The results of comparing the data Earth's radiation balance components with the sea surface temperature values during the El Niño (La Niña) events in the Pacific Ocean

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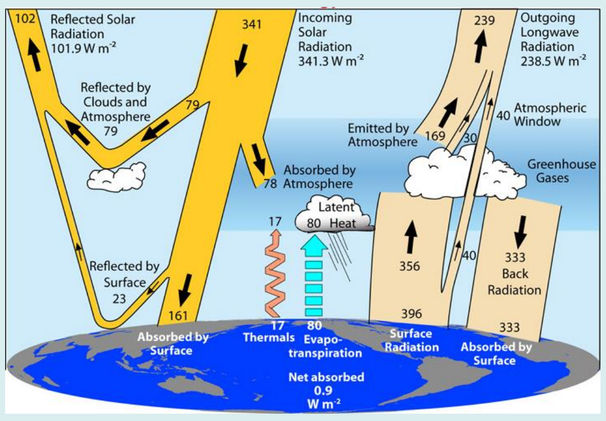
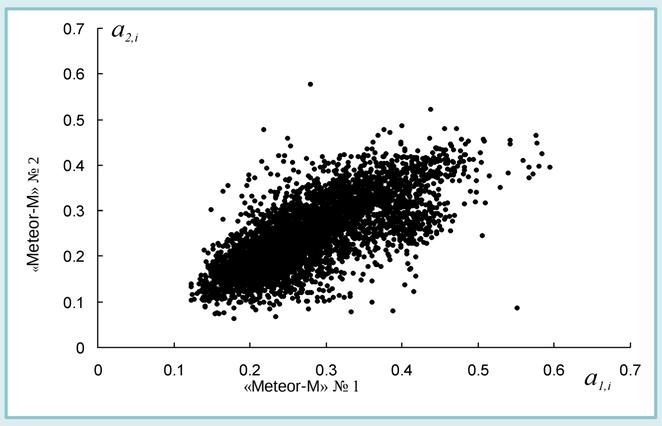


Earth's Energy Budget components

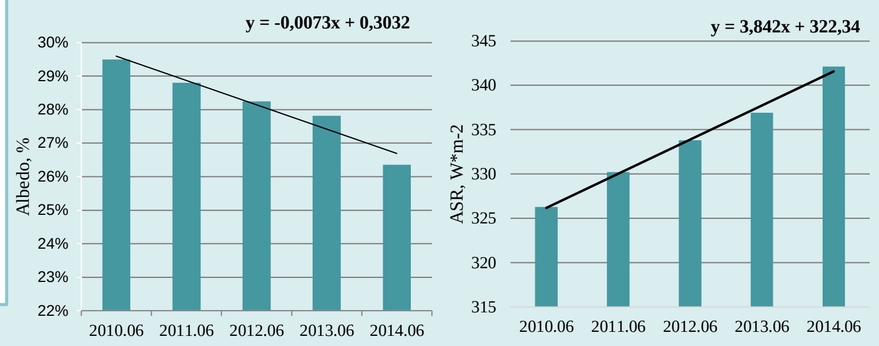
The radiometer IKOR-M



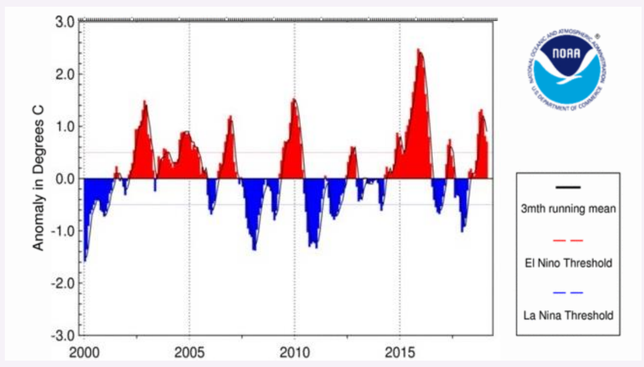
Correlation diagram of mean monthly albedo values for August 2014

