EOSDIS

NASA'S EARTH OBSERVING SYSTEM
DATA AND INFORMATION SYSTEM

End-to-End Solution for Data Customization with NASA's Earthdata Search

2018 AGU Fall Meeting

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The Challenge

- “there is very little consistency of the tools available to perform subsetting, and there is very little consistency with services across the DAACs.”[1]

[1]CMR End-to-End Services Study, 2016

The Challenge

- September of 2016, of over 90 interview subjects, a prevailing issue was that regardless of their experience level, they all had difficulty in finding the right data set and preparing the data to get it in the desired format.

“Perfection is achieved, not when there is nothing left to add, but when there is nothing left to take away.” – ***A. de Saint-Exupery***

THE VISION

The Vision

- User is required to provide a minimum of input for service invocation.
- Optimization for the majority of the user population, not the totality.
- Use the user's jargon, i.e. options not services; files not granules.

*"No one can whistle a symphony. It takes a whole orchestra to play it." – **H.E. Luccock***

THE PIECES

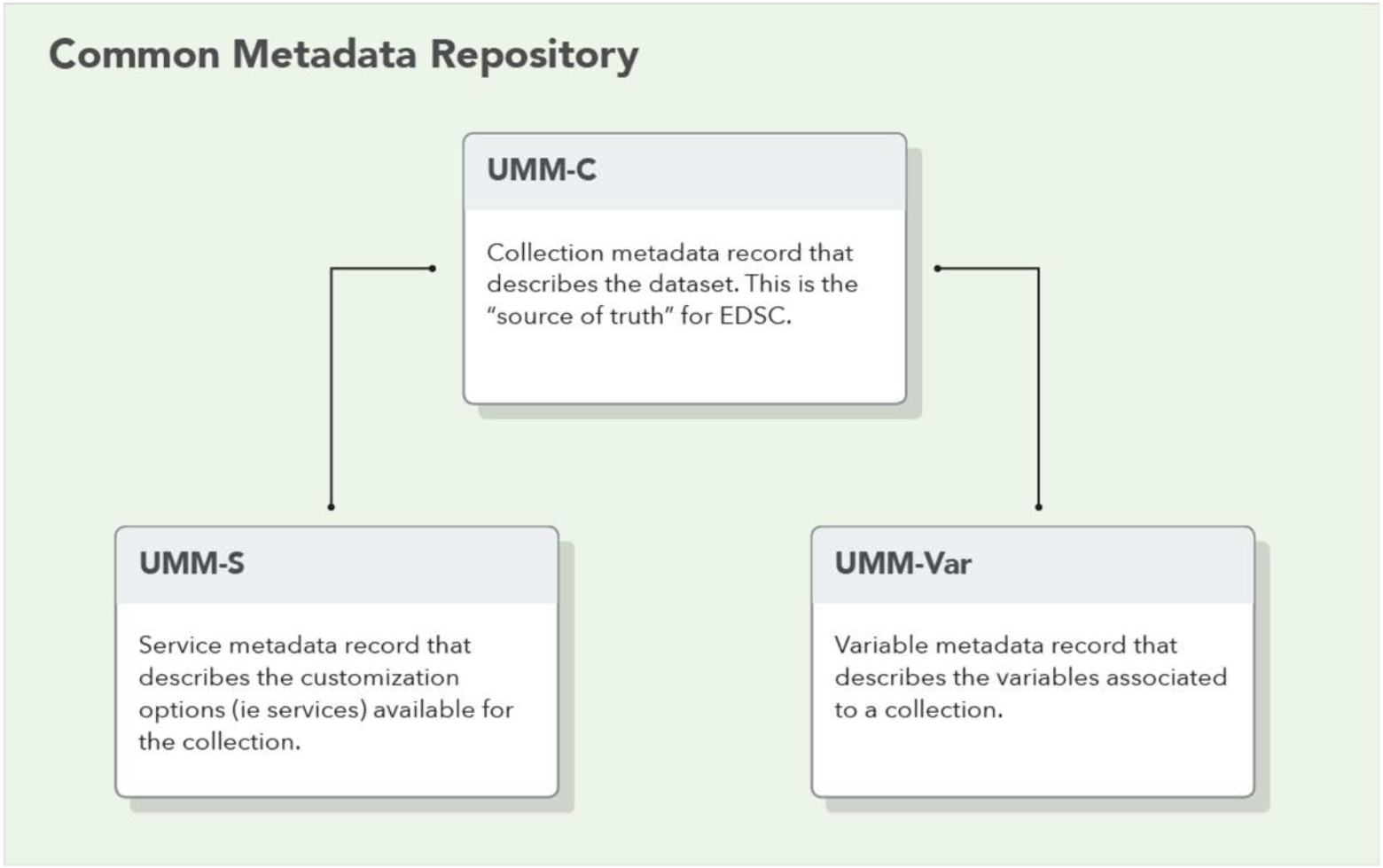
The Pieces

- “If you wait until the last minute to complete the user interface, it only takes a minute.” -Anonymous

The Pieces

- User Experience Driven Design (UXDD)
  - Start with the end in mind
  - Consider users over architecture and current capabilities
  - Favor simplicity above all

The Pieces


Common Metadata Repository
UMM-C
Collection metadata record that describes the dataset. This is the "source of truth" for EDSC.
UMM-S
Service metadata record that describes the customization options (ie services) available for the collection.
UMM-Var
Variable metadata record that describes the variables associated to a collection.

