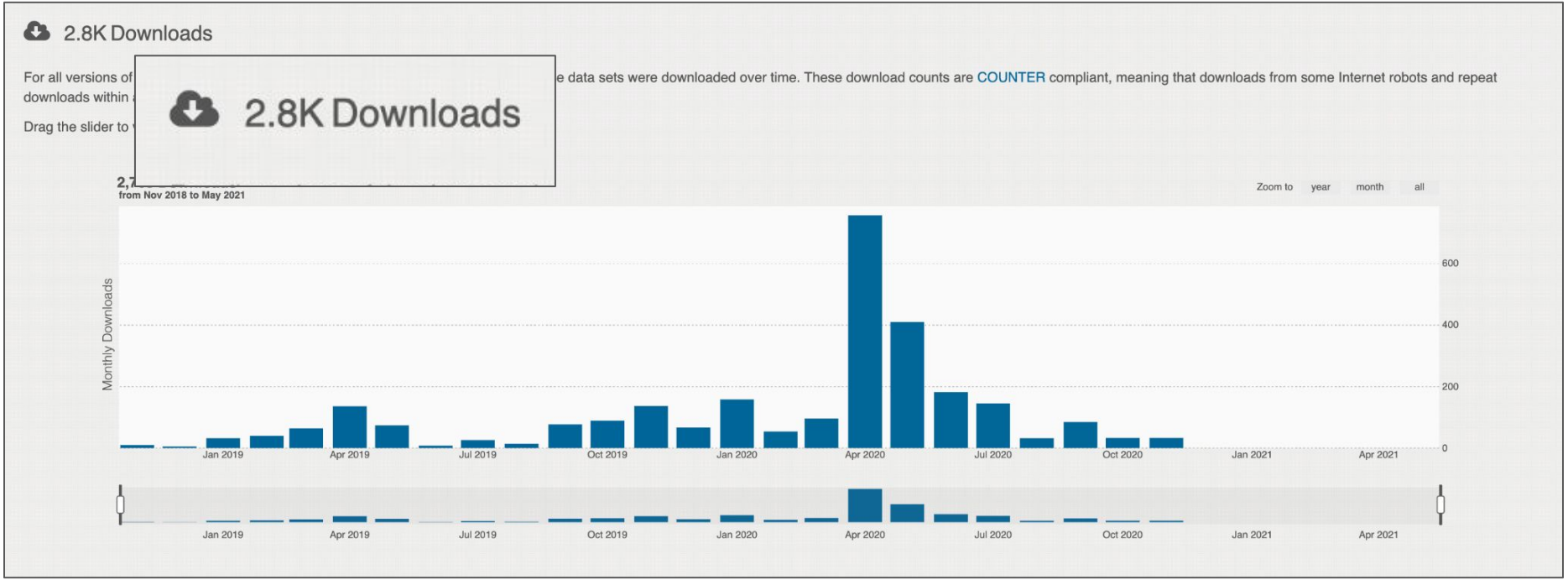
Leverage Metrics feature



Data Portal metrics summarize data contribution and use:

- Easily see how much data has been published
- Review data use statistics across entire collection

