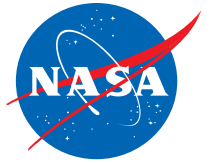


ORNL DAAC SPATIAL DATA ACCESS TOOL

Open Geospatial Consortium (OGC) Services

Bruce E. Wilson

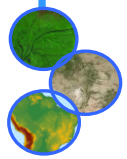
Suresh K. Santhana Vannan

Yaxing Wei

Tammy W. Beaty

Outline:

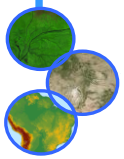
ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access



- Introduction to SDAT
- Introduction to OGC
- OGC services at ORNL DAAC
- Demo
- OGC Service registration in metadata catalogues
- Demo
- Next steps

Introduction to SDAT

ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access



SDAT – Spatial Data Access Tool

ORNL DAAC has been charged with making *spatial data* readily available to users

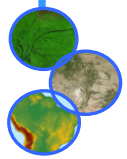
Spatial Data: remote sensing, map layers, and model output

SDAT Features:

- ORNL DAAC Web client to visualize and Download Geospatial data
- Based on Open Geospatial Consortium (OGC) standards
- Reproject, Resample, Subset
- Download data in various file formats
- Can view map in Google Earth
- Detailed granule level Metadata

Introduction to OGC

ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access



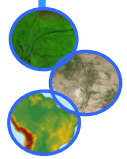
OGC – Open Geospatial Consortium

"The Open Geospatial Consortium, Inc.® (OGC) is a non-profit, international, voluntary consensus standards organization that is leading the development of standards for geospatial and location based services "

http://www.opengeospatial.org/

Why do we need OGC services?

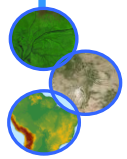
ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access



- Standards
- Interoperability
- Data longevity – long term stable file format
- Greater visibility to data
- One storage file format multiple distribution file format
- Get what you need

OGC services

ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access



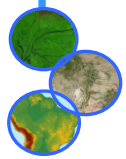
WMS – Web Map Service

WCS – Web Coverage Service

WFS – Web Feature Service

Web Map Service – Web Map Service

ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access



The OpenGIS® Web Map Service Interface Standard (WMS) provides a simple HTTP interface for requesting geo-registered map images from one or more distributed geospatial databases. A WMS request defines the geographic layer(s) and area of interest to be processed. The response to the request is one or more geo-registered map images (returned as JPEG, PNG, etc) that can be displayed in a browser application. The interface also supports the ability to specify whether the returned images should be transparent so that layers from multiple servers can be combined or not.

Web Map Service – Web Map Service

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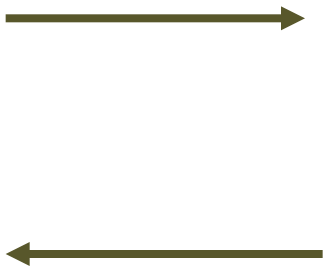
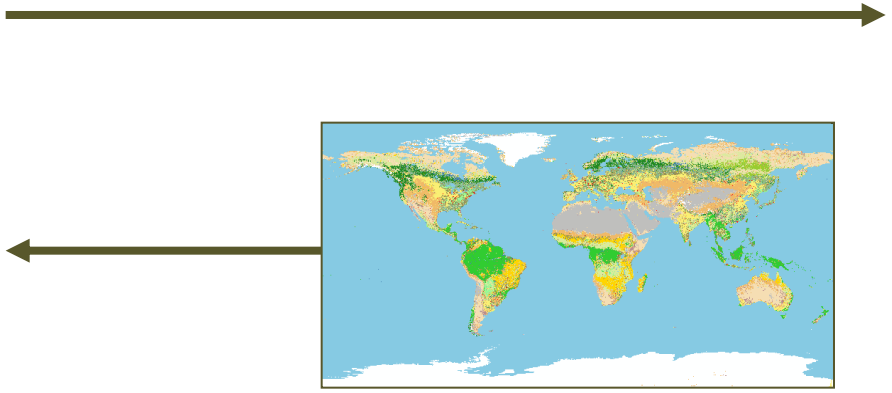
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access



Web Map Service – Web Map Service

ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access

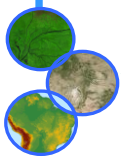


Web Coverage Service – Web Coverage Service

ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access

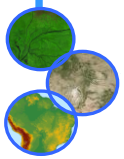
Web Coverage Service – Web Coverage Service

ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access



Web Feature Service – Web Feature Service

ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access



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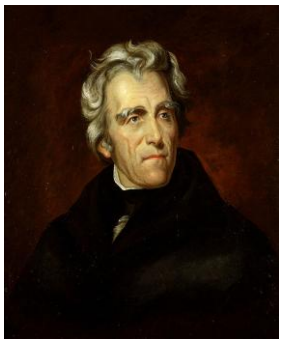
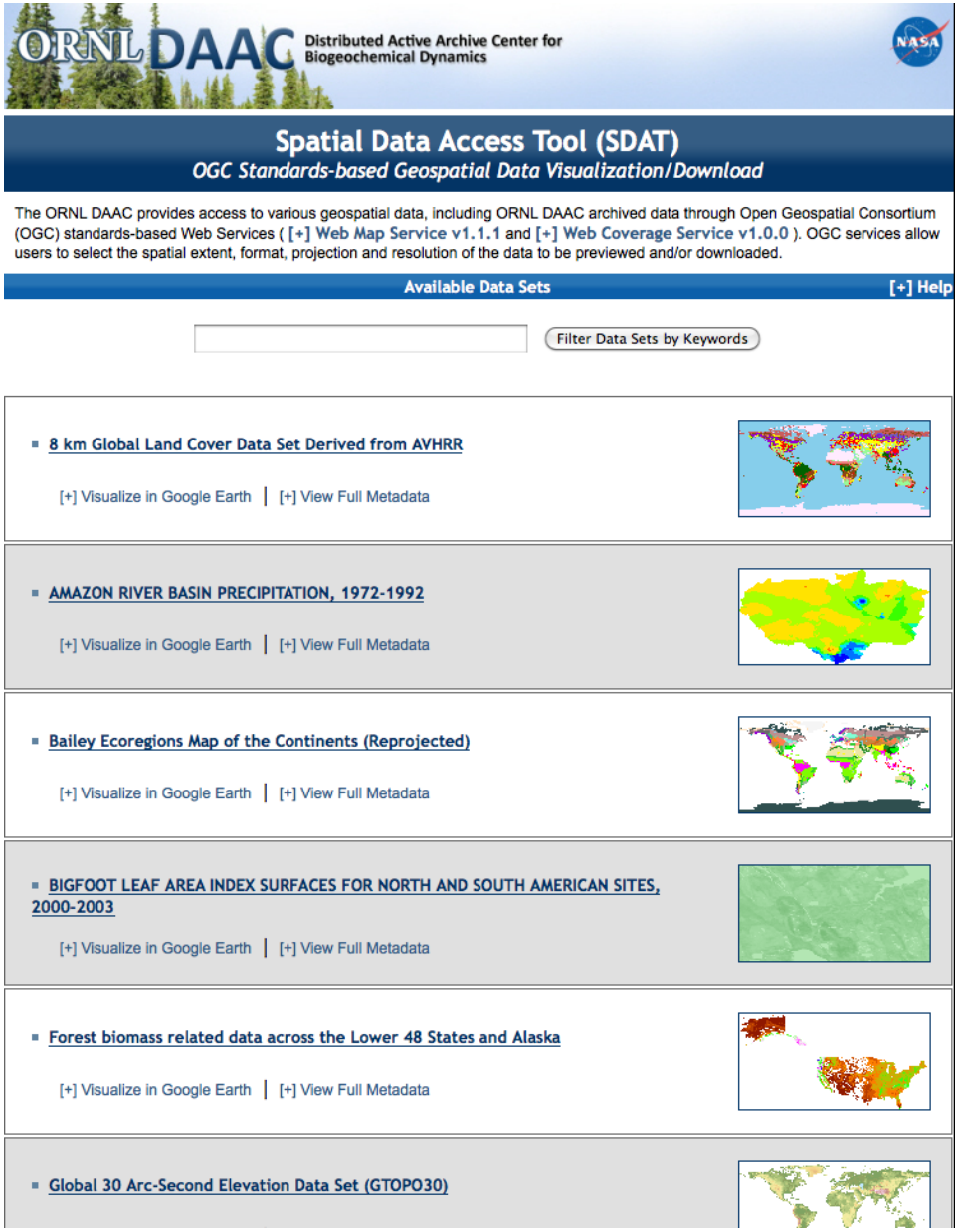
President's Name: Andrew Jackson