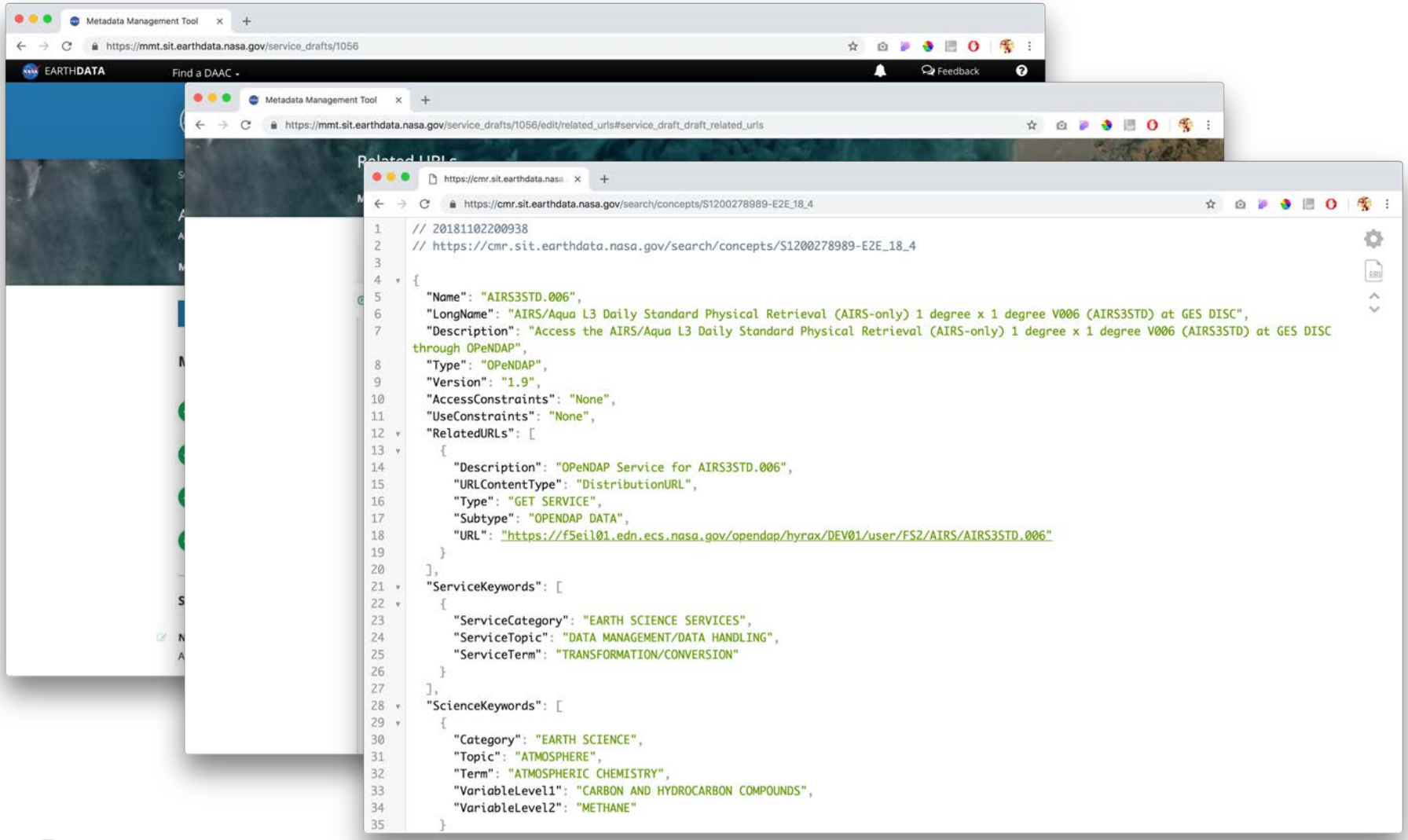
The Pieces

- UMM-Var
  - Answers the question “What measurement and variables are available within this collection?”
  - Can be auto-generated!

The Pieces

- UMM-S
  - Answers the question “What can I do with this collection?”
    - What formats can I output this data to?
    - Can I reproject this data?
    - Does this collection support spatial subsetting?

The Pieces



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The Pieces

- CMR Magic


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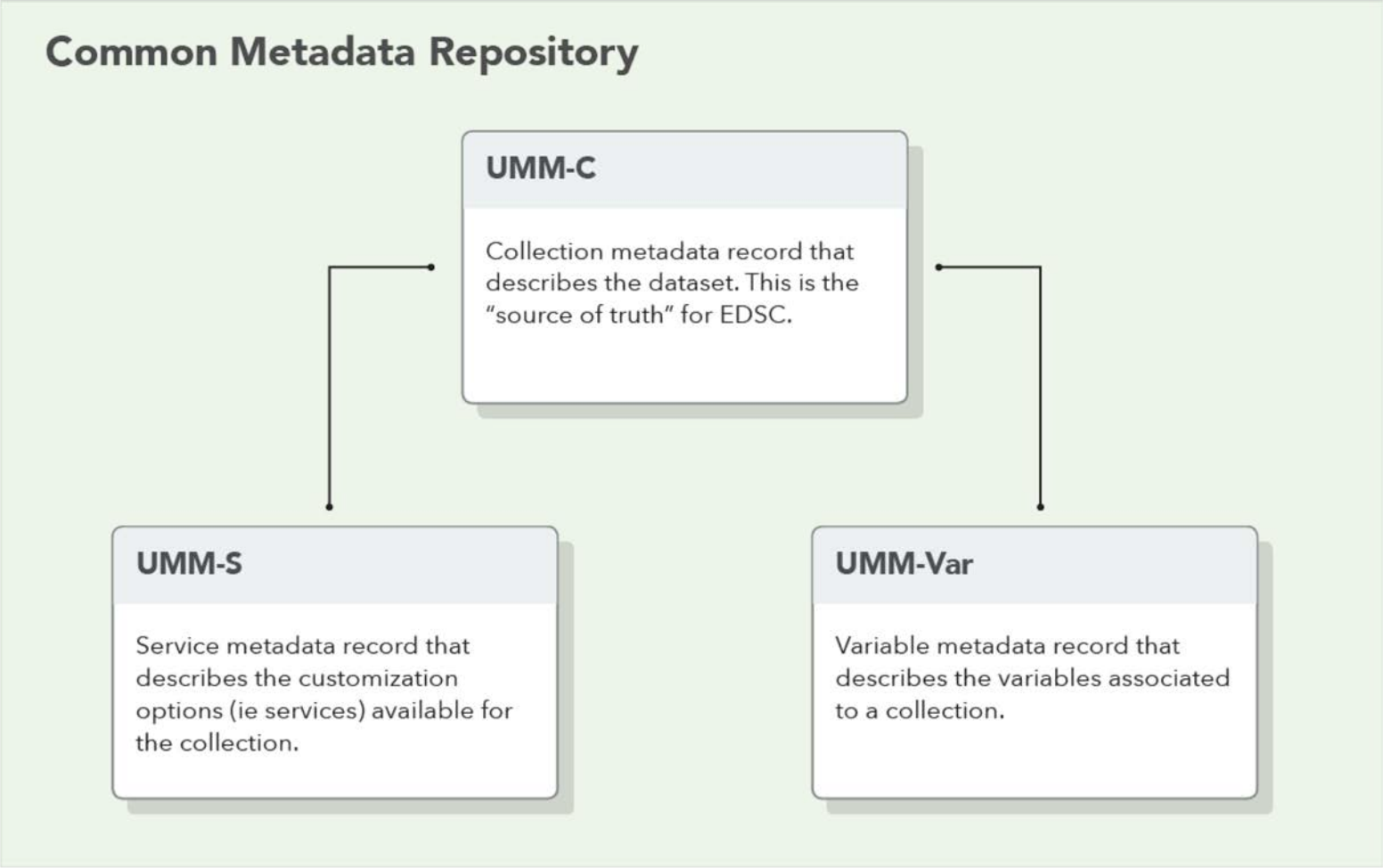
The Pieces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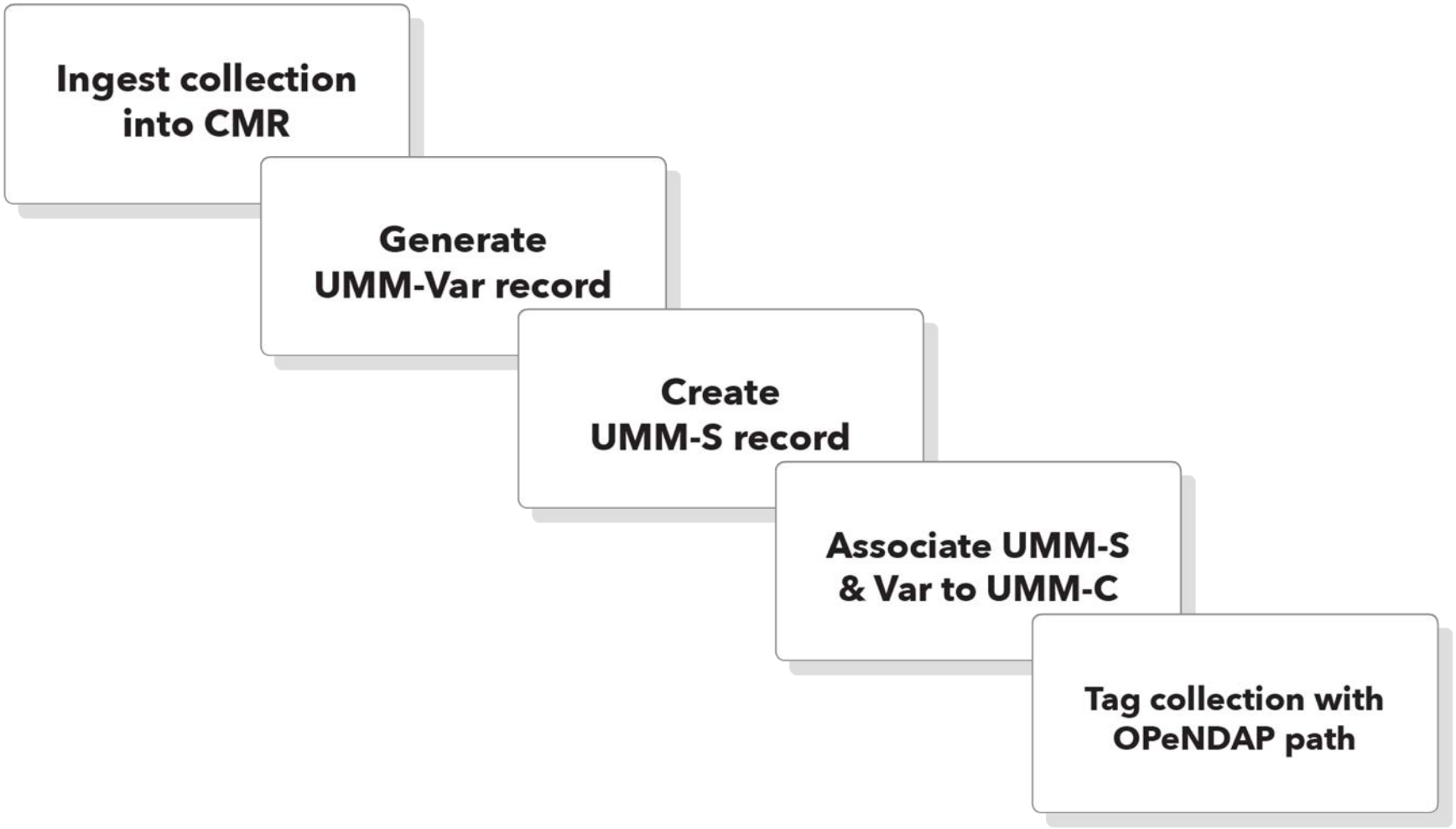
“Data is a precious thing and will last longer than the systems themselves.” – ***Tim Berners-Lee***