The linear correlation coefficient of the albedo is 0.7309 ± 0.0071

The conversion factor for albedo values of the first radiometer to the scale of the second radiometer is 0.9071 ± 0.0031

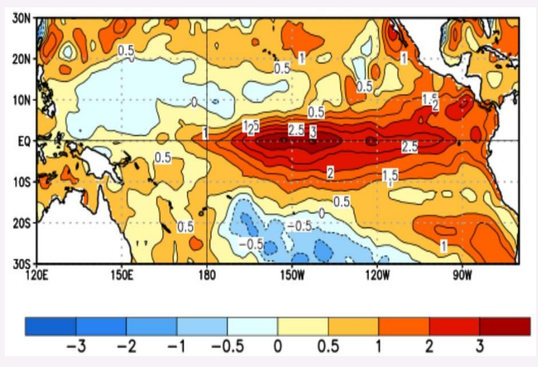


Trends of mean monthly albedo and absorbed solar radiation (ASR) values for Sahara in summer



Sea Surface Temperature (SST) Anomaly in Nino 3.4 Region*

* National Center for Environmental Information NOAA

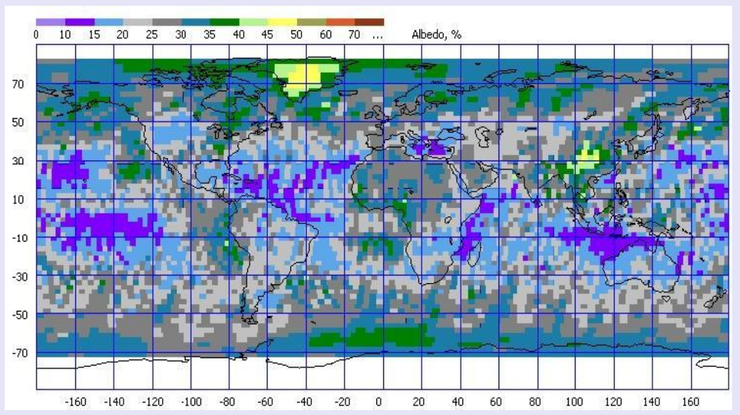


Sea Surface Temperature Anomaly in Pacific Ocean in winter 2016**

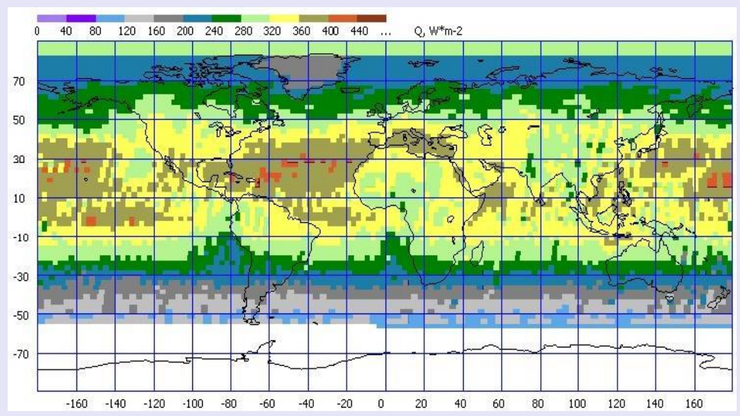
** Climate Prediction Center / NCEP

El Niño - the temperature fluctuation of the surface layer of water in the equatorial part of the Pacific Ocean, which has a significant effect on the climate. This phenomenon manifests itself in a significant increase in the temperature of the ocean surface, which leads to the development of powerful convection and, therefore, to an increase in the total amount of cloud cover and the intense precipitation in this region.

