GLOBE Earth System Poster

Exploring connections in year 2007

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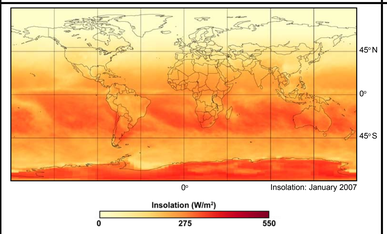
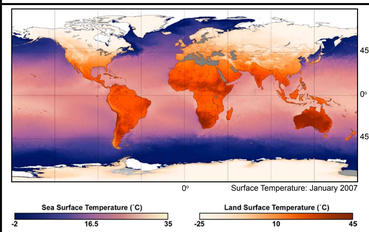
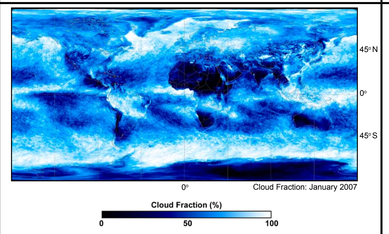
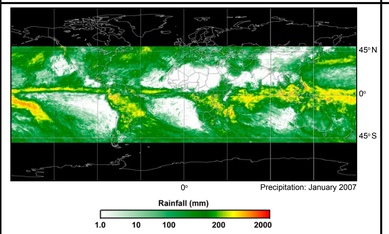
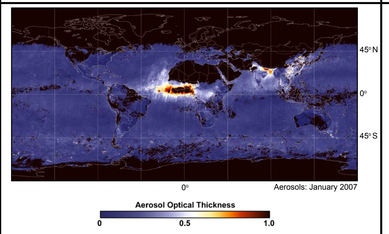
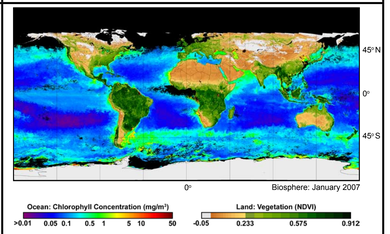
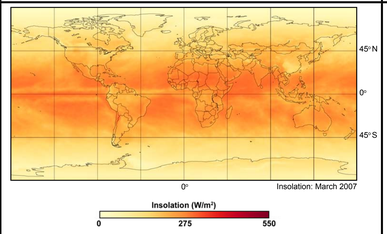
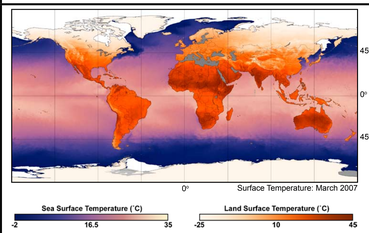
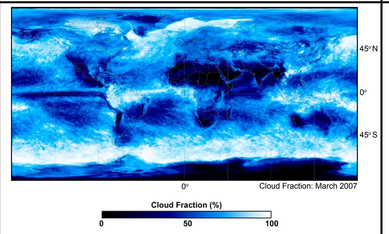
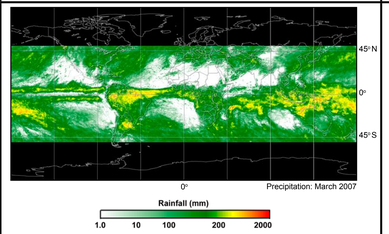
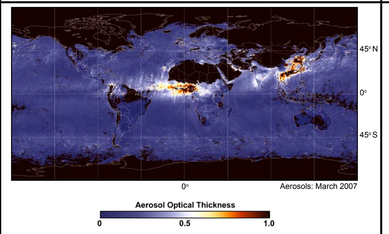
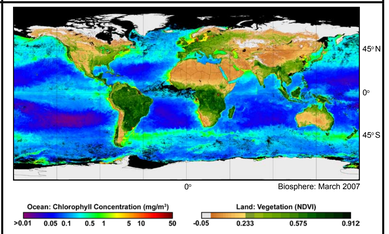
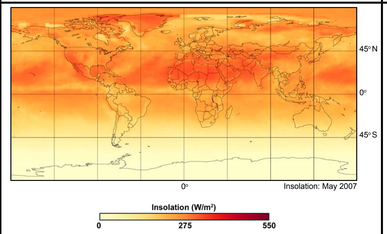
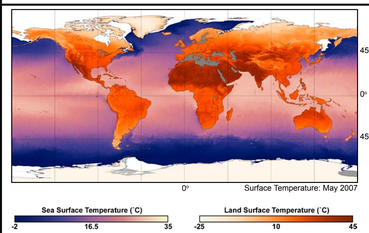
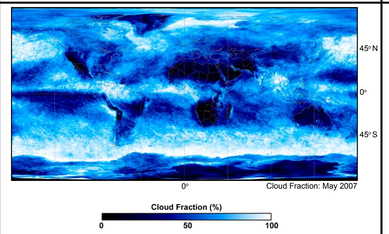
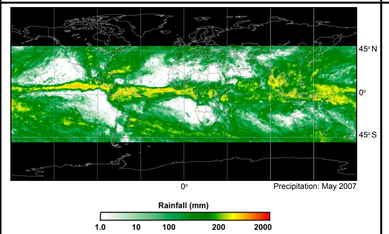
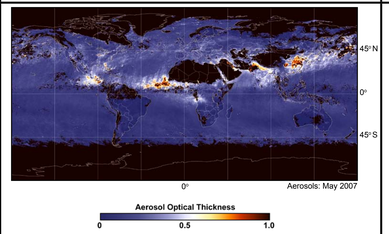
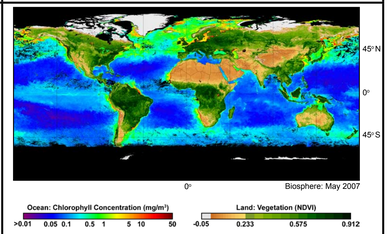
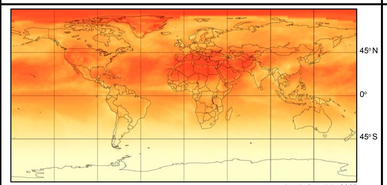
