

Wet tropospheric corrections comparison : ERA Interim versus Radiometer

Study variable	ERA
Reference variable	Radiometer
Missions	Topex-Posedon (<i>tp</i>), ERS-1 (<i>e1</i>), ERS-2 (<i>e2</i>)
Period	[15636, 20369]

Creation date : 2011/08/29

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Study overview

In this study, the wet troposphere model ERA Interim has been compared to the composite correction used in CNES/AVISO product to calculate the ERS-1, ERS-2 and Topex-Poseidon sea-level height (SSH).

The impact of using these both wet troposphere corrections on the SSH calculation has been analyzed for ERS-1, ERS-2 and Topex-Poseidon missions :

- for ERS-1 : from October 1992 (cycle 15) to June 1996 (Cycle 53)
- for ERS-2 : from May 1995 (cycle 1) to October 2006 (Cycle 108)
- for Topex-Poseidon : from October 1992 (cycle 4) to October 2006 (Cycle 481)

The ERA Interim wet troposphere correction is based on the ERA INTERIM model which corresponds to the latest global atmospheric reanalysis produced by the European Centre for Medium-Range Weather Forecasts (ECMWF). For more details, see The ERA-Interim reanalysis: configuration and performance of the data assimilation system (Q. J. R. Meteorol. Soc. 137: 553-597, April 2011 A).

The reference corrections are :

- for ERS-1: Composite correction : wet radiometer correction for coastal distance greater than 50 km and the ECMWF operational correction close to coasts (coastal distance lower than 50 km)
- for ERS-2: Composite correction : a neuronal correction is used offshore and the ECMWF operational model is used close to coasts (coastal distance lower than 50 km)
- for ENVISAT : Composite correction : a radiometer wet troposphere correction present in GDR-C products is used for coastal distances greater than 50 km while the ecmwf operational correction model is used for coastal distances lower than 50 km.

For all satellites, the ecmwf operational correction is adjusted on the radiometer wet troposphere correction to provide the continuity in the wet troposphere correction dataset.

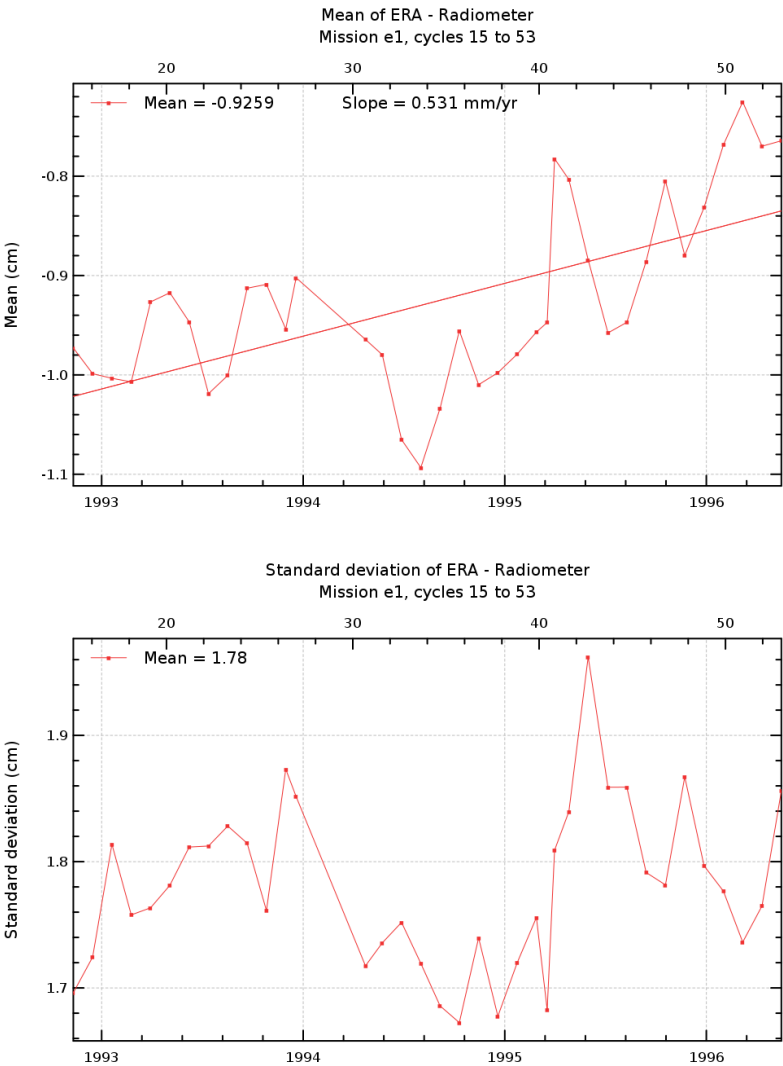
All the validation diagnostics displayed in this report has been performed in agreement with the Sea-Level CCI Product Validation Plan (PVP).

Diagnostic A001 (mission e1)

Name : Temporal evolution of differences between both altimetric components

Input data : Along-track altimetric components

Description : The temporal evolution of global statistics (mean, variance, slope) of differences between 2 different standards of a same altimetric component (sea surface height correction, altimeter parameter, orbit) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) . These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.



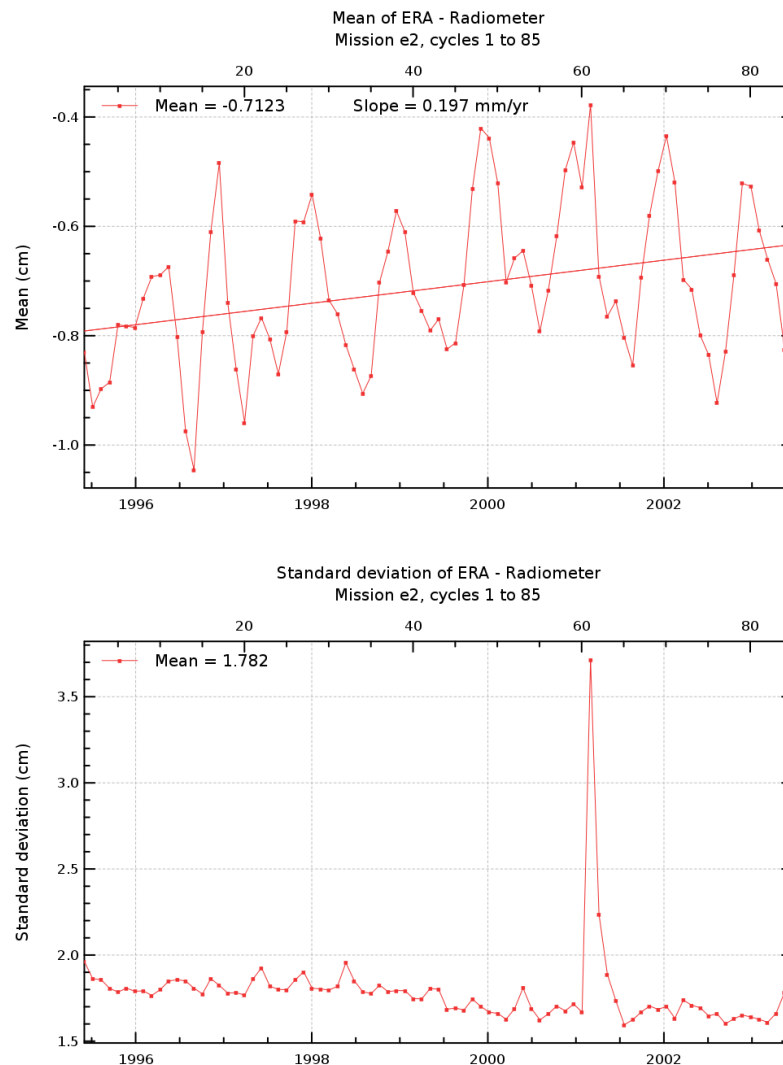
Diagnostic A001 (mission e2)

Name : Temporal evolution of differences between both altimetric components

Input data : Along-track altimetric components

Description : The temporal evolution of global statistics (mean, variance, slope) of differences between 2 different standards of a same altimetric component (sea surface height correction, altimeter parameter, orbit) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) . These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses



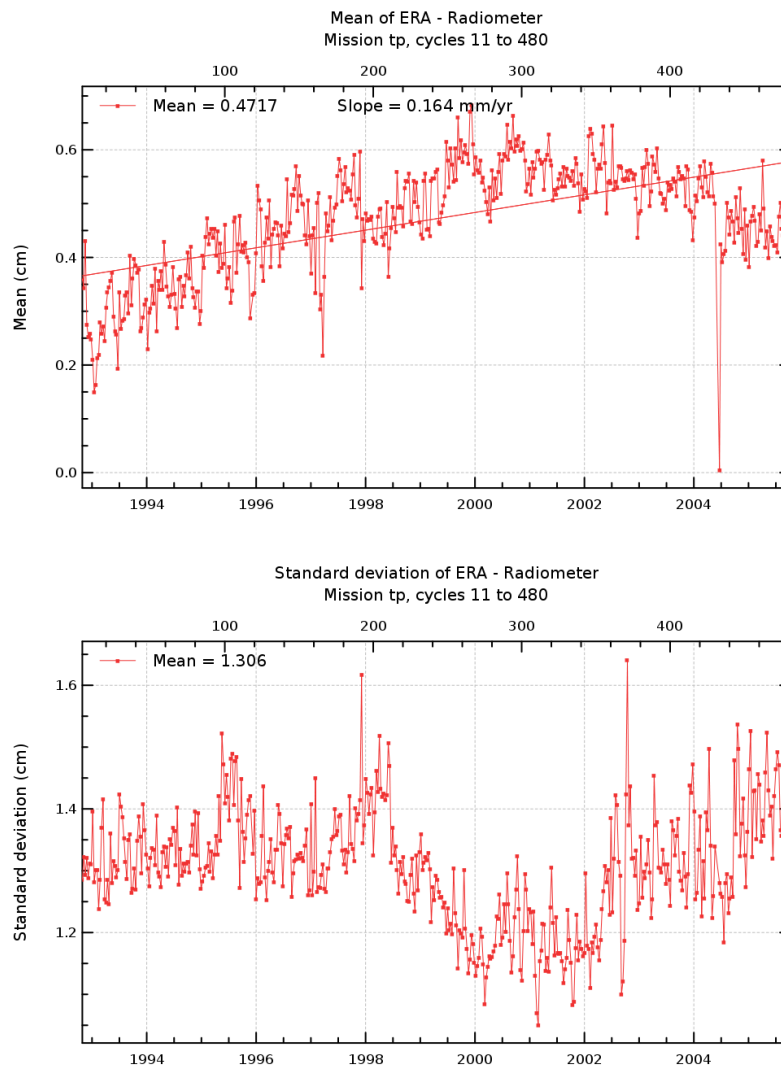
Diagnostic A001 (mission tp)

