

Locating Data & Imagery for Student Investigations

QUICK START GUIDE To Finding Data/Imagery for Student Investigations

For additional information and to link to the resources below, go to the interactive table at:
<http://k12datapaths.strategies.org>



This table lists examples of NASA datasets and imagery that could be used for student investigations related to content and practices in the *Framework for K-12 Science Education*. Explore the data on the left using the online sources listed on the right. Many datasets are available through multiple sources; each source provides unique features, analytical tools, and time periods. Sources are color coded for relative level/ease-of-use: BLUE (introductory), ORANGE (intermediate), and GREEN (advanced).

Data examples that students can use...	...to investigate these types of phenomena...	...using these online sources of data.							
		Precipitation Measurement Missions https://pmm.nasa.gov/data-access/visualization		The GLOBE Program • https://www.globe.gov/globe-data		MY NASA DATA • http://mydasdata.larc.nasa.gov		Change Matters Viewer http://www.esri.com/software/landsat-imagery/viewer	
Aerosols: Tiny liquid or solid particles dispersed in the atmosphere; can be caused by natural processes or human activity.	Air quality and pollution (ESS3.C) Earth's energy budget (ESS2.A) Weather & climate (ESS2.D)								
Black Marble/Earth at Night: Nighttime view of Earth, showing visible light emanating from man-made sources, e.g., city lights.	Urban growth/heat islands (ESS3.C) Power outages (ESS3.C) Seasonal migration (LS2.C)								
Blue Marble Next Generation: Composite images showing how the surface would look to a human in space if our world had no clouds and no atmosphere.	Seasonal changes on land surface (spring greening, snowmelt, drought, etc.) (LS2.A, ESS2.D)								
Climate: Solar insolation, temperature, precipitation, albedo, greenhouse gases/carbon, aerosols, and topography.	Factors contributing to global and regional climate (ESS2.D)								
Earth System: Solar insolation, surface temperature, cloud fraction, aerosols, precipitation, and vegetation index.	Earth system and cycles (ESS2.A)								
Land Cover Classification: Maps displaying the Earth's natural and human-made landscapes as color-coded categories.	Land cover changes (ESS3.C, LS2.C)								
Land Surface: Since 1972, Landsat satellites have been observing Earth's land surfaces and coastal regions. MODIS Near-Real-Time Data: Data for applications related to natural hazards and disasters (e.g., volcano ash plumes, drought, fires, severe storms, and sea ice conditions).	Coastline changes (ESS2.C) Deforestation (ESS3.C) Ecosystems (LS2.C) Natural hazards & disasters (ESS3.B) Sea ice movement (ESS3.B) Water & land use changes (ESS2.C)								
		<div> <div>INTRODUCTORY</div> <div>INTERMEDIATE</div> <div>ADVANCED</div> </div>							

www.nasa.gov

Are you searching for NASA data examples to include in your instruction or student research?

The Quick Start Guide lists examples of NASA datasets and imagery that could be used for student investigations related to content and practices in the Framework for K-12 Science Education. This Guide is part of an educators toolkit that features resources for grades K-12 that can support and frame student investigations with NASA data and content. Check out the toolkit and samplers for elementary, middle, and high school at <https://www.strategies.org/education/educators-toolkit/>.

The NASA Earth Science data visualization tools featured here include:

- [My NASA Data's Earth System Data Explorer](#)
- [The GLOBE Program](#)
- [Precipitation Measurement Missions](#)

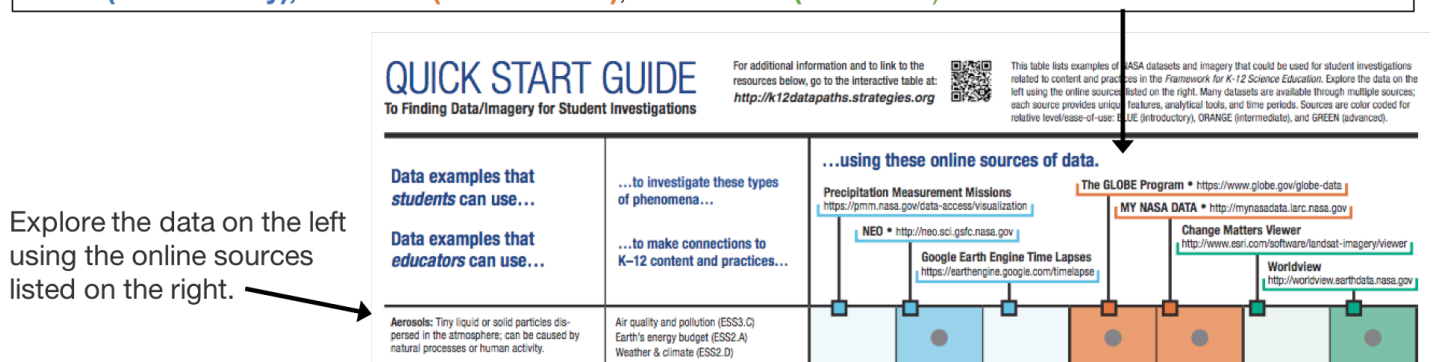
- [NEO](#)
- [Worldview](#)
- [Giovanni](#)
- [ESRI Change Matters Viewer](#)
- [Google Earth Engine Time Lapses](#)

For additional information and to link to the resources below, go to the [interactive table](#).

