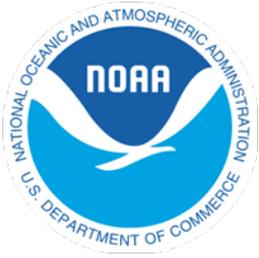




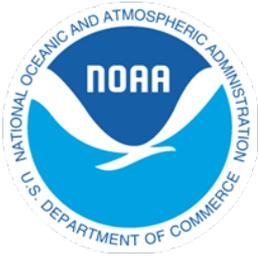
Science On A Sphere System Capabilities SOS Users Conference Call

SOS Version 3.1.x Release Highlights and Feature Overview



Quick Overview

- Picture in Picture Enhancements
- Simple Layering Capability
- MPEG-4 Playback Speed Improvement
- Data Catalog Reorganization
- Play List Format Change
- Audio Control
- Redhat 5 Support
- New Play List Editor
- Nintendo Wii Remote
- New Rotation Options
- New and Updated Scripts
- Experimental WMS Client
- Various Enhancements
- Bug fixes



Picture In Picture

- Full Control
 - Location, Size, Shape, Timing, Transparency
- Integrated With Automation Interface
- Any Number Of PIPs
- Basic Movie Playing Support
 - The PIP Can Be A Movie (MPEG-4)
 - The PIP Can Contain Audio



Picture In Picture

Continued

- New PIP Types
 - pipstyle = projector
 - pipstyle = globe
 - pipstyle = room
- The Pipstyle Controls The Coordinate System Used To Map The PIP To The Sphere
- Piphorizontal, pipvertical, pipcoords Keywords Control Positioning



Picture In Picture

Continued

- Pipstyle = projector
 - Default
 - Behaves similar to previous PIP behavior *except*
 - The PIP is no longer clipped
 - Pip displayed four times around the sphere
 - Pip can move between projectors as piphorizontal changes



Picture In Picture

Continued

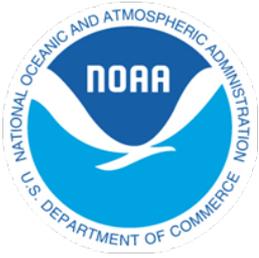
- Pipstyle = globe
 - New Behavior
 - Creates A Single PIP In Global Coordinates (Lat/Lon)
 - PIP Will Rotate And Tilt With The Sphere
 - Useful For Annotating A Geographic Feature
 - “pipcoords = Lat,lon” Is Used To Position The PIP
 - Examples
 - pipcoords = 0.0,0.0 [default value – PIP over Africa)
 - pipcoords = 10.0,-150.0 [PIP in the equatorial Pacific]



Picture In Picture

Continued

- Pipstyle = room
 - New Behavior
 - Creates A Single PIP In Room Coordinates
 - Pip Will Not Rotate And Tilt With The Sphere
 - The PIP Stays At The Same Point In The Room
 - “Pipcoords = 0.0,0.0” Is Half Way Between Projectors 3 And 4
 - Examples
 - pipcoords = 0.0,135.0 [PIP centered in front of projector 1]



Data Reorganization

- Data Organized Around Categories
 - Oceans, Atmosphere, Astronomy, Land, Models, Extras
- Play List Entries Stored With Data
- Use “Include” Option For User Play Lists
 - Include = `/shared/sos/media/ocean/sst/playlist.sos`
- Makes Packaging and Data Management Easier



Simple Layering Capability

- Static Background With Image Sequence Overlay
 - background = fancy_earth.png
 - data = timeseries_of_wildfires.png
- Usually Saves Disk Space
- Sometimes Easier To Create



MPEG4 Playback Speed

- Improved MPEG4 Playback Speed By 2x
- Full Support For 2048x1024 MP4's At 30 FPS
- Improvement Only On MPEG's
- No Increase In JPEG Animation Speed
- Encourage Move To MPEG4
- Create MPEG-4's With convert2mpeg4 Script
- All Animations In Content Library Have MPEG-4's
Now



Play List Editor

- New Application To Graphically Edit Play Lists
- Edit Existing Play Lists
 - Drag and Drop Between Play Lists
 - Reorder Play Lists Via Drag and Drop
- Caveats
 - Play List Editor Always Saves For Each Edit
 - User is given a chance to revert changes at program exit
 - It Always Makes A Backup Copy Of Sosrc (~/sosrc-backups)
 - It Removes All Comments!