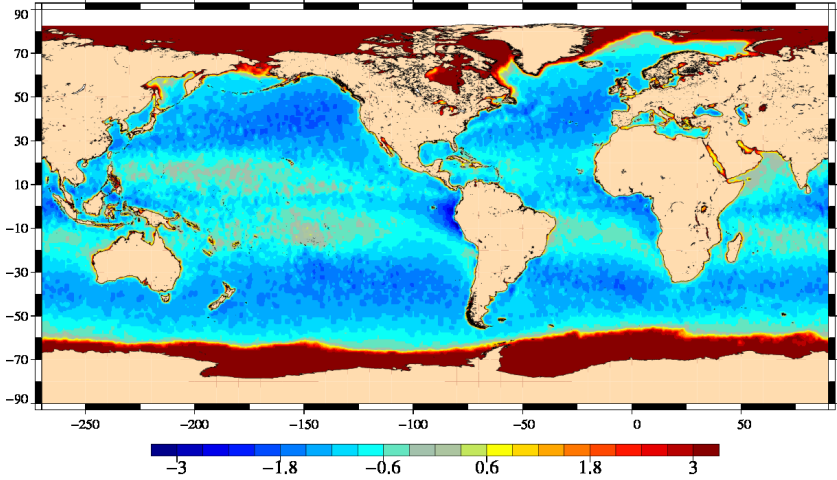
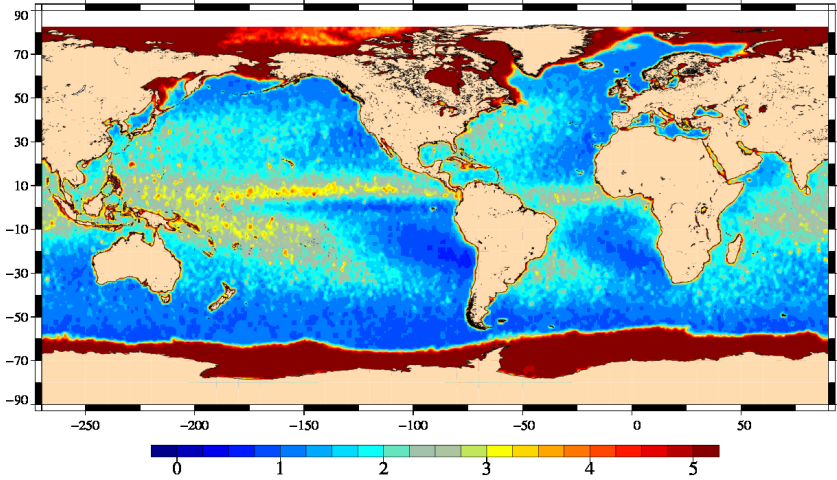
Name : Temporal evolution of differences between both altimetric components

Input data : Along-track altimetric components

Description : The temporal evolution of global statistics (mean, variance, slope) of differences between 2 different standards of a same altimetric component (sea surface height correction, altimeter parameter, orbit) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) . These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses



Diagnostic A002 (mission e1)	
Name : Map of differences between both altimetric components over all the period	
Input data : Along-track altimetric components	
Description : The map of global statistics (mean, standard deviation) of differences between 2 different standards of a same altimetric component (sea surface height correction, altimeter parameter, orbit) are calculated over a given period which is the longer as possible to have obtain reliable statically results. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.	
<div>Mean of Var_Stu – Var_Ref Mission e1, cycles 16 to 52</div>  <div>Mean (cm) Standard deviation of Var_Stu – Var_Ref Mission e1, cycles 16 to 52</div>  <div>Standard deviation (cm)</div>	

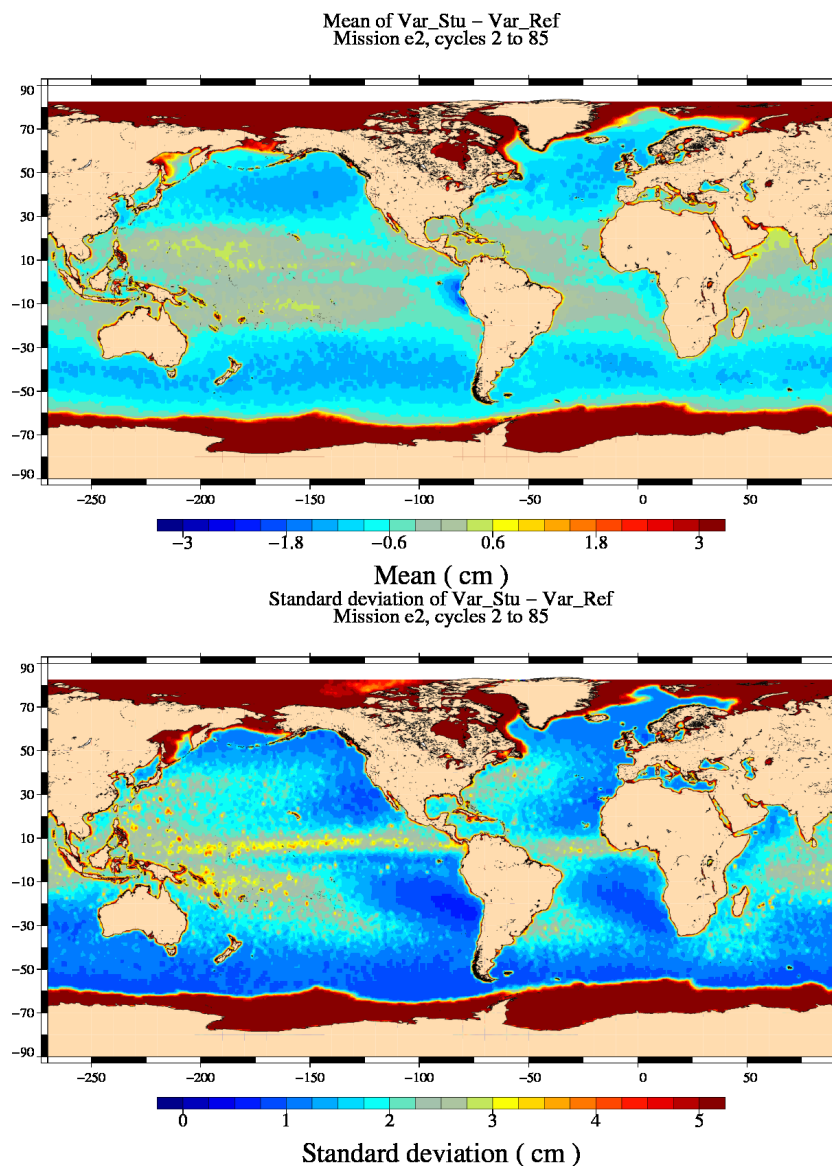
Diagnostic A002 (mission e2)

Name : Map of differences between both altimetric components over all the period

Input data : Along-track altimetric components

Description : The map of global statistics (mean, standard deviation) of differences between 2 different standards of a same altimetric component (sea surface height correction, altimeter parameter, orbit) are calculated over a given period which is the longer as possible to have obtain reliable statically results. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses



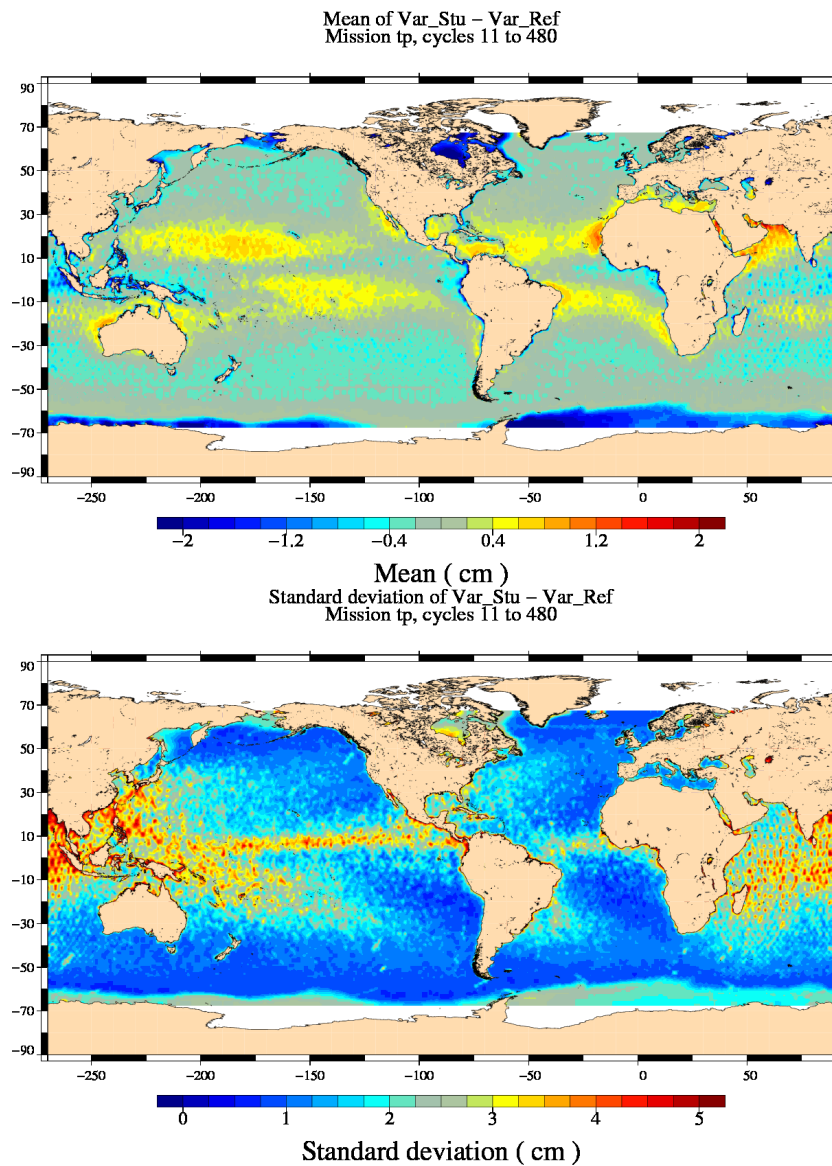
Diagnostic A002 (mission tp)

Name : Map of differences between both altimetric components over all the period

Input data : Along-track altimetric components

Description : The map of global statistics (mean, standard deviation) of differences between 2 different standards of a same altimetric component (sea surface height correction, altimeter parameter, orbit) are calculated over a given period which is the longer as possible to have obtain reliable statically results. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses



Diagnostic A003_a (mission e1)	
Name : Periodogram derived from temporal evolution of altimetric component differences	
Input data : Along-track altimetric components	
<p>Description : The periodogram derived from temporal and global altimetric component differences is calculated from cycle by cycle monitoring of altimetric component differences (derived from diagnostic A001). It is calculated from the mean or the variance differences. The Periodogram can be calculated for all the periods, but it can be focused on a dedicated period.</p>	
<div>Periodogram of the mean of ERA - Radiometer (reference period = 1 year) Mission e1, cycles 15 to 53</div> <div>Periodogram of the standard deviation of ERA - Radiometer (reference period = 1 year) Mission e1, cycles 15 to 53</div>	

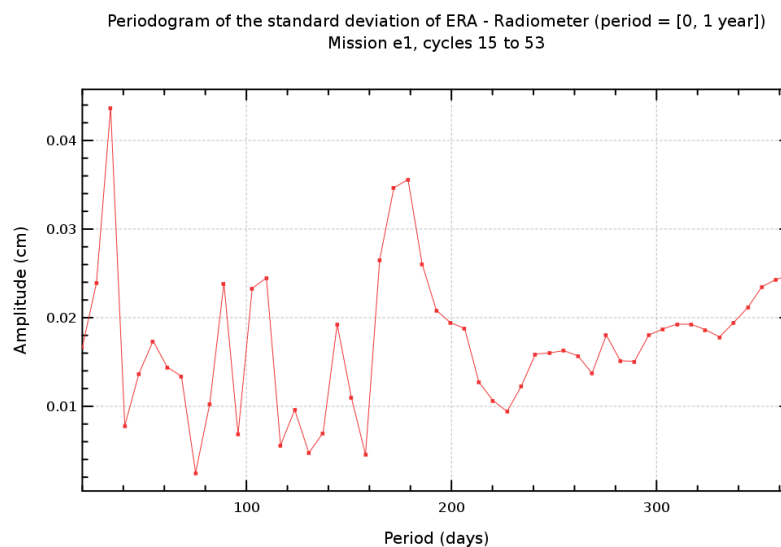
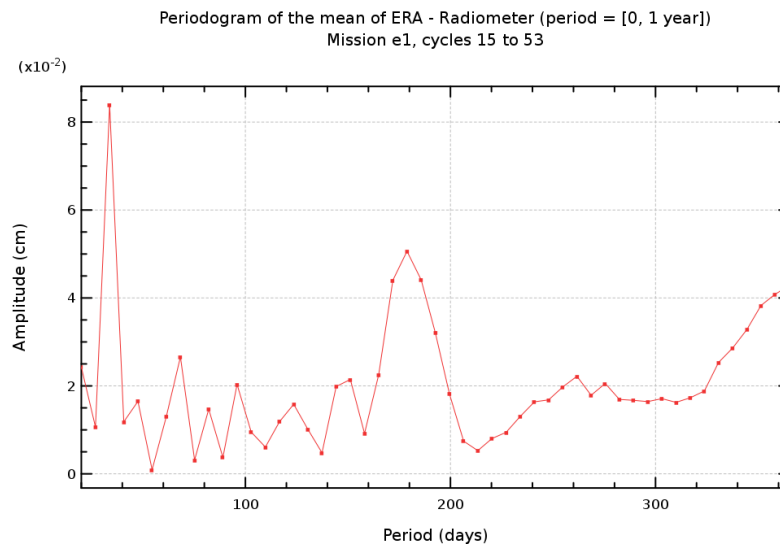
Diagnostic A003_b (mission e1)

Name : Periodogram derived from temporal evolution of altimetric component differences

Input data : Along-track altimetric components

Description : The periodogram derived from temporal and global altimetric component differences is calculated from cycle by cycle monitoring of altimetric component differences (derived from diagnostic A001). It is calculated from the mean or the variance differences. The Periodogram can be calculated for all the periods, but it can be focused on a dedicated period.

