

# Science On a Sphere - 5.4 Release Notes



**Version 5.4.0**  
**Nov. 19, 2018**

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## Introduction

This document summarizes the changes and additions to the Science On a Sphere® (SOS) main software in the version 5.4.x releases. Be sure to make note of the Wibu CodeMeter dongle and Ubuntu 16.04 LTS operating system requirements in the "[Requirements & Installation Instructions](#)" section below.

For detailed information on SOS display features, please refer to the [SOS Display Software Manual](#) (or browse to: *Support > Manuals > Display Software* on the SOS website).

## Release Dates

- Version 5.4.0 - Nov. 19, 2018

## Release Highlights for the SOS Product Suite

- Moving PIPs: PIPs may now be given a path to follow with an optional line drawn as it moves.
- Captions: closed captions or subtitles may be added to datasets with audio to display text for hard of hearing or non-English speaking audiences.
- Bug Fixes: improvements made to several SOS products.

## Requirements & Installation Instructions (Please Read!)

- **We increased our software security measures starting in SOS version 5.3. SOS requires a licensed Wibu CodeMeter security USB dongle before you can do a software upgrade from version 5.2.x or before.** You can request one using an online [SOS Version 5.3.0+ Upgrade Request form](#). Once SOS Support has received your request, a dongle will be mailed to your site. If you run into any problems using the request form you can e-mail us at [sos.support@noaa.gov](mailto:sos.support@noaa.gov). We will provide instructions on how to upgrade your system to 5.4 once we have mailed out your new CodeMeter device. Also, please note that the installation processes for the iOS Remote App and Public Kiosk have not changed for 5.4.
- Like the previous SOS versions beginning with 5.1, SOS 5.4 requires your SOS computers to be running **Ubuntu 16.04 LTS**. If you are already running SOS 5.1 or later, you already have the operating system you need and you will only need to install SOS 5.4 on your SOS systems.
  - This can be accomplished by logging in as the 'sos' user and using Ubuntu's 'Software Updater'. Simply [follow these instructions to update using a GUI](#).
  - Alternatively, you can [update via the terminal](#).
  - If you are unsure which version of Ubuntu your SOS computer is using you can [follow these instructions](#) to check.
- However, if you are running SOS 5.0 or earlier, your systems have Ubuntu 12.04 LTS, which is no longer being maintained or updated. You will need to install Ubuntu 16.04 LTS before you install SOS 5.4.
  - Please contact SOS support for detailed instructions before you start upgrading from Ubuntu 12.04!
  - We are happy to assist you in your SOS 5.4 installation (just email our support team at [sos.support@noaa.gov](mailto:sos.support@noaa.gov)).

## Product Component Enhancements

The 5.4 release includes new features, enhancements, and fixes in several applications across the SOS application suite. Each of the following have links to their own 5.4 Release Notes and updated documentation as indicated:

- [SOS Remote App](#) ("SOS App"): see the [SOS Remote App Manual](#) (or browse to: *Support > Manuals >*

*SOS Remote App* on the SOS website).

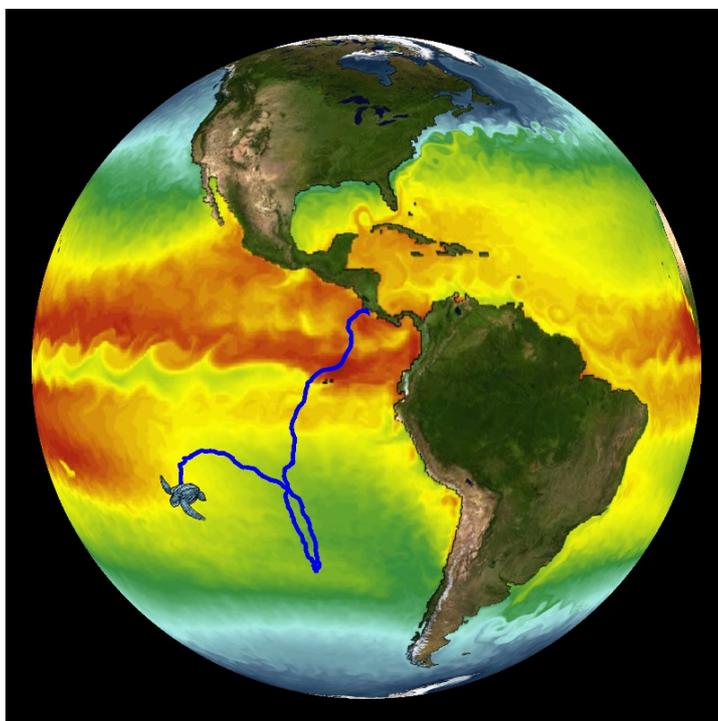
- [Visual Playlist Editor](#) ("VPLE"): see the [Visual Playlist Editor Manual](#) (or browse to: *Support > Manuals > Visual Playlist Editor* on the SOS website).