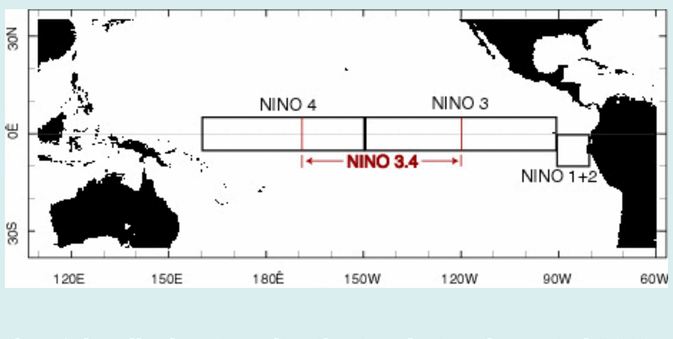
The surface of the Earth for a possible observation satellite is divided into cells. Pixels are equal and have size 2,5 x 2,5 ° in geocentric coordinates. The every second measurements is accumulated for each cell. Repeatability of observations over the same territory from the satellite occurs every 4-5 days

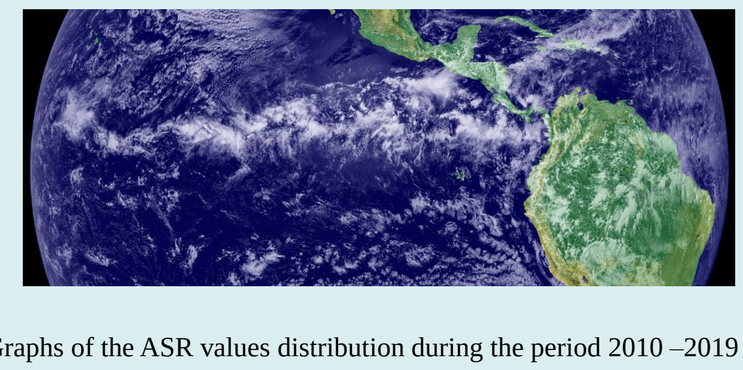


Map of the albedo values distribution (August 2014)

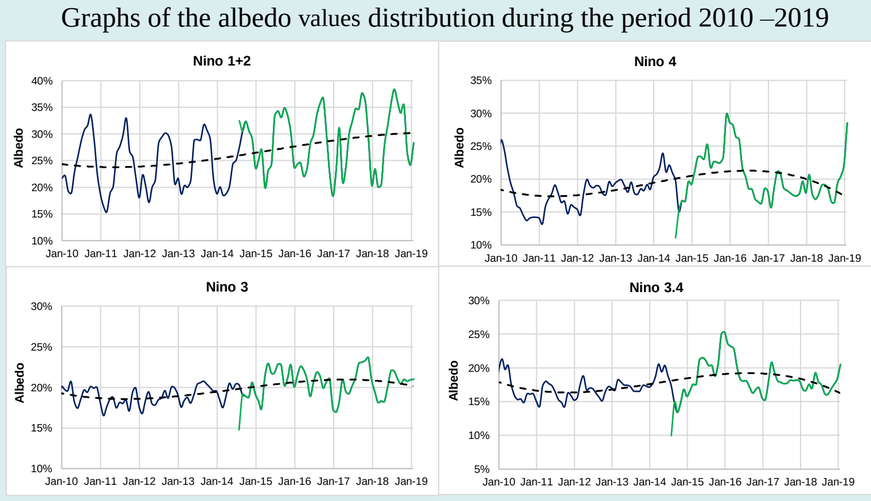


Map of the absorbed solar radiation (ASR) values distribution (August 2014)