Diagnostic type : Global internal analyses



Diagnostic A003_a (mission e2)

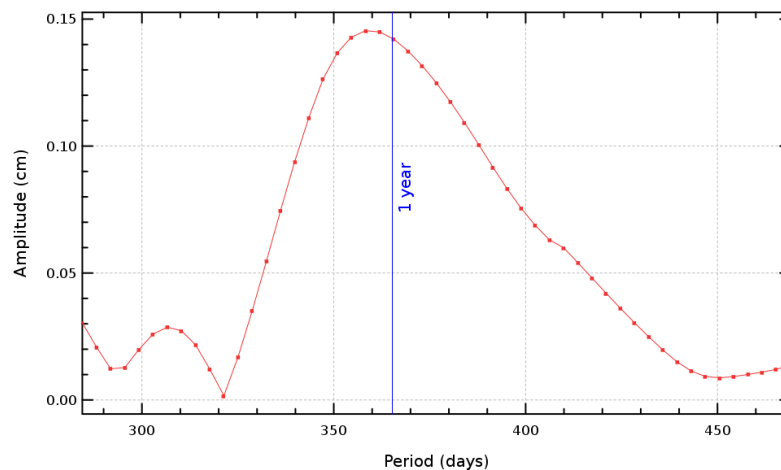
Name : Periodogram derived from temporal evolution of altimetric component differences

Input data : Along-track altimetric components

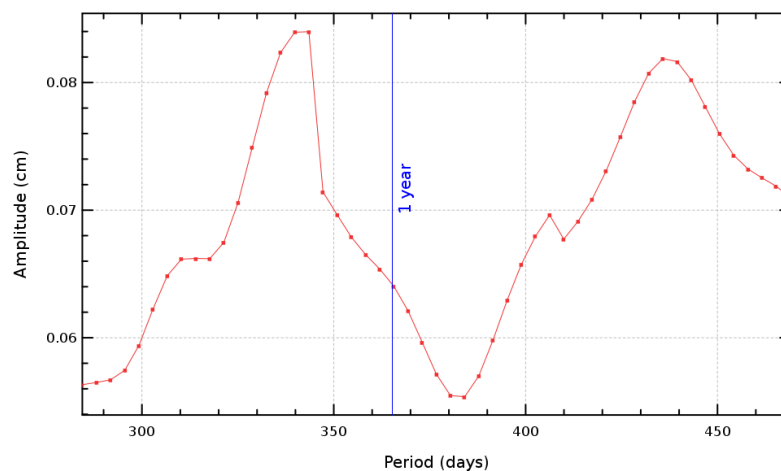
Description : The periodogram derived from temporal and global altimetric component differences is calculated from cycle by cycle monitoring of altimetric component differences (derived from diagnostic A001). It is calculated from the mean or the variance differences. The Periodogram can be calculated for all the periods, but it can be focused on a dedicated period.

Diagnostic type : Global internal analyses

Periodogram of the mean of ERA - Radiometer (reference period = 1 year)
Mission e2, cycles 1 to 85



Periodogram of the standard deviation of ERA - Radiometer (reference period = 1 year)
Mission e2, cycles 1 to 85



Diagnostic A003_b (mission e2)

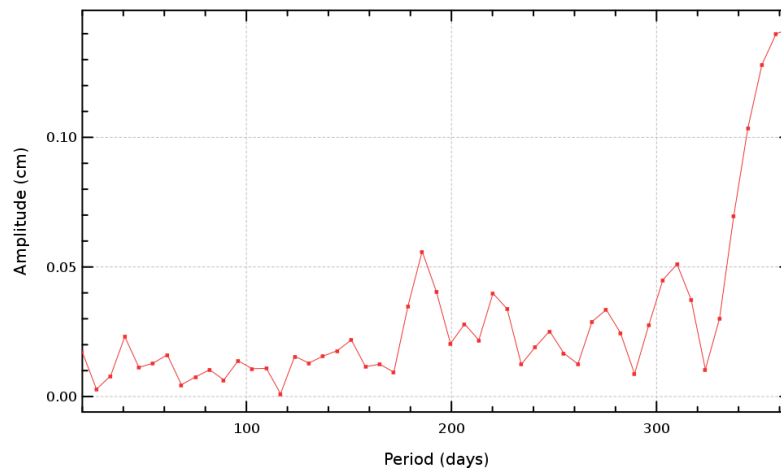
Name : Periodogram derived from temporal evolution of altimetric component differences

Input data : Along-track altimetric components

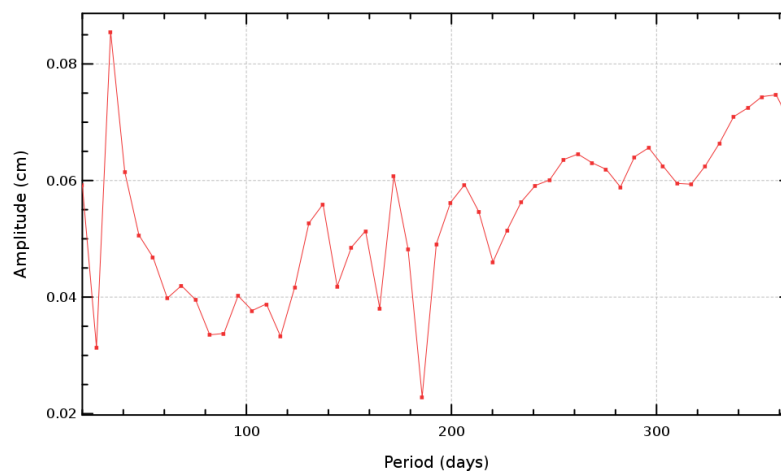
Description : The periodogram derived from temporal and global altimetric component differences is calculated from cycle by cycle monitoring of altimetric component differences (derived from diagnostic A001). It is calculated from the mean or the variance differences. The Periodogram can be calculated for all the periods, but it can be focused on a dedicated period.

Diagnostic type : Global internal analyses

Periodogram of the mean of ERA - Radiometer (period = [0, 1 year])
Mission e2, cycles 1 to 85



Periodogram of the standard deviation of ERA - Radiometer (period = [0, 1 year])
Mission e2, cycles 1 to 85



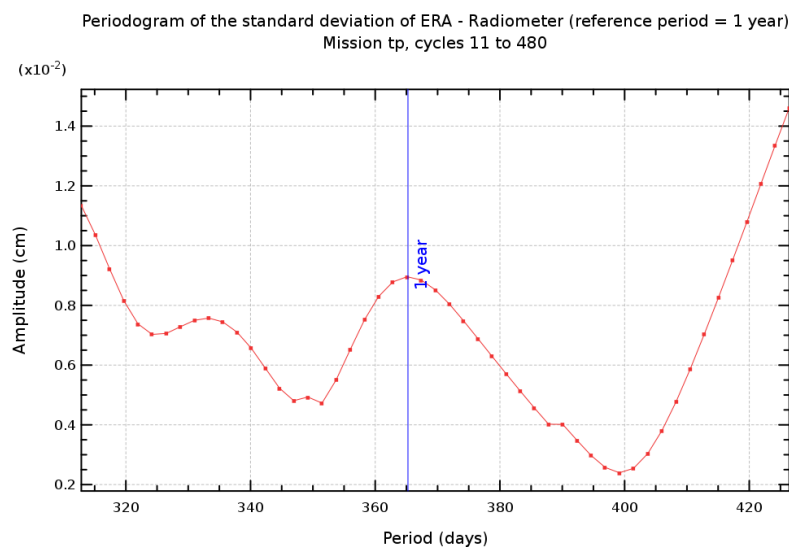
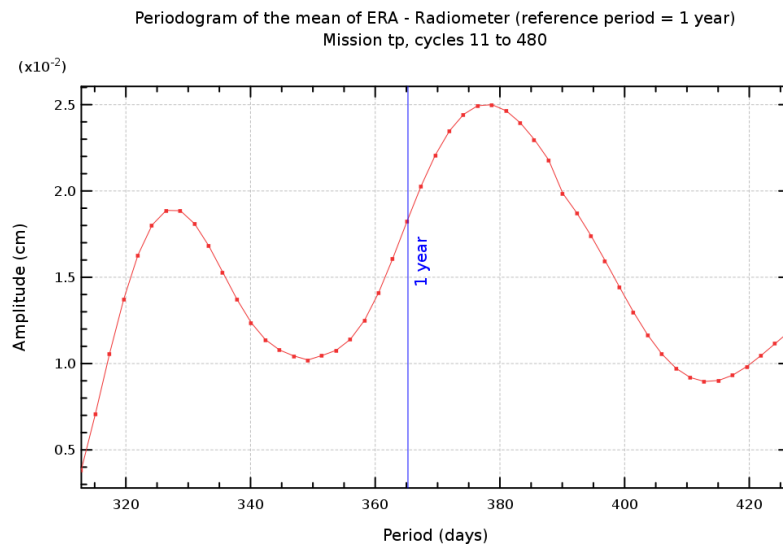
Diagnostic A003_a (mission tp)

Name : Periodogram derived from temporal evolution of altimetric component differences

Input data : Along-track altimetric components

Description : The periodogram derived from temporal and global altimetric component differences is calculated from cycle by cycle monitoring of altimetric component differences (derived from diagnostic A001). It is calculated from the mean or the variance differences. The Periodogram can be calculated for all the periods, but it can be focused on a dedicated period.

