

Using NOAA View

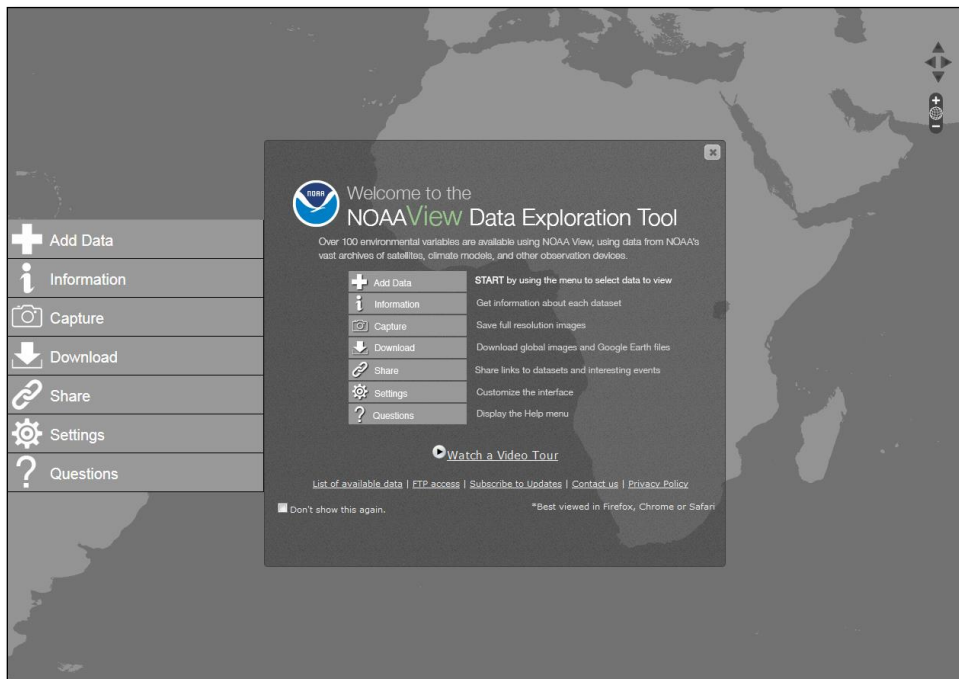


What is NOAA View?

NOAA View is an extraordinarily useful, easy to use, online tool for accessing and viewing images generated from remotely sensed environmental datasets. The archived data go back in time as far as there are data available from the satellite remote sensors that produced them. Global or zoomed-in local imagery can be viewed on screen or downloaded for later viewing in ImageJ, MultiSpec, ArcGIS Online, or other image viewing software.


NOAA View is Easy to Use

Launch your browser and point it to <https://www.nvvl.noaa.gov/view/globaldata.html>. The NOAA View Welcome screen appears:



If desired, click the **Watch a Video Tour** link in the **Navigation Tips** panel (larger panel, center screen) for a brief introduction to NOAA View. Click the ► button to start the video. After the video, click the X in the upper corner of the **Navigation Tips** panel to close it.

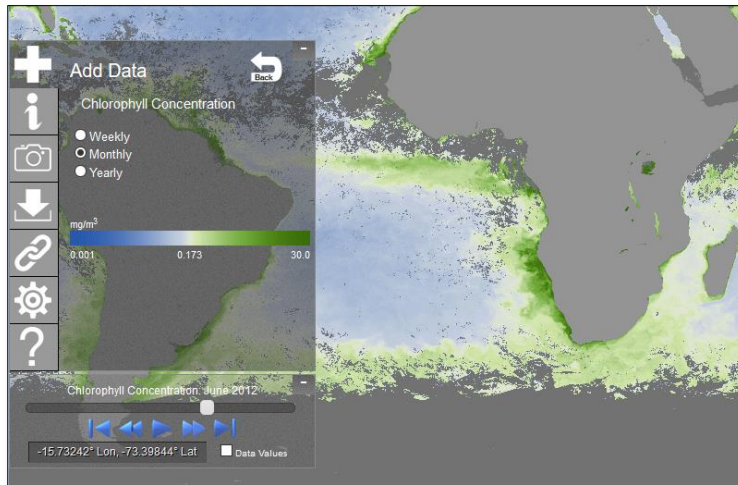
Accessing Data

Find the **Menu** panel on the left. Click the **Add Data** button. The categories of available data types are listed. Click a category to see what it contains. Click the **Back** button  in the upper right corner of the **Menu** to return to the previous list. Explore the categories to find out which data are available.