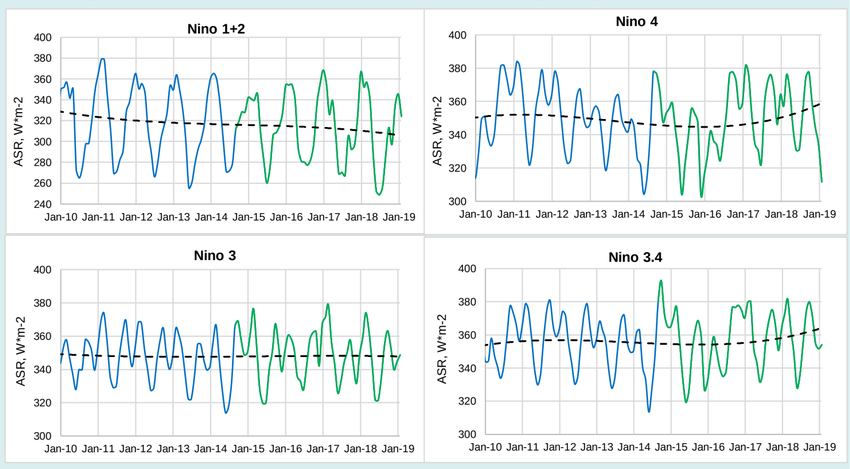




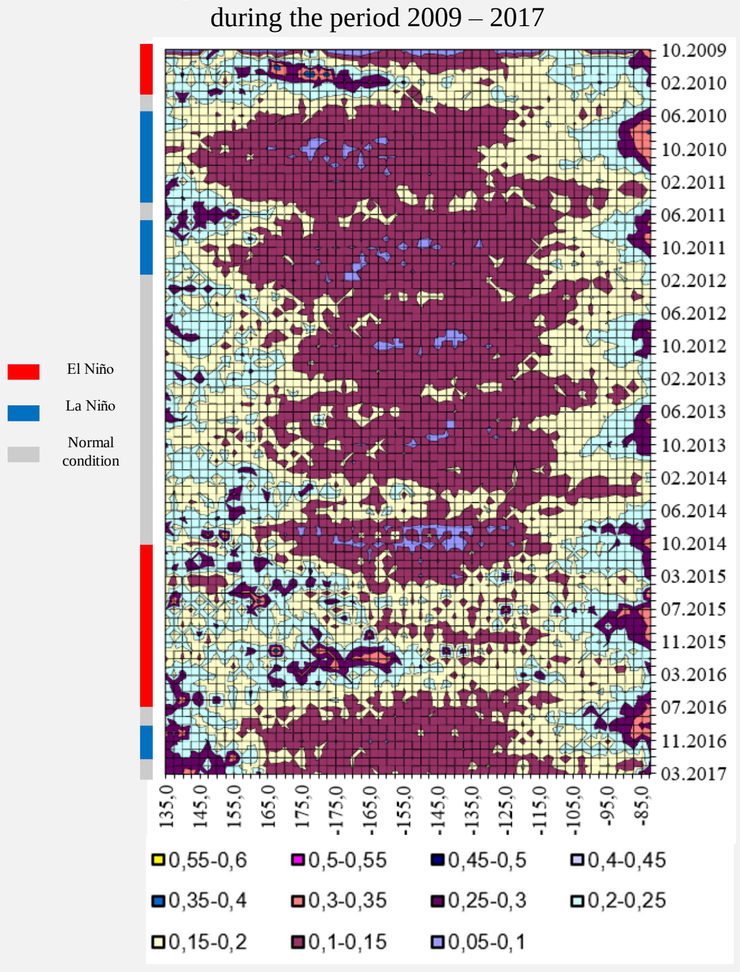
Graphs of the albedo values distribution during the period 2010 –2019



