

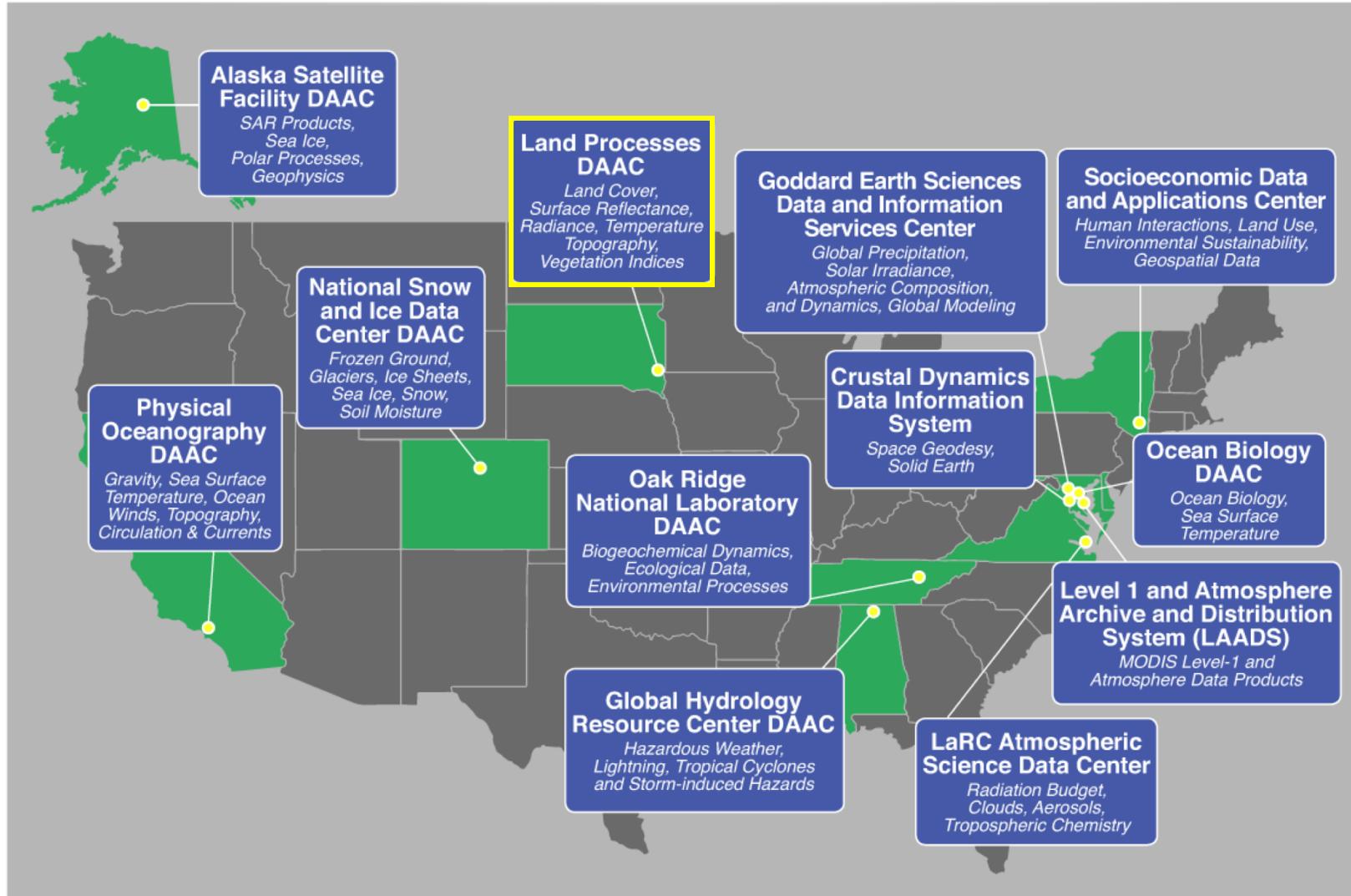


# Services, subsets, and science, oh my!

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\*Work performed under USGS contract G15PD00467