Let's try a simple example. Suppose you are interested in the amount of phytoplankton (microscopic plants, mostly algae) in the upper layers of ocean water. Suppose you would like to know if the amount of plankton

changes seasonally. Since phytoplankton is at the base of the food web and produces most of our oxygen, the amount of such green algae in the ocean can be an indicator of the amount of larger species present in the area and of the health of the ocean in general. Satellite-based remote sensors can scan for the particular wavelengths of light reflected by chlorophyll-a in the green algae. You will be looking for chlorophyll data from the year 2012.

In the **Menu** panel, use **Add Data > Ocean > Life > Chlorophyll**. Select the **Monthly** radio button.



Find the **slider** in the **Animation Control** panel located below the **Menu**. Very slowly, click and drag the slider until date above the slider reads **June 2012**.




Adjusting the View...

You can pan to other world locations by either clicking and dragging the map on the screen or clicking the arrows in the **View Control** found in the upper right corner of the view window. Zoom-in or out with the mouse scroll wheel or the **plus** and **minus** signs in View Control. Click the **world** icon in **View Control** to return to a global view. Now, pan until the southern tip of Africa is clearly visible in the central region of the screen. Tick the **Data Values** check box in the lower right corner of the Animation Control panel. Move the cursor in the ocean around the southern tip of the African continent noting chlorophyll concentrations for various colors. Uncheck **Data Values**.

Click the **Information** button **i** in the Menu panel for some metadata. Click **More detailed information** for more information as well as FTP access to the image. Click anywhere outside of the text area to return to NOAAView.

Downloading Data

NOAA View offers several convenient options:

| Option | What Happens |
|---|--|
|  Capture | Save full or half resolution images of a selection area on the screen in PNG (view in ImageJ or MultiSpec) or KMZ (view in Google Earth) |
|  Download | Download full global images in PNG (view in ImageJ or MultiSpec), KMZ (view in Google Earth), or Science on a Sphere |
|  Share | Find links to share the data set, share the View, FTP site, or ArcGIS ImageService |

Notes about NOAA View downloads...

A Portable Network Graphics (PNG) file is a hybrid format that brings together the higher compression of GIF images with the broader color capabilities of JPEG. Both ImageJ and MultiSpec can be used to view and analyze PNG files obtained from NOAA View's Capture or Download menus. Google Earth developed Keyhole Markup Language (KML) for quickly transferring image data to Google Earth's display. KMZ is a compressed (zipped) form of KML. The list of image data viewers capable of displaying data provided in KML format gets longer every day. KMZ is not a recommended option for NOAA View data. However, NOAA View's KMZ files can be imported and viewed as a layer in ArcGIS Online Map Viewer.

Visual examples comparing each download and capture option can be found in *NOAA View*, a lesson plan in the SEA Lesson Plan Library at <http://SatEd.org/library/LESSONS/NOAAView/NOAAView.pdf>.

Your Turn

Now, it's time to play with NOAA View – experiment, learn, enjoy, share!

Try finding an image of chlorophyll concentration in the summer of 2012 for comparison. Is phytoplankton concentration a seasonal phenomenon? What other factor(s) might affect phytoplankton growth or decline? What causes a greater concentration of phytoplankton on the west coast of southern Africa than on the east coast? Is there a correlation between chlorophyll-a concentration and ocean currents or sea surface temperature? How can you use NOAAView to help address these questions?