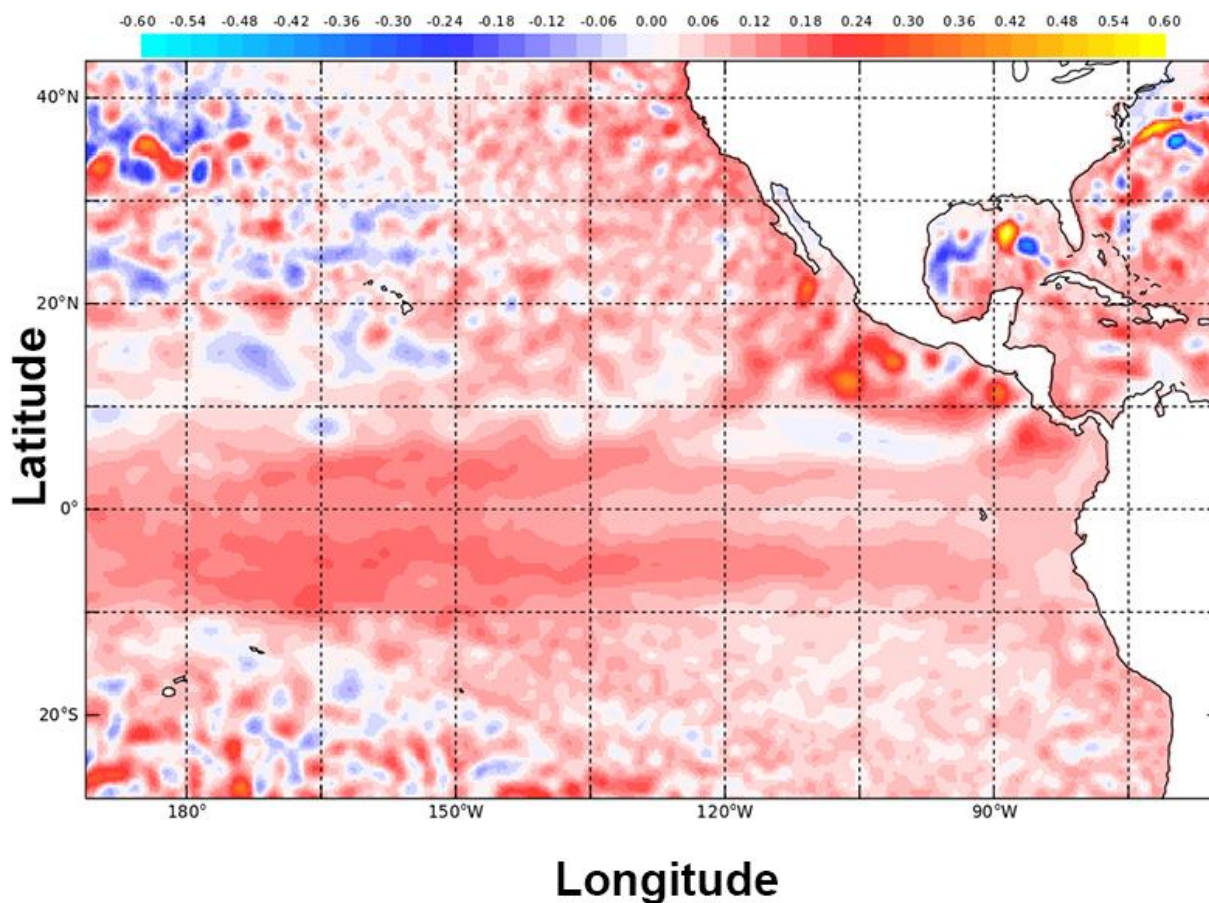


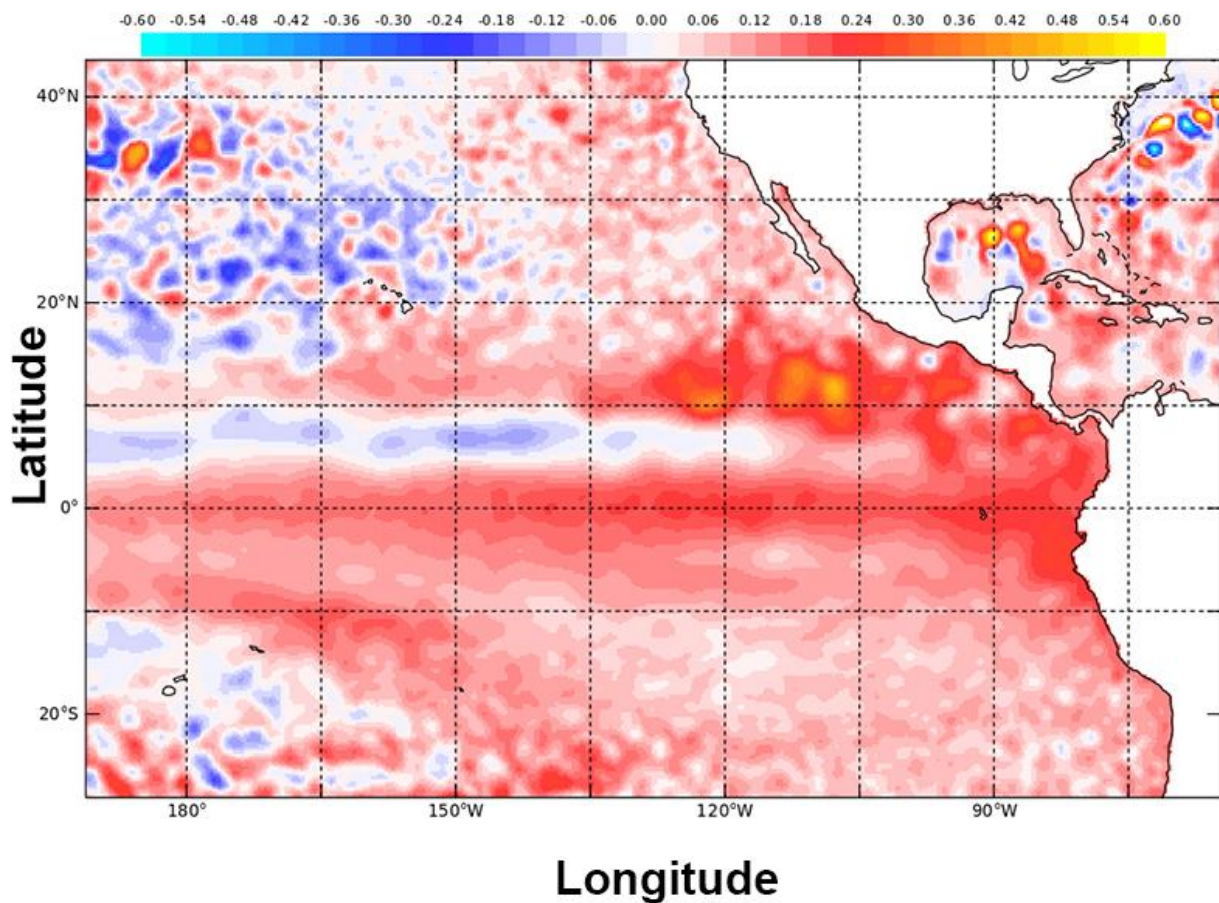


Title: El Niño Southern Oscillation: Maps, Graphs, and Data



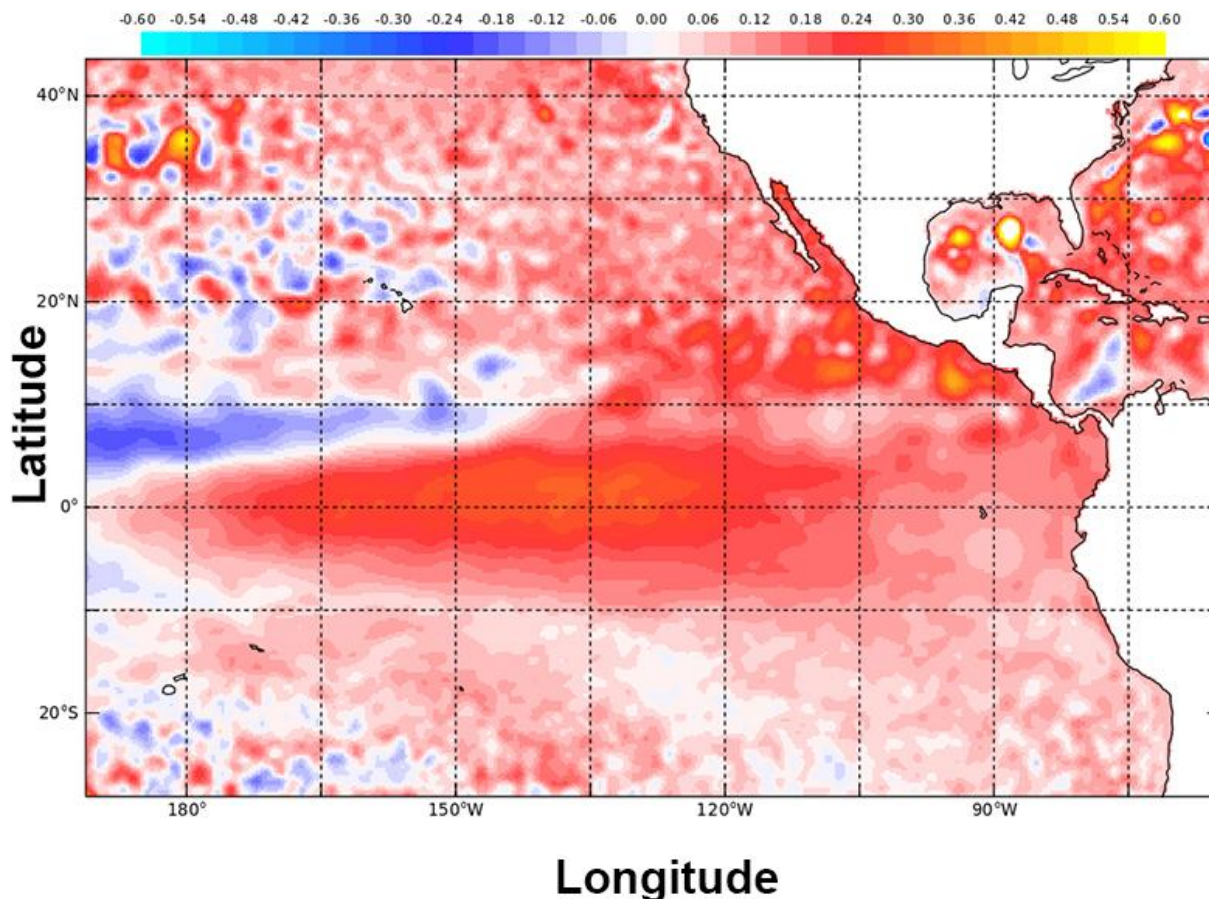
Map: Monthly Sea Level (Sea Surface Height) Anomaly. Equatorial Pacific Ocean. **January 2015.** Source: EU Copernicus.

DESCRIPTION: This quantity describes the anomaly of sea surface height, which is the difference between the measured sea surface height and the global mean sea level (the level of the sea surface if the ocean was only affected by the spin of the