Metrics: Downloads

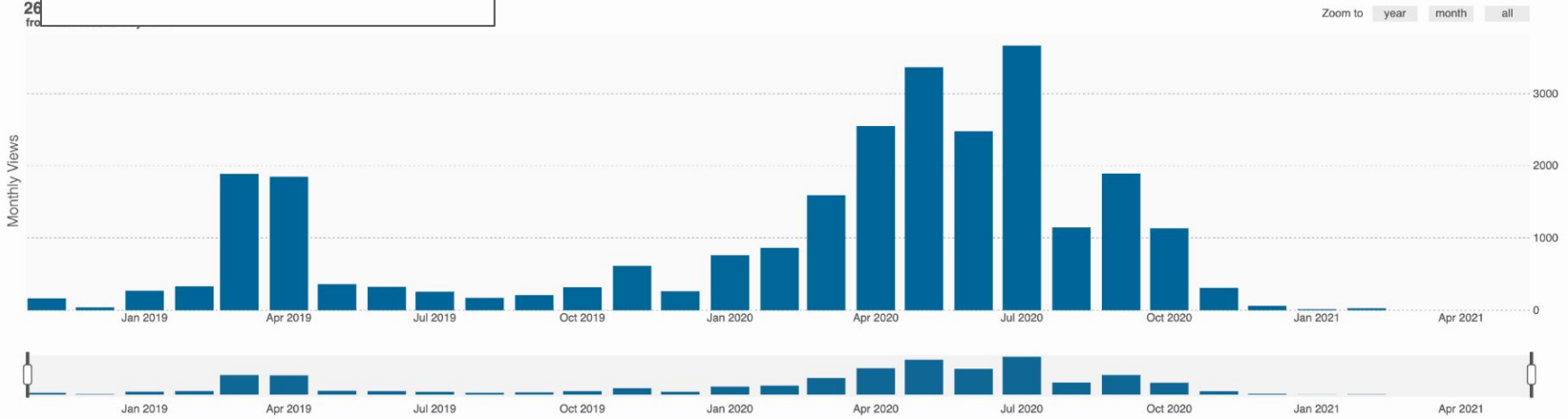


Metrics: Views

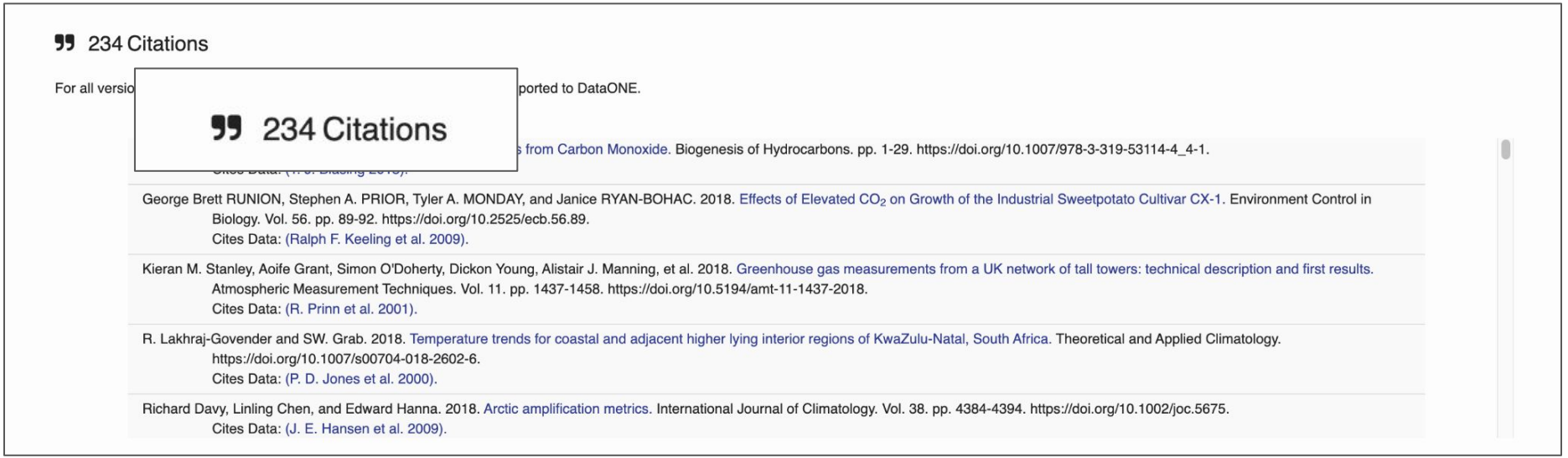
26.9K Views

For all versions of these data sets was viewed over time. These view counts are COUNTER compliant, meaning that views from some Internet robots and repeat views within a certain time window are e

Drag the slider to



Metrics: Citations



234 Citations

For all versio ported to DataONE.

234 Citations

s from Carbon Monoxide. Biogenesis of Hydrocarbons. pp. 1-29. https://doi.org/10.1007/978-3-319-53114-4_4-1.

George Brett RUNION, Stephen A. PRIOR, Tyler A. MONDAY, and Janice RYAN-BOHAC. 2018. Effects of Elevated CO_2 on Growth of the Industrial Sweetpotato Cultivar CX-1. Environment Control in Biology. Vol. 56. pp. 89-92. https://doi.org/10.2525/ecb.56.89.
Cites Data: (Ralph F. Keeling et al. 2009).

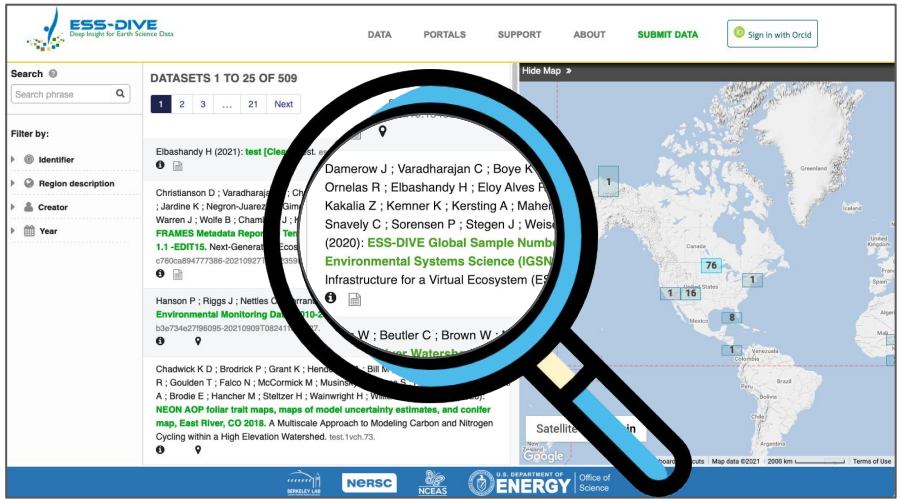
Kieran M. Stanley, Aoife Grant, Simon O'Doherty, Dickon Young, Alistair J. Manning, et al. 2018. Greenhouse gas measurements from a UK network of tall towers: technical description and first results. Atmospheric Measurement Techniques. Vol. 11. pp. 1437-1458. https://doi.org/10.5194/amt-11-1437-2018.
Cites Data: (R. Prinn et al. 2001).

R. Lakhraj-Govender and SW. Grab. 2018. Temperature trends for coastal and adjacent higher lying interior regions of KwaZulu-Natal, South Africa. Theoretical and Applied Climatology. https://doi.org/10.1007/s00704-018-2602-6.
Cites Data: (P. D. Jones et al. 2000).

Richard Davy, Linling Chen, and Edward Hanna. 2018. Arctic amplification metrics. International Journal of Climatology. Vol. 38. pp. 4384-4394. https://doi.org/10.1002/joc.5675.
Cites Data: (J. E. Hansen et al. 2009).

Why create a data portal?

To increase the Findability of datasets

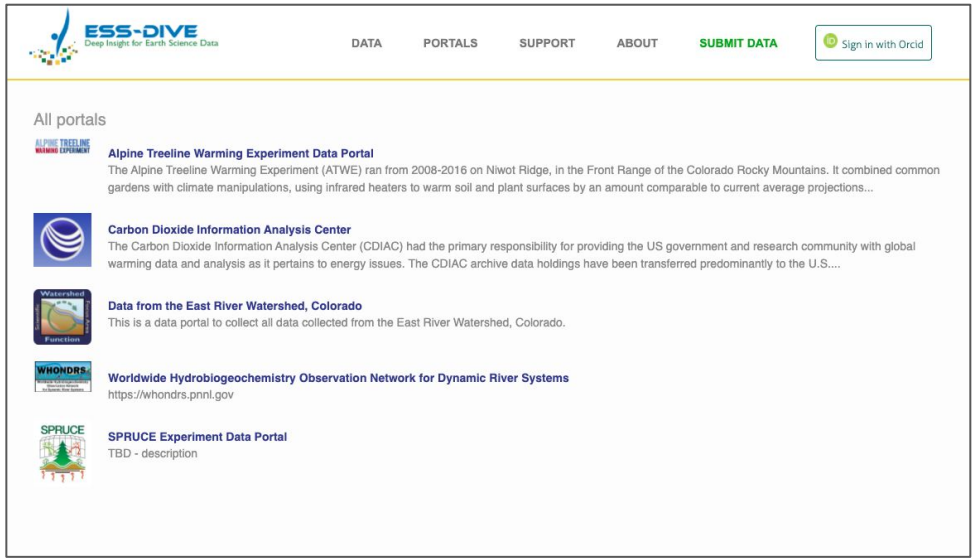


The list of datasets in a portal is smaller thus it:

- Makes it easier to **find your datasets** in ESS-DIVE
- Allows for more **specific data searches**

Why create a data portal?