Diagnostic type : Global internal analyses

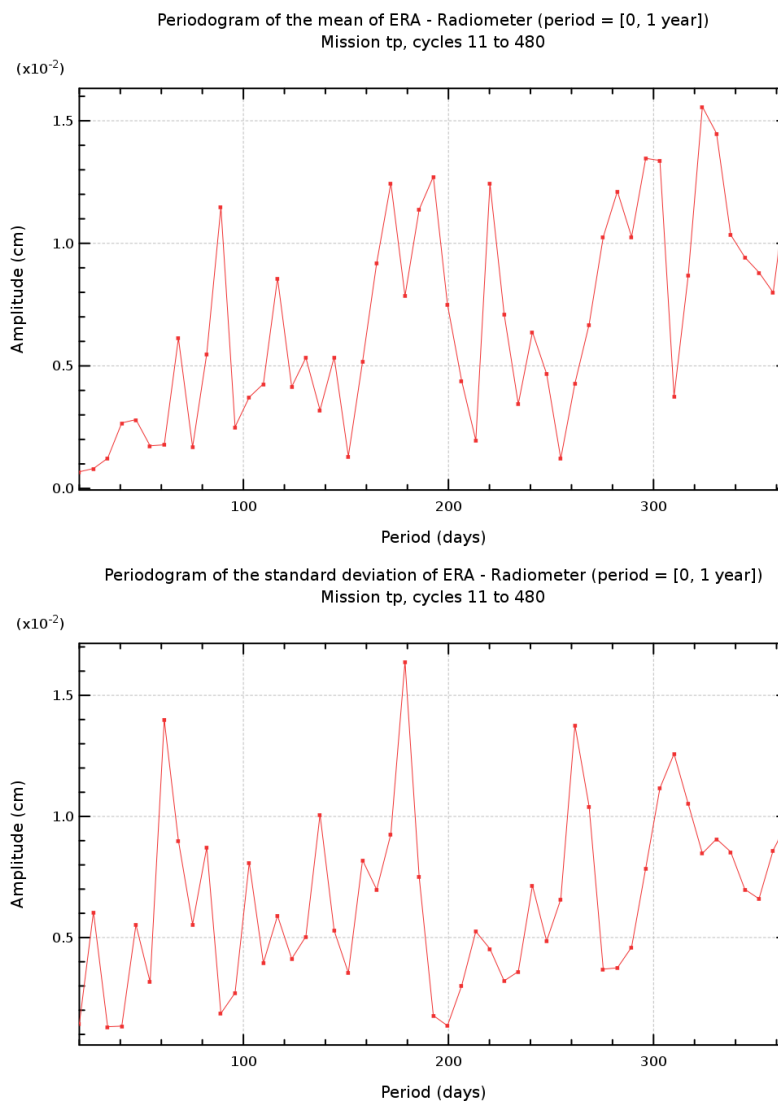


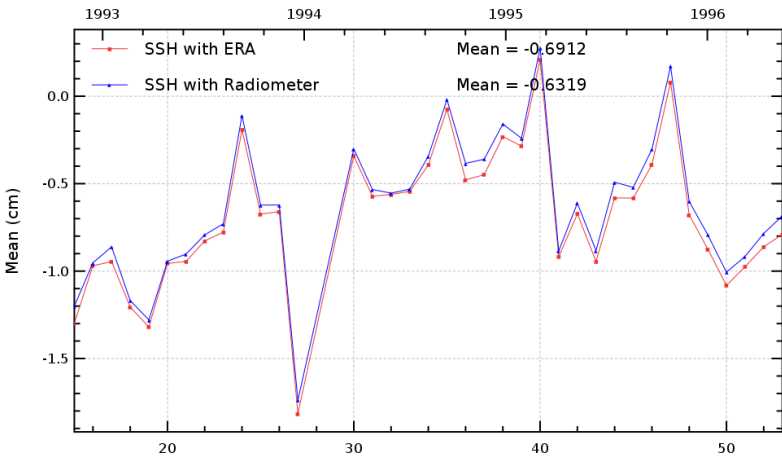
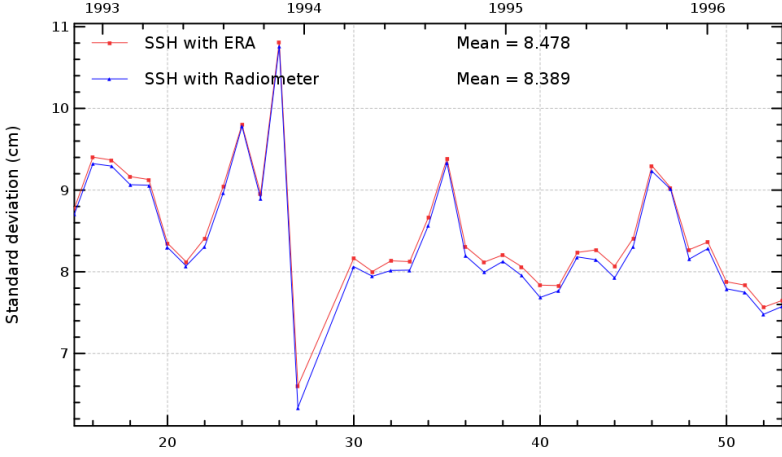
Diagnostic A003_b (mission tp)

Name : Periodogram derived from temporal evolution of altimetric component differences

Input data : Along-track altimetric components

Description : The periodogram derived from temporal and global altimetric component differences is calculated from cycle by cycle monitoring of altimetric component differences (derived from diagnostic A001). It is calculated from the mean or the variance differences. The Periodogram can be calculated for all the periods, but it can be focused on a dedicated period.



Diagnostic A101 (mission e1)	
Name : Temporal evolution of SSH crossovers	
Input data : Sea Surface Height (SSH) crossovers	
<p>Description : The temporal evolution of global statistics (mean, standard deviation) of SSH differences are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).</p>	
<div><div><div>Mean of SSH crossovers Mission e1, cycles 15 to 53</div><div></div></div><div><div>Standard deviations of SSH crossovers Mission e1, cycles 15 to 53</div><div></div></div></div>	

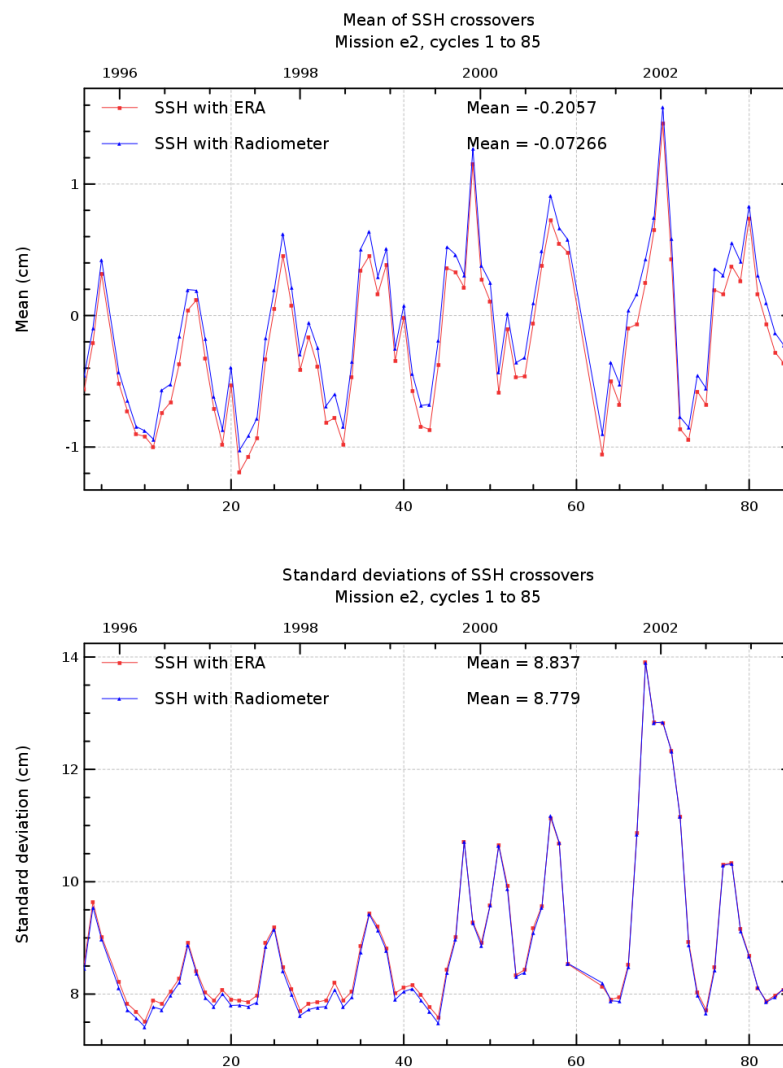
Diagnostic A101 (mission e2)

Name : Temporal evolution of SSH crossovers

Input data : Sea Surface Height (SSH) crossovers

Description : The temporal evolution of global statistics (mean, standard deviation) of SSH differences are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).

Diagnostic type : Global internal analyses



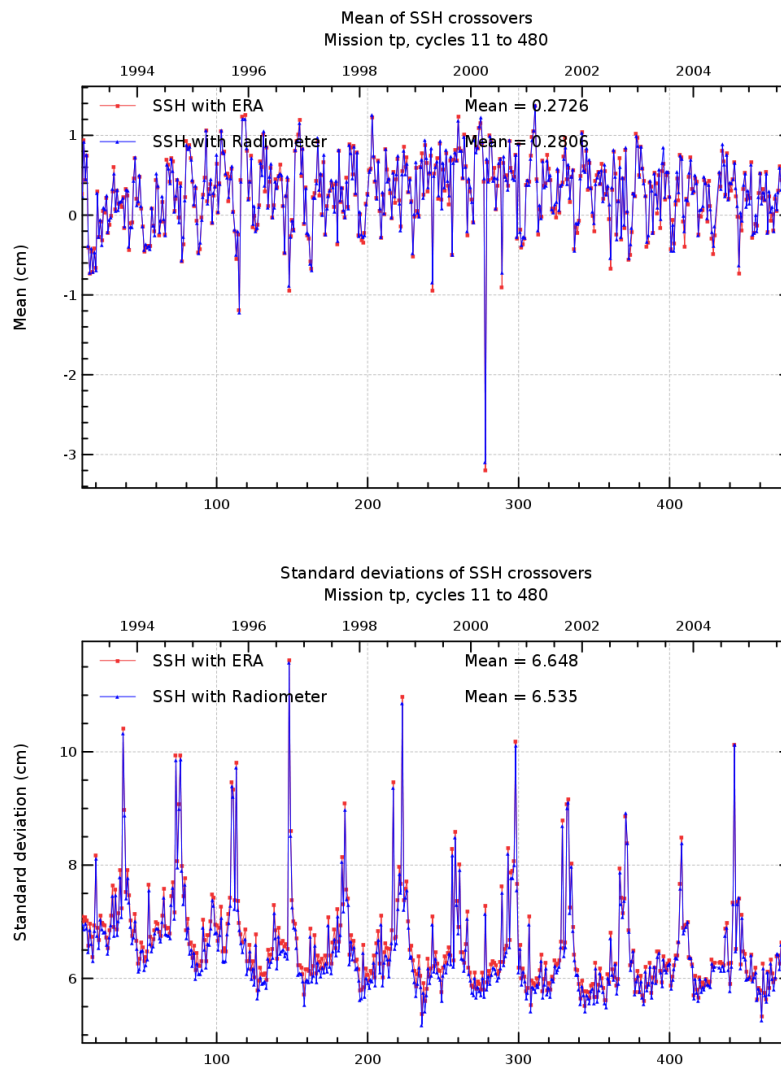
Diagnostic A101 (mission tp)

Name : Temporal evolution of SSH crossovers

Input data : Sea Surface Height (SSH) crossovers

Description : The temporal evolution of global statistics (mean, standard deviation) of SSH differences are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).