# NASA's 12 Earth Observing System Data and Information System (EOSDIS) DAACs



# Application for Extracting and Exploring Analysis Ready Samples (*AppEEARS*)

## Welcome to *AppEEARS*!

Application for Extracting and Exploring Analysis Ready Samples (*AppEEARS*)

The Application for Extracting and Exploring Analysis Ready Samples (*AppEEARS*) offers a simple and efficient way to access and transform geospatial data from a variety of federal data archives. *AppEEARS* enables users to subset **geospatial datasets** using spatial, temporal, and band/layer parameters. Two types of sample requests are available: **point samples** for geographic coordinates and **area samples** for spatial areas via vector polygons. Sample requests submitted to *AppEEARS* provide users not only with data values, but also associated quality data values. Interactive visualizations with summary statistics are provided for each sample within the application, which allow users to preview and interact with their samples before downloading their data. Get started with a sample request using the Extract option above, or visit the [Help page](#) to learn more.



National Aeronautics and  
Space Administration



United States  
Geological Survey



Land Processes  
Distributed Active Archive Center



National Snow and Ice Data Center  
Distributed Active Archive Center

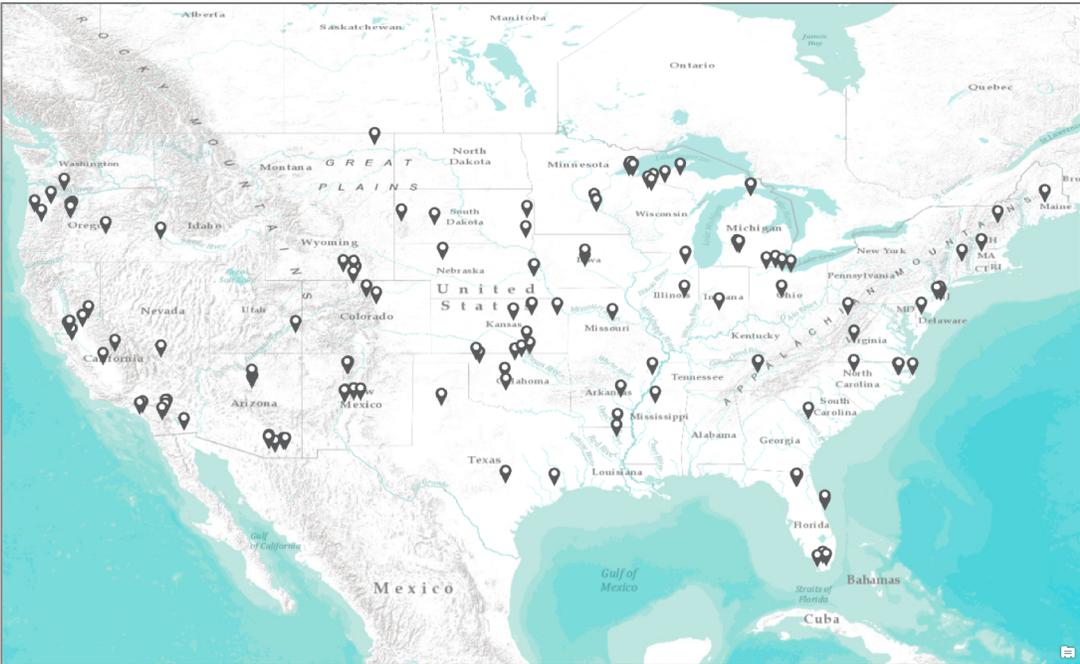


Socioeconomic Data and  
Applications Center

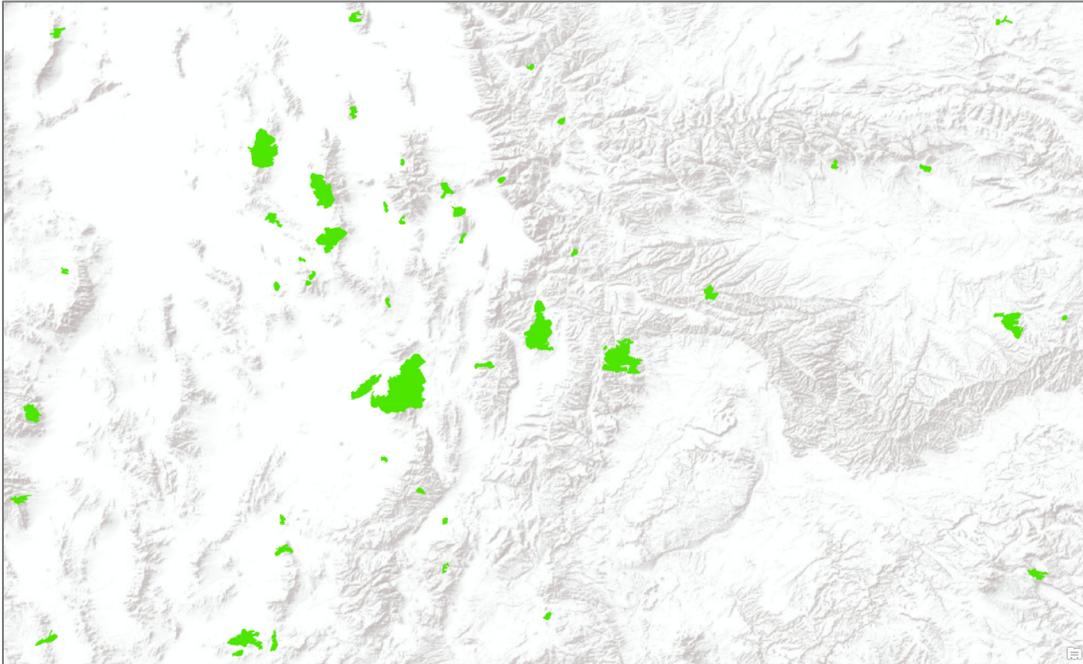


# Two Extraction Types

Point(s)



Area(s)



# Two Interfaces



## Graphical User Interface (GUI)

Enter a name to identify your sample

Upload a file or draw a polygon using the or icon

Drop a vector polygon file containing the area feature(s) to extract or click here to select the file.

Supported file formats:

- ESRI Shapefile (zip including .shp, .dbf, .prj and .shx files)
- GeoJSON (.json or .geojson)

Start Date

End Date

Is Date Recurring?

Select the layers to include in the sample

## Application Programming Interface (API)

```
import json
import requests

# Load the task request from a file
with open('sample-request.json') as json_file:
    task = json.load(json_file)

# submit the task request
token = token_response['token']
response = requests.post(
    'https://lpdaacsvc.cr.usgs.gov/appears/api/task',
    json=task,
    headers={'Authorization': 'Bearer {}'.format(token)})
task_response = response.json()
print(task_response)
```