Elevate project identity



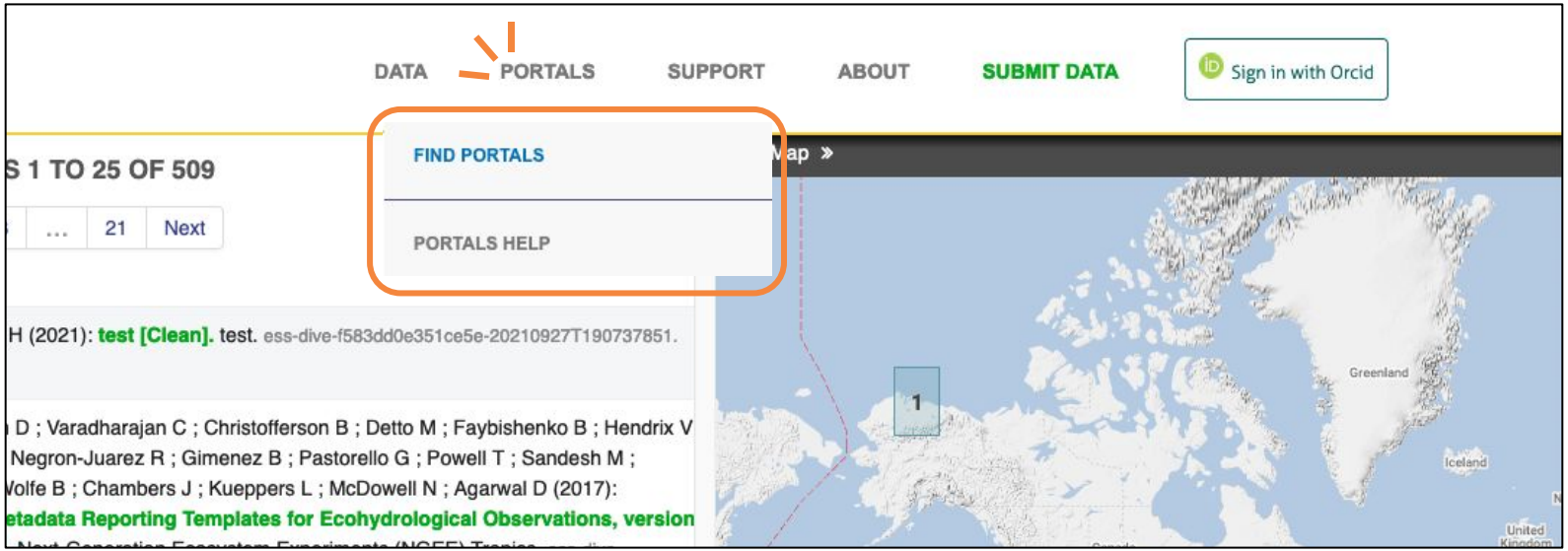
- **Easy access** to all project data
- Use the Data Portal as a **personalized website** for your project

Any Questions?

Rohit Farmer on Unsplash

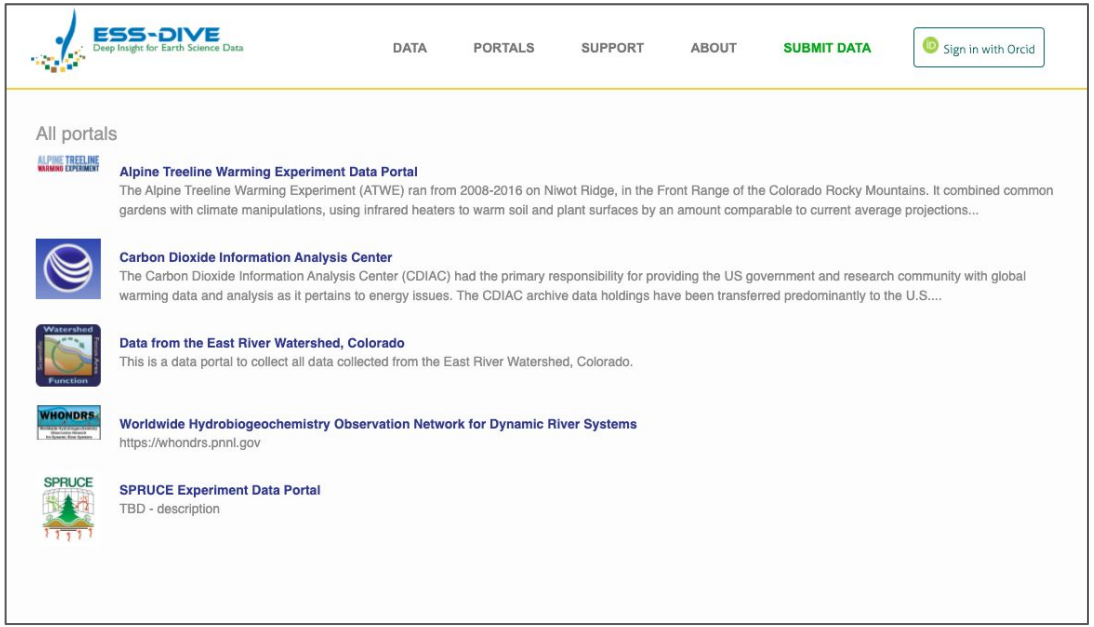
NEW Find Data Portals on ESS-DIVE

Portal Page on ESS-DIVE



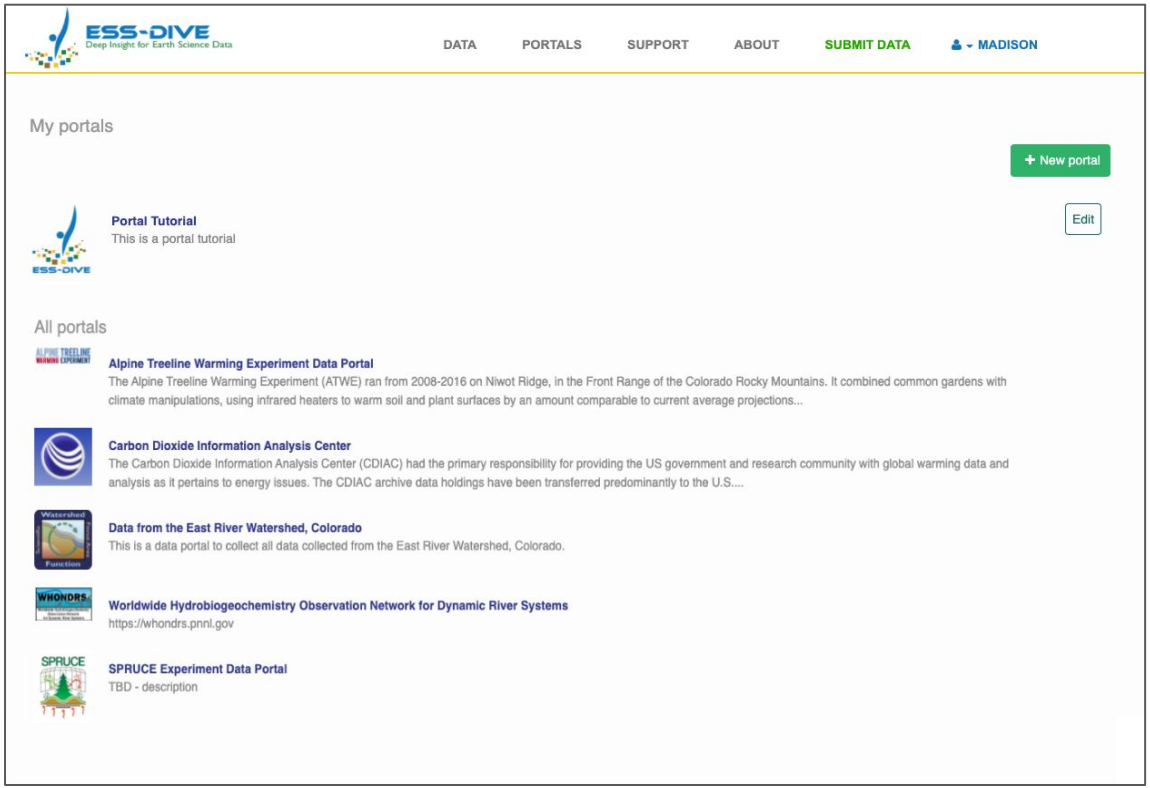
The ESS-DIVE repository has a new menu item! Select the Portals button to access the portal page or all portal documentation

