

Our Home: Earth From Space
(22 minutes)



Overview: Earth System Science is the study of our planet as an integrated whole. It involves many scientific disciplines and multiple scales of time and place. Views of the Earth from space showing a pale blue dot in the vast universe were the first visuals of our entire Earth and galvanized the field of Earth system science. The challenge today is to present this research in a manner as compelling as those first images of our home planet. To present it in a way that presents groundbreaking insights to learners at all levels. To present it in a way that both grabs the imagination and inspires people by showing the amazing connectedness of life and the other components of the Earth system (air, water, and land). And to present it in a way that encourages all of us to learn and become active participants in the wider management and stewardship of the world in which we live.

The Video: NASA's Earth Science Enterprise produced this video for use in an introductory Earth system science course (grades 9-12). It has segments on:

- An introduction to Earth system science (2:47)
- Using satellites to look at Earth from space (4:19),
- El Niño (4:14),
- Global Warming (5:07),
- Drought (2:23), and
- Hurricanes (2:03).
- An epilogue (1:06)

While the video may be shown in its entirety, it is neatly broken into segments that can be shown as each Earth system topic is studied in class.

After each segment there is an *Earth Facts* section that presents some interesting statistics or information related to the concept previously covered. The *Earth Fact* that follows the El Niño segment states that a satellite needs to travel approximately 18,000 mph in order to maintain its orbit. This speed was calculated for a satellite at an altitude of 450 miles and an orbital time of 90 minutes. A more precise speed for a satellite traveling under these conditions is 18,900 mph.

For additional information about:

Visit web site:

Remote Sensing <http://earthobservatory.nasa.gov/Library/RemoteSensing/>
El Niño <http://nsipp.gsfc.nasa.gov/enso/primer/>
<http://www.pmel.noaa.gov/tao/elnino/el-nino-story.html>
<http://earthobservatory.nasa.gov/Library/ElNino/>
Global Warming <http://www.epa.gov/globalwarming/>
<http://earthobservatory.nasa.gov/Library/GlobalWarming/>
Drought <http://earthobservatory.nasa.gov/Drought/>
Hurricanes <http://earthobservatory.nasa.gov/Study/HurricaneHeart/heart.html>
<http://www.nhc.noaa.gov/>

Errata: In the El Niño segment, the narrator incorrectly states that “during a normal [non El Niño] year, the sea surface height is five feet higher near Indonesia than at Ecuador,” when the ACTUAL average difference in sea surface height between these two areas is 1.5 to 2 feet (0.5 meter).