THE PROVIDER WORKFLOW

The Provider Workflow



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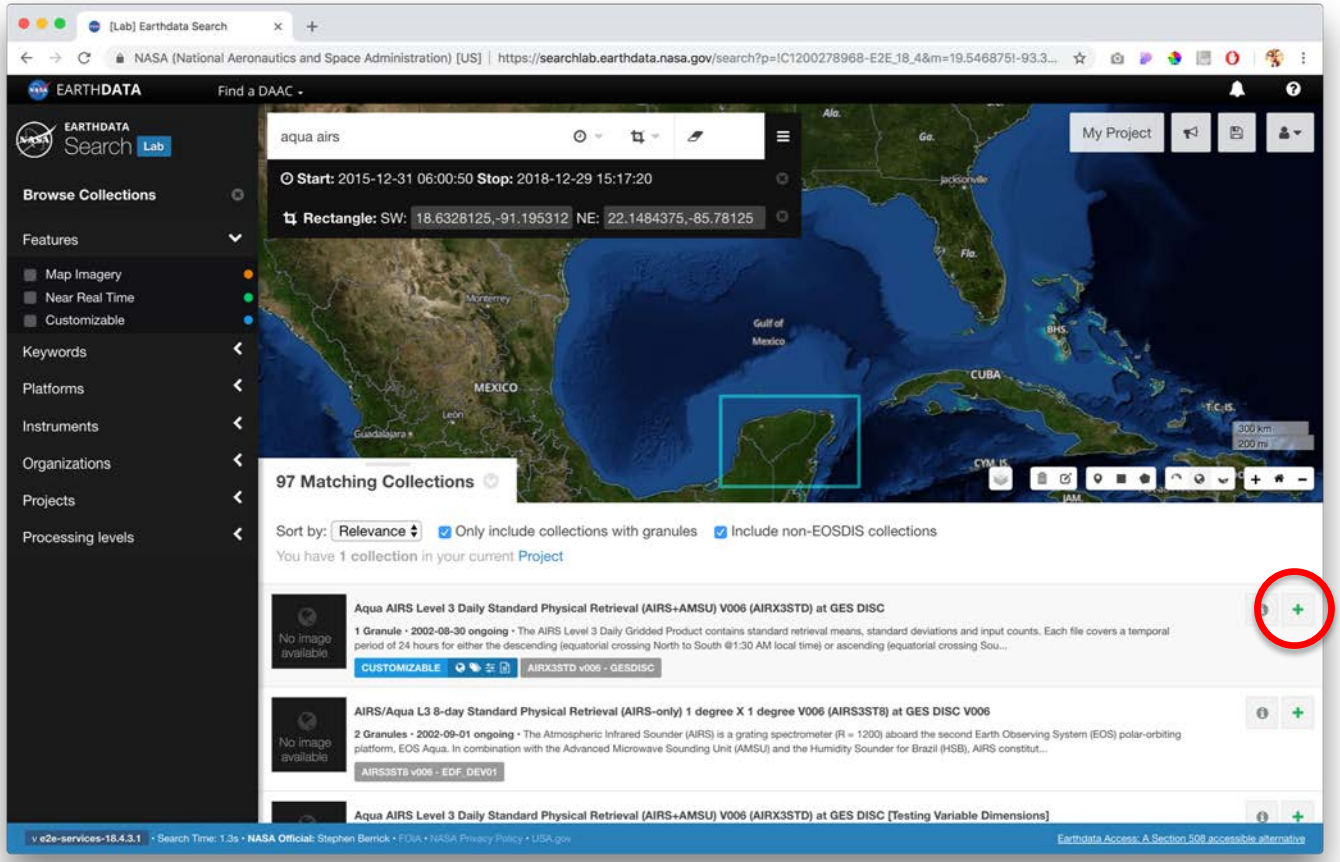
“And I knew exactly what to do. But in a much more real sense, I had no idea what to do.” - ***Michael Scott***

