WORLDVIEW

Layers (6)

NASA Worldview
https://worldview.earthdata.nasa.gov

1000 km
500 mi

2018 DEC 04

DAYS

NASA WORLDVIEW

Layers   Events   Data

OVERLAYS

Place Labels
© OpenStreetMap contributors,
Natural Earth

Coastlines / Borders / Roads
© OpenStreetMap contributors,
Natural Earth

Coastlines
© OpenStreetMap contributors

BASE LAYERS
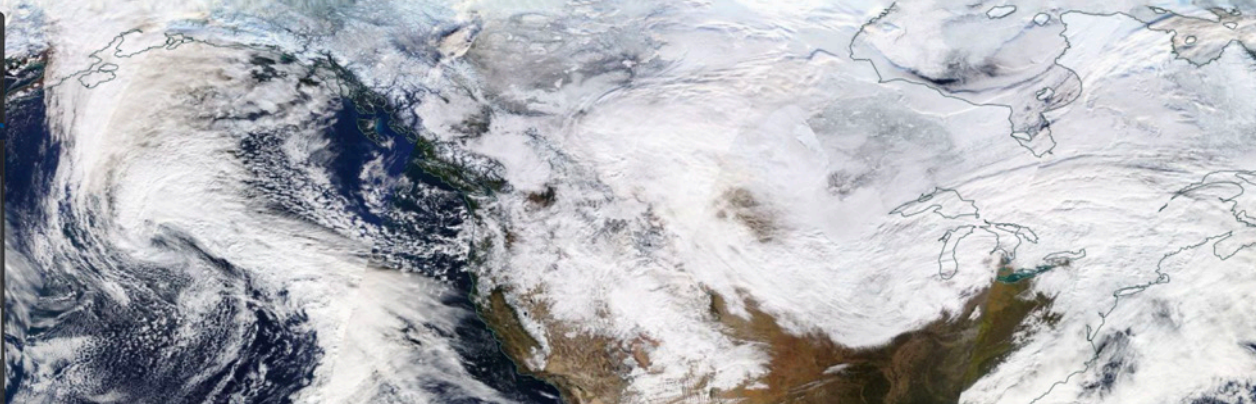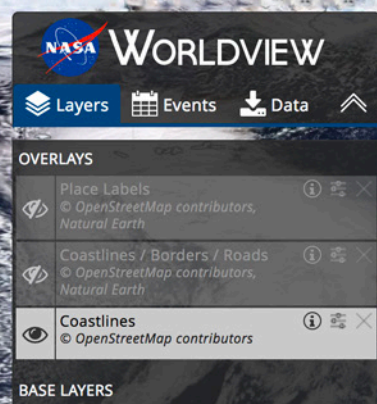
Overview

NASA's Earth Observing System Data and Information System (EOSDIS) Worldview mapping application provides the capability to interactively browse over 800 global, full-resolution satellite imagery layers and then download the underlying data. Many of the available imagery layers are updated within three hours of observation, essentially showing the entire Earth as it looks "right now." This supports time-critical application areas such as wildfire management, air quality measurements, and flood monitoring. Imagery in Worldview is provided by NASA's Global Imagery Browse Services (GIBS).
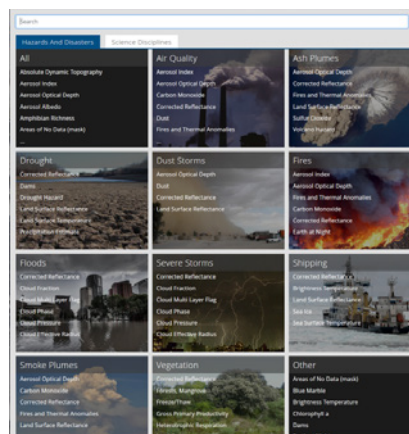
For low bandwidth access to a selection of the most commonly used satellite imagery layers, users may want to try Worldview Snapshots as an alternative. Worldview Snapshots is a lightweight tool to rapidly create and download static images for users who may not need an interactive map and additional capabilities of the full Worldview application.