Graphs of the ASR values distribution during the period 2010 –2019



The spatial-temporal distribution of the albedo during the period 2009 – 2017

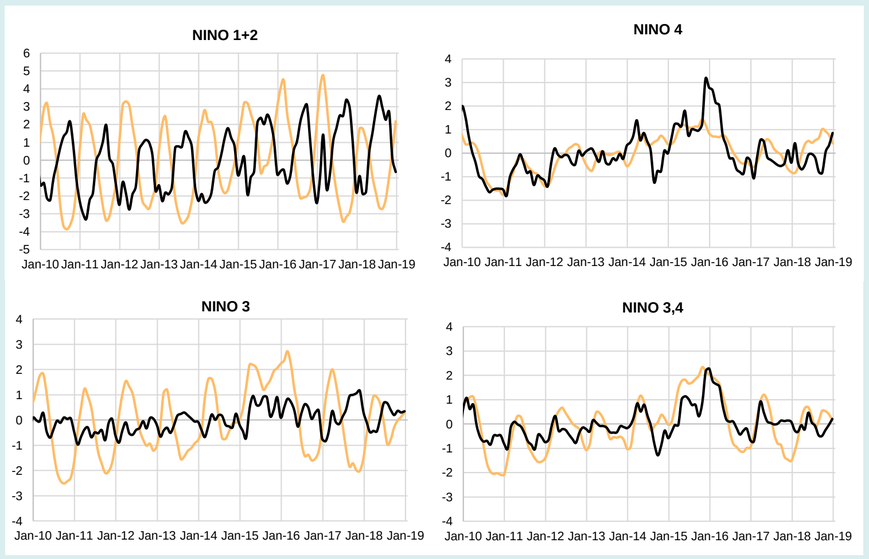


The correlation coefficients between the average values of Earth's Energy Budget components and SST for the period from 2010 to 2018

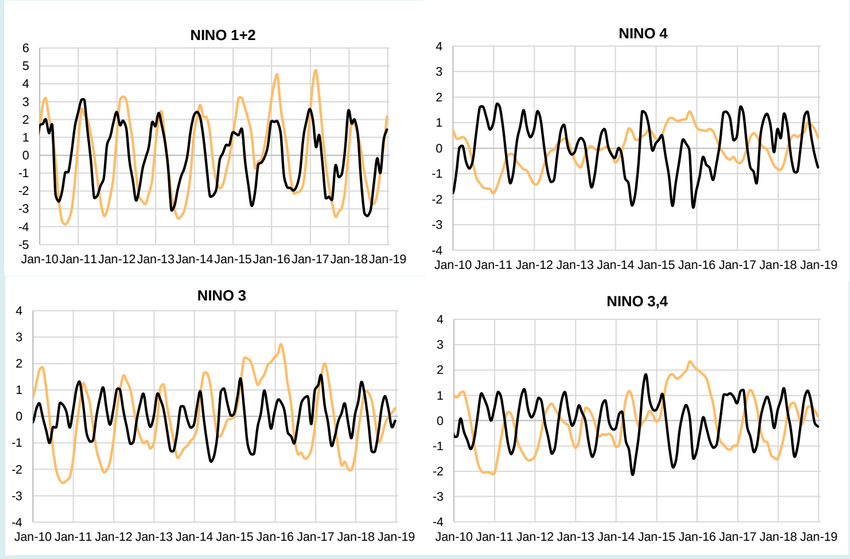
Albedo and SST									
Region	2010	2011	2012	2013	2014	2015	2016	2017	2018
Nino 1+2	-0,88	-0,87	-0,79	-0,92	-0,94	-0,71	-0,57	-0,89	-0,91
Nino 3	0,35	-0,26	-0,52	-0,76	0,20	0,67	0,47	-0,88	-0,64
Nino 4	0,85	0,86	0,65	-0,71	-0,36	0,57	0,72	0,25	-0,13
Nino 3.4	0,86	0,78	0,20	0,42	0,25	0,75	0,90	-0,48	0,05

ASR and SST									
Region	2010	2011	2012	2013	2014	2015	2016	2017	2018
Nino 1+2	0,72	0,55	0,51	0,81	0,45	0,51	0,69	0,69	0,74
Nino 3	-0,05	-0,21	-0,18	0,25	-0,37	-0,39	0,10	0,33	0,00
Nino 4	-0,86	-0,77	-0,45	-0,37	-0,03	-0,51	-0,91	-0,66	-0,21
Nino 3.4	-0,68	-0,73	-0,60	-0,52	-0,39	-0,52	-0,70	-0,56	-0,40

Distribution of deviations from the mean albedo and SST* for Nino regions during the period from 2010 to 2019



Distribution of deviations from the mean ASR and SST* for Nino regions during the period from 2010 to 2019



* Sea surface temperature data taken from the website National Center for Environmental Information NOAA

The pattern for calculating of mean monthly albedo values for meridional sections 2.5 º wide