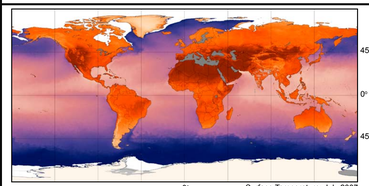
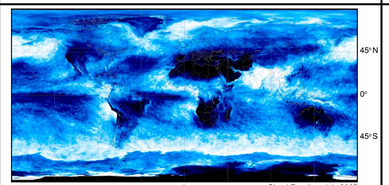
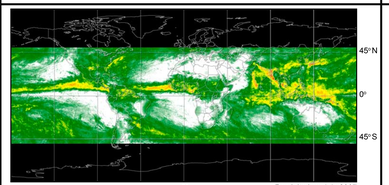
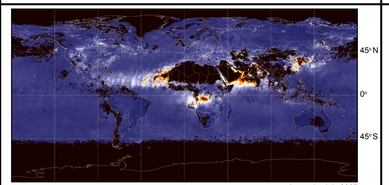
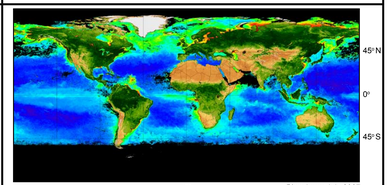
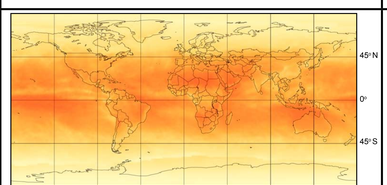
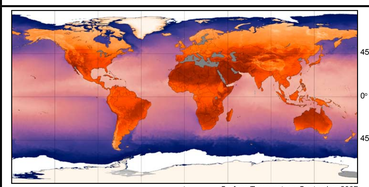
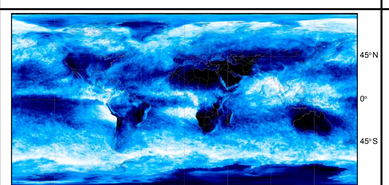
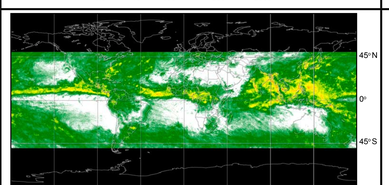
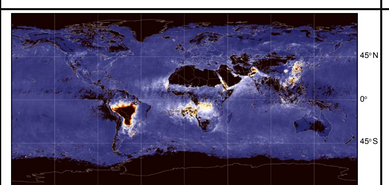
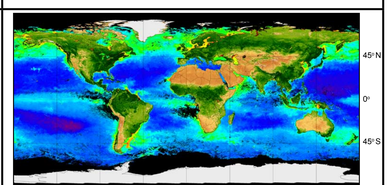
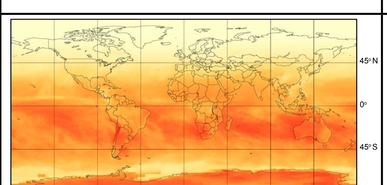
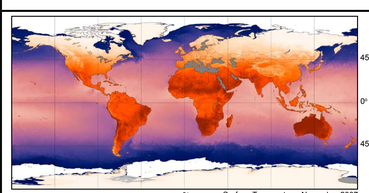
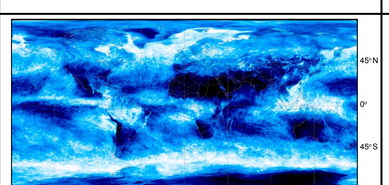
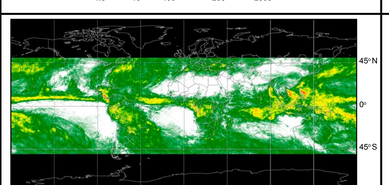
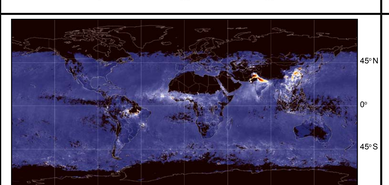
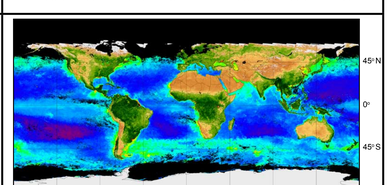
	Insolation	Surface Temperature	Cloud Fraction	Precipitation	Aerosols	Biosphere
January						
March						
May						
July						
September						
November						

