EOSDIS
NASA'S EARTH OBSERVING SYSTEM
DATA AND INFORMATION SYSTEM

Global Imagery Browse Services LANCE Status

Fall 2018 LANCE UWG Meeting

Matt Cechini
GIBS Systems Engineer
SSAI Inc.

What is GIBS?

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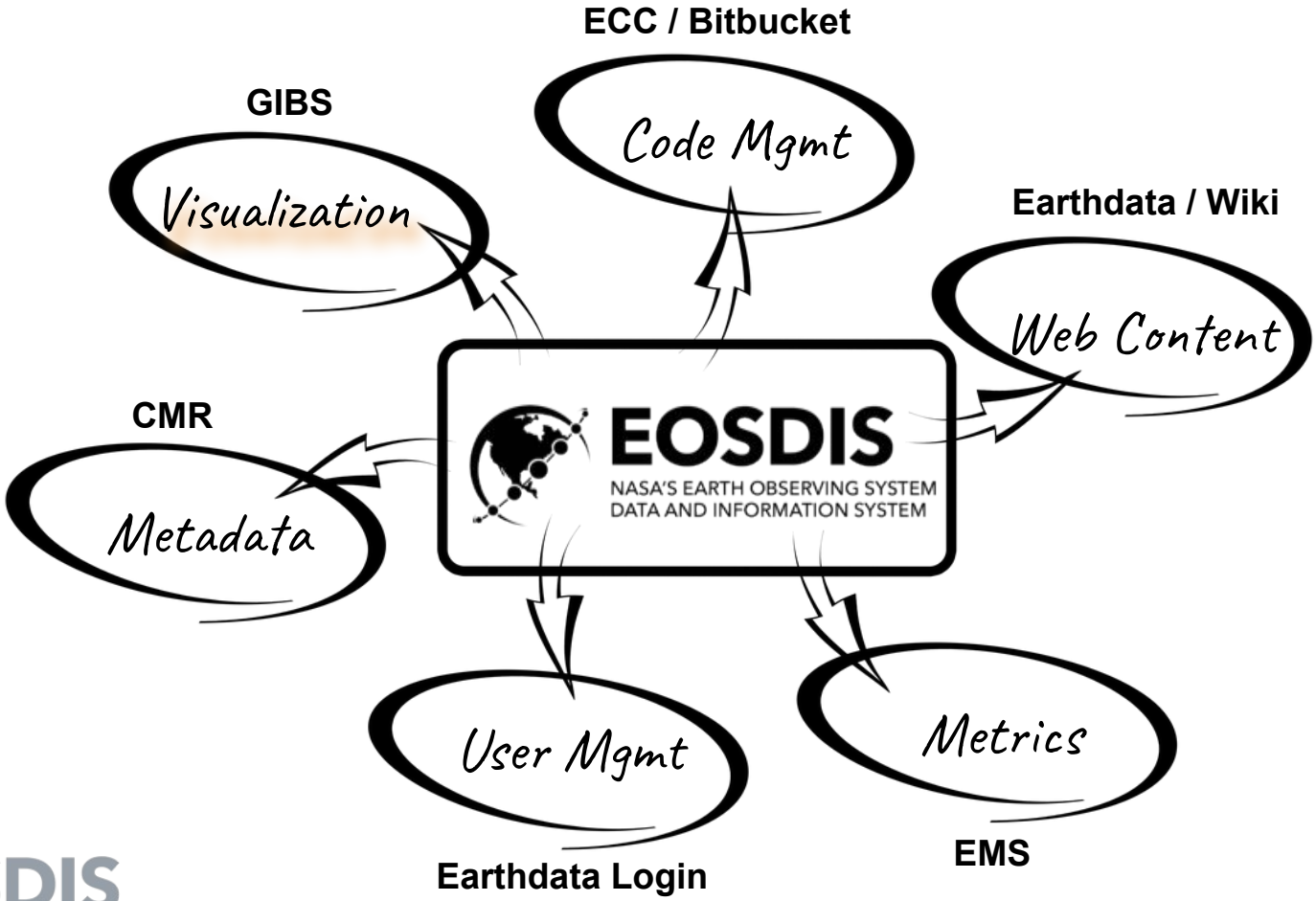
ECC / Bitbucket
Code Mgmt
GIBS
Visualization
Earthdata / Wiki
Web Content
CMR
Metadata
EOSDIS
NASA'S EARTH OBSERVING SYSTEM
DATA AND INFORMATION SYSTEM
User Mgmt
Metrics
Earthdata Login
EMS