Play List Editor

The image displays three overlapping screenshots of the "Science on a Sphere Playlist Editor" application. The top-left screenshot shows the main interface with a "Playlists" tab selected, a search bar, and a list of clips. The top-right screenshot shows the "Clip Library" tab with a search bar and a list of clips. The bottom-center screenshot shows the "Clip Info" dialog box for a clip titled "Topography and Bathymetry with Nighttime Lights (Hot Topo)".

Clip Info for Topography and Bathymetry with Nighttime Lights (Hot Topo)

Clip Name: Topography and Bathymetry with Nighttime Lights (Hot Topo)
Tags (comma separated): land, sea

Sphere Display | Commentary | Picture in Picture

Slide Display

Show picture on secondary display: item_normal.svg

Audio

Play audio file: (None)

Text Captions

Show captions from file: labels

Position and Color:

X-Axis: -0.30 Y-Axis: -0.50

Hue: 14 Red: 170
Saturation: 62 Green: 88
Value: 67 Blue: 64

Opacity: 215

Color name: #AA5840



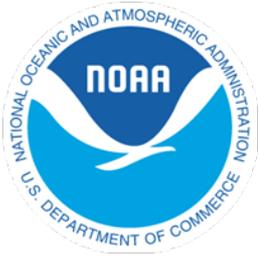
New Rotation Option

- Basic Support For Two Types Of Rotation
 - Standard: Rotation Of Planet Around A Polar Axis
 - Rotation Of Earth Around North/South Pole Axis
 - Rotation Around The Room Axis
 - Planet Rotation Around Axis That Goes From The Ceiling Down Through The Floor
 - Useful Example: Animate Satellite Data Through Time While Rotating Planet Geography Around The Room



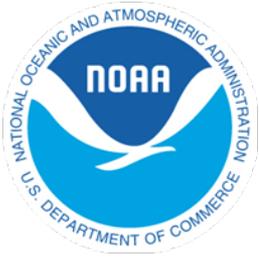
New Or Updated Scripts

- Real Time Data
 - Self Updating For New Data Types
 - lftpNomads.sh
- Create MPEG4 From Image Sequence
 - convert2mpeg4
- Automation Interface Demonstration
 - Load Play List, Navigate Around, Create PIP, Move PIP, Rotate Sphere



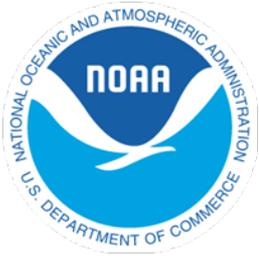
Audio Controls

- Enhanced Audio Support
- Remote Control Access For
 - Volume Control
 - Mute
 - Pause With Resynchronization Of Video
- Audio Can Be Embedded In MPEG4
- Accessible Through ATI Remote, Keyboard, Or Automation Interface



Nintendo Wii Remote

- New Support For Nintendo Wii
- Remote Is More Responsive
- Better Range With Bluetooth
- Fewer Buttons Means
 - Easier To Use
 - Access To Fewer Features
- New implementation
 - There Maybe A Few Usability Issues To Iron Out



Redhat 5.0 Support

- Installed And Tested SOS On Redhat 5
 - Redhat 4 Is Still Supported
- Redhat 5 Is About 20% Faster For SOS Frame Rates
- Encourage Site Systems Administrators To Upgrade
 - Active Redhat Maintenance Agreement Allows RH4 to RH5 Update



Various Enhancements

- More Complete Automation Interface
- Some Menu Improvements
- Beginning Support For New Data Organization
- Support For ATI Remote Wonder Plus
 - Redhat 4 Only
 - Older Remote Wonder II Still Supported, But Unavailable
 - ATI Remote Wonder Plus In Unavailable
 - That's Why We Use The Wii Now



Future Development Ideas

- Alternate Hardware - Projectors And CPU
- SphereCasting
- Additional Layer Capability
- On Sphere Laser Pointer
- Geo-Referenced Sprites
- University of Colorado Enhancements
- More Performance Improvements
- Data Subscription Service
- Web Map Service - Internet Data Access