Diagnostic type : Global internal analyses



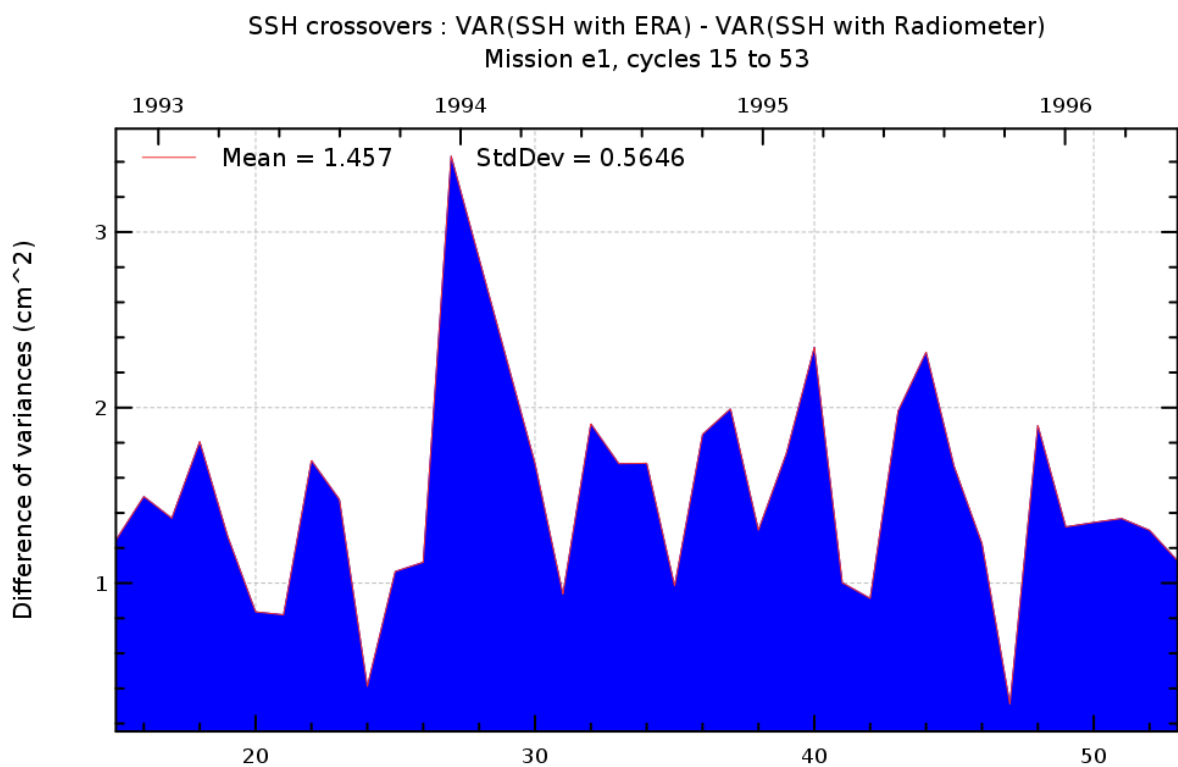
Diagnostic A102 (mission e1)

Name : Differences between temporal evolution of SSH crossovers

Input data : Sea Surface Height (SSH) crossovers

Description : The difference of temporal evolution between the global statistics (mean, standard deviation) of SSH differences are calculated using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).

Diagnostic type : Global internal analyses



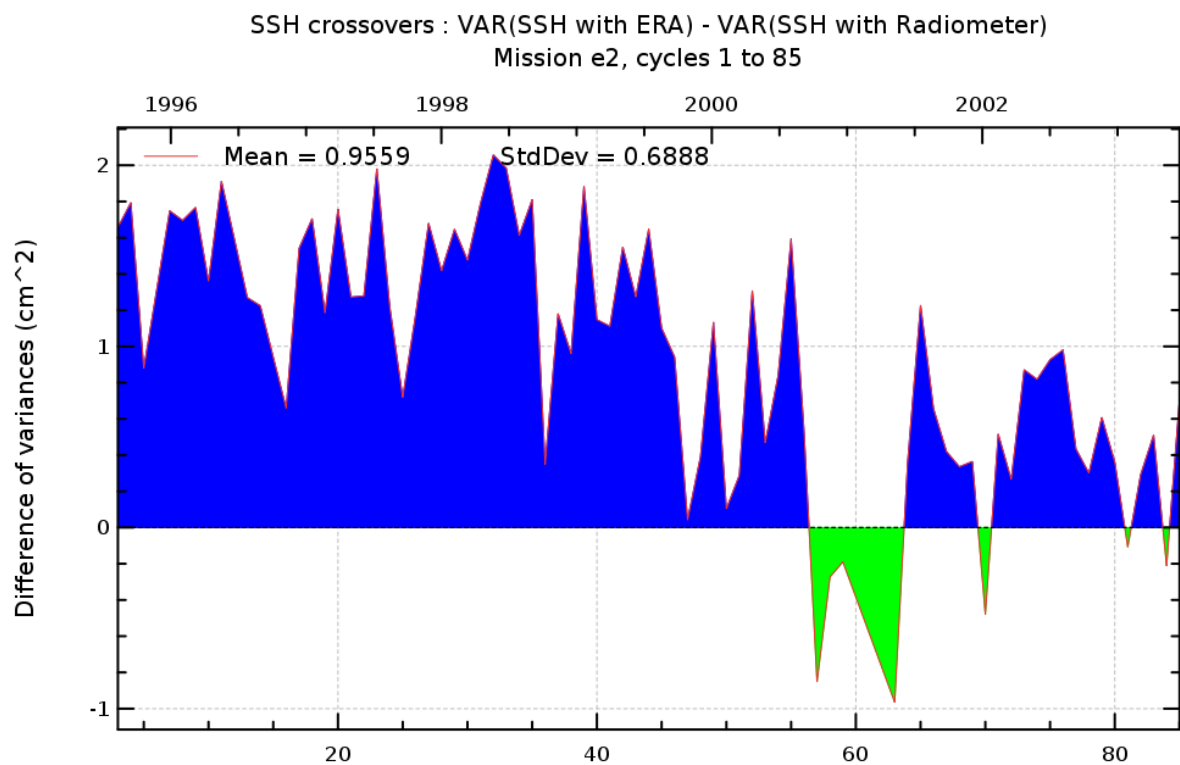
Diagnostic A102 (mission e2)

Name : Differences between temporal evolution of SSH crossovers

Input data : Sea Surface Height (SSH) crossovers

Description : The difference of temporal evolution between the global statistics (mean, standard deviation) of SSH differences are calculated using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).

Diagnostic type : Global internal analyses



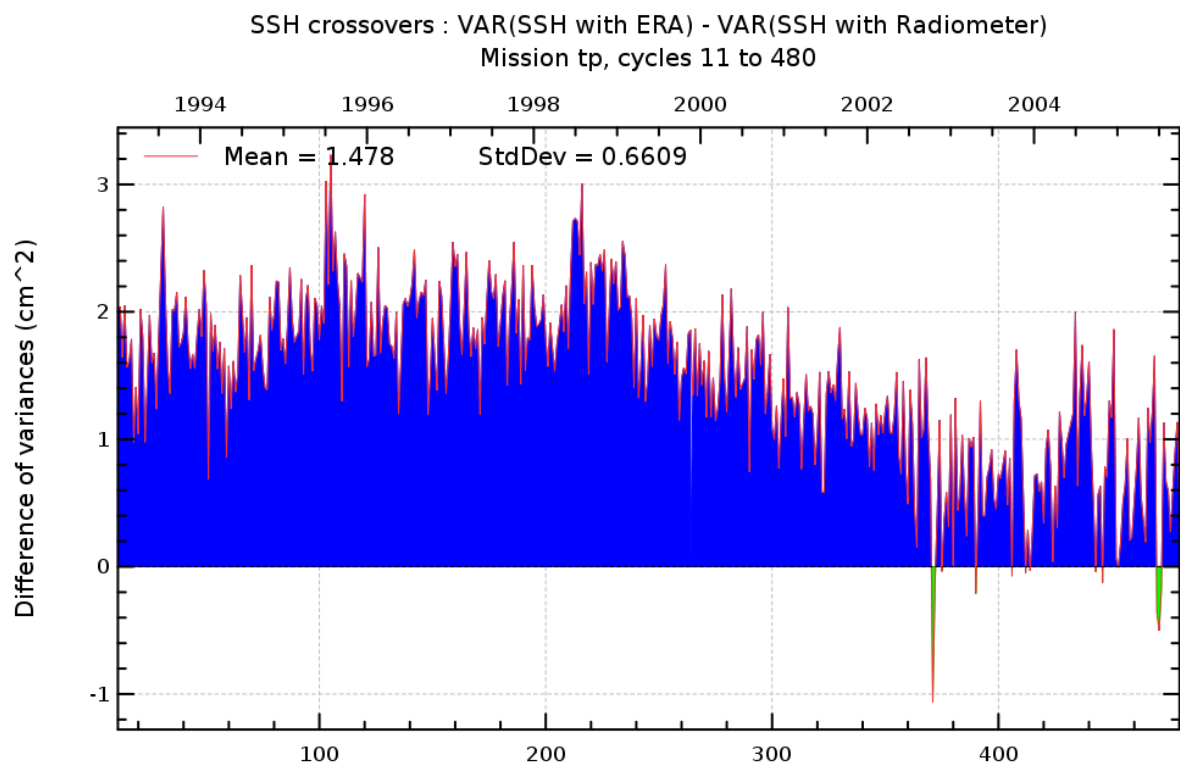
Diagnostic A102 (mission tp)

Name : Differences between temporal evolution of SSH crossovers

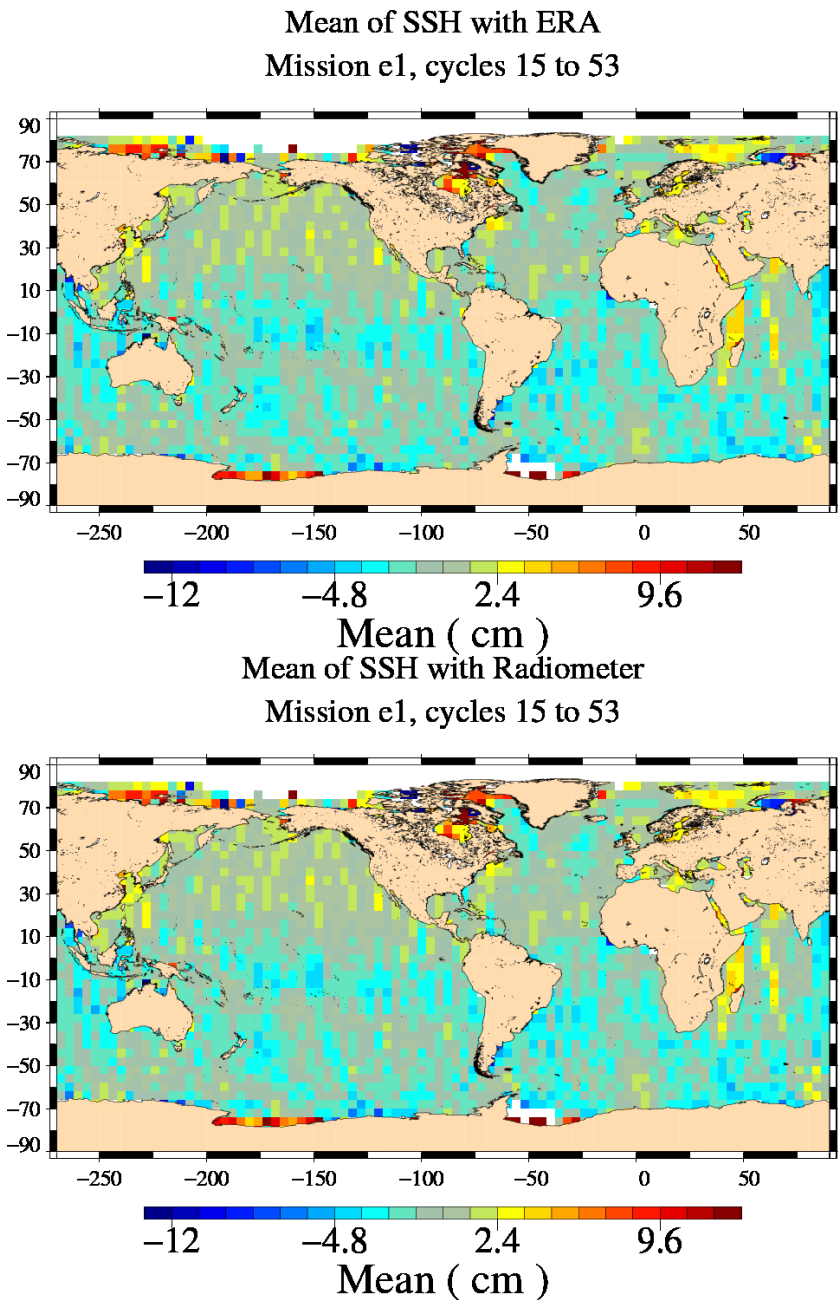
Input data : Sea Surface Height (SSH) crossovers

Description : The difference of temporal evolution between the global statistics (mean, standard deviation) of SSH differences are calculated using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).

