Locating Data & Imagery for Student Investigations

### Quick Start Guide to Finding Data/Imagery for Student Investigations

#### Data examples that students can use...
- Aerosols: Tiny liquid or solid particles dispersed in the atmosphere, can be caused by natural processes or human activity.
- Black Marlin/Earth at Night: High-resolution nighttime view of Earth showing visible light emanating from main sources, e.g., city lights.
- Blue Marble: Earth images showing how the Earth's appearance varies with season, cloud cover, and environment.
- Climate: Solar Insolation, temperature, precipitation, winds, greenhouse gas concentration, aerosols, and topography.
- Earth Science: Solar insolation, surface temperature, cloud fraction, aerosol, precipitation, and vegetation index.
- Land Cover Classification: Maps displaying the Earth's natural and human-made landscapes as color-coded categories.

#### Data examples that educators can use...
- Air quality and pollution (ESS3.C)
- Earth energy budget (ESS2.A)
- Weather & climate (ESS2.D)
- Urban growth/food lands (ESS3.D)
- River outages (ESS3.C)
- Seasonal migration (ESS2.C)
- Factors contributing to global and regional climate (ESS2.B)
- Earth system and cycles (ESS3.A)
- Land cover change (ESS3.C, ESS2.C)
- Coastline changes (ESS2.C)
- Deforestation (ESS3.C)
- Ecosystems (ESS2.C)
- Natural hazards & disasters (ESS3.B)
- Sea ice movement (ESS3.B)
- Water & land use changes (ESS2.C)

#### Using these online sources of data...
- Precipitation Measurement Missions
- The GLOBE Program
  - [https://www.globe.gov/student-data](https://www.globe.gov/student-data)
- My NASA Data
  - [https://my.nasda.larc.nasa.gov](https://my.nasda.larc.nasa.gov)
- Change Matters Viewer
  - [http://www.esa.com/Inspiration/Content/ImageryViewer/](http://www.esa.com/Inspiration/Content/ImageryViewer/)
- Earth Engine Time Lapses
  - [https://earthengine.google.com/timelapse/](https://earthengine.google.com/timelapse/)

---

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/](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](https://www.strategies.org/education/educators-toolkit/)
- [The GLOBE Program](https://www.globe.gov/student-data)
- [Precipitation Measurement Missions](https://www.nasa.gov/)
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).

Explore the data on the left using the online sources listed on the right.

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.
This map shows an extensive region of low salinity water (in blue) where the Amazon River flowed into the Atlantic Ocean.
Document Resources

- QUICK START GUIDE