THE USER WORKFLOW

Search and Add to Project



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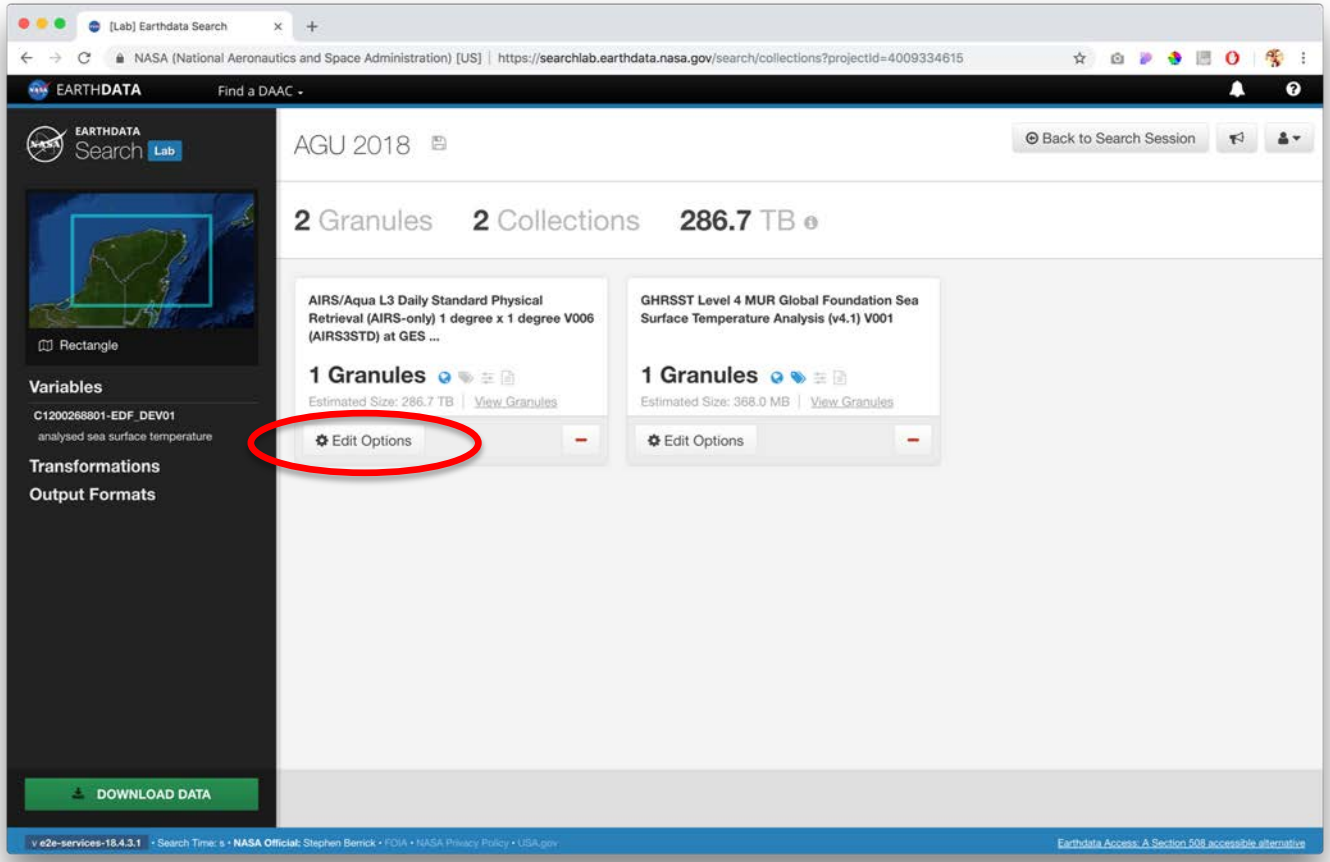
Customize Output



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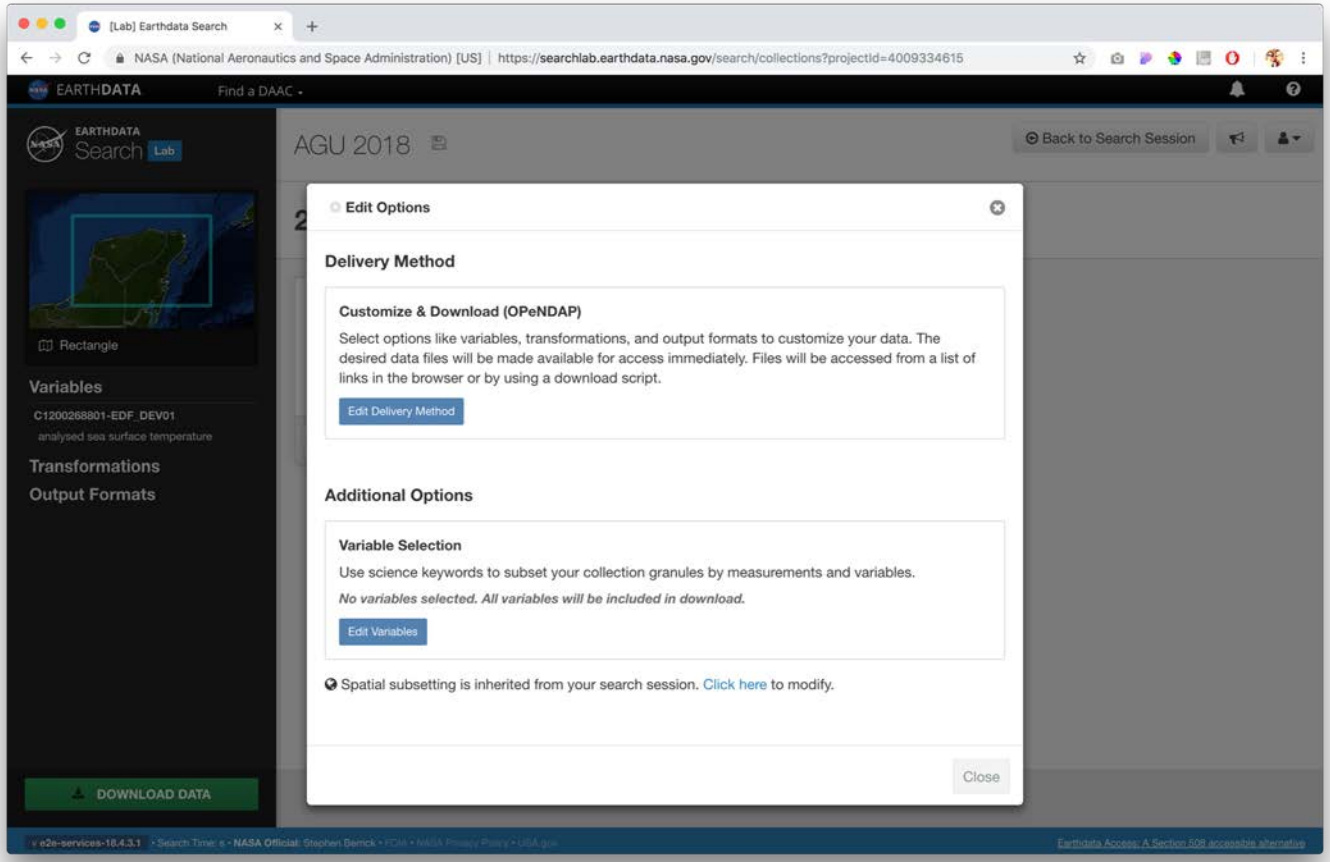