Key Features

- Daily, global imagery is generally available within three to four hours of satellite observation. Imagery from the year 2000 to present is available.
- Discover and add relevant layers by science discipline, by natural hazard or by typing a keyword.
- Polar stereographic views for the Arctic and Antarctic regions provide a "full globe" perspective.
- Story-based tour highlights 9 different stories about events going on around the world, provides interesting information about the imagery, and tutorials on how to use Worldview.
- View current natural hazards and events using the Events tab which reveals a list of natural events, including wildfires, tropical storms, and volcanic eruptions.
- Take a snapshot of imagery/event for a single point in time. Multiple image output formats available include: JPEG, PNG, GeoTIFF, and KML
- Animate data imagery over time—Create animated GIFs to view events as they develop.
- Compare imagery from two different dates, or two sets of imagery from the same date or even two sets of imagery from different dates with the Comparison feature.
- Share your maps using the share and link shortener functionality.
- Browsing on smartphone and tablet devices is generally supported for mobile access to the imagery.
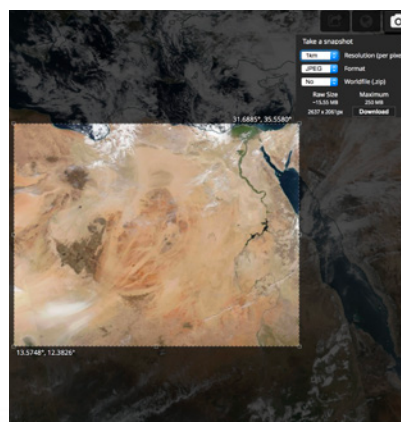
How to Use Worldview

Before you get started, first pan and zoom to your region of interest on the map.

Add Imagery Layers

- Click on **"Add Layers"**
- Next you can either 1) Type keyword into Search bar 2) Click on **"Hazards and Disasters"** tab or 3) Click on **"Science Disciplines"**.
- Find your layer(s), select by checking the box.
- Change the date by selecting or typing in the date in the date box in the lower left corner, or click on the desired date in the timeline.

Tip: *For information about imagery layers click on the "i" icon in the layer list. To turn on/off layers click on the eye ◉ icon in the layer list.*
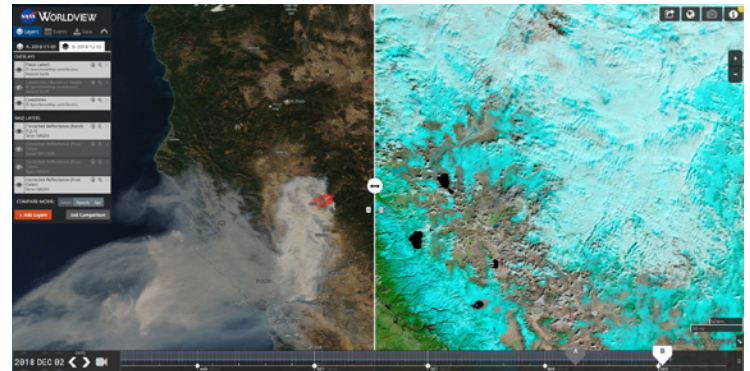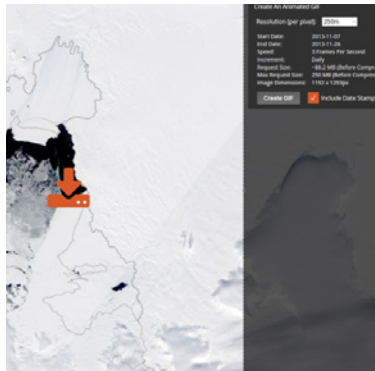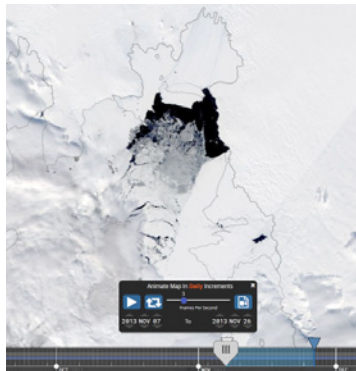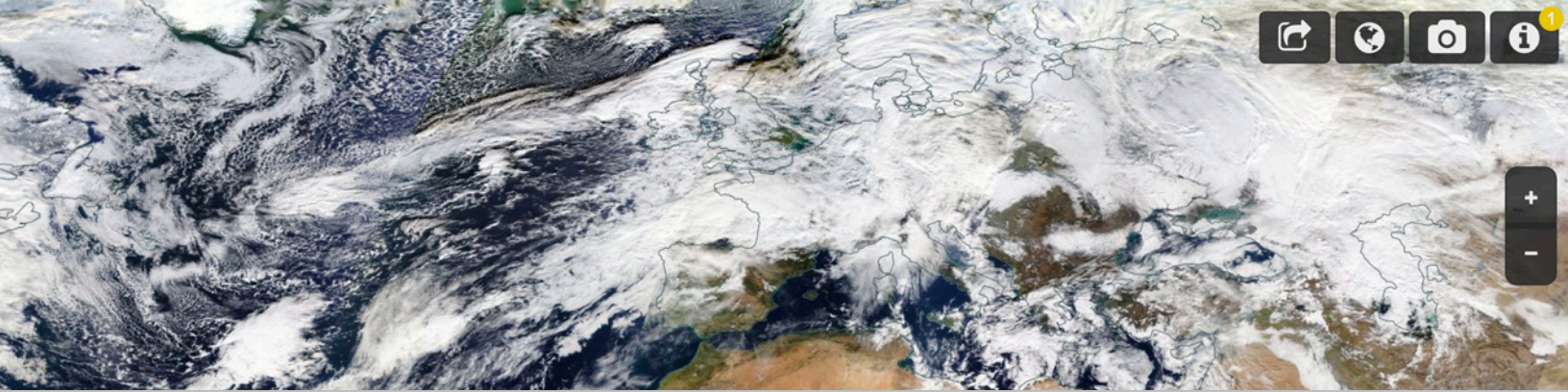