Portal Page on ESS-DIVE



- The Portals Page is publicly accessible!
- See a list of all public Portals on ESS-DIVE

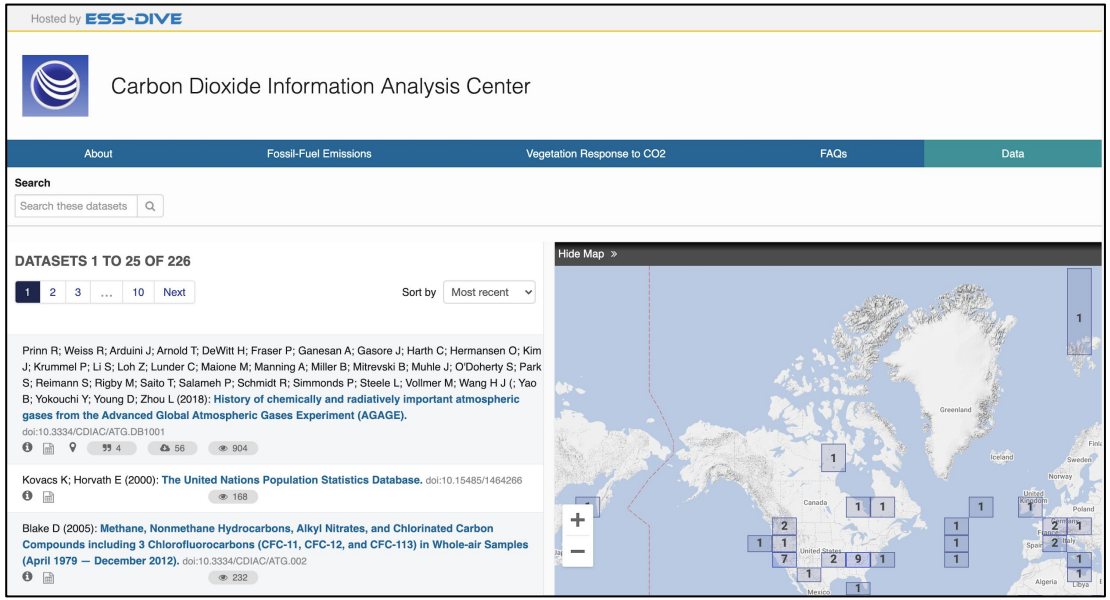
Portal Page on ESS-DIVE



- Registered Data Contributors can login to see all their private portals on the Portal Page
- Use this page to edit or create new portals

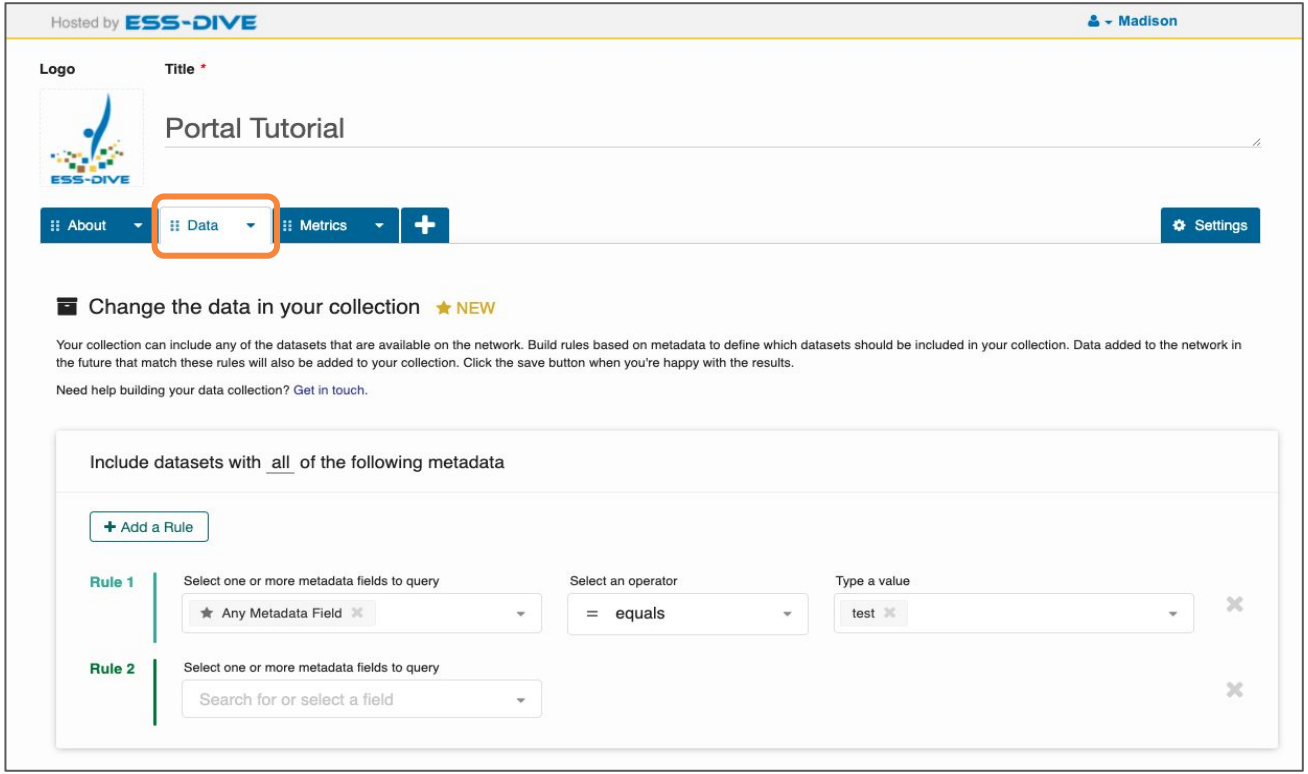
ENHANCED
Filtering Data in a Data Portal