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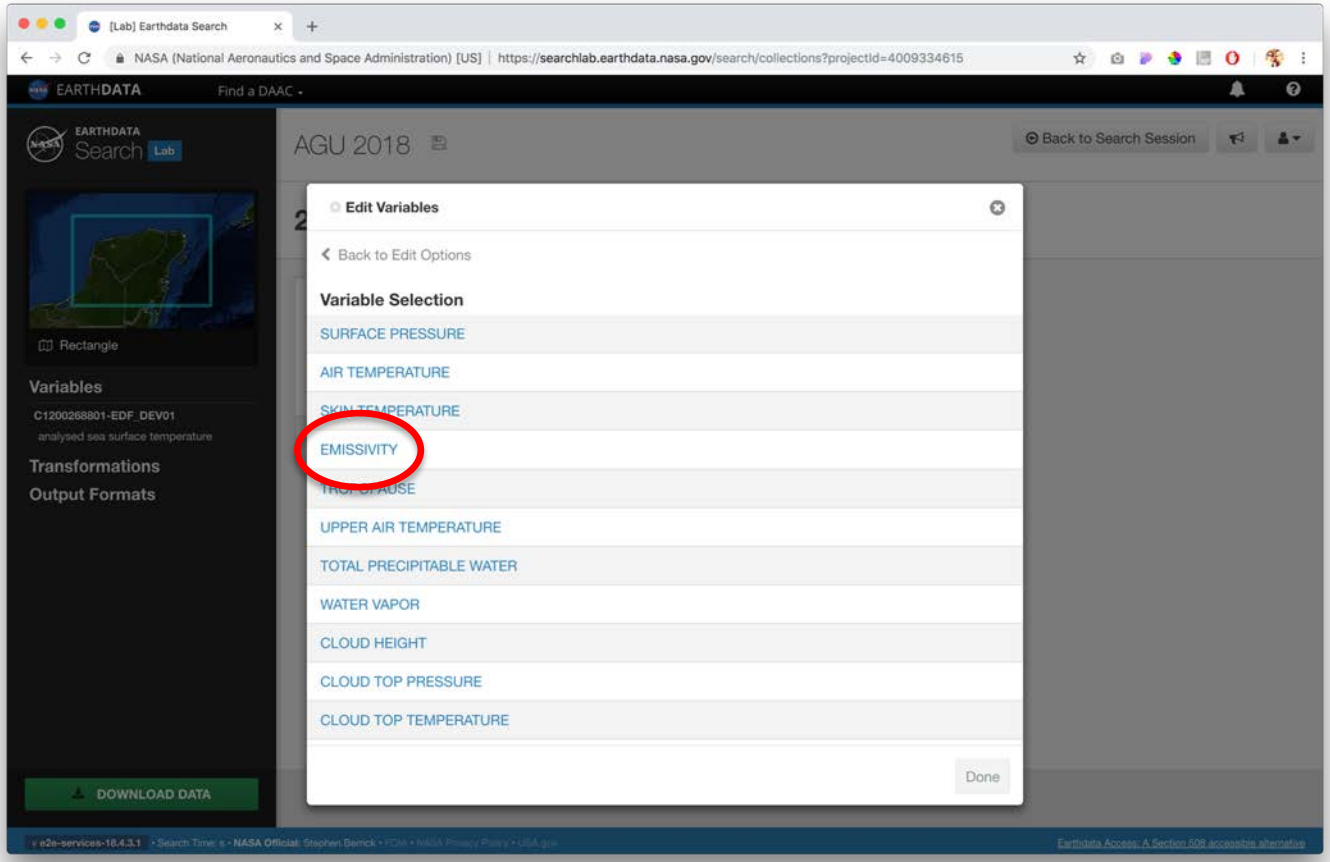

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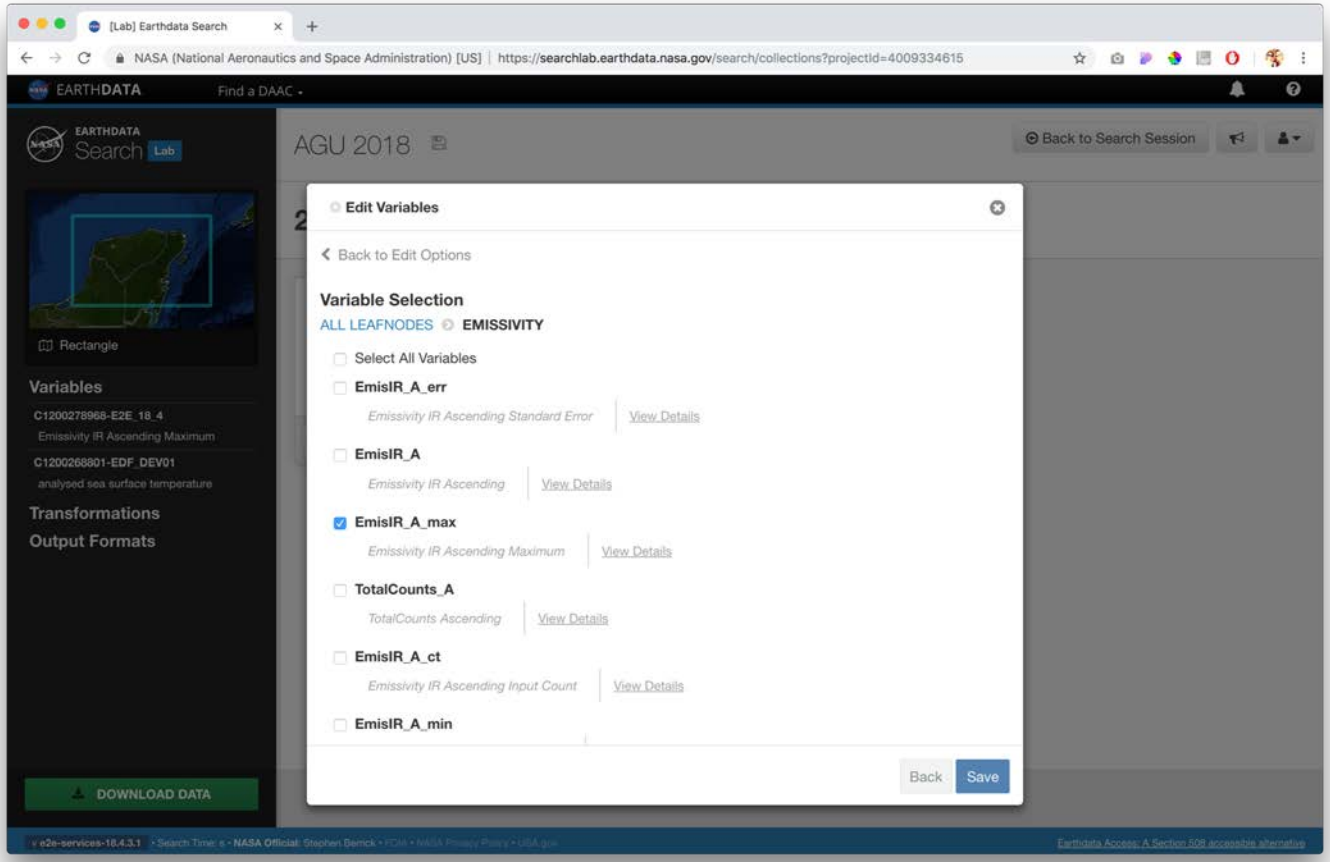