Diagnostic type : Global internal analyses



Diagnostic A103 (mission e1)	
Name :	Map of SSH crossovers
Input data :	Sea Surface Height (SSH) crossovers
Description :	The differences between maps of SSH crossovers differences (mean, variance) are calculated using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).



Diagnostic A103 (mission e2)

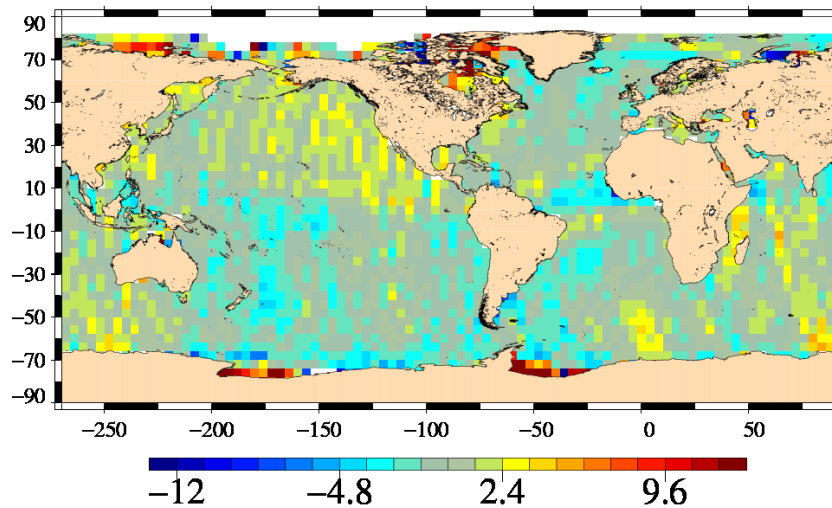
Name : Map of SSH crossovers

Input data : Sea Surface Height (SSH) crossovers

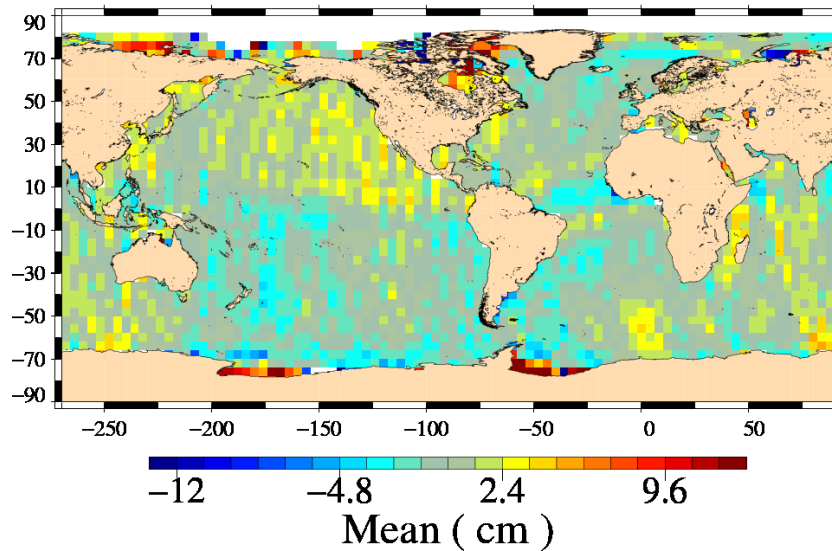
Description : The differences between maps of SSH crossovers differences (mean, variance) are calculated using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).

Diagnostic type : Global internal analyses

Mean of SSH with ERA
Mission e2, cycles 1 to 85



Mean of SSH with Radiometer
Mission e2, cycles 1 to 85



Diagnostic A103 (mission tp)

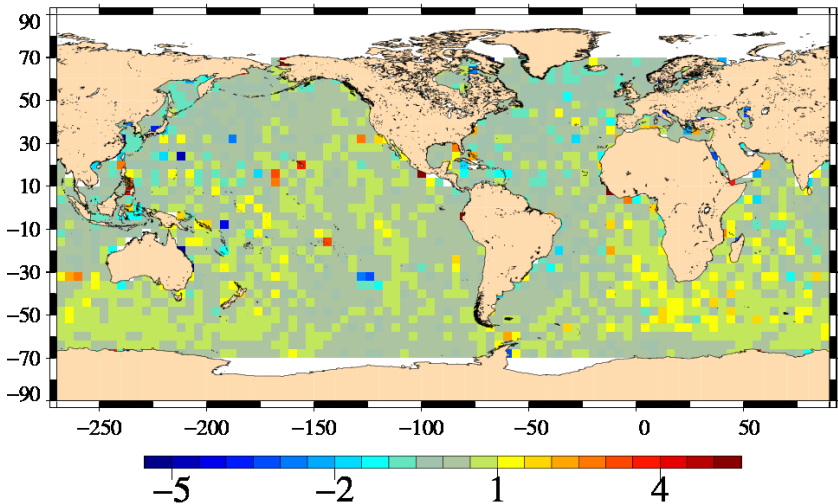
Name : Map of SSH crossovers

Input data : Sea Surface Height (SSH) crossovers

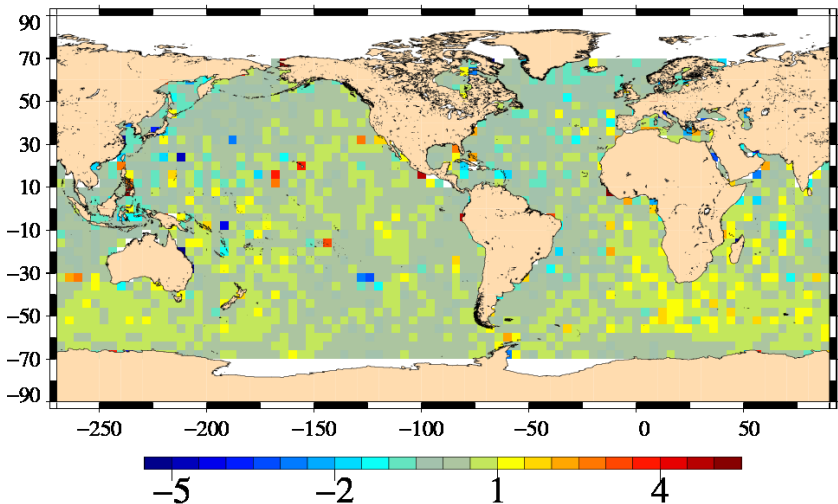
Description : The differences between maps of SSH crossovers differences (mean, variance) are calculated using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).

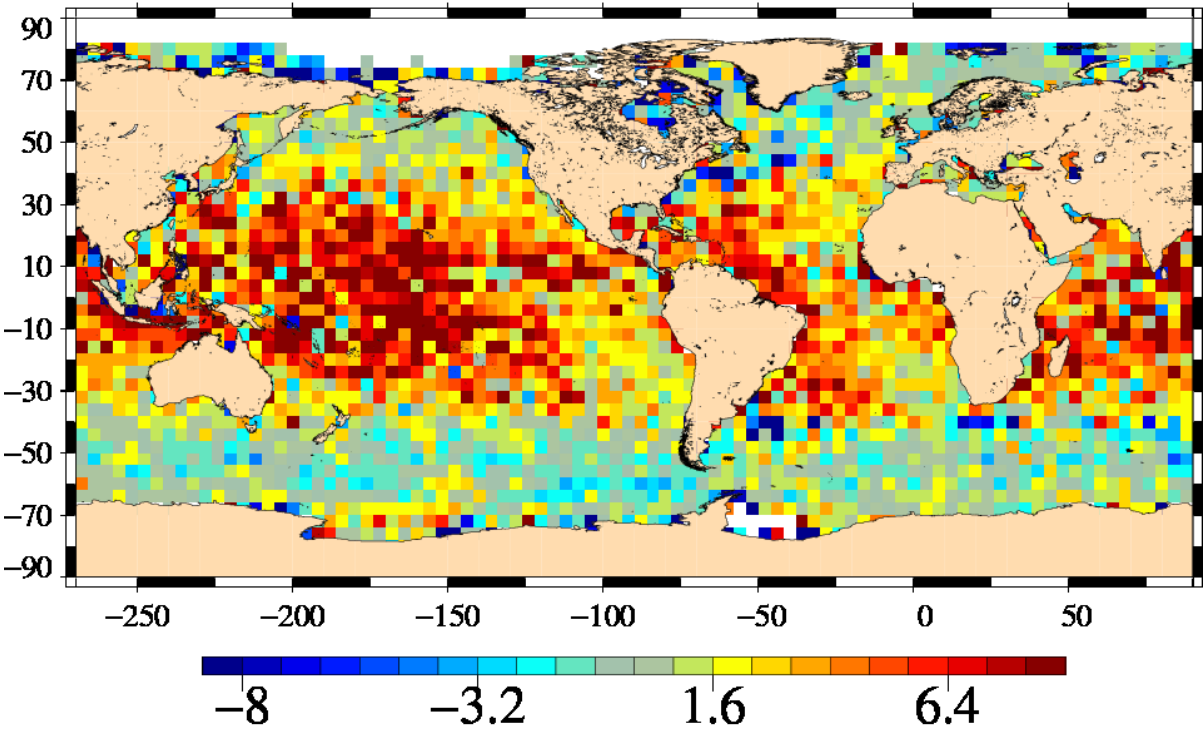
Diagnostic type : Global internal analyses

Mean of SSH with ERA
Mission tp, cycles 11 to 480



Mean (cm)
Mean of SSH with Radiometer
Mission tp, cycles 11 to 480



Diagnostic type : Global internal analyses	<div>Diagnostic A104 (mission e1)</div>
	<div>Name : Differences between maps of SSH crossovers</div>
	<div>Input data : Sea Surface Height (SSH) crossovers</div>
	<div>Description : The differences between maps of SSH crossovers (derived from diagnostic A103) are calculated from the SSH crossover differences (mean, standard deviation) using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).</div>
	<div><div><div>VAR(SSH with ERA) – VAR(SSH with Radiometer)</div><div>Mission e1, cycles 15 to 53</div><div>SSH crossovers : difference of variances (cm^2)</div></div></div>

Diagnostic A104 (mission e2)