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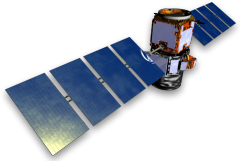
Visualization Flow

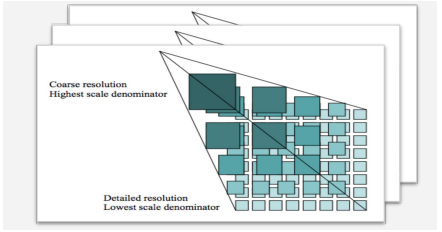


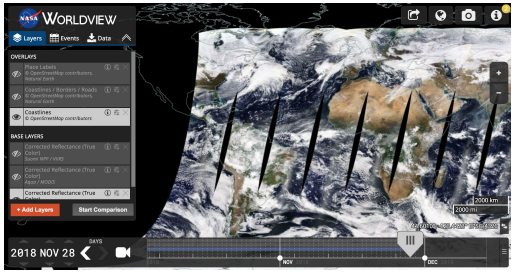
Data

SIPS

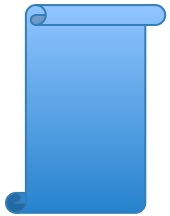
Imagery

GIBS Archive / API

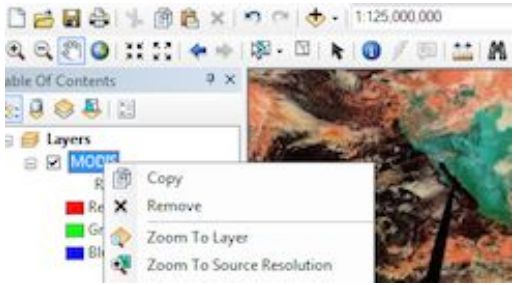




Web / Mobile Clients



GDAL Scripts



GIS Clients

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NRT Visualization Layers

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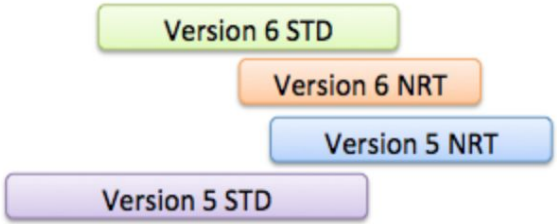
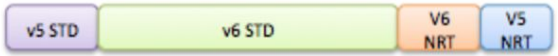
Visualization Layer Categories

Near Real-Time (NRT)
Standard (STD)



⇦ Available in GIBS

"Best Available"



⇦ Available in GIBS & Worldview

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Existing NRT Layers

- AIRS - 28
- AMSR2 - 19
- GMI/IMERG - 8
- ISS/LIS - 2
- MISR - 18
- MLS - 14
- MODIS - 98
- MOPITT - 1
- OMI/OMPS - 17
- VIIRS - 9

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Known Future NRT Layers Updates/Additions

- AIRS
  - Updated visualization algorithm
- AMSR
  - AMSR2 → AMSRU2
- GMI/IMERG
  - Rain/Snow → Precipitation update
- MODIS
  - MAIAC & Flood Product
- OMI/OMPS
  - Cloud Pressure?
- VIIRS
  - Atmosphere (SSEC)
  - Land/Snow/Ice (MODAPS/LDOPE)