Earth and gravity). When it is reported that sea level is rising, it is the global mean sea level that is changing. Locally or regionally at any location, differences from the global mean sea level are a result of winds, atmospheric pressure, and local undersea topography. These data have a grid spacing of 0.167 degrees longitude and 0.167 degrees latitude. The sea level anomalies are in meters.



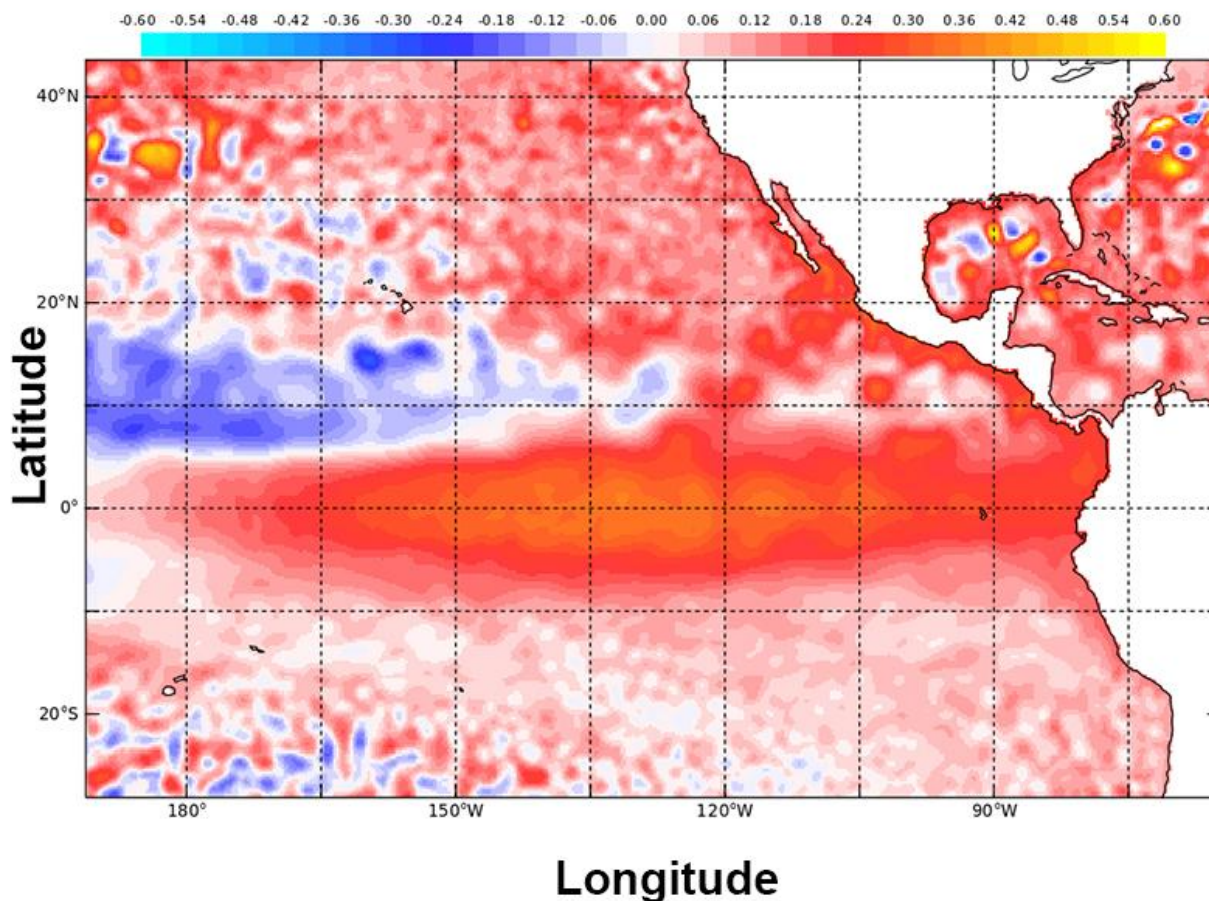
Map: Monthly Sea Level (Sea Surface Height) Anomaly. Equatorial Pacific Ocean. **May 2015.**
 Source: EU Copernicus.