Take a Snapshot

- Click on Camera icon in the upper right hand corner
- Select your area by dragging/ adjusting sides of the box
- Select resolution and file format
- Click the download button and your snapshot will open in a new window!

Tip: *Select a coarser/lower resolution if your image is over the maximum size.*

Tip: *You can also download a snapshot as GeoTIFF, JPG with Worldfile, PNG with Worldfile, and KMZ and bring it straight into you own GIS client!*
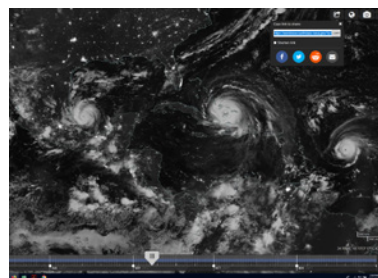
Create an Animated GIF

- Click on **"Add Layers"** to filter by discipline, key word, or natural hazard.
- Select your layer(s) of interest.
- Pan/zoom to your geographic region of interest.
- Click on the video camera icon on the lower left corner
- Select your desired date range using the up/down arrows in the animation menu bar, or drag the start and end date indicators on the timeline.
- You may also change the speed at which your animation plays by adjusting the frames per second; you can also ensure that the animation loops/automatically replays by clicking on the **"Loop video"** icon.
- You can play the animation directly in the browser or click the Create Animated GIF video camera icon in the animation widget to download the GIF to your computer. Select your area by dragging/adjusting sides of the box.
- Select your desired resolution and whether you would like the date stamps included in the animated GIF.
- Click on the orange download arrow or **"Create GIF"** button to create the GIF.
- Click on **"Download"** to save your animated GIF to your computer.

Tip: Daily, monthly or yearly animations are available!

Compare Imagery

- Click on **"Start Comparison"** and the screen and the layer list splits into two sides, the A and B sides.
- Add layers and change the date for the A side in the layer list by clicking on the active/highlighted A tab. Do the same for the B side.
- Click on the Swipe icon in the center of the screen and drag the icon back and forth sideways to see the differences between the A and B side.
- You can also change the compare mode to **"Opacity"** where you fade between A and B and **"Spy"** where a spyglass is shown over the map and the tab that is active is the map, and the spyglass is the inactive tab.
- Click on **"Exit Comparison"** to return to the regular view.

Tip: Compare imagery from two different dates, or compare two sets of imagery layers from the same date or even two sets of imagery layers from different dates!

Share your Maps

- Click on the **"Share this map"** icon in the upper right corner.
- Copy the link in the **"Copy link to share"** box and/or click on the **"Shorten Link"** checkbox to get a shorter link to share.

Tip: You can share the map with certain features activated too! If you're in comparison mode, you can share the direct link to that comparison. If you have the animation set up to specific dates and layers, you can share a direct link to that animation within Worldview. If you've selected a specific event, you can share the link with others and the link with take them directly to that event.

