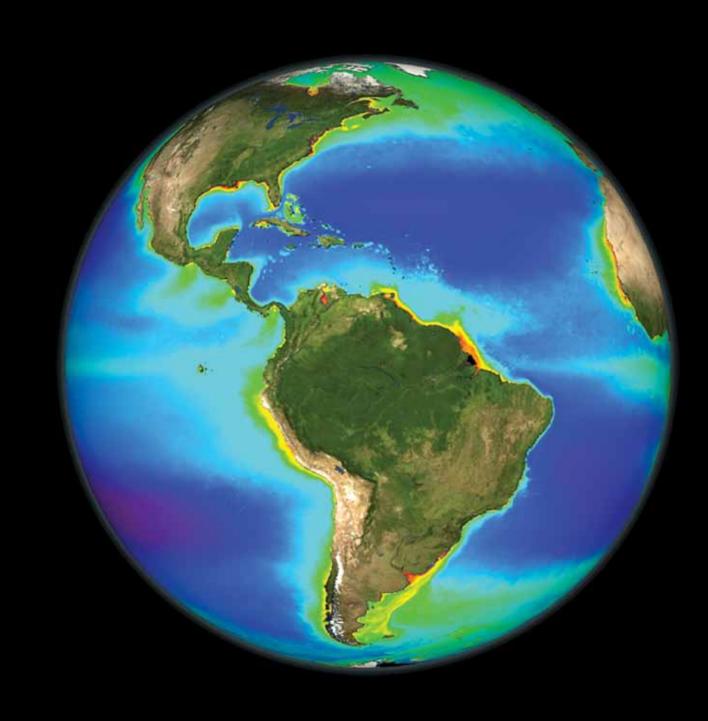




Monitoring Arctic Sea Ice

The continued reduction in summer sea ice cover illustrates the impact that increasing global temperatures are having on Arctic regions. Satellite images of the sea ice cover have provided a reliable tool for monitoring changes since 1979. This global view of Earth shows Arctic sea ice on September 15, 2008 as measured by the Aqua satellite.





Using satellites, scientists monitor the color of reflected light, which indicates how successfully plant life is photosynthesizing and growing. This globe represents nearly a decade's worth of data taken by the SeaWiFS instrument onboard the Orb-View-2 satellite. In the oceans, dark blue represents warmer areas where there is little life due to lack of nutrients, and greens and reds represent cooler nutrient-rich areas.

Improved Crop Management



NASA and the USDA Foreign Agricultural Service (FAS) jointly funded a new project to assimilate NASA's satellite data and products to monitor agriculture worldwide and to locate and keep track of natural disasters that impair agricultural productivity. This image shows the cropland classification as seen by NASA's Terra and Aqua satellites. Twenty-six countries (highlighted in yellow) produce 82% of the world's grain according to the FAS.