DESCRIPTION: This quantity describes the anomaly of sea surface height, which is the difference between the measured sea surface height and the global mean sea level (the level of the sea surface if the ocean was only affected by the spin of the Earth and gravity). When it is reported that sea level is rising, it is the global mean sea level that is changing. Locally or regionally at any location, differences from the global mean sea level are a result of winds, atmospheric pressure, and local undersea topography. These data have a grid spacing of 0.167 degrees longitude and 0.167 degrees latitude. The sea level anomalies are in meters.



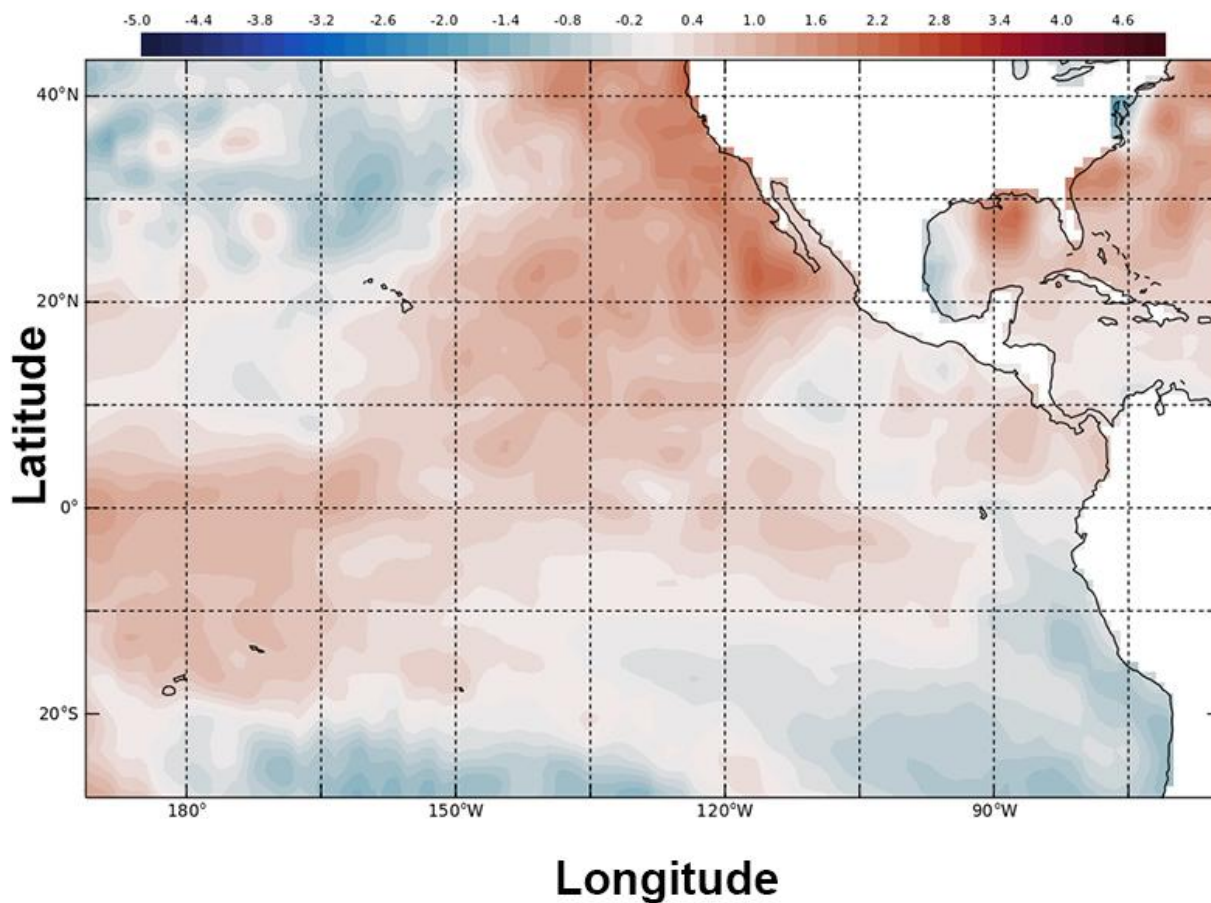
Map: Monthly Sea Level (Sea Surface Height) Anomaly. Equatorial Pacific Ocean. **August 2015.** Source: EU Copernicus.

DESCRIPTION: This quantity describes the anomaly of sea surface height, which is the difference between the measured sea surface height and the global mean sea level (the level of the sea surface if the ocean was only affected by the spin of the Earth and gravity). When it is reported that sea level is rising, it is the global mean sea level that is changing. Locally or regionally at any location, differences from the global mean sea level are a result of winds, atmospheric pressure, and local undersea topography. These data have a grid spacing of 0.167 degrees longitude and 0.167 degrees latitude. The sea level anomalies are in meters.



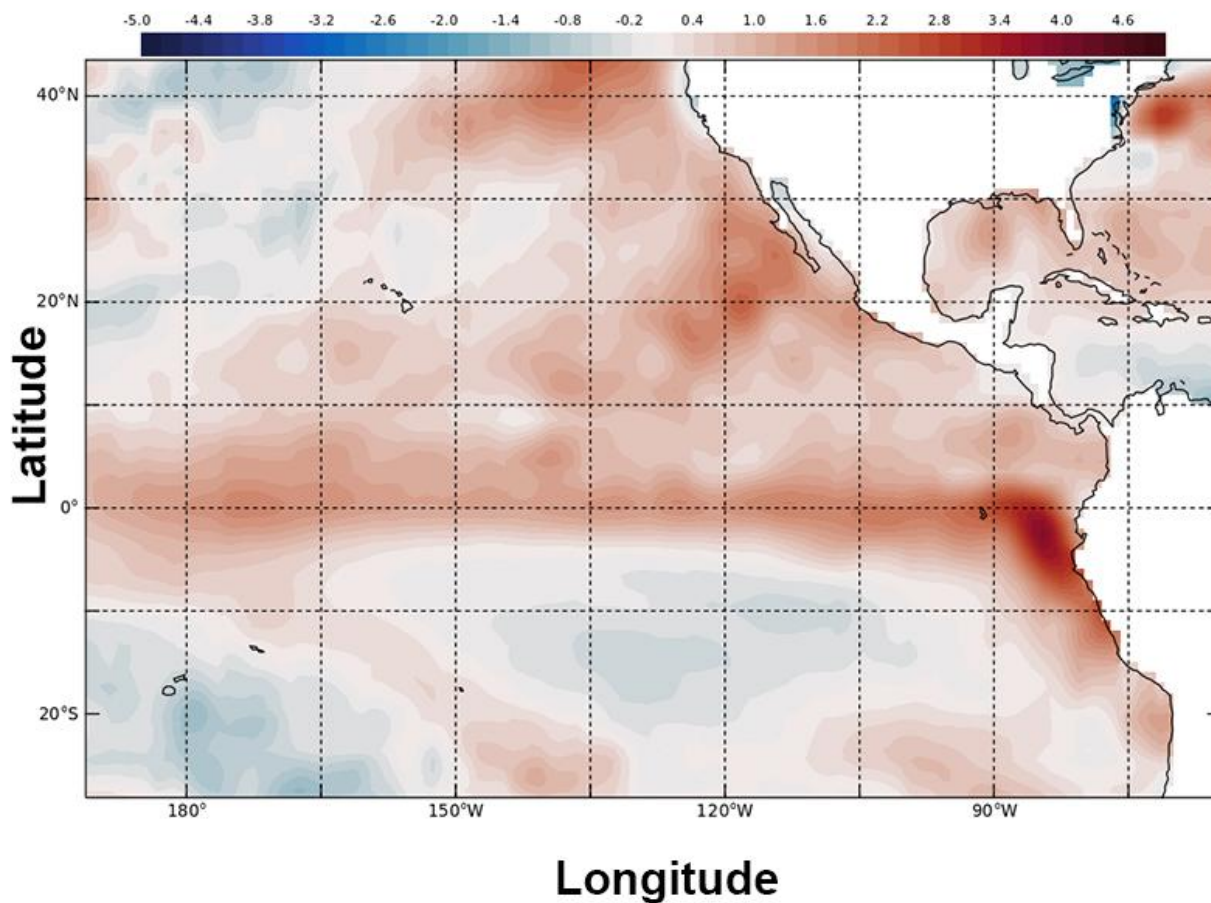
Map: Monthly Sea Level (Sea Surface Height) Anomaly. Equatorial Pacific Ocean. **November 2015.** Source: EU Copernicus.