Note that an update to the [NOAA SOS Public Kiosk](#) was not made for this release. The current version 5.3.0 remains the latest one: see the [Public Kiosk Manual](#) (or browse to: *Support > Manuals > Public Kiosk* on the SOS website).

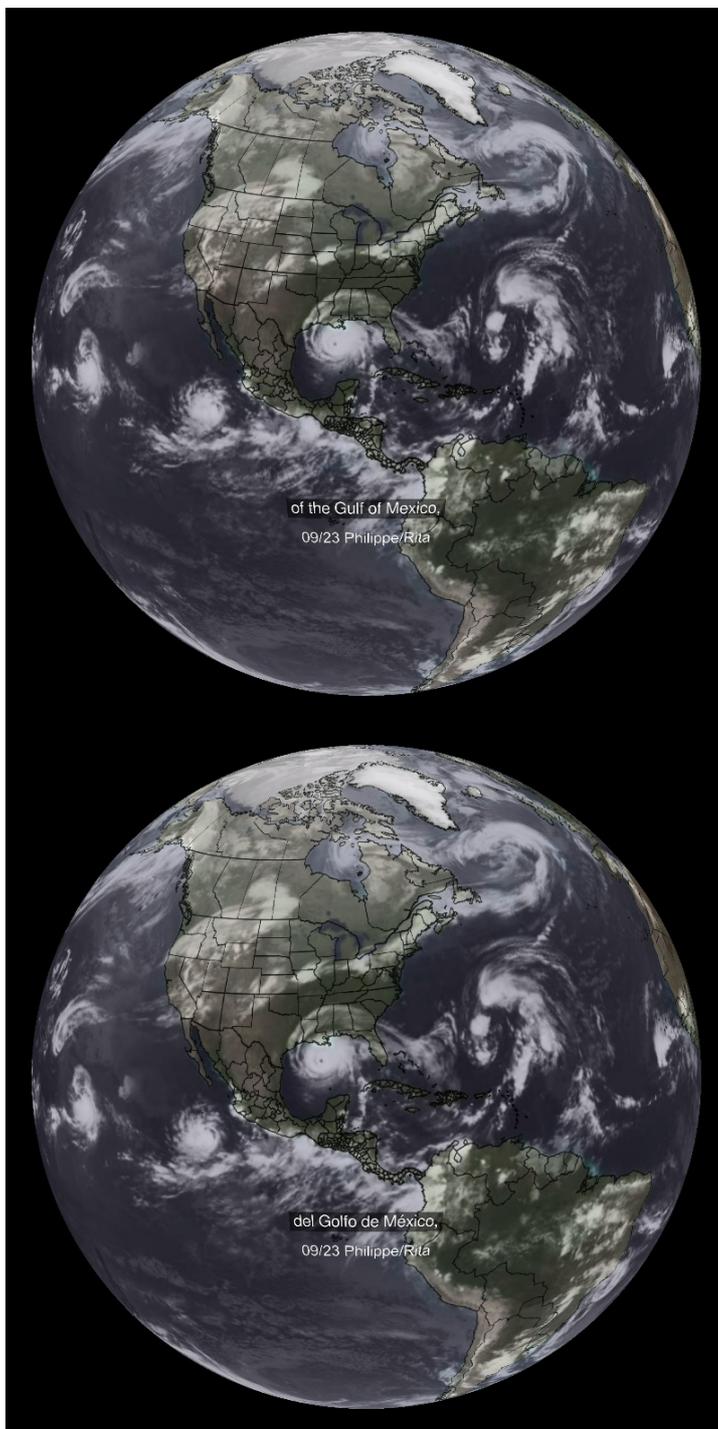
## New Features and Enhancements in 5.4.0

### Main SOS Program

- **Moving PIPs:** New feature that allows a PIP to move on an SOS dataset when given a path file that contains coordinate locations. The path file is a simple comma separated value (csv) file that contains frame number, latitude, and longitude. As the dataset is animating, the PIP will automatically move to the location specified in the file at the current frame being displayed on SOS. Option to render a line path that follows the moving PIP is given (image below). The moving PIP feature makes it easy to show animal migrations (example below shows a leatherback sea turtle track), hurricane tracks, etc. on SOS without having to render a moving object into the underlying global movie or image data.