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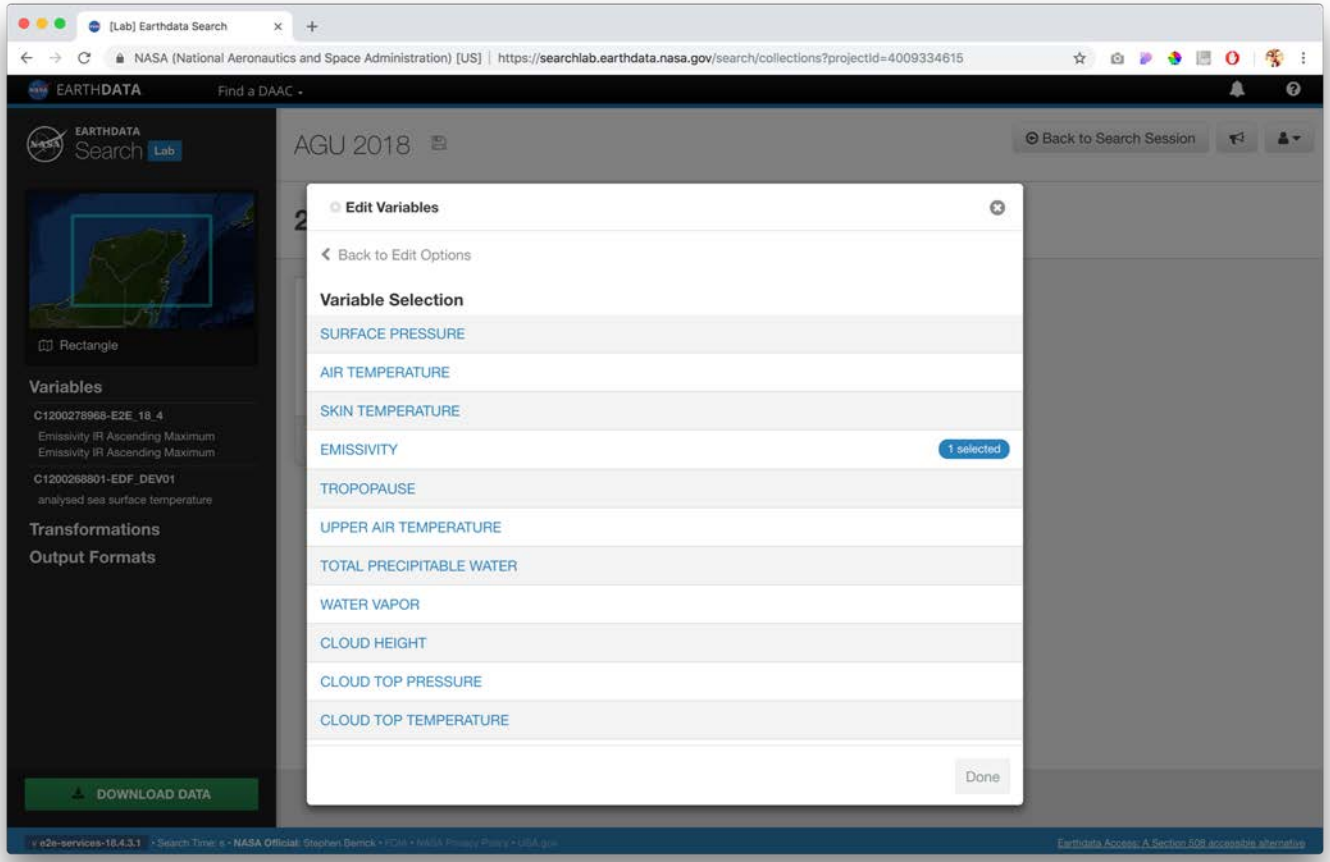
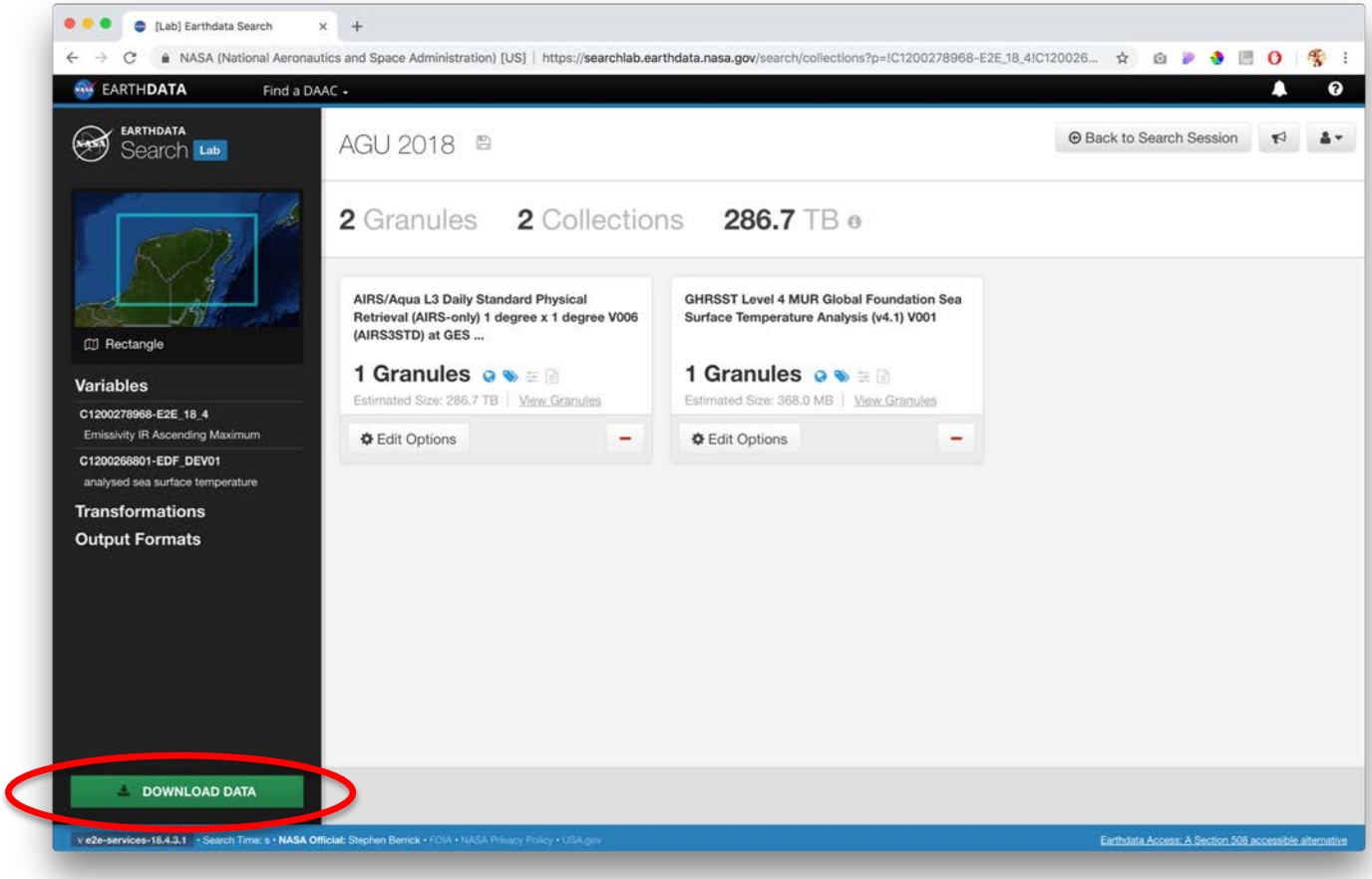
Customize Output