DESCRIPTION: This quantity describes the anomaly of sea surface height, which is the difference between the measured sea surface height and the global mean sea level (the level of the sea surface if the ocean was only affected by the spin of the Earth and gravity). When it is reported that sea level is rising, it is the global mean sea level that is changing. Locally or regionally at any location, differences from the global mean sea level are a result of winds, atmospheric pressure, and local undersea topography. These data have a grid spacing of 0.167 degrees longitude and 0.167 degrees latitude. The sea level anomalies are in meters.



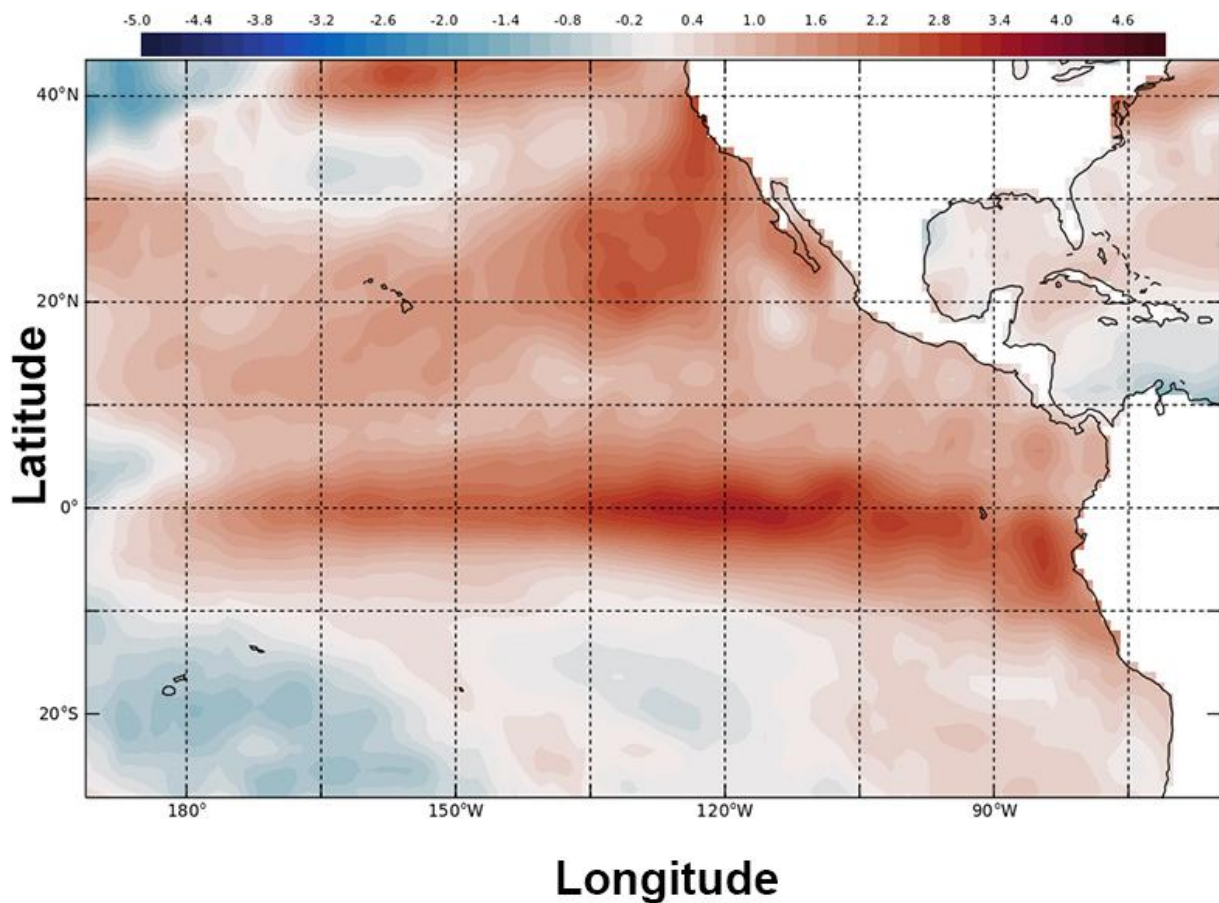
Map: Monthly Sea Surface Temperature Anomaly. Equatorial Pacific Ocean. **January 2015.**
Source: NOAA OI.

DESCRIPTION: The sea surface temperature anomaly is defined as the difference between the measured sea surface temperature and a long-term average of sea surface temperature for that month at that location. The long-term average is taken over the years 1990-2020. These data have a grid spacing of 1 degree longitude and 1 degree latitude. The sea surface temperature anomaly is given in units of degrees Celsius.



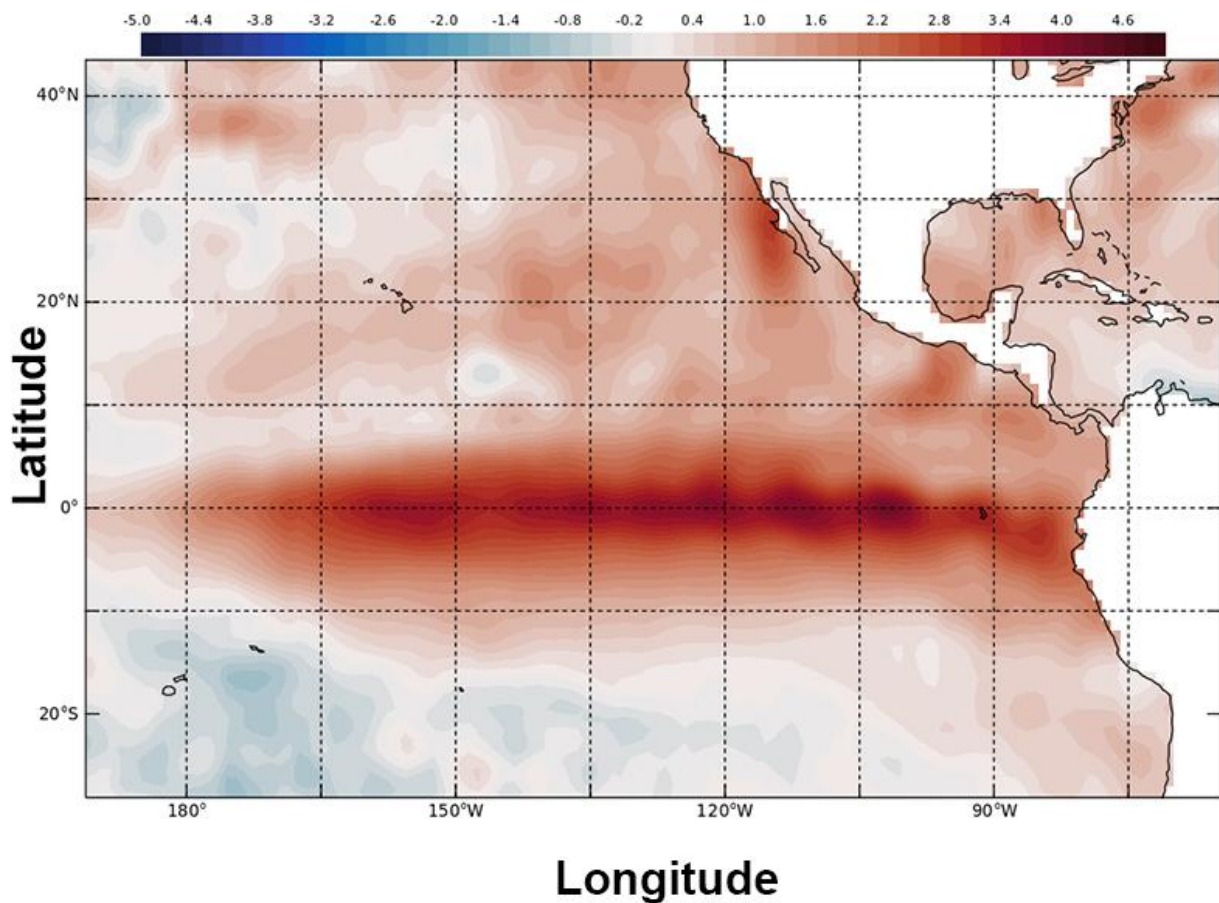
Map: Monthly Sea Surface Temperature Anomaly. Equatorial Pacific Ocean. **May 2015.** Source: NOAA OI.