- **Closed Captions and Subtitles:** Captions may now be displayed on SOS from standard SupRip Subtitle (SRT) files that are read in to SOS directly. A SRT file is an industry standard file that contains a sequential set of subtitles with their start and end timecodes. Captions provide text for hard of hearing (the left image below) or non-English speaking audiences (the right image below) and can also be used to show movies in AutoRun with the sound muted. Text formatting may also be fully customized in the Visual Playlist Editor. NOAA datasets will be getting closed captions added to them for your use, but will not be shown by default. The captions may then be turned on in the Remote App or displayed all the time by setting the visibility in your presentations.



## Bug Fixes in 5.4.0

### Main SOS Program

- Disabling/enabling the bottom and top clipping planes when using the **bottommask** or **topmask** commands would never get toggled to the disabled state and always remained on once it was enabled.
- Bottom and top mask blending was not getting rendered.
- Empty lines in labels files showed up as a space character when the background was not transparent.
- If labels were initially set to OFF, turning labels on for the first time shows would show garbage label data.

### Projector Control

- The new projector control released with 5.3.x didn't work from the crontab

### Utilities

- Sites upgrading to 5.3.0 had sitecustom2db utility fail when run from the installer

## Known Bugs in 5.4.0

The following issues identified in SOS were not changed in this release, but will be fixed in the future.

- Hidden layers briefly flash on the sphere when dynamically added to another dataset using the iOS Remote App.
- Icons added to a playlist cannot use absolute paths.
- The iPad may continually prompt to update the database after the upgrade. This issue should go away after 24 hours or if you manually update the local data catalog. You can do that by opening the SOS program and then selecting Library -> Update Library or by manually running the `/shared/sos/bin/sitecustom2db` program from a terminal.

## Backward Compatibility Considerations

For best results, we strongly encourage you to update all your SOS software applications at the same time to version 5.4, including the Visual Playlist Editor, SOS Remote App, and Public Kiosk (the later to 5.3.0). To assist you in planning your SOS software upgrades, you can visit the [SOS Product Suite page](#) on the [SOS website](#).

Where possible, individual SOS 5.4 software components have been updated so that they will continue working with SOS versions as far back as 4.3, recognizing there may be some limitations. Components older than 4.3 are incompatible with version 5.4, so you will need to do a full update of all the SOS software applications to version 5.4.

### SOS Remote App ("SOS App")

- SOS App 5.4 should work with SOS 5.0 and later.
- SOS App 5.4 may work with SOS 4.3, but has not been tested.
  - There are some incompatibilities in the SOS Data Catalog, for example. Dataset variations (such as Blue Marble with audio) will not show up in the Data Catalog on the iPad. However, they can still be displayed on the sphere if they are already in presentation playlists.
  - The Splitter tool, Text PIPs, and individual PIP controls are not supported.
- SOS App 5.0 through 5.3 should work with SOS 5.4, but has not been tested.
- SOS App 4.3 may work with SOS 5.4, but is inadvisable and has not been tested. The following limitations were documented previously when testing SOS App 4.3.1 with SOS 5.0.0:
  - Transferring the Data Catalog from the SOS machine to the iPad may timeout and fail to complete. This would prevent any new updates to the Data Catalog from being loaded onto the iPad.
  - The iPad would still display datasets that are in presentation playlists on the sphere.

### Visual Playlist Editor ("VPLE")

- VPLE 5.4 presentation and dataset output should run fine in SOS 5.1 and earlier, but has not been tested. Text PIPs, format may be created in VPLE 5.4 but cannot be displayed using SOS 5.1 or earlier versions.
- VPLE 5.0 and later will be replaced automatically when installing SOS 5.4, so backward compatibility will not be an issue.

### NOAA Kiosk ("Kiosk")

- Kiosk 5.3 should work with SOS 4.3 and later.
  - Note that you cannot customize datasets and groups in the Kiosk using the media2kiosk in SOS 5.0 or 4.3. However, the default kiosk configuration should work okay.

- Kiosk 5.0 through 5.2 may work with SOS 5.3, but have not been tested.