The End

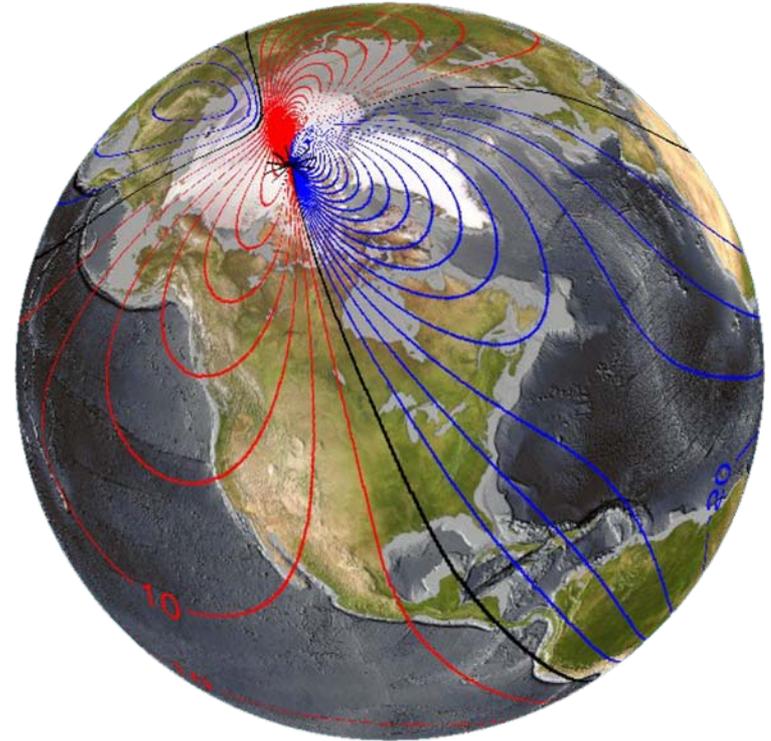


Data Updates for Science On a Sphere



Outline

- New Organization
- New Datasets
- Updated Webpage
- Available Scripts



Magnetic Declination



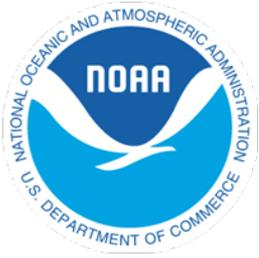
New Organization

- The FTP site is now structured to look like the data catalog with all datasets organized into five categories:
 - Atmosphere
 - Astronomy
 - Land
 - Models and Simulations
 - Oceans
- Each dataset is in it's own folder under the appropriate category
- This should make it easier to find datasets on the FTP site
- There is an "attic" folder with older datasets



New Organization

- The new folders contain all related available materials including:
 - P1, P2, P3, P4
 - Folder with raw images named for the size of the images
 - An equatorial cylindrical equidistant video (.mp4) of the data
 - Text file labeled labels.txt
 - Text file labeled playlist.sos
 - Colorbars
 - Media folder with images, videos, and supporting documents
- Similar datasets have been grouped together to reflect the website.
 - For example, the “aerosols” folder has three folders in it, one for each of the aerosol datasets



Playlist.sos file

- The playlist.sos files are used to simplify the playlists
- There can be multiple versions of the playlist.sos in each dataset folder – make sure to name them differently
- The format for playlist.sos is similar to the format used for each individual dataset in the playlists



Example Dataset Folder

- The folder for the Black Carbon dataset is located: /shared/sos/media/atmosphere/aerosol
- The folder contains:
 - 2048_jpg
 - blackcarbon_2048.mp4
 - labels.txt
 - playlist.sos
 - colorbar.png
 - media/



Example playlist.sos

```
# Model Start - Jan 31, 2007 0000 hours - 120 hour forecast
name = Aerosol Black Carbon Optical Thickness
data = blackcarbon_2048.mp4
label = labels.txt
firstdwell = 1000
lastdwell = 2000
keywords = aerosol, model, prediction, carbon, soot, air quality
fps = 25
pip = colorbar.png
piptimer = 0
pipalpha = 1.0
category = atmosphere
creator = NASA
publisher = NOAA
# URL = http://www.map.nasa.gov/
```



Playlists

- Because all of the necessary information is stored in the playlist.sos file, it doesn't need to be repeated in a playlist.
- Now playlists look like this:

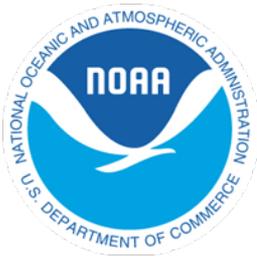
include = /shared/sos/media/oceans/sst/playlist.sos

include = /shared/sos/media/land/blue_marble/playlist.sos

include = /shared/sos/media/astronomy/moon/playlist.sos

include = /shared/sos/media/atmosphere/aerosol/black_carbon/playlist.sos

- When you download data, you only need to download the data in the playlist.sos file



New Datasets

- The collection of datasets at NOAA is over 200!
- Some of the new datasets are in house from NOAA scientists, other new datasets are from other SOS sites
- Our hope is to get datasets from all SOS sites to promote the sharing and distribution of the data
- When we copy data from a site, we put it on the FTP server to make it available to everyone