Confirm Output



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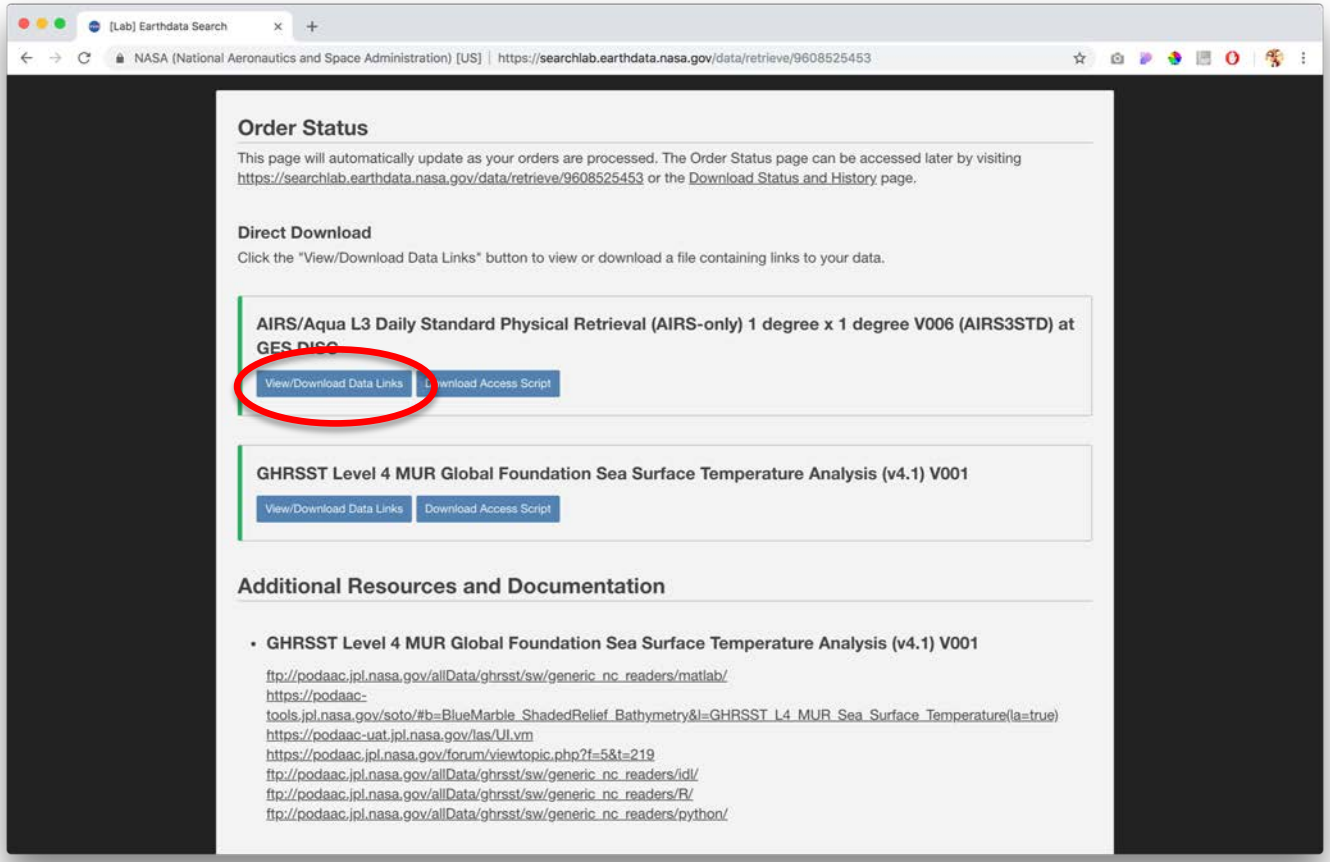
Download Data