Useful Layers for Highlighting Specific Hazard and Disaster Events

Severe Storms
- Corrected Reflectance, True Color (Terra MODIS, Aqua MODIS or Suomi-NPP VIIRS)
- Nighttime Imagery (Day/Night Band, Enhanced Near Constant Contrast)
- IMERG Rain Rate (Early)
- IMERG Snow Rate (Early)

> **Tip:** *Add corresponding Orbit Track & Overpass times layers to find the approximate time the imagery was retrieved. If you are viewing Corrected Reflectance from MODIS/Terra, add the Terra day time orbit tracks.*

Floods, Burn Scars
- MODIS Terra or MODIS Aqua Corrected Reflectance (Bands 7-2-1)
- Suomi-NPP VIIRS Corrected Reflectance (Bands M11-I2-I1)

Wildfires
- Terra or Aqua MODIS Corrected Reflectance (Bands 7-2-1)
- Suomi-NPP VIIRS Corrected Reflectance (Bands M11-I2-I1)
- Suomi NPP / VIIRS Fires and Thermal Anomalies (Day, 375m)
- Suomi NPP / VIIRS Fires and Thermal Anomalies (Night, 375m)
- Terra and Aqua / MODIS Fires and Thermal Anomalies (Day and Night)
- Terra / MODIS Fires and Thermal Anomalies (Day and Night)
- Aqua / MODIS Fires and Thermal Anomalies (Day and Night)

> **Tip:** *The Fires and Thermal Anomalies layers show actively burning fires as red points. Sometimes you can see the actively burning fire front in the false color imagery (Bands 7-2-1 MODIS/Aqua and MODIS/Terra and Bands M11-i2-I1 VIIRS/Suomi-NPP) as bright red spots at the leading edge of the fire.*

Nighttime Lights Imagery
- Nighttime Imagery (Day/Night Band, Enhanced Near Constant Contrast)
- Black Marble (Annual, 2012 & 2016)
- Black Marble - Nighttime Lights only (Annual, 2012 & 2016)

> **Tip:** *Use Nighttime Imagery (Day/Night Band, Enhanced Near Constant Contrast) to highlight current events as this layer is retrieved daily.*

Caveats
- When applying Base Layers, only the top, visible layer with the 👁 is viewable on your map.
- The animated GIF can only be comprised of 40 frames i.e. 40 days.
- The lack of sunlight during winter causes the polar "hole" in the Arctic and Antarctic regions in the daily, global imagery.
- Some imagery, like the daily, global MODIS Reflectance, has regular black swath gaps. The imagery swaths from this instrument are not wide enough to encompass these areas; the newer VIIRS instrument on board joint NASA/NOAA Suomi-NPP satellite does not have swath gaps.
- Remember to use the corresponding base layer imagery to the overlays e.g. use the Terra MODIS Corrected Reflectance imagery base layer with the Terra MODIS Fires and Thermal Anomalies layer overlay.

Worldview Snapshots

The Worldview Snapshots application allows users to rapidly produce images from daily MODIS and VIIRS global imagery for any place on Earth (including the poles). Worldview Snapshots is ideal for users with low/limited bandwidth access or for users who want to rapidly retrieve satellite imagery of the same area each day.

Create a Worldview Snapshot
- Select a base layer from the dropdown menu and click the boxes next to the desired overlay layers.
- Select the desired map projection (Geographic, Arctic Polar Stereographic and Antarctic Polar Stereographic)
- Select a region on the map for your area-of-interest.
- Select desired image file options–spatial resolution, file format and whether you would like the image to be autoscaled (For higher latitudes in the Geographic projection, this creates a better looking pseudo-equal area image).
- Click on the orange **"Preview"** button to preview the image. You may also save/bookmark the URL in the **"Share Image"** box in the Preview pane.
- Click the checkbox next to either **"Always show today"** or **"Always show yesterday"** – **"Always show today"** will display what imagery the satellite has collected so far but might not return an image if the satellite has not yet passed over that area or the imagery has not yet been processed; **"Always show yesterday"** may be useful if you are in a different time zone and you would like to always get an image. Every time you come back to the link, you will get today's or yesterday's imagery!
- Click on blue **"Download Image"** to download the desired image.
- You can also view the map parameters selected in Worldview Snapshots in Worldview, the fully featured, interactive mapping application to browse full-resolution imagery and add more than 800 additional data layers. See the **"Click Here to view the selected map parameters in Worldview"** link in the lower right corner of the main Worldview Snapshots page.

> **Tip:** *You can also download an image as GeoTIFF, JPG with Worldfile, PNG with Worldfile, and KMZ and bring it straight into you own GIS client!*

Tutorials
Worldview Video: *NASA's Worldview: Two decades of Earth Data at your Fingertips* - **https://youtu.be/X16cfGPL2wA**

Worldview Tutorial: *How to View and Share your Planet with Worldview* - **https://youtu.be/LI3aVTNhCKU**

Access
Launch Worldview: **worldview.earthdata.nasa.gov**

Access Frequently Asked Questions: **https://earthdata.nasa.gov/faq/worldview-gibs-faq**

Contact us: **support@earthdata.nasa.gov**