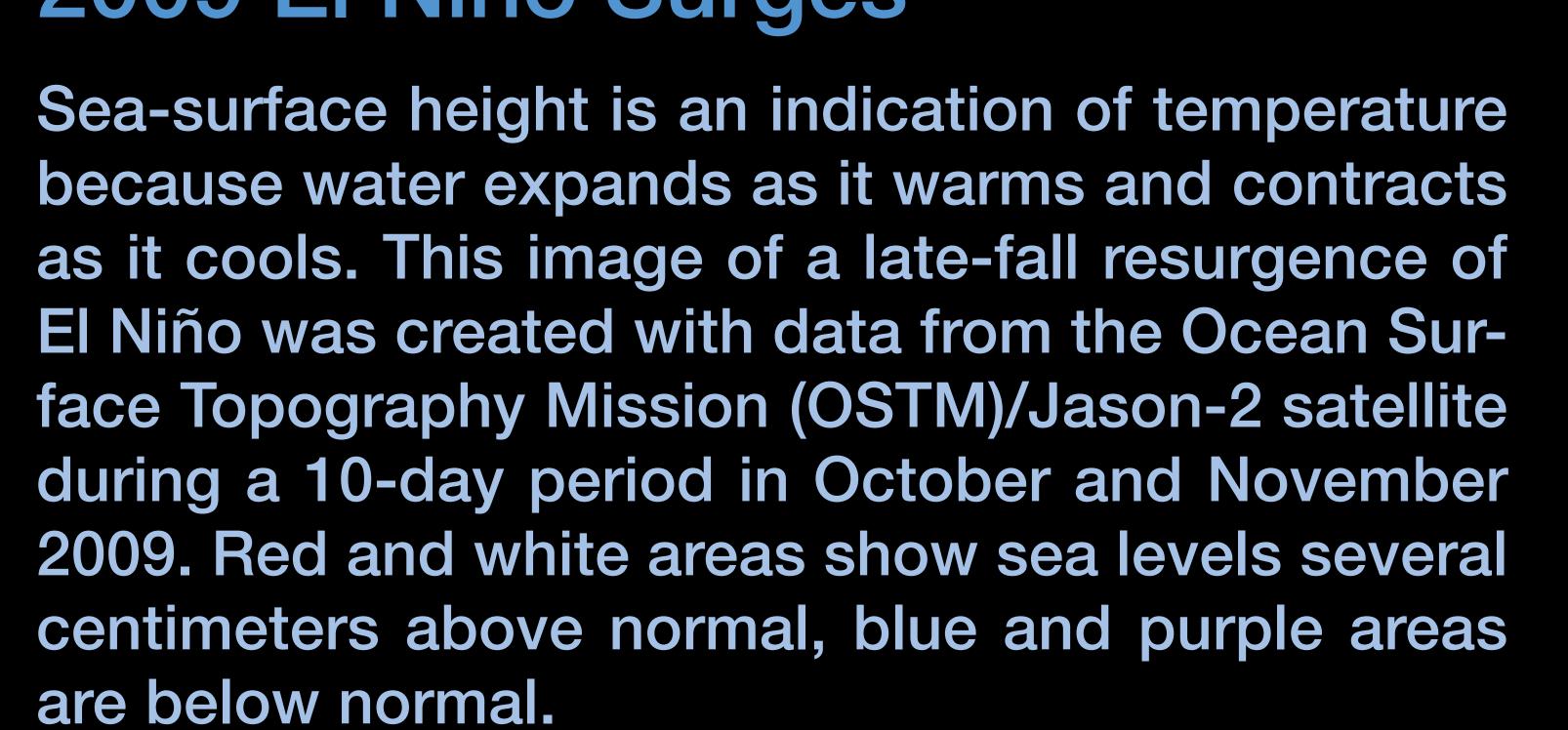
Earth Day

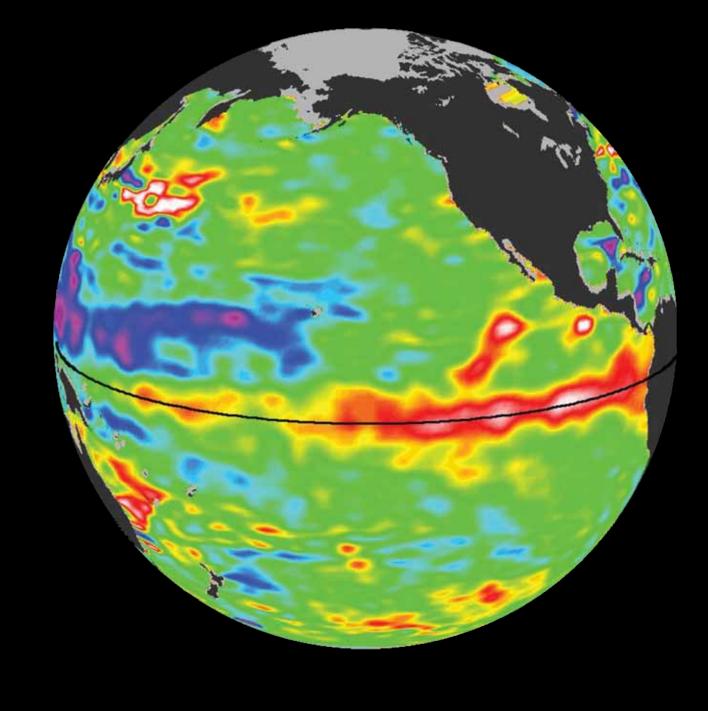
Is every day at NASA

Everyday, hundreds of miles above you, a fleet of NASA satellites is orbiting Earth to collect information about the planet and its systems. These 14 satellites provide scientists with the data they need to understand Earth's climate and its response to natural and human-made changes. Four of these satellites travel one behind the other, along the same track, as the Afternoon Constellation, or "A-Train." Each satellite operates independently to make its own unique measurements, but when the different sets are used together, the result is a powerful tool for studying Earth.

NASA works with partners around the world to develop, build, launch, and operate this fleet. From over a decade of flying, NASA's Earth Observing System missions have given us our first global measurements of Earth's air, land, oceans, and ice. Data are used to improve weather and climate forecasts, manage natural resources, understand hurricanes and other disasters, and assess public health. These images highlight a small sample of what we've learned so far. In the future, new missions will replace aging ones in the fleet, and everyday will continue to be Earth Day at NASA.

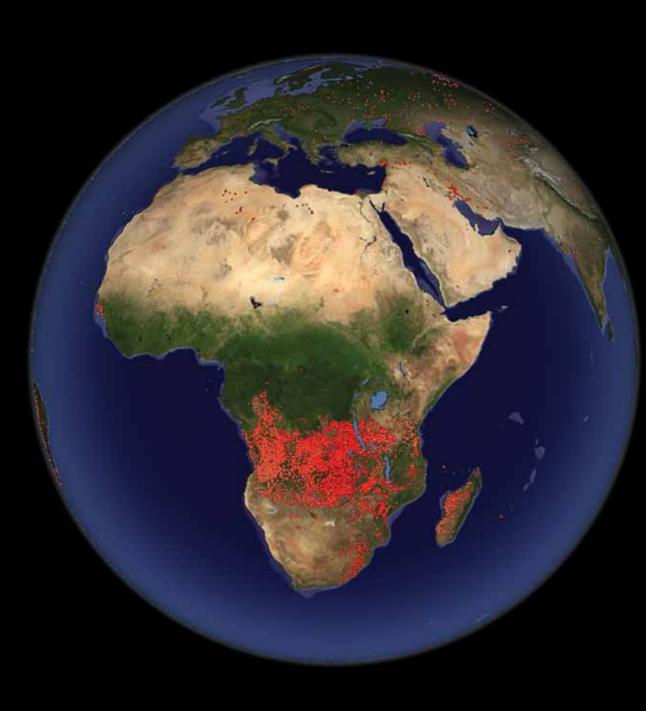
2009 El Niño Surges





Better Fire Detection

From space, we can understand fires in ways that are impossible from the ground. NASA research has helped to improve the detection of fire for scientific purposes using satellite remote sensing and geographic information systems, helping advance our understanding of the impacts of fire. This image shows fires (red dots) in Africa and Asia on June 16, 2007.



Keeping Track of Global CO,

This image shows global mid-tropospheric carbon dioxide during July 2003 as measured by the Aqua satellite. Low concentrations are shown in blue and high concentrations are shown in red. Despite carbon dioxide's high degree of mixing, the regional patterns of atmospheric sources and sinks are still apparent in mid-troposphere carbon dioxide concentrations.