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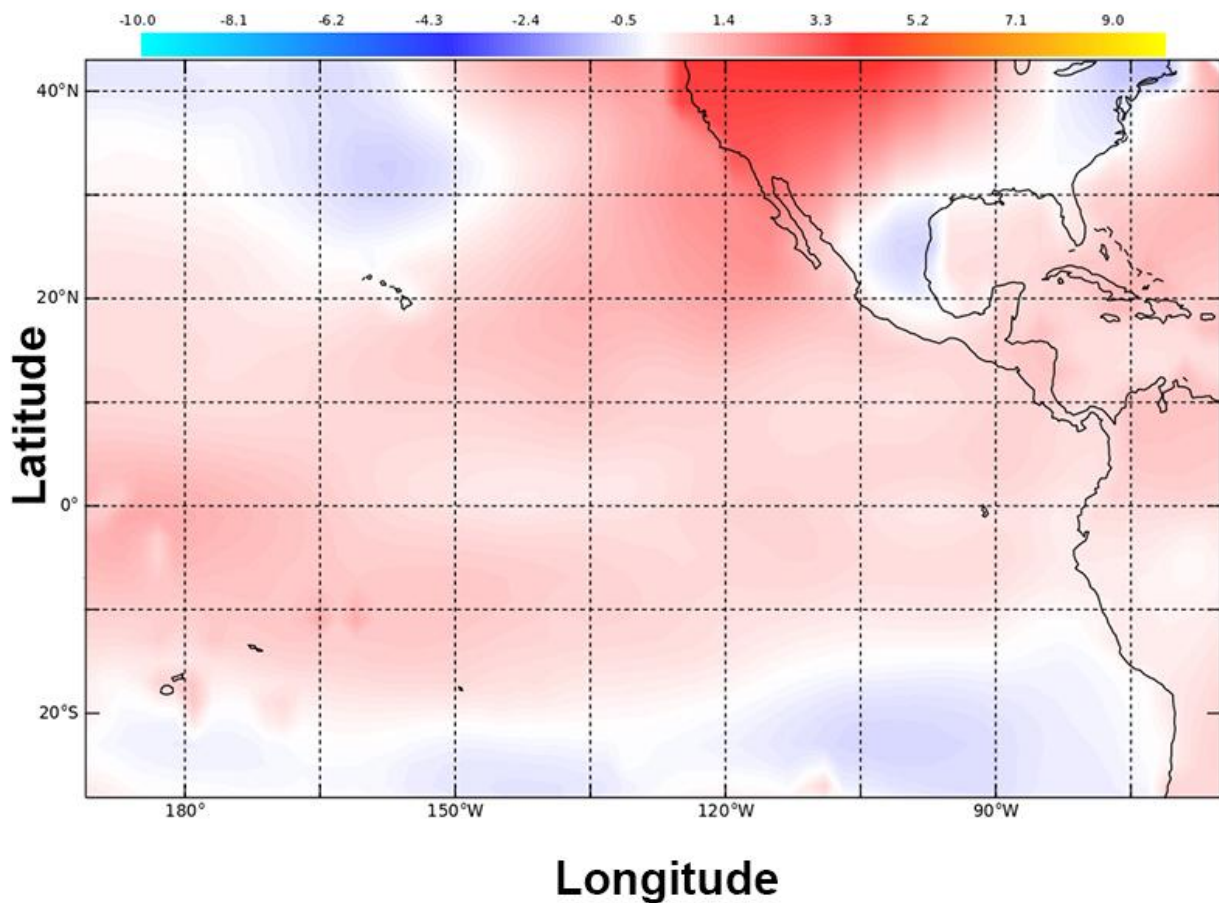
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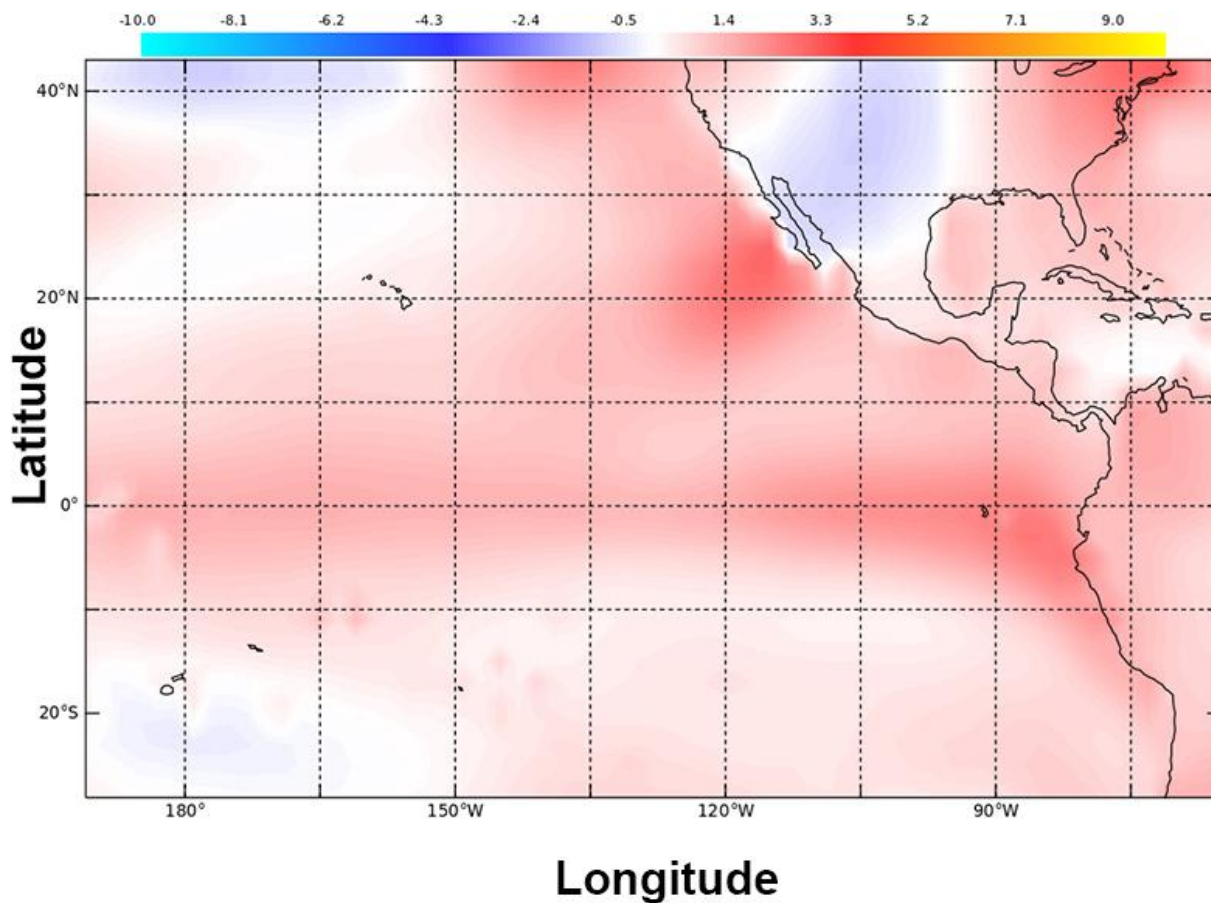
Map: Monthly Sea Surface Temperature Anomaly. Equatorial Pacific Ocean. **November 2015.**
Source: NOAA OI.