Accumulative Hurricane Tracks

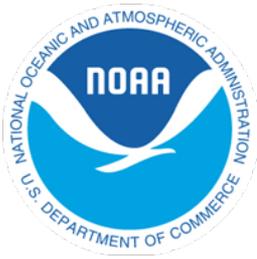


New Datasets

- Some of the new datasets include:
 - Blue Planet from SMM & AMNH
 - Mars: Landscape of Extremes from Imiloa
 - International Year of the Reef from NOAA
 - Global Fire Maps
 - Accumulative Hurricane Tracks
 - Magnetic Declination
 - 2008 Lunar Eclipse
 - Annual Lightning Flash Rate Map
 - Updated Indian Ocean Tsunami
 - TOPP Animal TrackingAnd MANY more ...

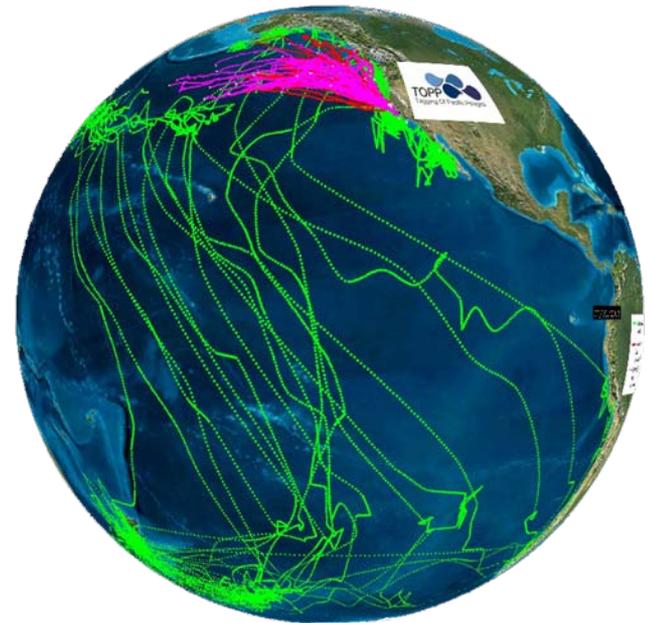


International Year of the Reef



New Datasets

- Check out the Data Catalog online to explore all of the new datasets that are now available
- Many datasets have new PIP's to accompany them
- All of the new datasets are available on the FTP server and are included in the gallery online for you to view
- As you make new datasets, let us know. If you are willing to share them, we would love to have them!
- We want to serve as the “clearing house” for all of your datasets.

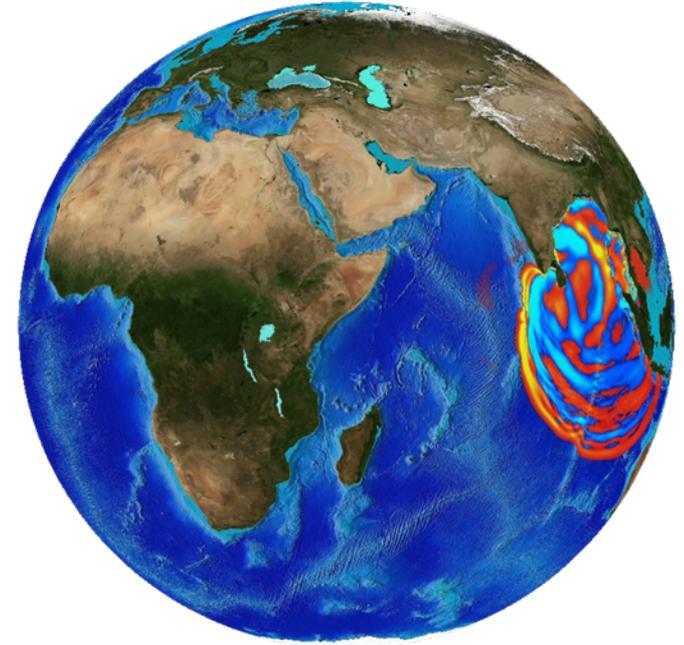


TOPP Animal Tracking



Updated Webpages

- Some minor modifications have occurred to sos.noaa.gov
 - Reworked the Docs section to make documents easier to find
 - New to SOS
 - Installation Details
 - SOS Sites
- If you have suggestions for things you would like to see added to the webpage, please let me know



Indian Ocean Tsunami



Available Scripts

- There are several scripts available:
 - Tour of the Solar System
 - Climate Change Overview
 - Oceans Overview
- If you have any scripts you would like to share, let us know!
- We are also looking for anything you have in other languages



Questions?