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Insolation is the rate of incoming sunlight reaching the Earth's surface. These images are derived from measurements of radiant energy escaping the top of Earth's atmosphere by the CERES instrument aboard NASA's Terra and Aqua satellites.

Credit and contact information:
Images by R. Stockli, NEO Team, using data provided by the FLASHFlux data produced using CERES observations combined with MODIS measurements. Data provided by the FLASHFlux team, NASA Langley Research Center.
MODIS: Moderate Resolution Imaging Spectroradiometer (http://modis.gsfc.nasa.gov)
FLASHFlux: Fast Longwave And Shortwave Radiative Fluxes (http://flashflux.larc.nasa.gov)
CERES: Clouds and the Earth's Radiant Energy System (http://asdc.larc.nasa.gov/ceres)
NEO: NASA Earth Observations. (http://neo.sci.gsfc.nasa.gov)

Surface Temperature is a combination of Land Surface Temperature (LST) and Sea Surface Temperature (SST) compiled from various instruments.

Credit and contact information:
LST images by R. Stockli, NEO Team, using data provided by MODIS Land Science Team. SST images by J. Allen, NEO Team, using SST data from AMSR-E, courtesy Dr. C. Gentemann, RemSS.
MODIS: Moderate Resolution Imaging Spectroradiometer (http://modis.gsfc.nasa.gov) AMSR-E: Advanced Microwave Radiometer for EOS (provides microwave ability to see through cloud cover and combines data from AMSR-E, MODIS, and TMI (www.ghrc.msfc.nasa.gov/AMSR)
TMI: TRMM Microwave Imager provides a seamless image (http://trmm.gsfc.nasa.gov)
NEO: NASA Earth Observations. (http://neo.sci.gsfc.nasa.gov)

Cloud fraction is measured using MODIS aboard NASA's Terra and Aqua satellites. Cloud fraction is the portion of Earth's surface covered by cloud relative to the portion of Earth not covered by cloud.

Credit and contact information:
Images by R. Stockli, NEO Team, using data provided by the MODIS Atmosphere Science Team.
MODIS: Moderate Resolution Imaging Spectroradiometer (http://modis.gsfc.nasa.gov)
NEO: NASA Earth Observations. (http://neo.sci.gsfc.nasa.gov)

Total Rainfall is derived from TRMM, providing radar and microwave radiometric data that measure the vertical distribution of precipitation over the tropics in a latitudinal band between 35 degrees north and south.

Credit and contact information:
TRMM images provided by NASA Goddard Earth Sciences DISC, based on data from NASA and the Japanese Space Agency (JAXA).
TRMM: Tropical Rainfall Measuring Mission (http://trmm.gsfc.nasa.gov)
NEO: NASA Earth Observations. (http://neo.sci.gsfc.nasa.gov)

Aerosol Optical Thickness (AOT) is measured by MODIS aboard NASA's Terra satellite. Aerosols data includes optical thickness and size distribution of aerosols over most of the globe on a daily basis.

Credit and contact information:
Images by R. Stockli, NEO Team, using data provided by the MODIS Atmosphere Science Team.
MODIS: Moderate Resolution Imaging Spectroradiometer (http://modis.gsfc.nasa.gov)
NEO: NASA Earth Observations. (http://neo.sci.gsfc.nasa.gov)

Biosphere images are composed of Chlorophyll Concentration and NDVI images. MODIS, aboard NASA's Aqua satellite, measures chlorophyll a daily over the entire planet. NDVI (Normalized Difference Vegetation Index) maps were produced using data collected by the Moderate Resolution Imaging Spectroradiometer (MODIS) aboard NASA's Terra satellite.

Credit and contact information:
Chlorophyll images by OceanColor Web, G. Feldman and N. Kuring. NDVI images by R. Stockli, NEO Team, using data provided by the MODIS Atmosphere Science Team.
MODIS: Moderate Resolution Imaging Spectroradiometer (http://modis.gsfc.nasa.gov)
NEO: NASA Earth Observations. (http://neo.sci.gsfc.nasa.gov)