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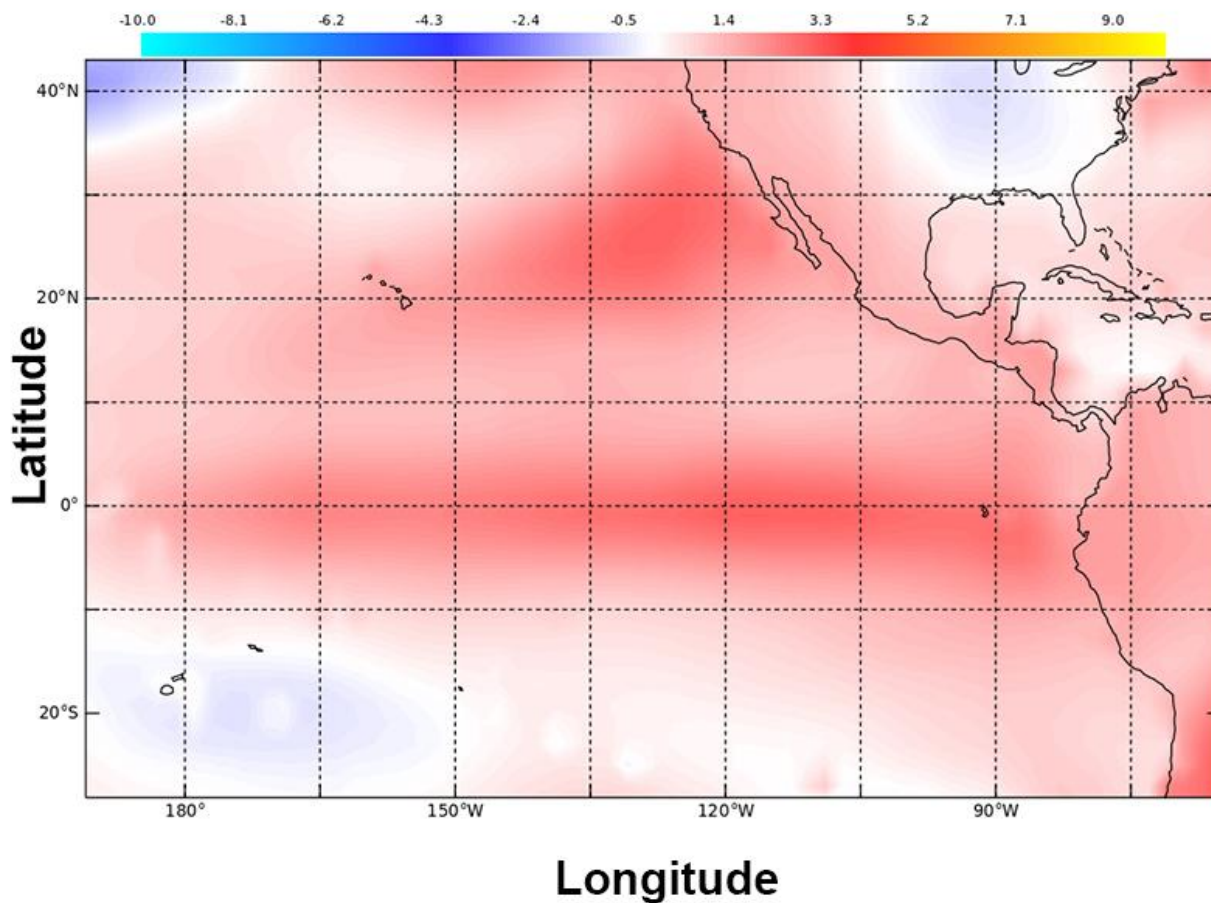
Map: Monthly Surface Air Temperature Anomaly. **January 2015.** Source: NASA GISS

DESCRIPTION: This quantity describes the surface air temperature anomaly, which is the difference between the measured temperature and an average value taken across the time period of the data (in this dataset, the 1951-1980 average temperature). These data have a grid spacing of 2 degrees longitude and 2 degrees latitude. Air temperature is in degrees Celsius.



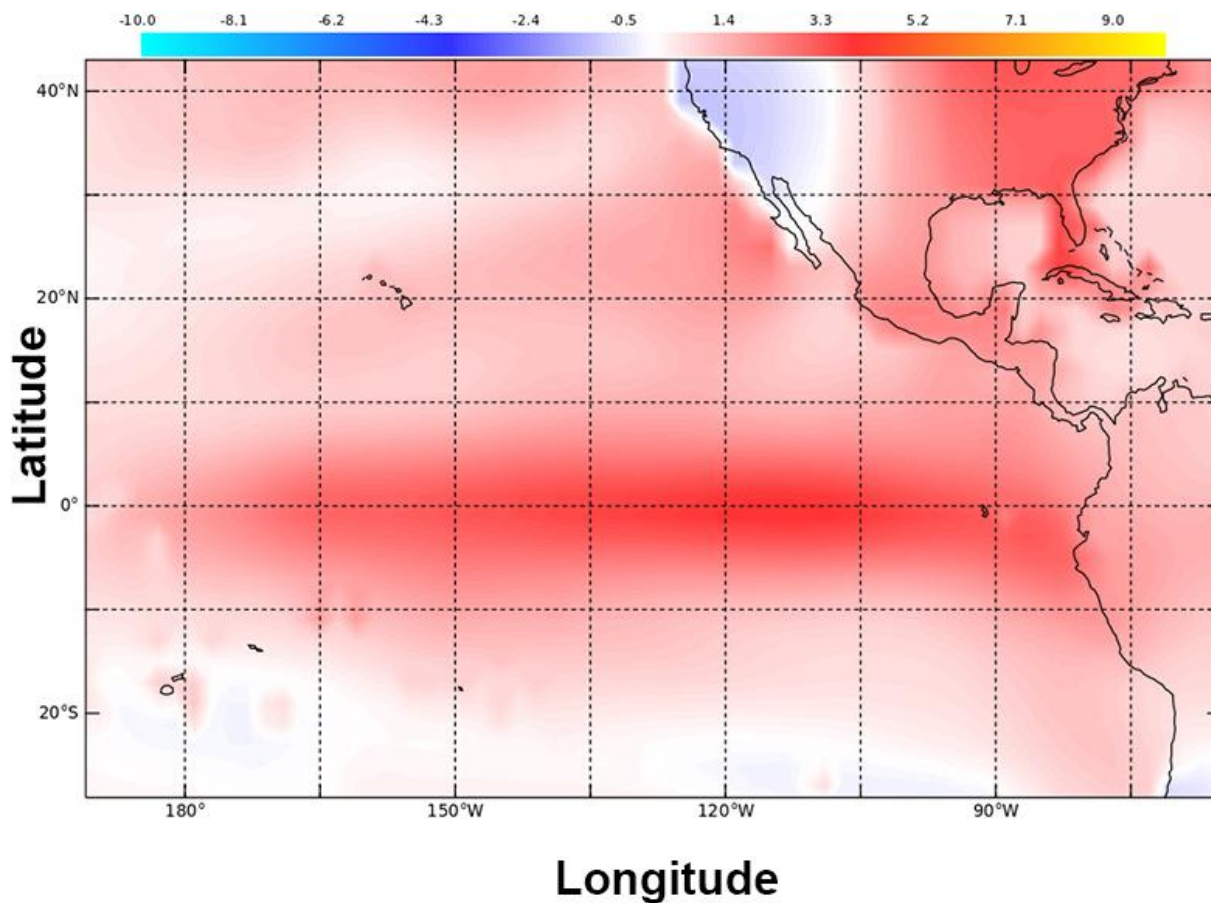
Map: Monthly Surface Air Temperature Anomaly. **May 2015.** Source: NASA GISS

DESCRIPTION: This quantity describes the surface air temperature anomaly, which is the difference between the measured temperature and an average value taken across the time period of the data (in this dataset, the 1951-1980 average temperature). These data have a grid spacing of 2 degrees longitude and 2 degrees latitude. Air temperature is in degrees Celsius.