Maintenance Ingest Continuity

- Overview
  - Previously halted all ingest during GIBS maintenance (4-8 hours)
  - Continued ingest for selected NRT/STD products during GIBS maintenance
  - Products selected based on metrics evaluation
- Products
  - AMSR2 - Snow Water Equivalent and Rain
  - AIRS - SO2
  - GMI/IMERG - Rain, Snow, and Brightness Temp
  - MODIS Aqua & Terra - Corrected Reflectance, No-Data, AOD, and Land Surface Temp
  - VIIRS - Corrected Reflectance and Day/Night Band

On-Boarding Process

Request	Disposition internal or external request: ESDIS / GIBS / SIPS / LANCE / DAAC? / Science Team?
Define	Define ICD and Colormaps/Legends GIBS / SIPS / DAAC? / Science Team?
Develop	Develop Image Generation Code SIPS / LANCE
Test	Internal Imagery Testing GIBS / SIPS / LANCE
Review	Review for image quality and correctness DAAC / Science Team

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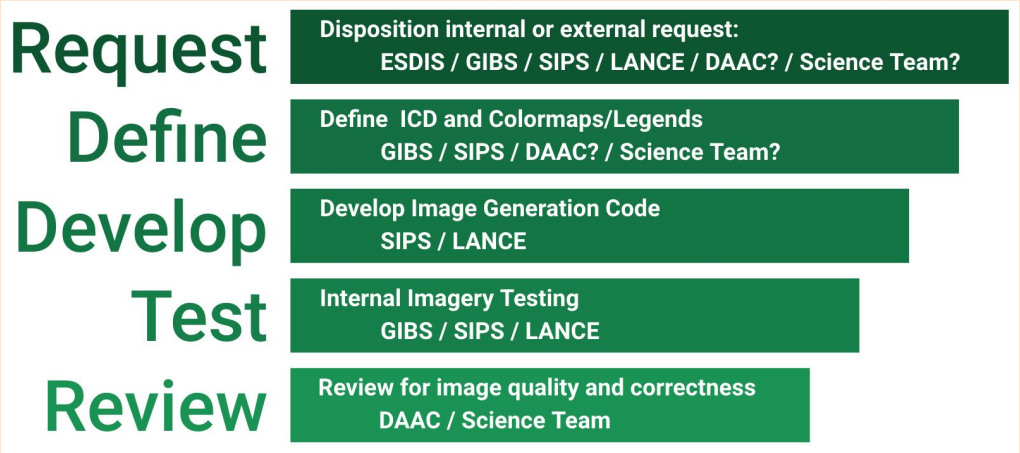
Prioritize : LANCE / DAAC / Science Team



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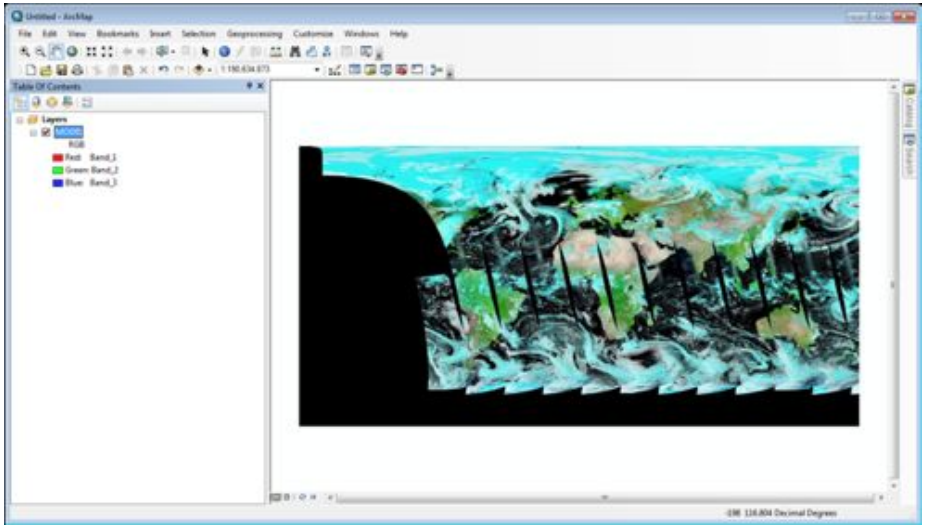
Upcoming Capabilities