<https://lpdaacsvc.cr.usgs.gov/appears/api/>



# *App*EEARS GUI



<https://lpdaacsvc.cr.usgs.gov/appeears>



<https://lpdaacsvc.cr.usgs.gov/appeears/help>



<https://lpdaacsvc.cr.usgs.gov/appeears/products>



<https://urs.earthdata.nasa.gov/home>

# *App*EEARS API



<https://lpdaacsvc.cr.usgs.gov/appeears/help>



<https://lpdaacsvc.cr.usgs.gov/appeears/api/>

# Future Plans

- Integrating new datasets

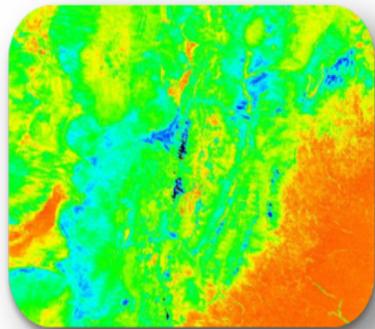
# Geospatial Services



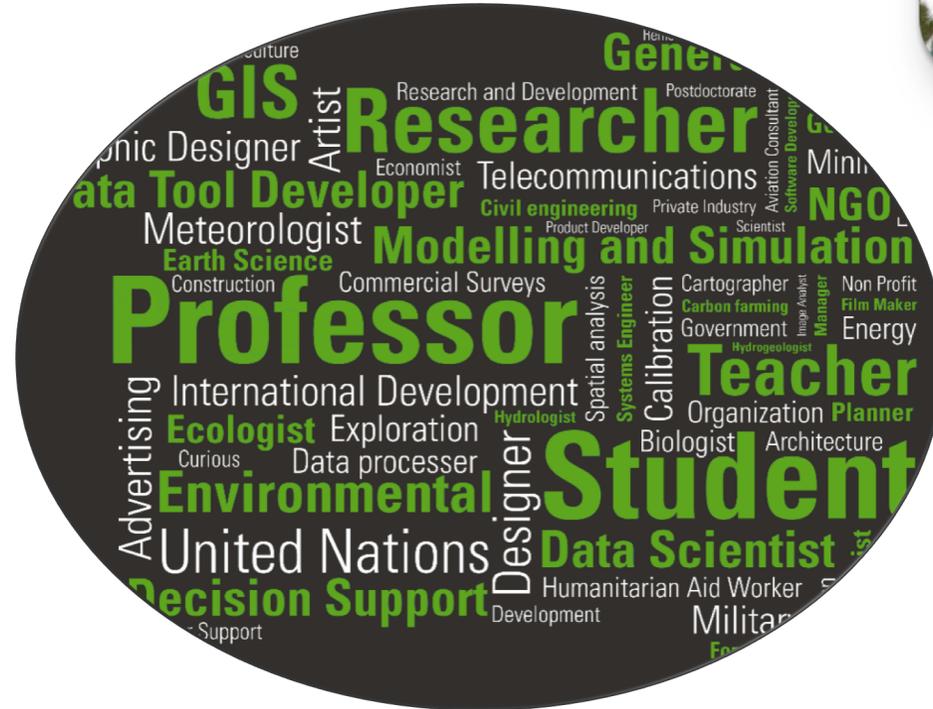
# Why Geospatial Web Services



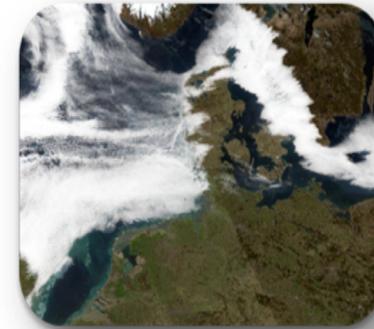
Terra & Aqua MODIS



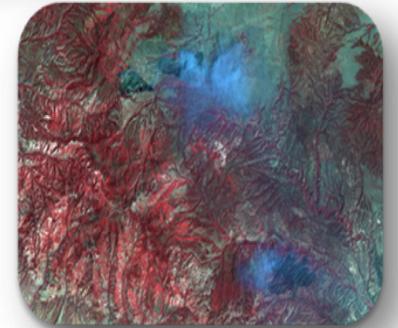
Community Products



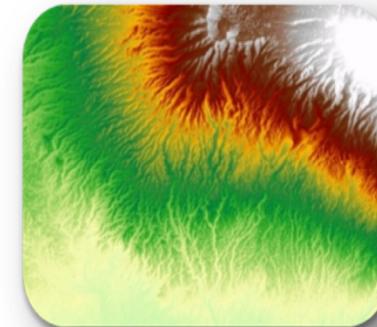
**Make NASA land data more accessible to a broader community of users!**