Map: Monthly Surface Air Temperature Anomaly. **August 2015.** Source: NASA GISS

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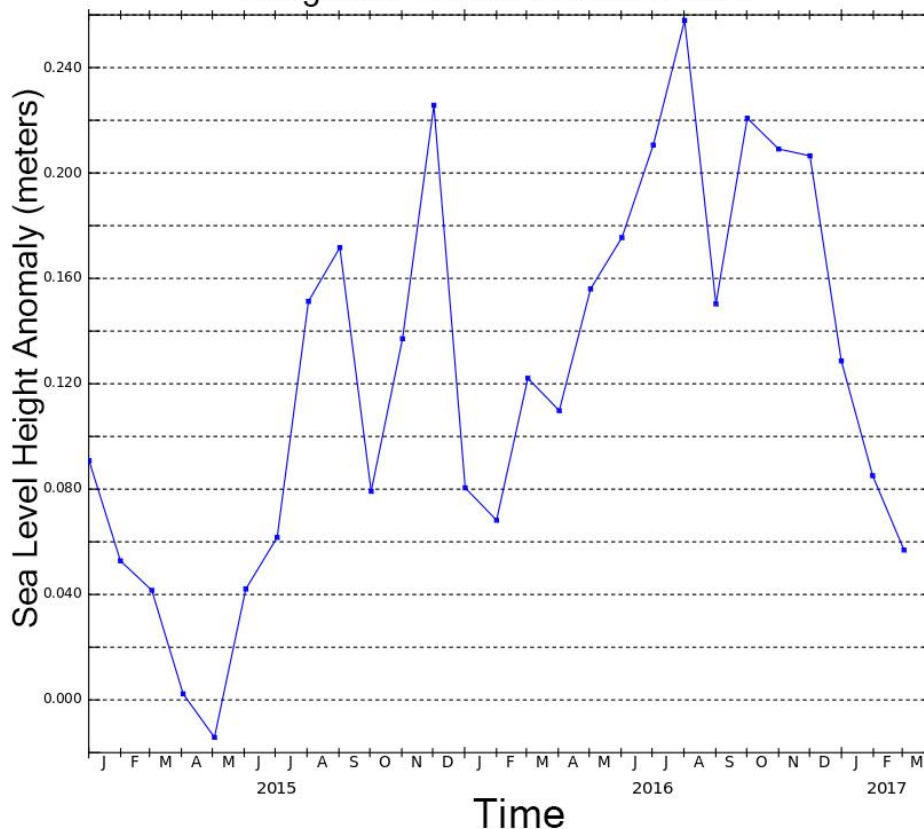


Map: Monthly Surface Air Temperature Anomaly. **November 2015.** Source: NASA GISS

DESCRIPTION: This quantity describes the surface air temperature anomaly, which is the difference between the measured temperature and an average value taken across the time period of the data (in this dataset, the 1951-1980 average temperature). These data have a grid spacing of 2 degrees longitude and 2 degrees latitude. Air temperature is in degrees Celsius.



**Monthly Sea Level (Sea Surface Height) Anomaly
Equatorial Pacific Ocean
January 2015 - March 2017
Longitude: 232.12 Latitude: 7.62**



Graph: Monthly Sea Level (Sea Surface Height) Anomaly. Equatorial Pacific Ocean. **January 2015 - March 2017.** Source: EU Copernicus.

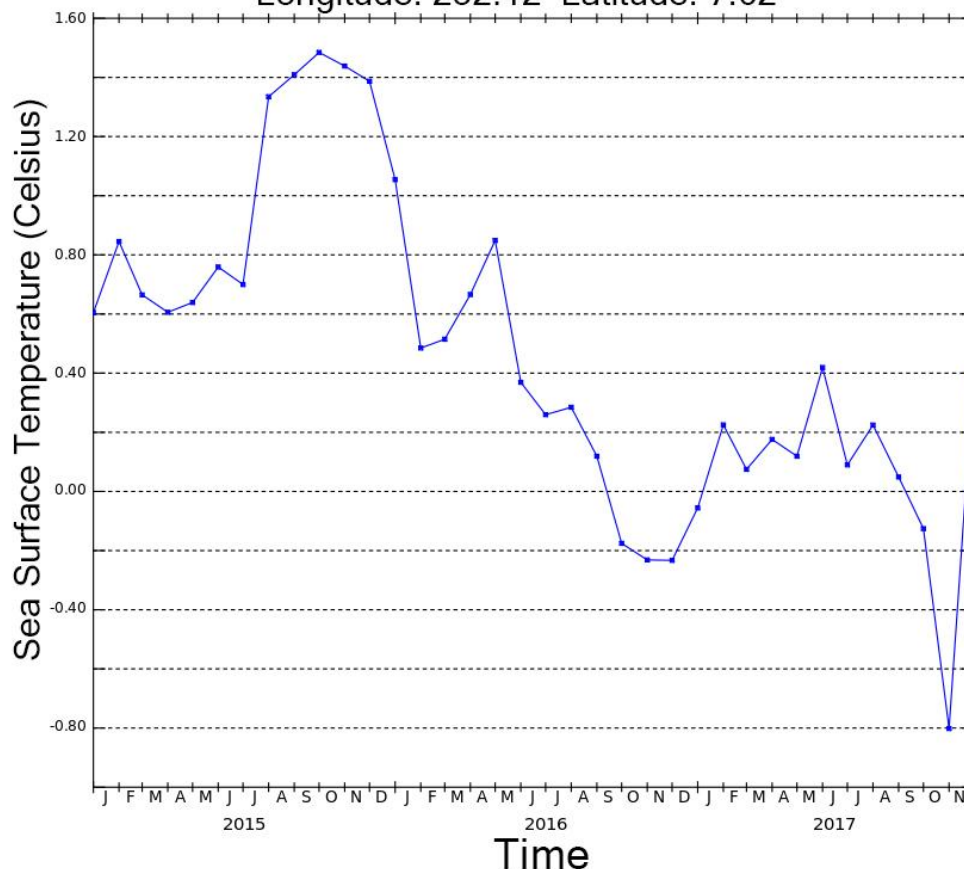
DESCRIPTION: This quantity describes the anomaly of sea surface height, which is the difference between the measured sea surface height and the global mean sea level (the level of the sea surface if the ocean was only affected by the spin of the Earth and gravity). When it is reported that sea level is rising, it is the global mean sea level that is changing. Locally or regionally at any location, differences from the global mean sea level are a result of winds, atmospheric pressure, and local undersea topography. These data have a grid spacing of 0.167 degrees longitude and 0.167 degrees latitude. The sea level anomalies are in meters.