How to filter a data collection



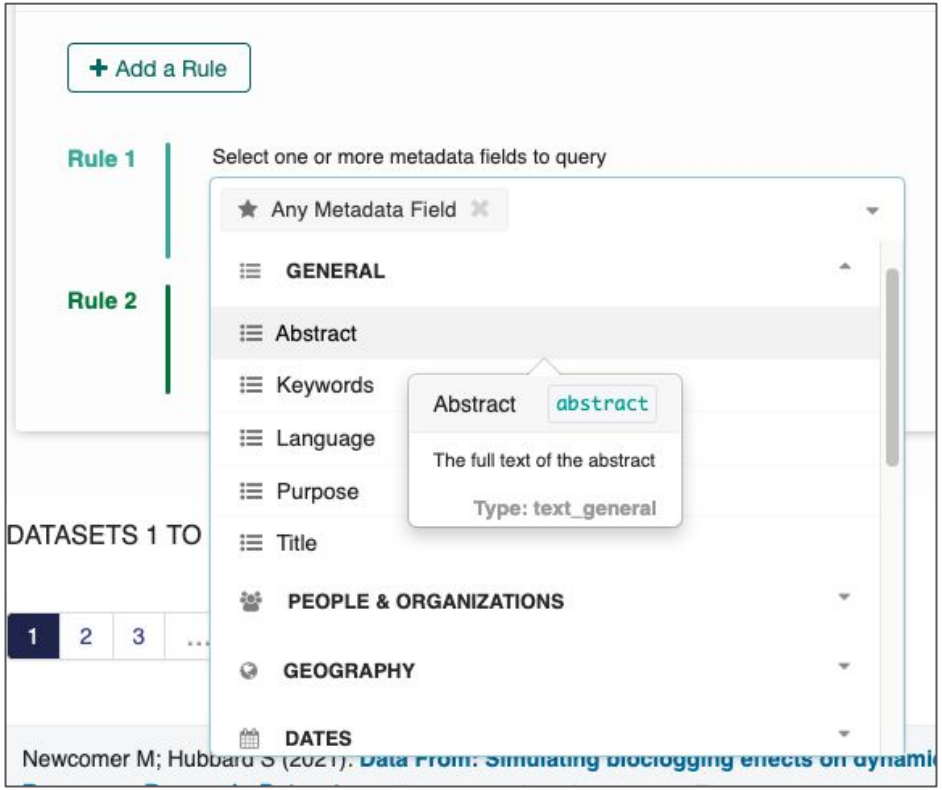
In this section, we'll discuss how to filter ESS-DIVE datasets to your desired collection and offer some suggestions

What is the data filter?



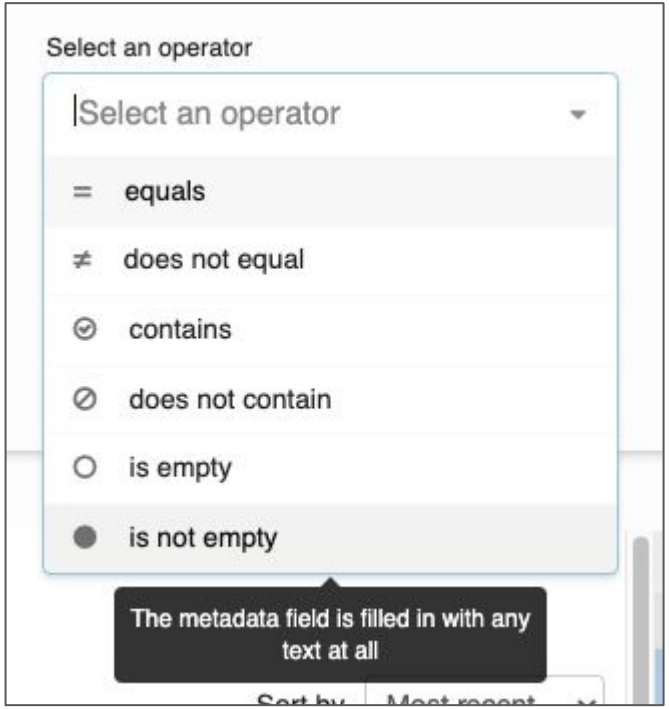
A rule based tool in the data tab that allows you to choose what metadata you want to see in your collection

Filtering Data: Select Metadata Fields



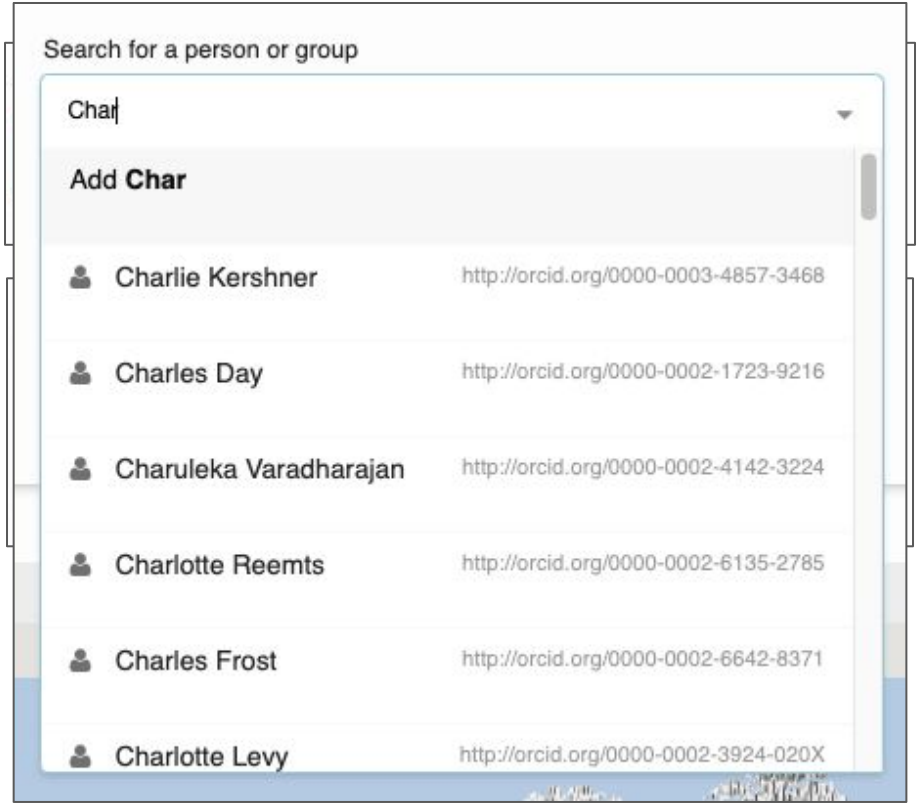
- What the filter will search on
- All metadata fields are available for selection via dropdown list
- Hover over a field to read a description