S-NPP NASA VIIRS

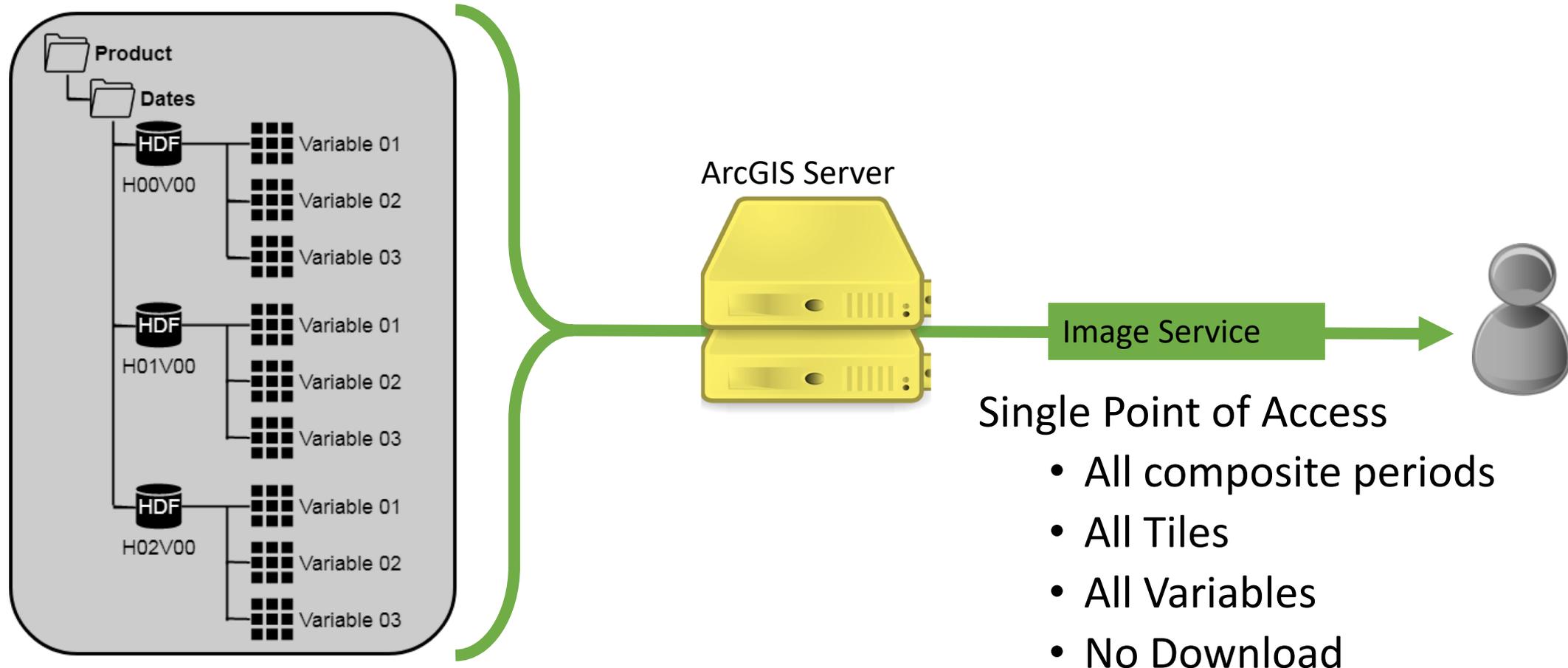


Terra ASTER



MEaSURES

# Bringing data to GIS



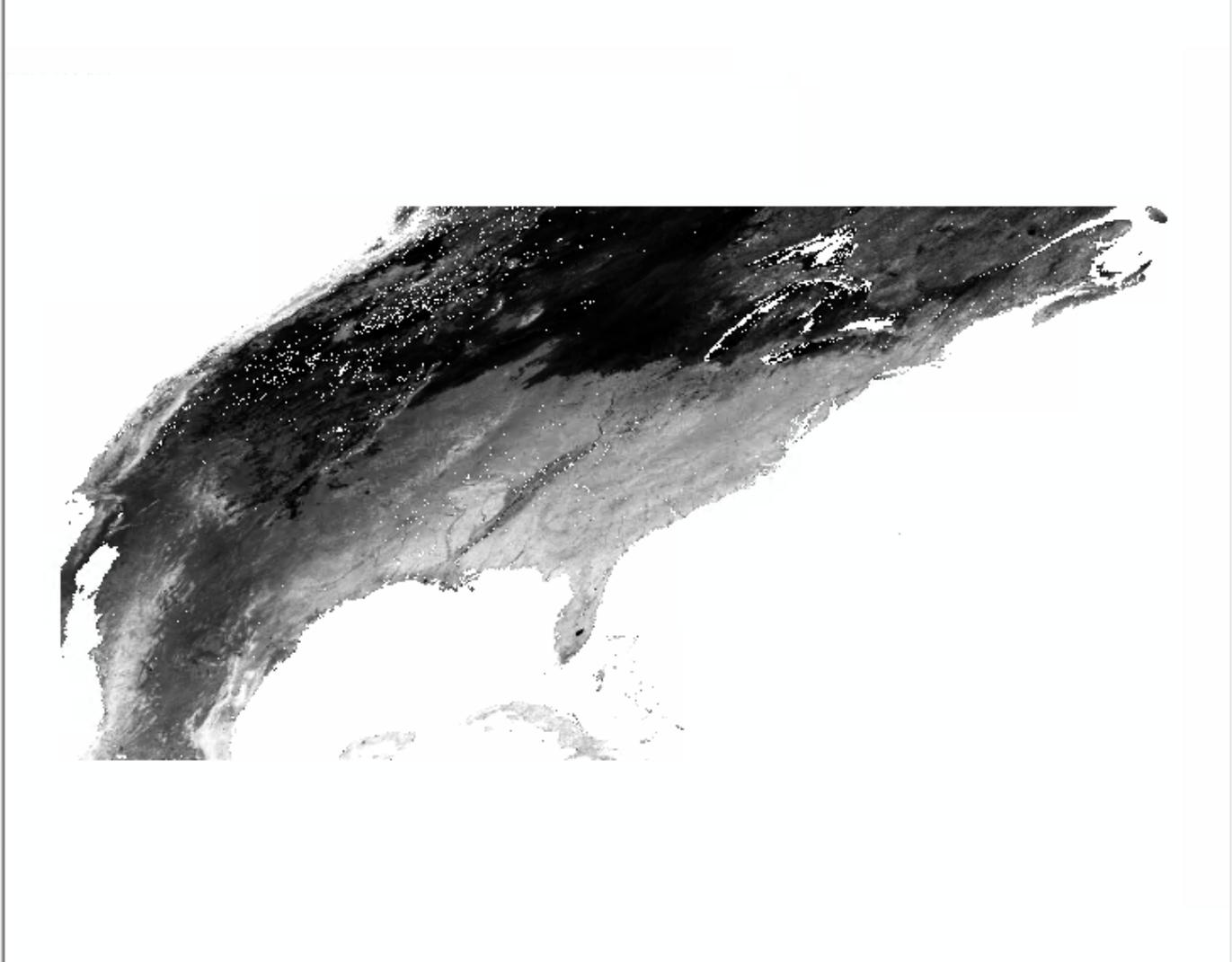
What does this look like in a GIS?

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**Layers**

- MOD13Q1\_006\_TS
  - Value
  - High : 9153
  - Low : -1403

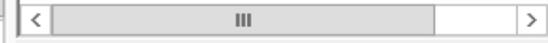


Catalog



Location: MOD13Q1\_006\_TS.ImageServer

- Home - Documents\ArcGIS
- Folder Connections
- Toolboxes
- Database Servers
- Database Connections
- GIS Servers
  - Add ArcGIS Server
  - Add ArcIMS Server
  - Add WCS Server
  - Add WMS Server
  - Add WMTS Server
  - arcgis on igskmncnvs247.gs.doi.net\_6443
  - arcgis on igskmncnvs247\_6443 (user)
    - SRTM
    - Test
    - Utilities
      - MCD12Q1\_051\_TS
      - MCD46A1\_006\_TS
      - MOD13Q1\_006\_TS
      - MOD44B\_006\_TS
      - SampleWorldCities
- My Hosted Services
- Ready-To-Use Services