Monthly Sea Surface Temperature Anomaly Equatorial Pacific Ocean

January 2015 - November 2017

Longitude: 232.12 Latitude: 7.62



Graph: Monthly Sea Surface Temperature Anomaly. Equatorial Pacific Ocean. **January 2015 - November 2017.** Source: NOAA OI.

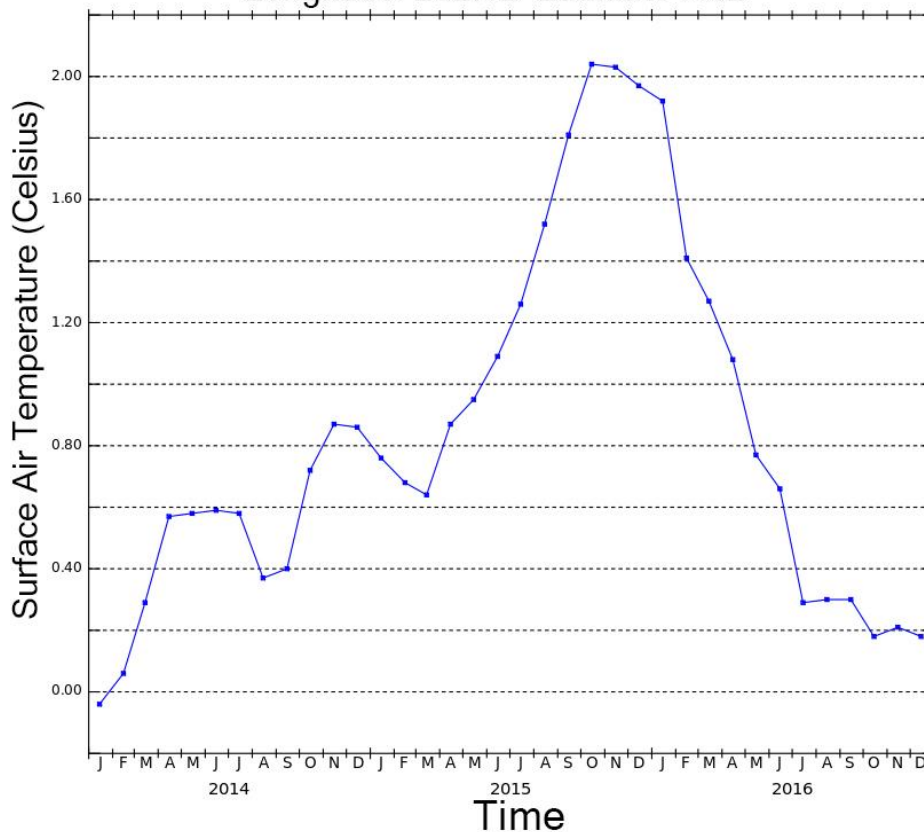
DESCRIPTION: The sea surface temperature anomaly is defined as the difference between the measured sea surface temperature and a long-term average of sea surface temperature for that month at that location. The long-term average is taken over the years 1990-2020. These data have a grid spacing of 1 degree longitude and 1 degree latitude. The sea surface temperature anomaly is given in units of degrees Celsius.



Monthly Surface Air Temperature Anomaly Equatorial Pacific Ocean

January 2014 - December 2016

Longitude: 232.12 Latitude: 7.62



Graph: Monthly Surface Air Temperature Anomaly. **January 2014 - December 2016.** Source: NASA GISS

DESCRIPTION: This quantity describes the surface air temperature anomaly, which is the difference between the measured temperature and an average value taken across the time period of the data (in this dataset, the 1951-1980 average temperature). These data have a grid spacing of 2 degrees longitude and 2 degrees latitude. Air temperature is in degrees Celsius.



Monthly Sea Level (Sea Surface Height) Anomaly Equatorial Pacific Ocean January 2015 - March 2017 (Longitude: 232.12 Latitude: 7.62)	
TIME PERIOD	Averaged Anomalies (meters)
Jan-15	0.0908
Jan-15	0.0528
Mar-15	0.0416
Apr-15	0.0023
May-15	-0.0142
Jun-15	0.0421
Jul-15	0.0617
Aug-15	0.1513
Sep-15	0.1717
Oct-15	0.0792
Nov-15	0.1371
Dec-15	0.2257
Jan-16	0.0805
Feb-16	0.0682
Mar-16	0.1221
Apr-16	0.1098
May-16	0.156
Jun-16	0.1755
Jul-16	0.2106
Aug-16	0.2579
Sep-16	0.1503
Oct-16	0.2208
Oct-16	0.2091
Dec-16	0.2065
Dec-16	0.1287
Jan-17	0.0851
Mar-17	0.0569

DESCRIPTION: This quantity describes the anomaly of sea surface height, which is the difference between the measured sea surface height and the global mean sea level (the level of the sea surface if the ocean was only affected by the spin of the Earth and gravity). When it is reported that sea level is rising, it is the global mean sea level that is changing. Locally or regionally at any location, differences from the global mean sea level are a result of winds, atmospheric pressure, and local undersea topography. These data have a grid spacing of 0.167 degrees longitude and 0.167 degrees latitude. The sea level anomalies are in meters.

Data: Monthly Sea Level (Sea Surface Height) Anomaly. Equatorial Pacific Ocean. **January 2015 - March 2017.** Source: EU Copernicus.



Monthly Sea Surface Temperature Anomaly Equatorial Pacific Ocean January 2015 - January 2017 (Longitude: 232.12 Latitude: 7.62)	
TIME PERIOD	TEMPERATURE (Celsius)
Jan-15	0.6045
Feb-15	0.845
Mar-15	0.6647
Apr-15	0.606
May-15	0.639
Jun-15	0.759
Jul-15	0.6997
Aug-15	1.3347
Sep-15	1.409
Oct-15	1.4843
Nov-15	1.4383
Dec-15	1.387
Jan-16	1.0545
Feb-16	0.485
Mar-16	0.5147
Apr-16	0.666
May-16	0.849
Jun-16	0.369
Jul-16	0.2597
Aug-16	0.2847
Sep-16	0.119
Oct-16	-0.1757
Nov-16	-0.2317
Dec-16	-0.233
Jan-17	-0.0555

DESCRIPTION: The sea surface temperature anomaly is defined as the difference between the measured sea surface temperature and a long-term average of sea surface temperature for that month at that location. The long-term average is taken over the years 1990-2020. These data have a grid spacing of 1 degree longitude and 1 degree latitude. The sea surface temperature anomaly is given in units of degrees Celsius.

Data: Monthly Sea Surface Temperature Anomaly. Equatorial Pacific Ocean. **January 2015 - January 2017.** Source: NOAA OI.



**Monthly Surface Air Temperature Anomaly
Equatorial Pacific Ocean**

January 2015 - December 2016
(Longitude: 232.12 Latitude: 7.62)

TIME PERIOD	TEMPERATURE (Celsius)
Jan-15	0.76
Feb-15	0.68
Mar-15	0.64
Apr-15	0.87
May-15	0.95
Jun-15	1.09
Jul-15	1.26
Aug-15	1.52
Sep-15	1.81
Oct-15	2.04
Nov-15	2.03
Dec-15	1.97
Jan-16	1.92
Feb-16	1.41
Mar-16	1.27
Apr-16	1.08
May-16	0.77
Jun-16	0.66
Jul-16	0.29
Aug-16	0.3
Sep-16	0.3
Oct-16	0.18
Nov-16	0.21
Dec-16	0.18

DESCRIPTION: This quantity describes the surface air temperature anomaly, which is the difference between the measured temperature and an average value taken across the time period of the data (in this dataset, the 1951-1980 average temperature). These data have a grid spacing of 2 degrees longitude and 2 degrees latitude. Air temperature is in degrees Celsius.

Data: Monthly Surface Air Temperature Anomaly. **January 2015 - December 2016.** Source: NASA GISS