<https://sites.google.com/strategies.org/k12datapaths>

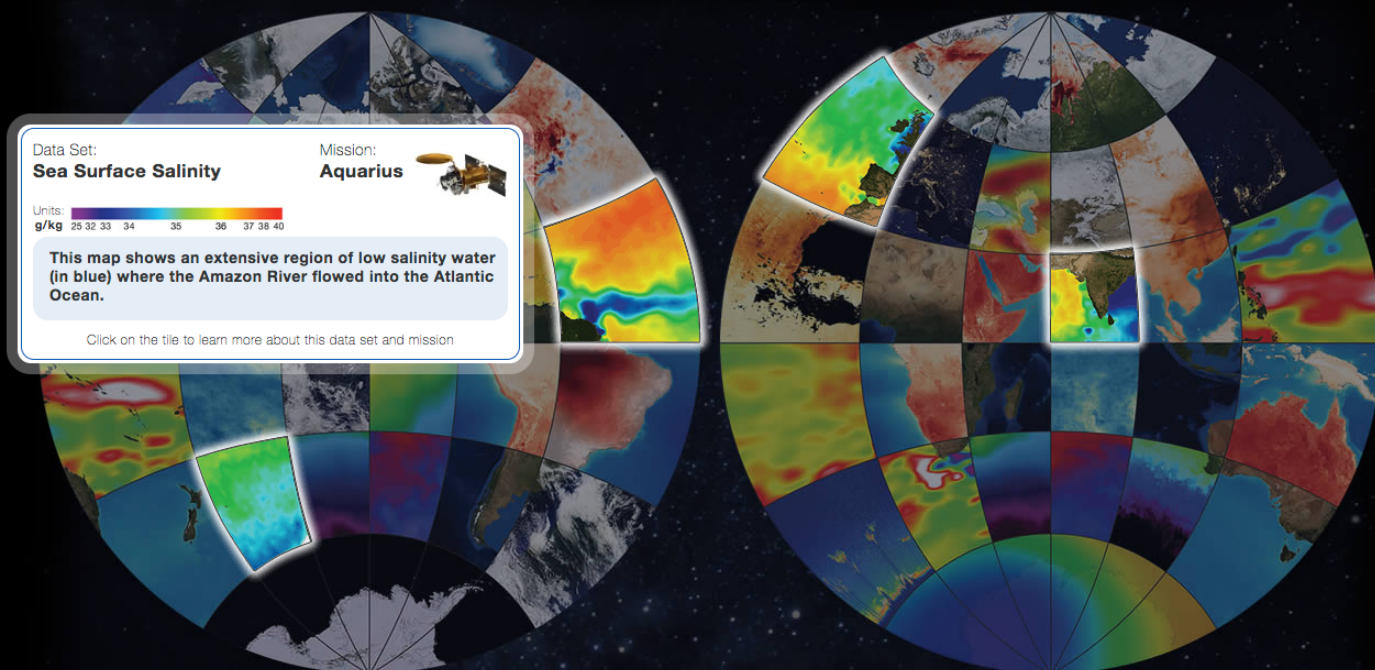
Many datasets are available through multiple sources; each source provides unique features, analytical tools, and time periods.

Sources are color coded for relative level/ease-of-use:
BLUE (introductory), **ORANGE (intermediate)**, and **GREEN (advanced)**.



Mapping Our World

NASA satellites have been mapping Earth for over 40 years. These global observations of the atmosphere, biosphere, land surface, solid Earth, and ocean enable an improved understanding of the Earth as an integrated system. This [interactive](#) visualization and poster allow you to explore data sets from over a dozen NASA Earth science missions for 25 unique views of our world. The images feature data from over a dozen Earth observation missions.



Mapping Our World

[About this Interactive/Credits](#)

NASA satellites have been mapping Earth for over 40 years. These global observations of the atmosphere, biosphere, land surface, solid Earth, and ocean enable an improved understanding of the Earth as an integrated system. The images above feature data from over a dozen Earth observation missions.

Document Resources

- [QUICK START GUIDE](#)