Public WMS Access



- Supports broader GIS usage
- Built on top of tile-based API
- All imagery and projections supported
  - Current issue with vectors in EPSG:3857
- GIS client issues with “time” remain
  - Fewer than with WMTS
- Requests serviced by Active-Active HA server pair for availability and performance
- Working with Disasters Portal and SEDAC Hazards and Population Mapper
- Stay tuned for public announcement

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Matured Vector Support

- Official support for delivery of vector data
  - Updates to ICD expected in early 2019 for review
- Existing WMS rasterization unchanged
- Additional WMTS access to “vector tiles”
  - Contain properties to style/filter and describe features
- “Vector Properties” metadata document in draft
  - Describe feature properties contained within vector tile
- Mapbox JSON Style documents define default/custom styling
  - Analogous to existing RGB colormap document
- Active prototyping expected in Q1 2019

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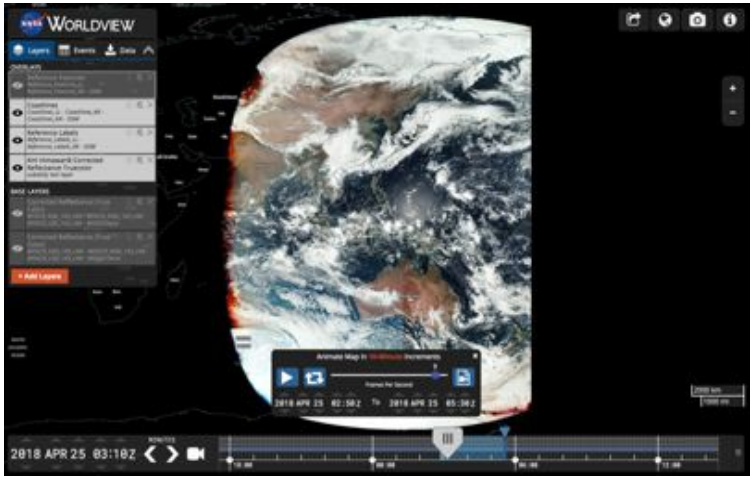
Geostationary Imagery

- Currently supported/unleveraged functionality
- Similar ingest/access processes
  - Possible modifications due to reduced spatial coverage
- Support requires storage impact analysis
- Actively prototyping with GEONEX and SPoRT