Filtering Data: Select Operation



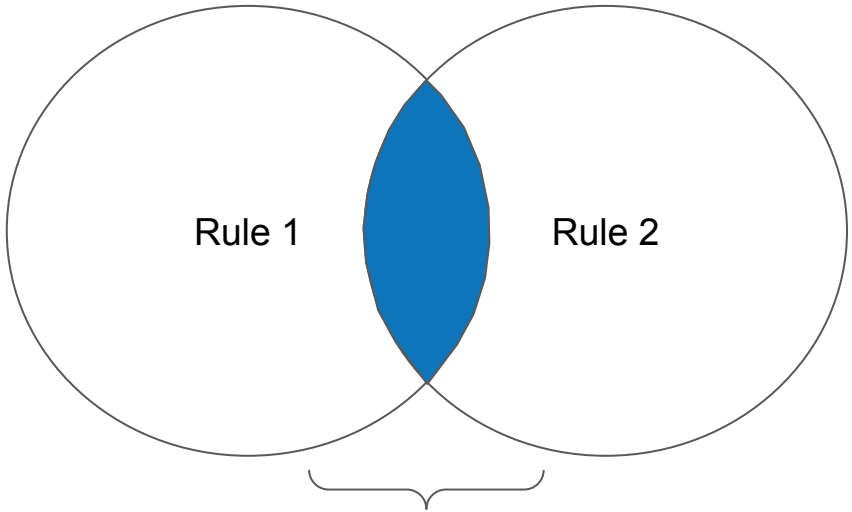
- How the filter will choose datasets
- Six basic operations are available
- Hover over an operator to read a description

Filtering Data: Type a Value



- The word(s) that the filter will find
- Free Text field
- If you search by person, a dropdown of ESS-DIVE usernames will appear

Data Filter Boolean Logic



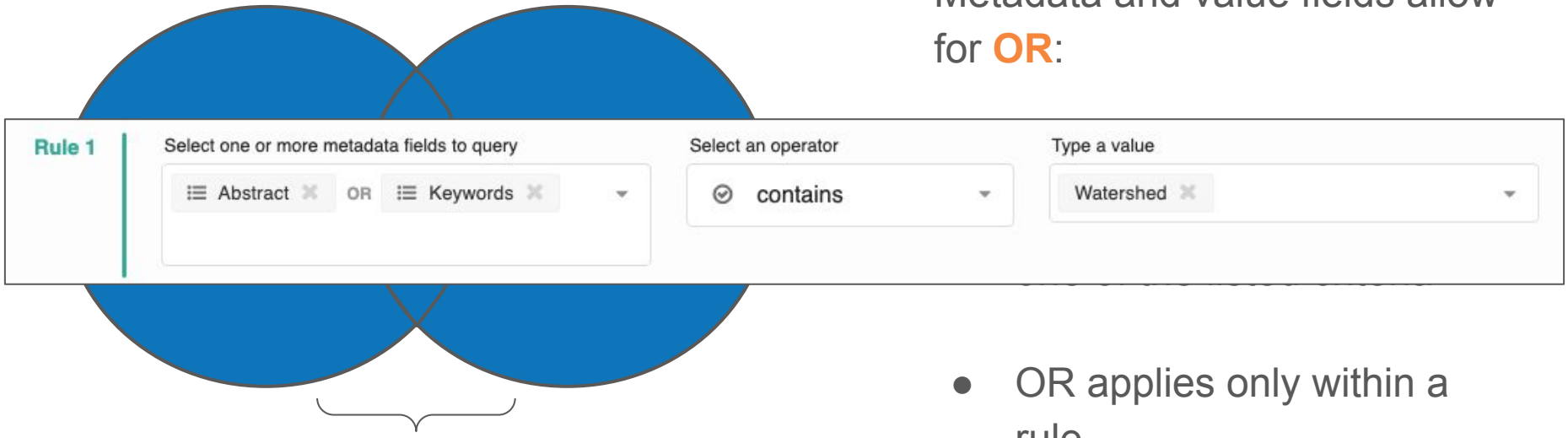
Both Rules

Rules follow **AND** command:

- Dataset results must follow all search rules

** We'll see this more on the example slides*

Data Filter Boolean Logic

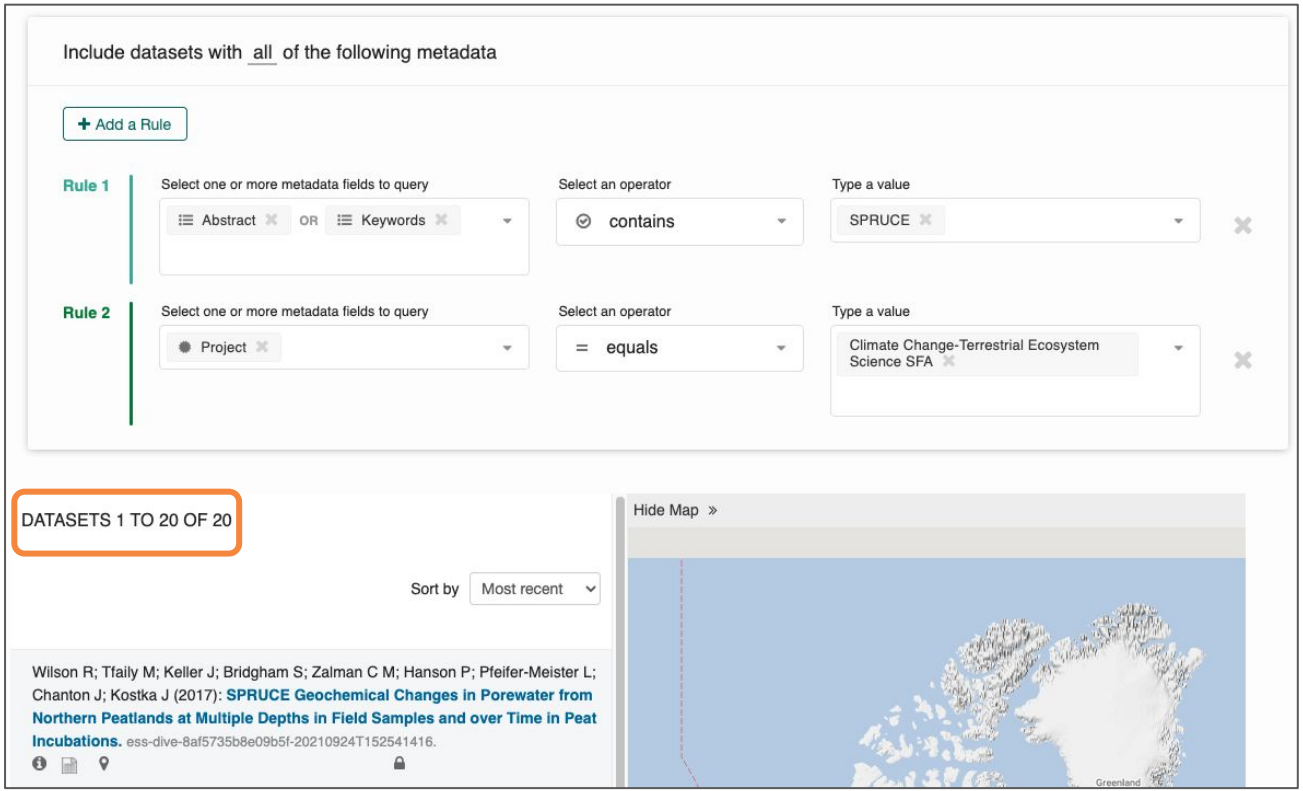


Either Field

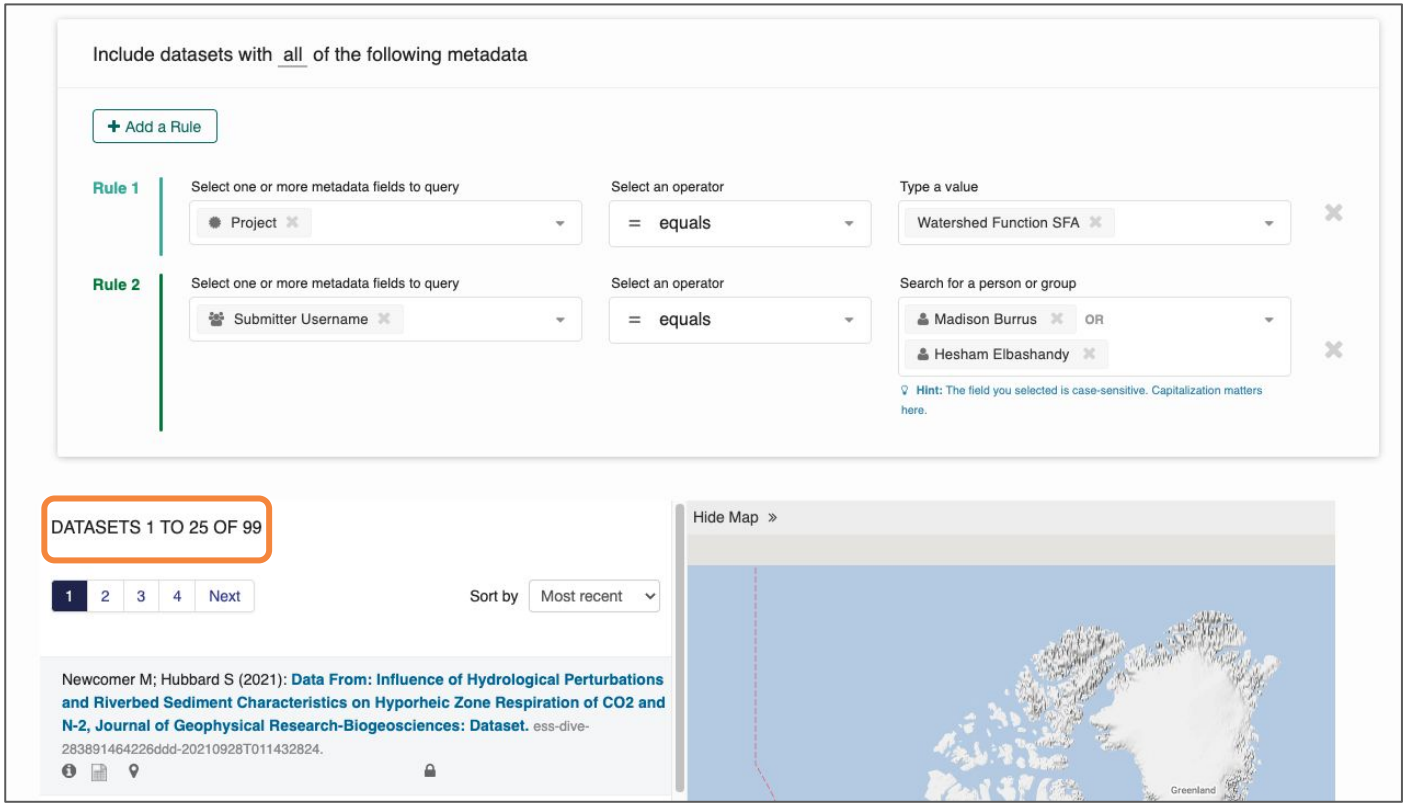
Metadata and value fields allow for **OR**:

- OR applies only within a rule
- Yields broad results

Data Filter Example #1



Data Filter Example #2



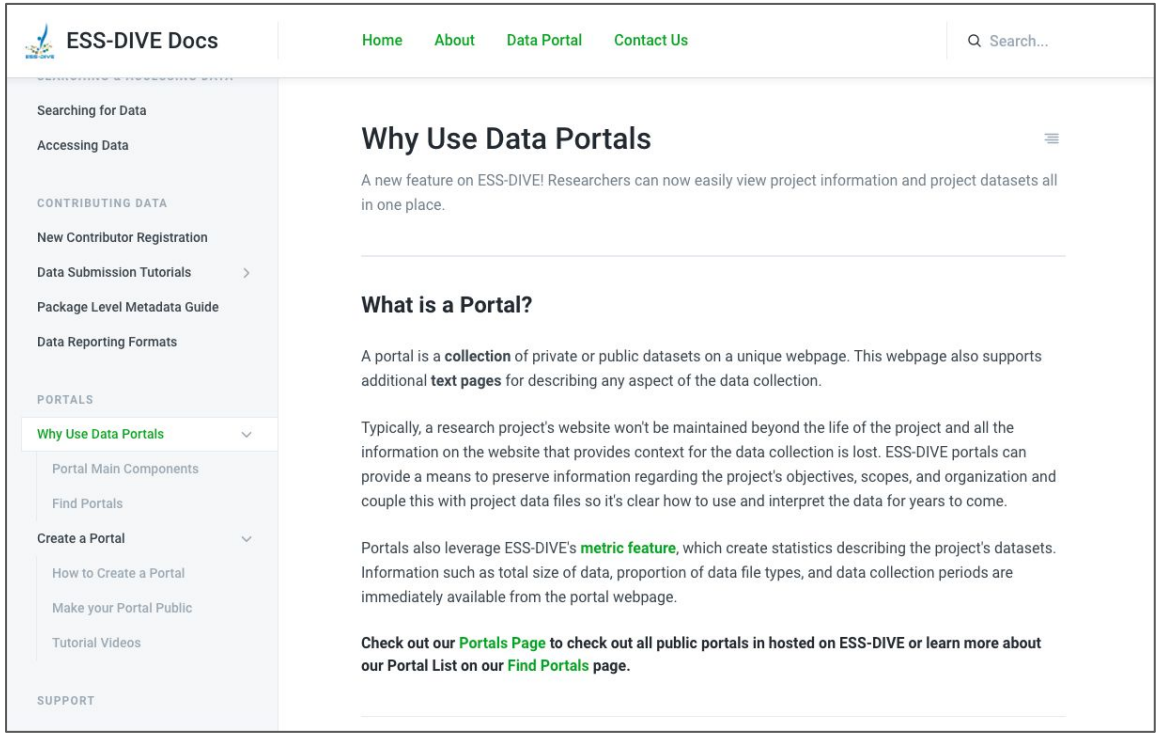
Filter Recommendations for Projects

Combine one or more of the following search criteria:

- **Project** + equals + <project title >
- **Submitter** + equals + <data contributor 1> **OR** <data contributor 2> **OR** ...
- Project **OR** Funding organization + equals + <project name> **OR** <funding org>
- **Alt. Identifier** + is not empty
  - Useful if all datasets were submitted with an alternate name

Data Portal Help

Portal Documentation

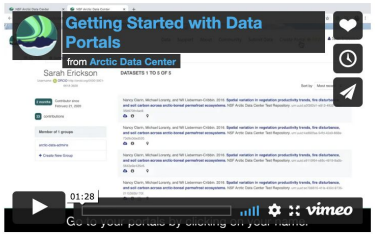


- ESS-DIVE has extensive **documentation** on how to develop your portal
- Includes information on all subjects covered in this webinar

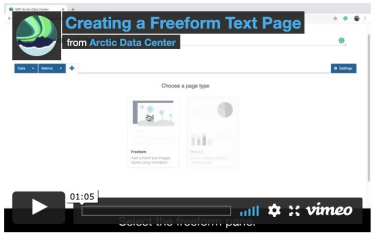
Tutorial Videos

Introduction to Portals

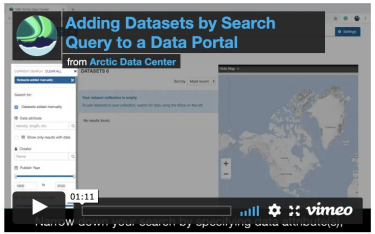
Getting Started



Creating a Freeform Text Page

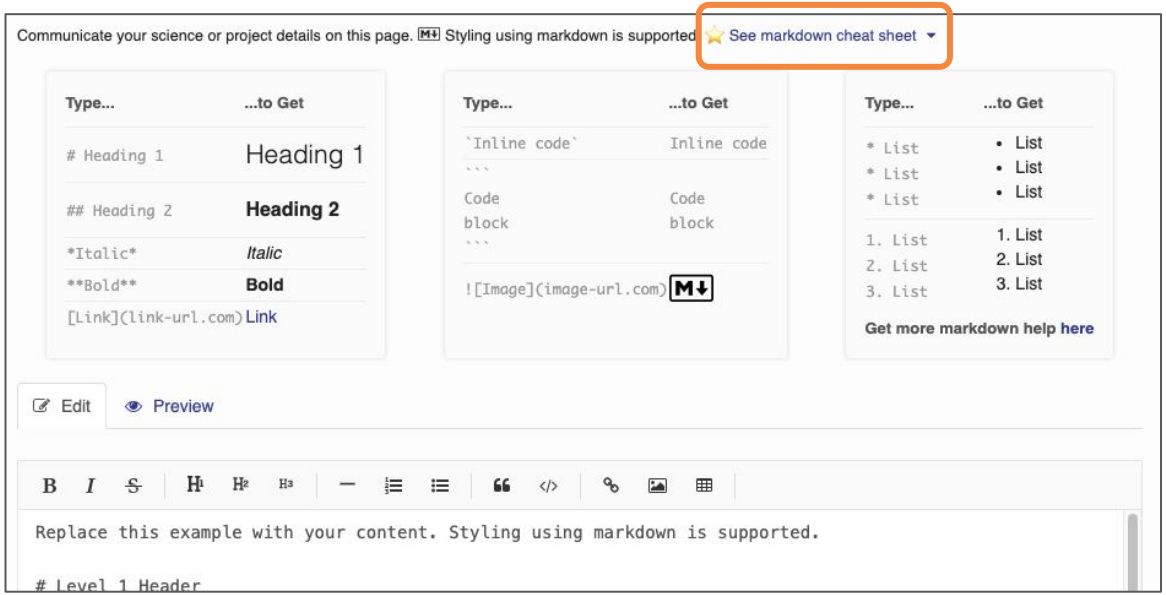


Adding Datasets by Search Query



- View tutorial videos from our DataONE partners at the **Arctic Data Center**
- Great resource to recommend to colleagues

Freeform Page Resources



Markdown resources are available in every new freeform page:

- Cheat sheet
- Examples
- Links to tutorial videos and common commands

Portals are a powerful tool for connecting related datasets together

And it's super easy to get started!

- Create some initial rules for filtering your datasets
- Write about the Project, Research Topic, or Field Site that connects them together
- Revise with colleague feedback

Thank You!

@ESS-DIVE

Join ESS-DIVE's Community Mailing List!

http://bit.ly/essdiveMailingList

Contact us at ess-dive-support@lbl.gov