ORNL DAAC Spatial Data Access

ORNL DAAC Spatial Data Access



Demo

Demo

WMS - Get Capabilities

WMS - Get Map

WCS - Get Capabilities

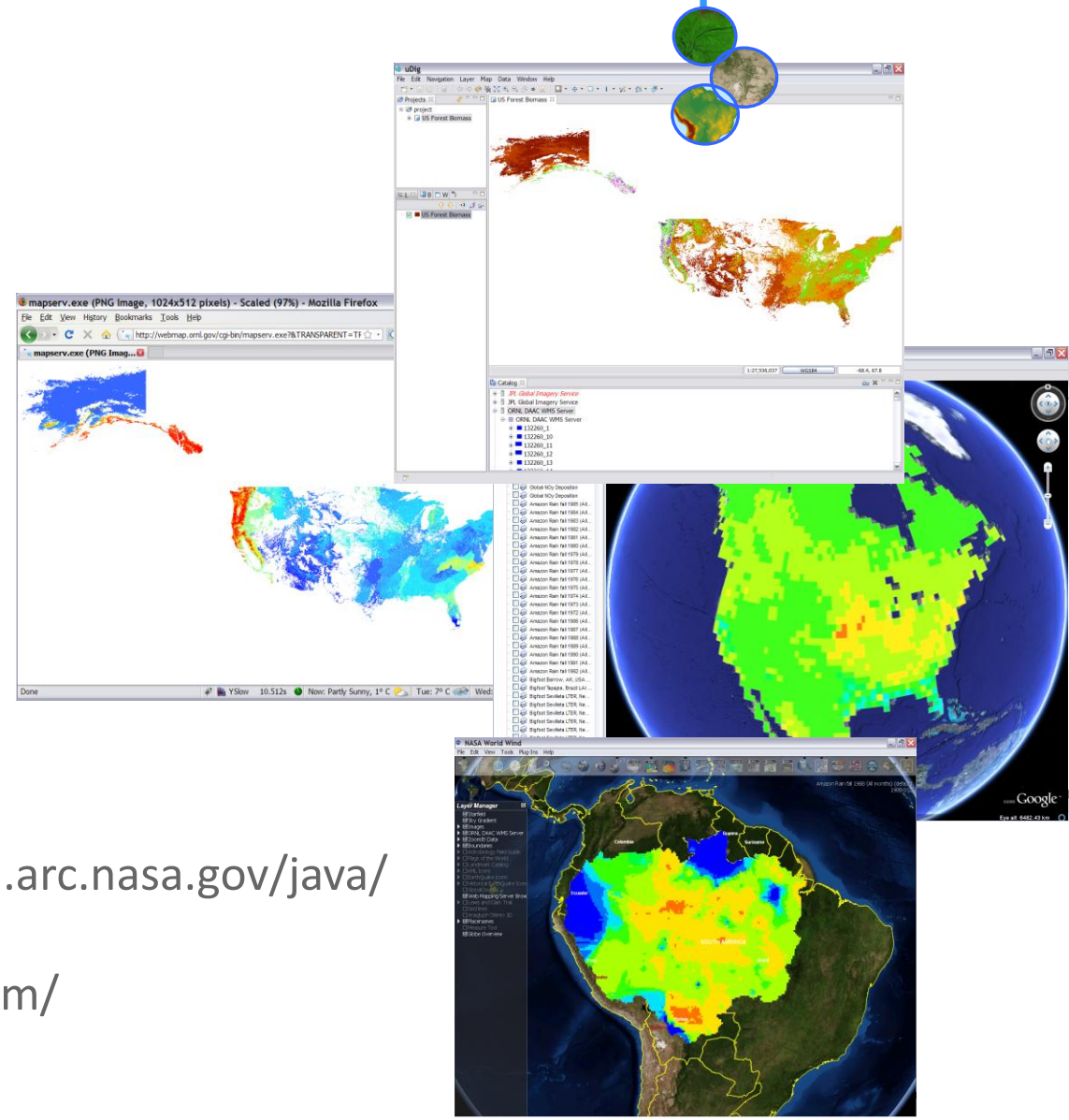
WCS - Get Coverage

OGC services in software packages

uDig - http://udig.refractions.net/

NASA World Wind - http://worldwind.arc.nasa.gov/java/

Google Earth - http://earth.google.com/



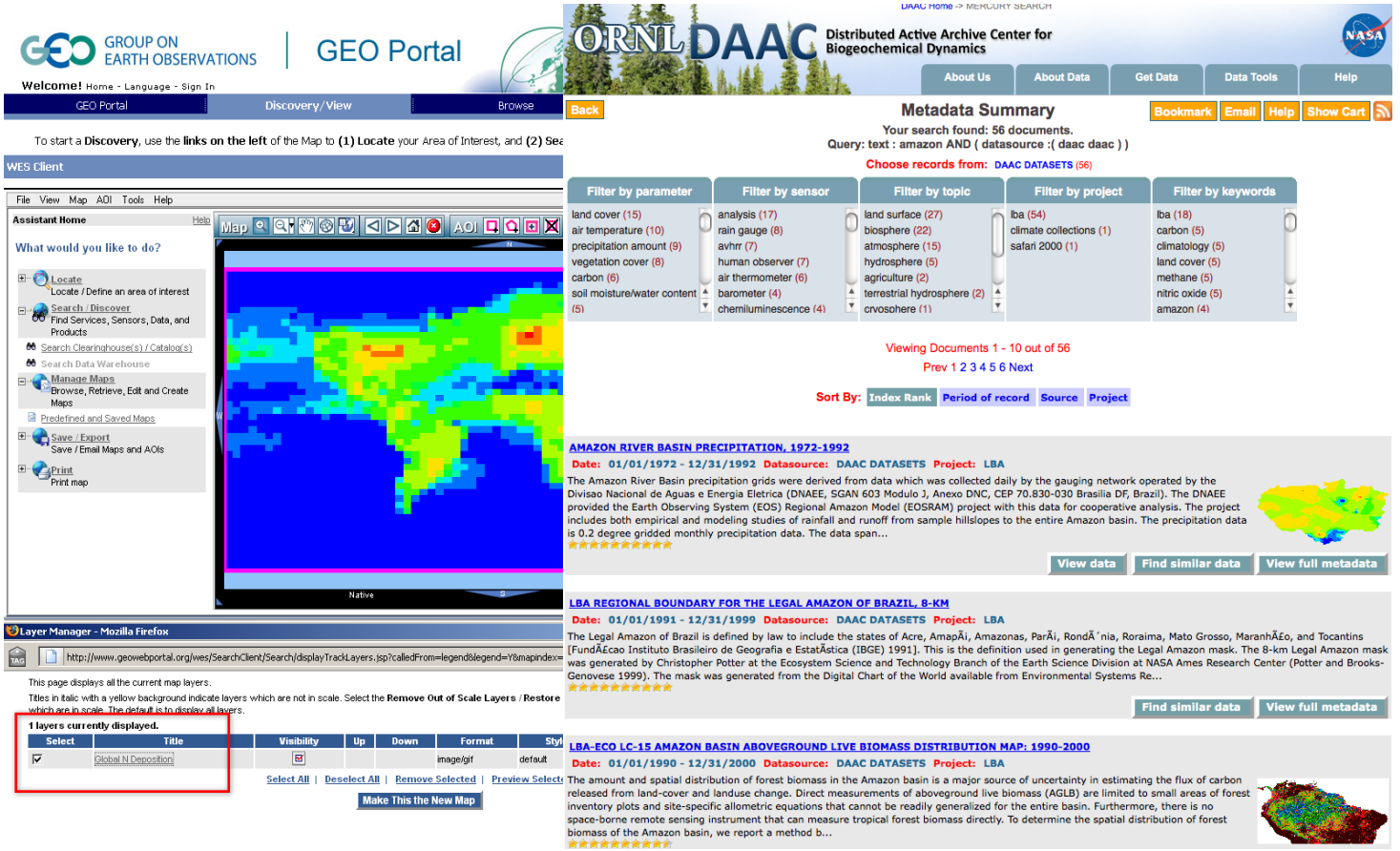
OGC services in catalogs

ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access

ORNL DAAC OGC Services have been registered with:

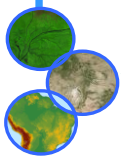
- GCMD
- Mercury
- NBII
- ECHO
- GEOSS

Demo

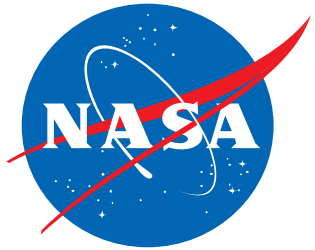


Next Steps

ORNL DAAC
Open GeoSpatial Consortium (OGC) Services
Spatial Data Access



- Add Data … Data … and more Data …..
- Add more projection, file format support
- NetCDF- CF convention support
- Register with Catalogues
- Make OGC services available to search engines
- Build community awareness


NASA