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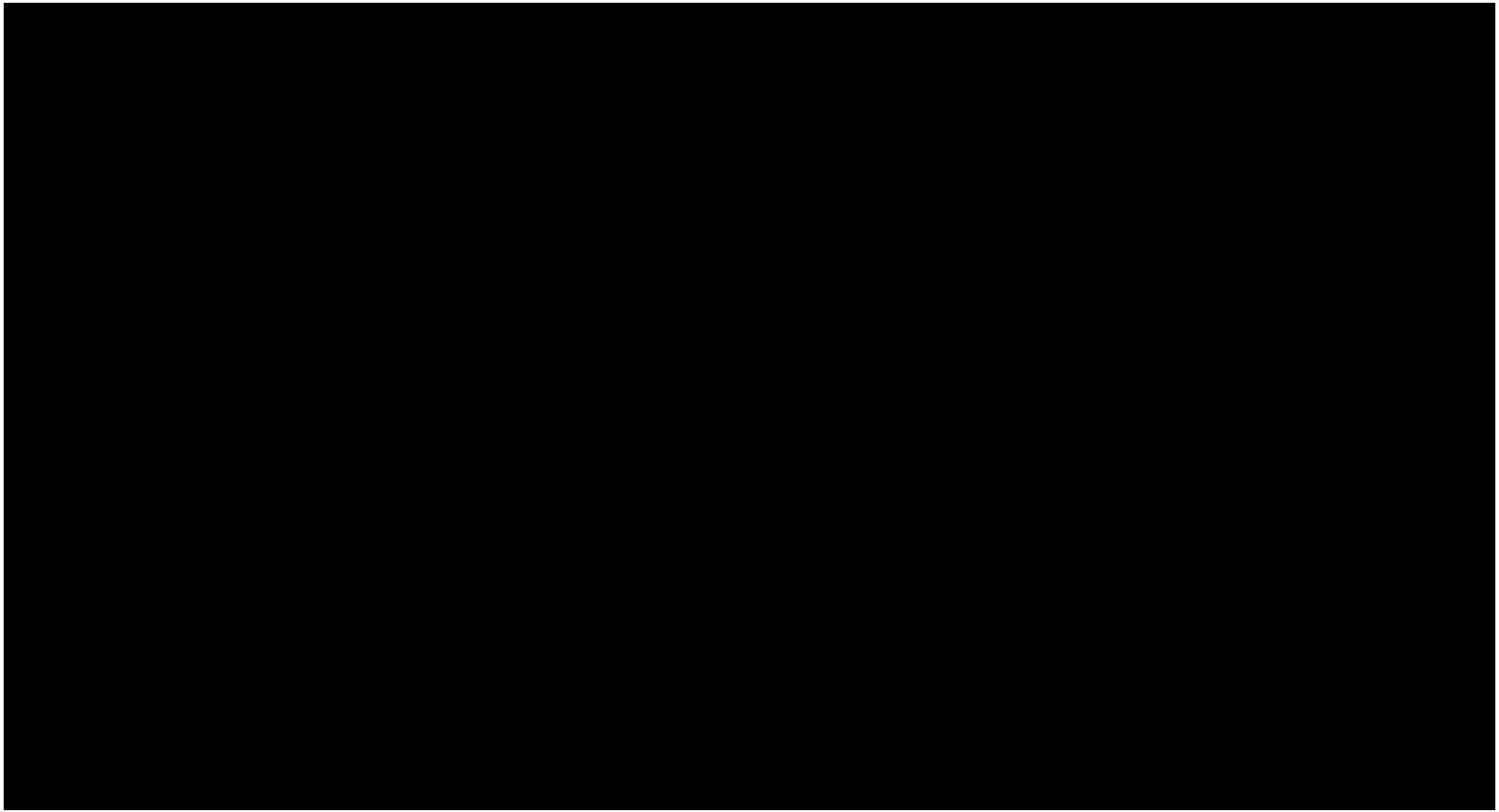
… and now Worldview ...