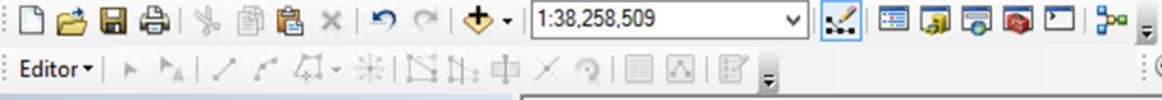


Table Of Contents

Layers

- MOD13Q1\_006\_TS
  - Value
  - High : 9153
  - Low : -1403

### Layer Properties

General Source Key Metadata Extent Display Symbology Processing Templates Mosaic

Selection Fields Definition Query Status Time Multidimension

Filter by variables:

Variable	Dimensions	Descriptions
<input type="checkbox"/> MOD13Q1_006_250m_16_days_blue_reflectance	StdTime	
<input type="checkbox"/> MOD13Q1_006_250m_16_days_composite_day_of_the_year	StdTime	
<input type="checkbox"/> MOD13Q1_006_250m_16_days_EVI	StdTime	
<input type="checkbox"/> MOD13Q1_006_250m_16_days_MIR_reflectance	StdTime	
<input type="checkbox"/> MOD13Q1_006_250m_16_days_NDVI	StdTime	
<input type="checkbox"/> MOD13Q1_006_250m_16_days_NIR_reflectance	StdTime	
<input type="checkbox"/> MOD13Q1_006_250m_16_days_pixel_reliability	StdTime	

Filter by dimensional values:

Dimension	Minimum	Maximum	Range
<input checked="" type="checkbox"/> StdTime	2016-01-01T00:00:00		<input type="checkbox"/>

OK Cancel Apply

Variables

Catalog

Location: MOD13Q1\_006\_TS.ImageServer

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  - arcgis on igskmncnvs247\_6443 (user)
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      - MCD46A1\_006\_TS
      - MOD13Q1\_006\_TS
      - MOD44B\_006\_TS
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  - My Hosted Services
  - Ready-To-Use Services

**Layers**

- MOD13Q1\_006\_TS
  - Value
    - High : 9153
    - Low : -1403

General	Source	Key Metadata
Selection	Fields	

Filter by variables:

Variable
<input type="checkbox"/> MOD13Q1_006_250m_16_days

Filter by dimensional values:

Dimension	Value	Maximum	Range
<input checked="" type="checkbox"/> StdTime	2016-01-01T00:00:00	<input type="checkbox"/>	
	2018-01-01T00:00:00	<input type="checkbox"/>	

2016-12-18T00:00:00  
 2017-01-01T00:00:00  
 2017-01-17T00:00:00  
 2017-02-02T00:00:00  
 2017-02-18T00:00:00  
 2017-03-06T00:00:00  
 2017-03-22T00:00:00  
 2017-04-07T00:00:00  
 2017-04-23T00:00:00  
 2017-05-09T00:00:00  
 2017-05-25T00:00:00  
 2017-06-10T00:00:00  
 2017-06-26T00:00:00  
 2017-07-12T00:00:00  
 2017-07-28T00:00:00  
 2017-08-13T00:00:00  
 2017-08-29T00:00:00  
 2017-09-14T00:00:00  
 2017-09-30T00:00:00  
 2017-10-16T00:00:00  
 2017-11-01T00:00:00  
 2017-11-17T00:00:00  
 2017-12-03T00:00:00  
 2017-12-19T00:00:00

Composite Periods

OK Cancel Apply

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# Future Plans

- Deploy from production servers
- Expand the available products
- Publish OGC services
  - Web coverage service (WCS)
  - Web map service (WMS)

# Questions