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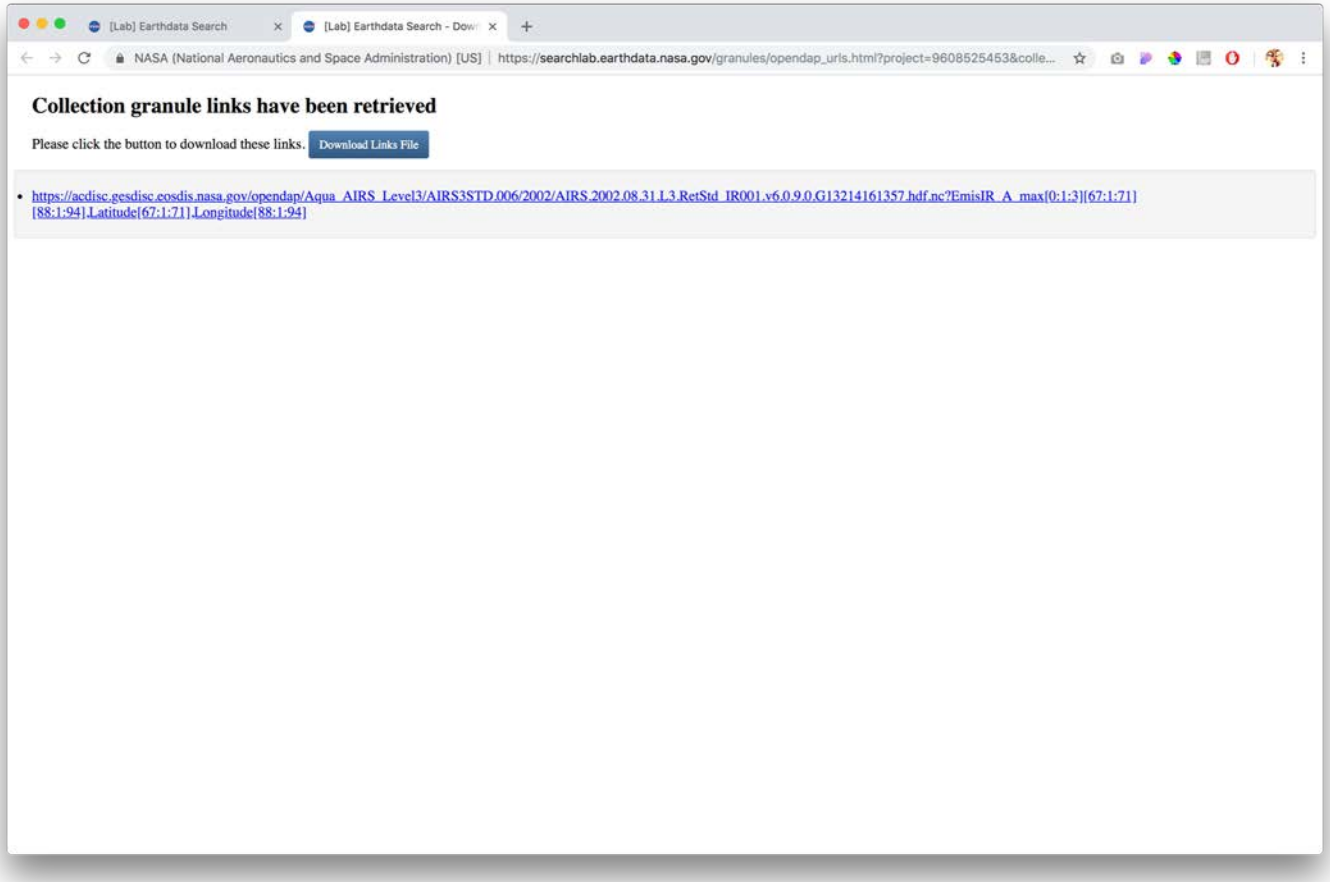

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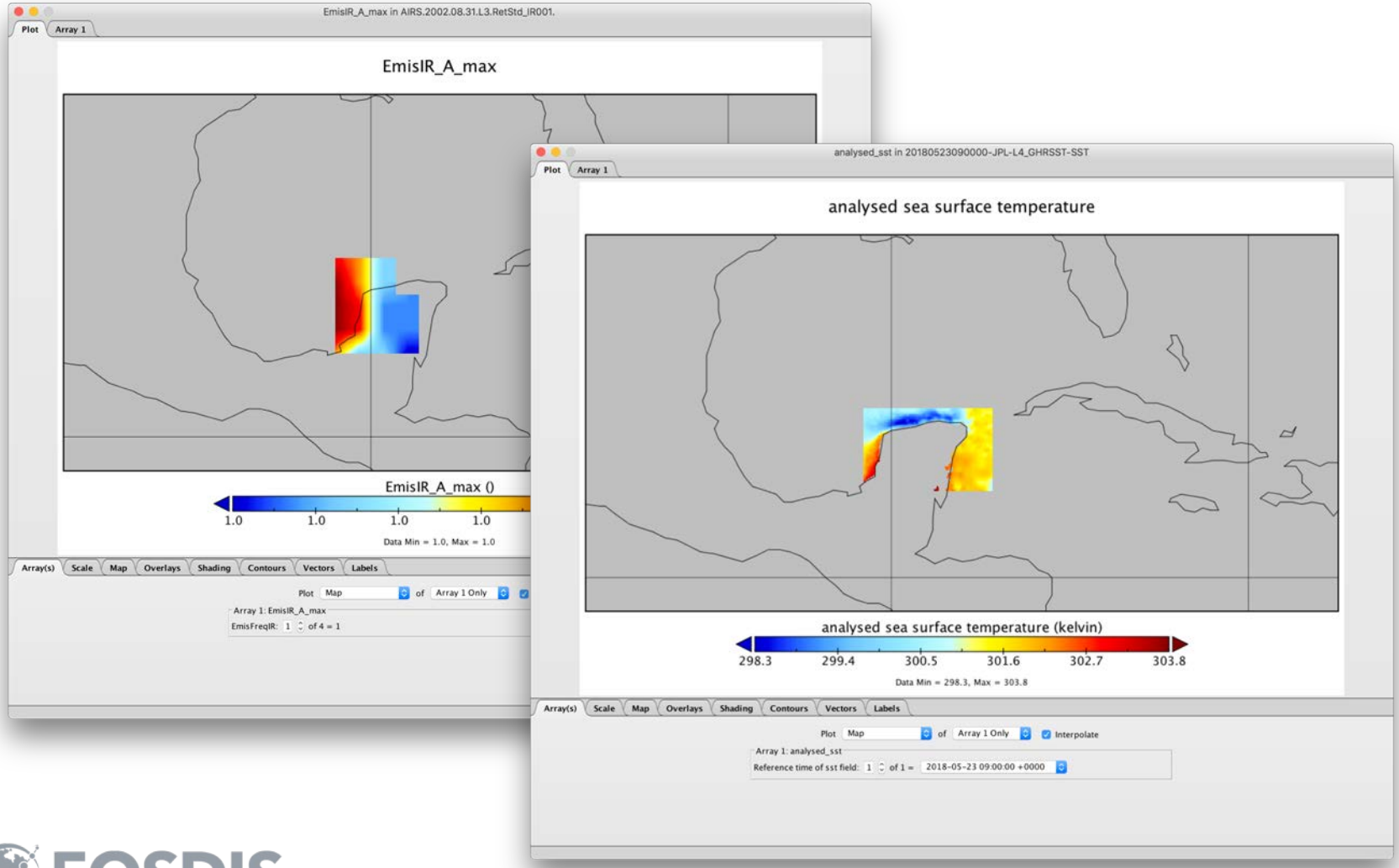
Science!



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