BACKUP



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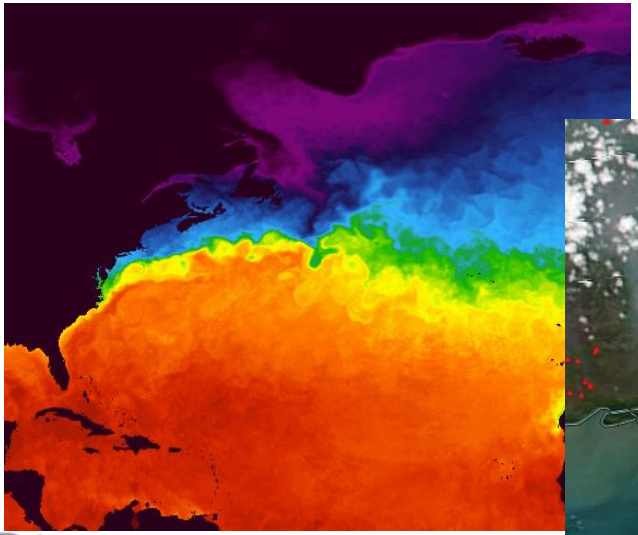
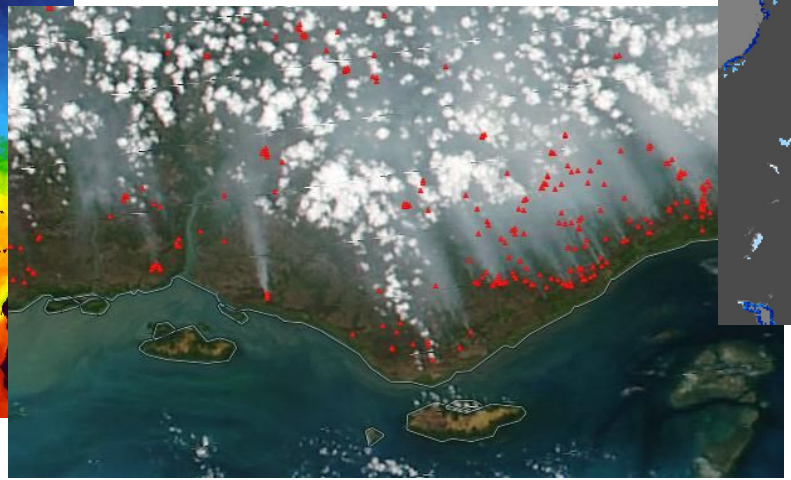
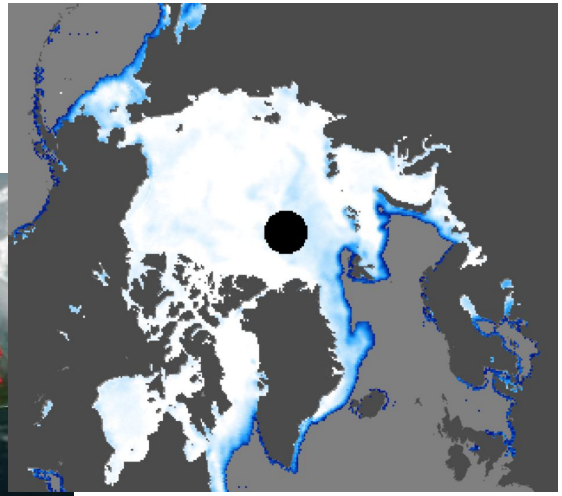
Visualization Catalog

- ~ 850 Unique Visualization Products
  - Product : Visualized Science Parameter / Collection / Granule Filter?
  - 25% NRT / 75% STD







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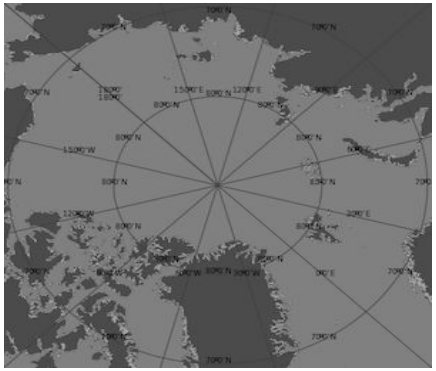
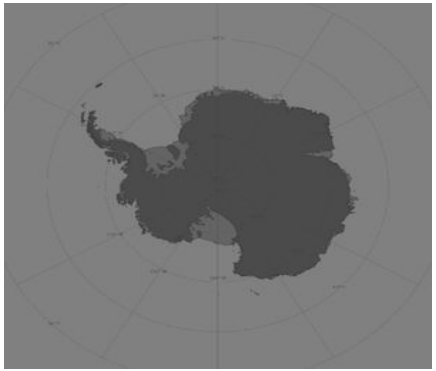
Supported Map Projections

Geographic / lat-lon
(EPSG: 4326)

Web Mercator
(EPSG: 3857)

Arctic Polar Stereographic
(EPSG: 3413)





Antarctic Polar Stereographic
(EPSG: 3031)

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