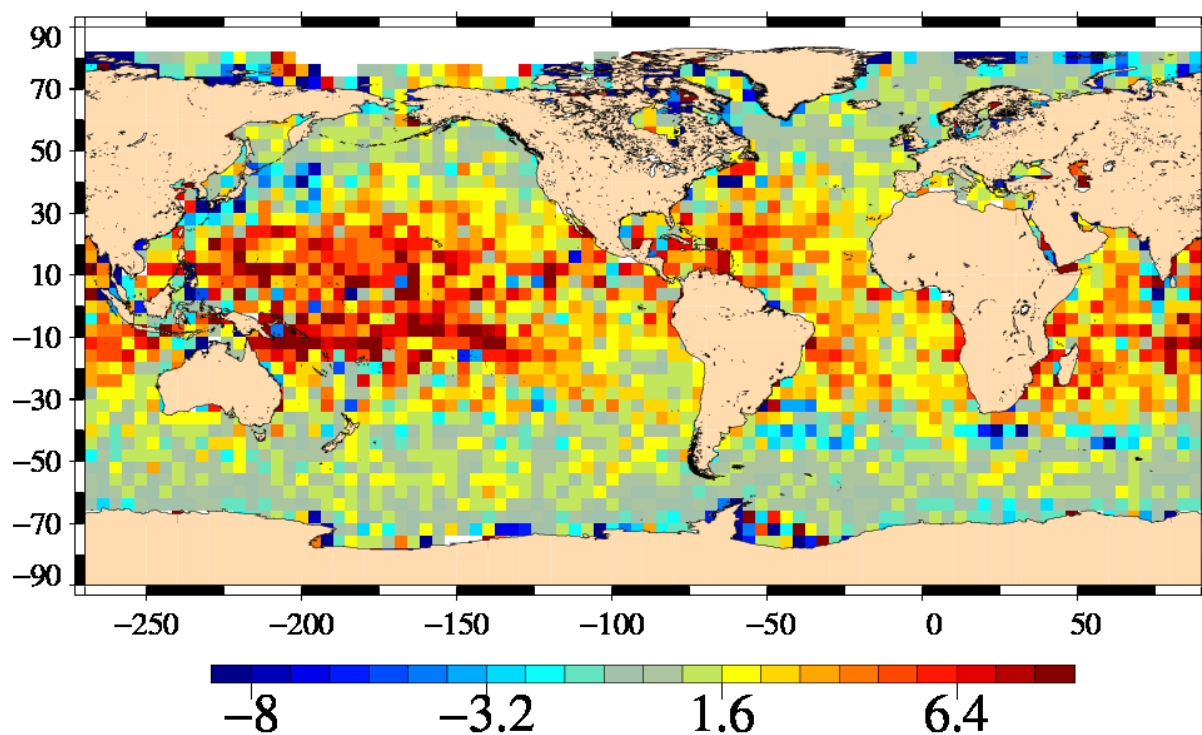
Name : Differences between maps of SSH crossovers

Input data : Sea Surface Height (SSH) crossovers

Description : The differences between maps of SSH crossovers (derived from diagnostic A103) are calculated from the SSH crossover differences (mean, standard deviation) using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).

Diagnostic type : Global internal analyses

VAR(SSH with ERA) – VAR(SSH with Radiometer)
Mission e2, cycles 1 to 85



SSH crossovers : difference of variances (cm²)

Diagnostic A104 (mission tp)

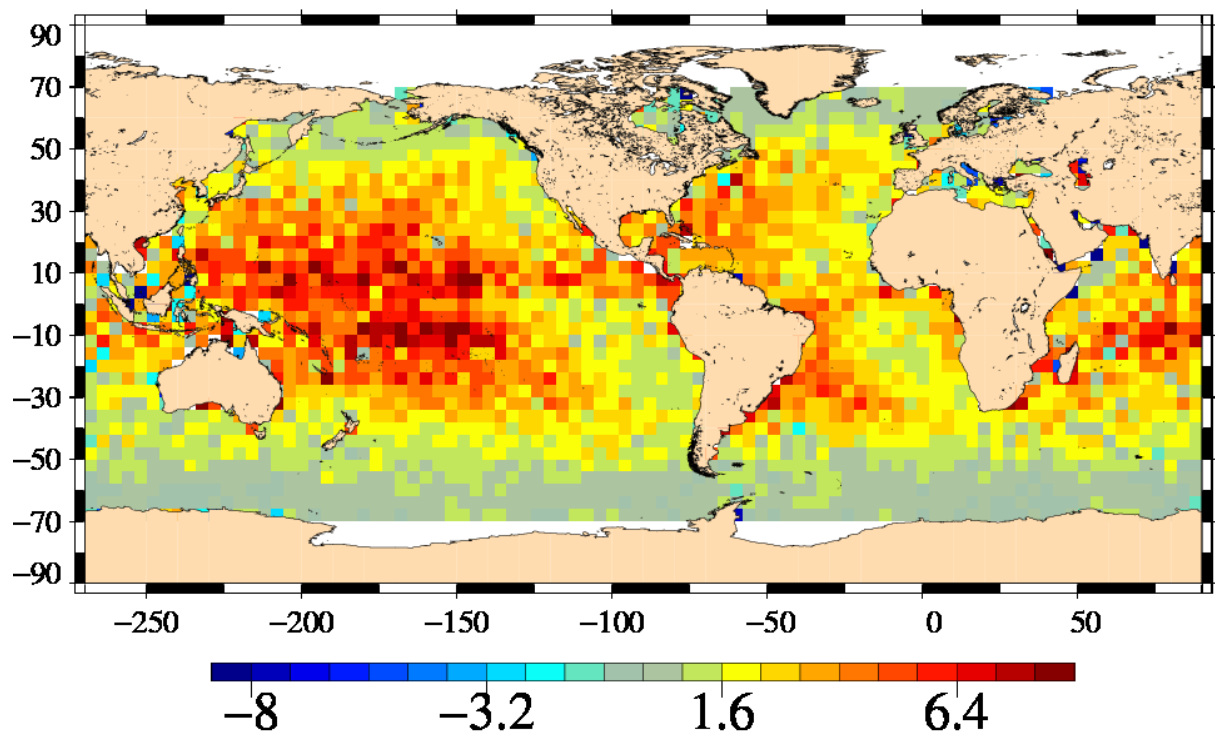
Name : Differences between maps of SSH crossovers

Input data : Sea Surface Height (SSH) crossovers

Description : The differences between maps of SSH crossovers (derived from diagnostic A103) are calculated from the SSH crossover differences (mean, standard deviation) using successively both altimetric components in the SSH calculation. SSH crossovers are the differences between ascending and descending passes for time differences between both passes lower than 10 days (in order to reduce the effect of the oceanic variability).

Diagnostic type : Global internal analyses

VAR(SSH with ERA) – VAR(SSH with Radiometer)
Mission tp, cycles 11 to 480



Diagnostic type : Global internal analyses	Diagnostic A201_a (mission e1)																																								
	Name : Temporal evolution of Sea Level Anomaly (SLA)																																								
	Input data : Along track SLA																																								
	<p>Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.</p>																																								
	<div>Global MSL Mission e1, cycles 15 to 53</div> <table><caption>Estimated data points from the Global MSL graph</caption><tr><th>Mission Cycle</th><th>Year (approx)</th><th>SLA with ERA (cm)</th><th>SLA with Radiometer (cm)</th></tr><tr><td>15</td><td>1993.0</td><td>41.5</td><td>40.8</td></tr><tr><td>20</td><td>1993.3</td><td>42.5</td><td>41.5</td></tr><tr><td>25</td><td>1993.7</td><td>42.8</td><td>42.0</td></tr><tr><td>30</td><td>1994.0</td><td>43.5</td><td>42.8</td></tr><tr><td>35</td><td>1994.3</td><td>43.2</td><td>42.5</td></tr><tr><td>40</td><td>1994.7</td><td>43.8</td><td>42.8</td></tr><tr><td>45</td><td>1995.0</td><td>43.5</td><td>43.2</td></tr><tr><td>50</td><td>1995.3</td><td>44.0</td><td>43.5</td></tr><tr><td>53</td><td>1995.5</td><td>44.2</td><td>43.8</td></tr></table>		Mission Cycle	Year (approx)	SLA with ERA (cm)	SLA with Radiometer (cm)	15	1993.0	41.5	40.8	20	1993.3	42.5	41.5	25	1993.7	42.8	42.0	30	1994.0	43.5	42.8	35	1994.3	43.2	42.5	40	1994.7	43.8	42.8	45	1995.0	43.5	43.2	50	1995.3	44.0	43.5	53	1995.5	44.2
Mission Cycle	Year (approx)	SLA with ERA (cm)	SLA with Radiometer (cm)																																						
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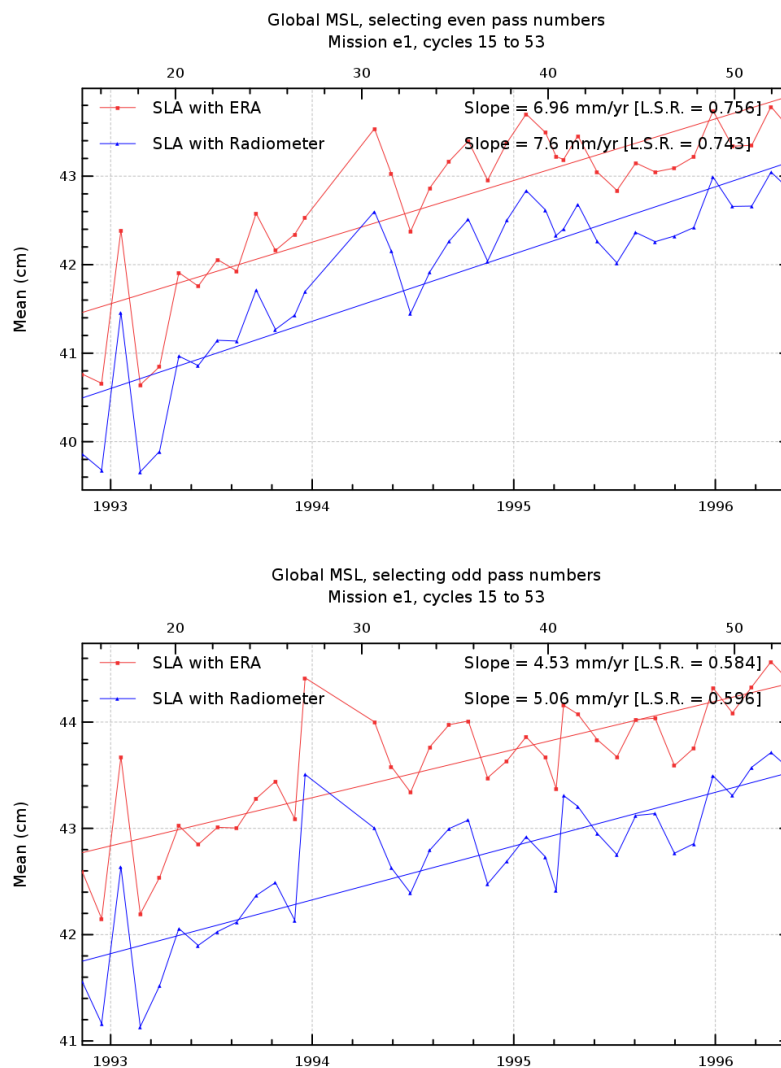
Diagnostic A201_b (mission e1)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses



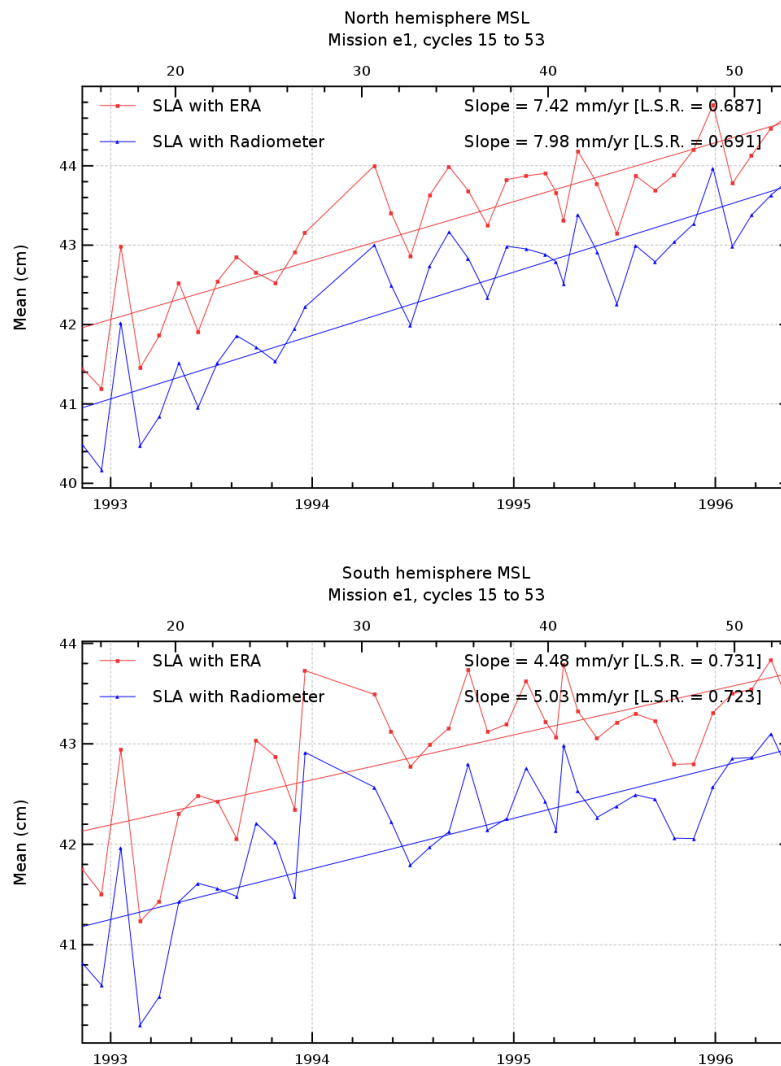
Diagnostic A201_c (mission e1)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses



Diagnostic A201_d (mission e1)

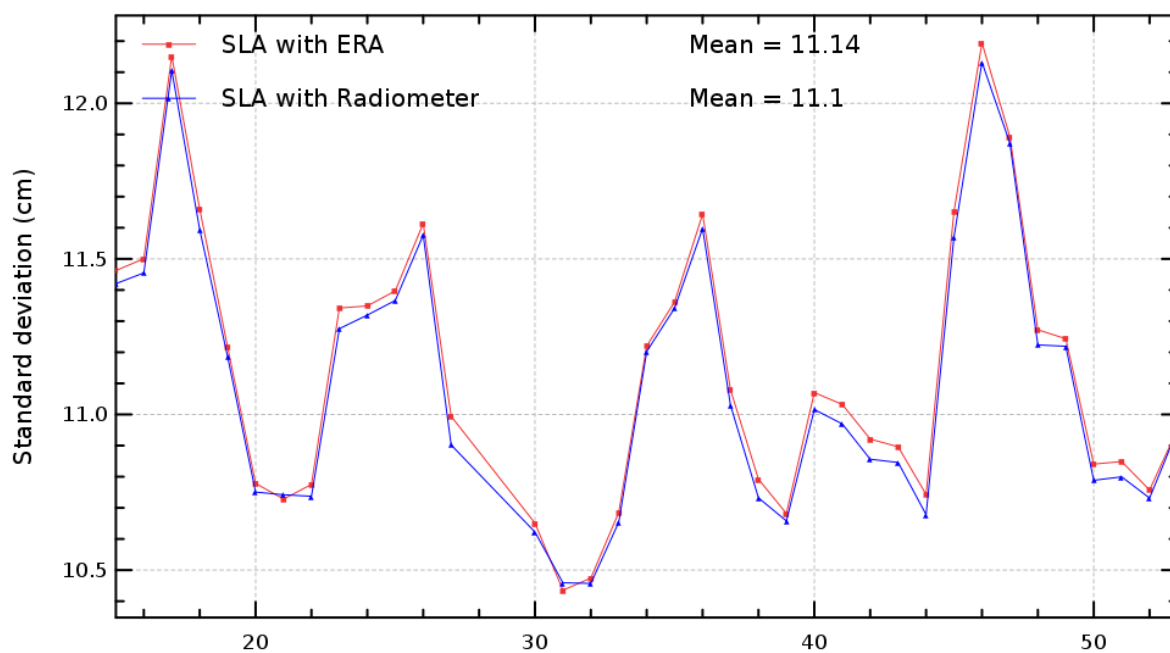
Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses

Global MSL
Mission e1, cycles 15 to 53



Diagnostic A201_e (mission e1)

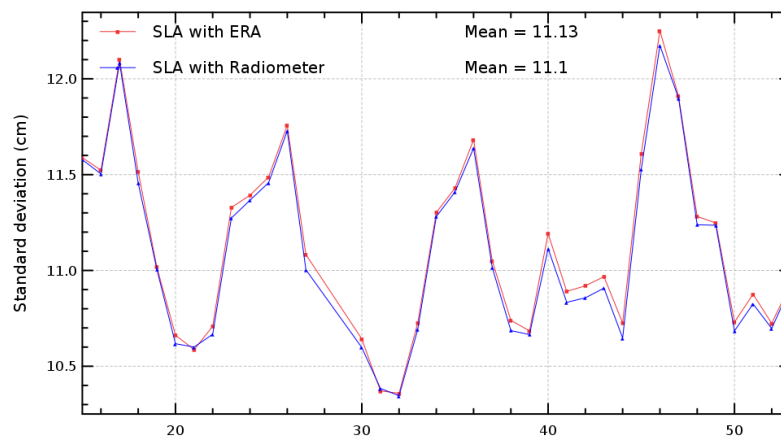
Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

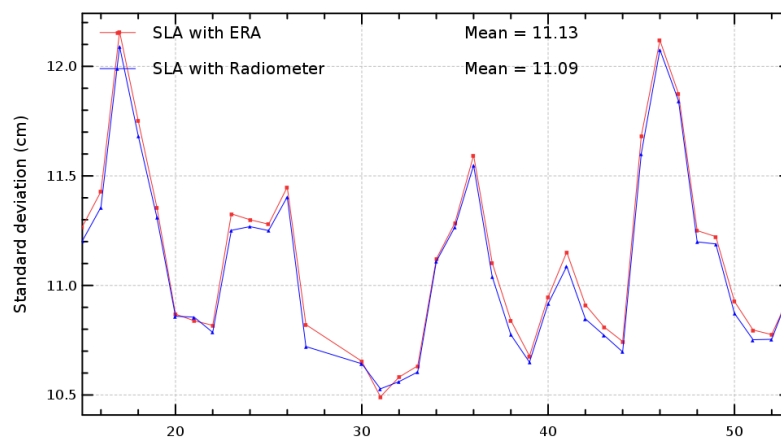
Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses

Global MSL, selecting even pass numbers
Mission e1, cycles 15 to 53



Global MSL, selecting odd pass numbers
Mission e1, cycles 15 to 53



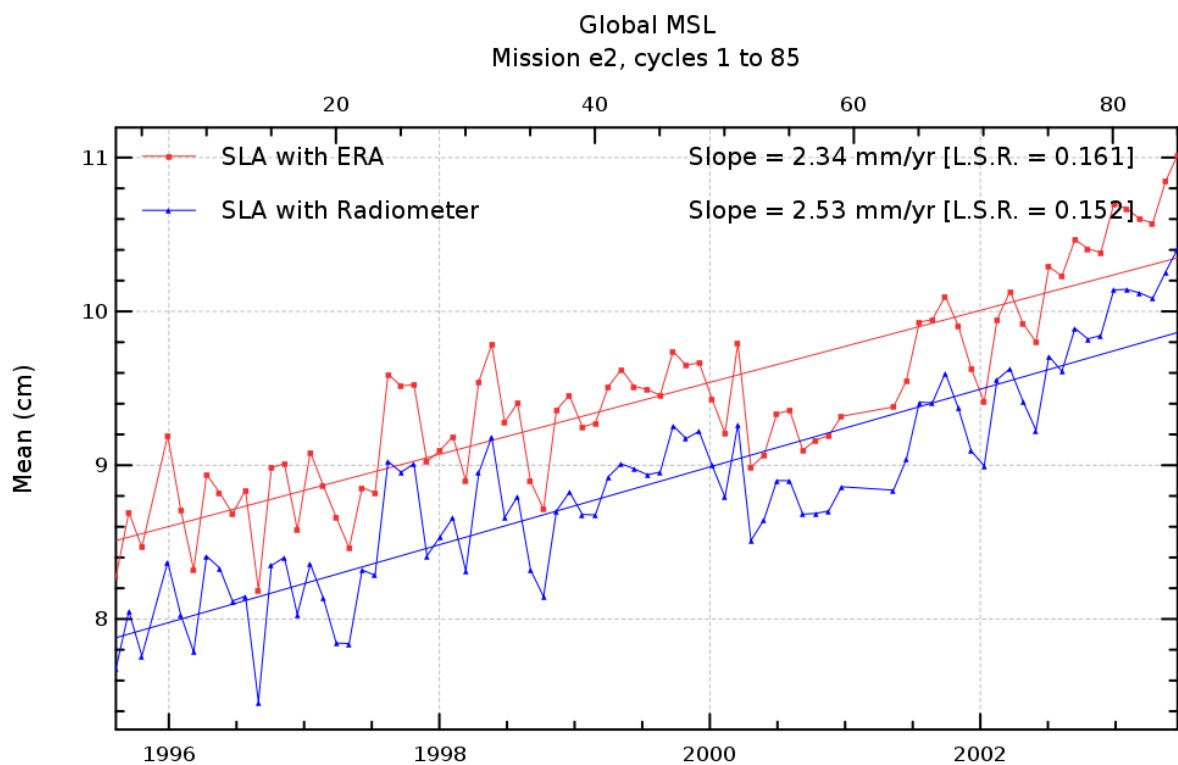
Diagnostic A201_a (mission e2)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses



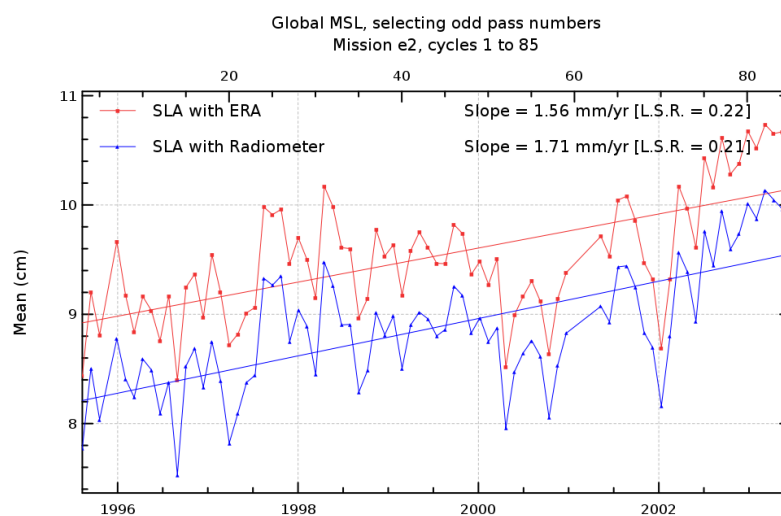
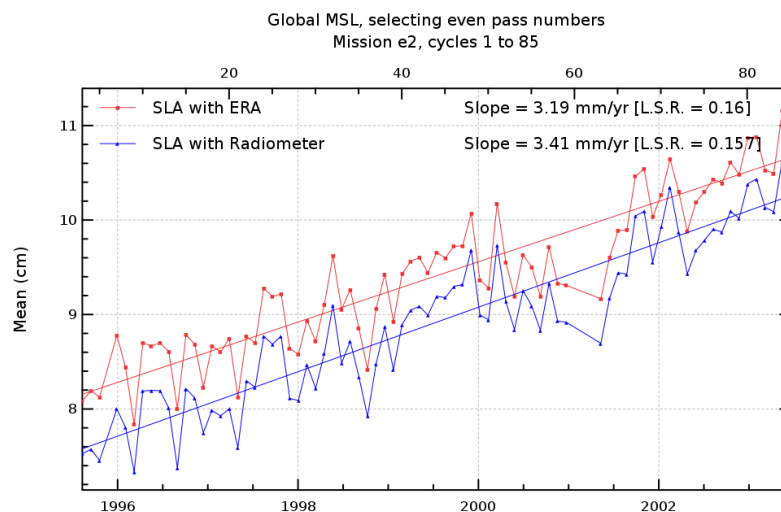
Diagnostic A201_b (mission e2)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses



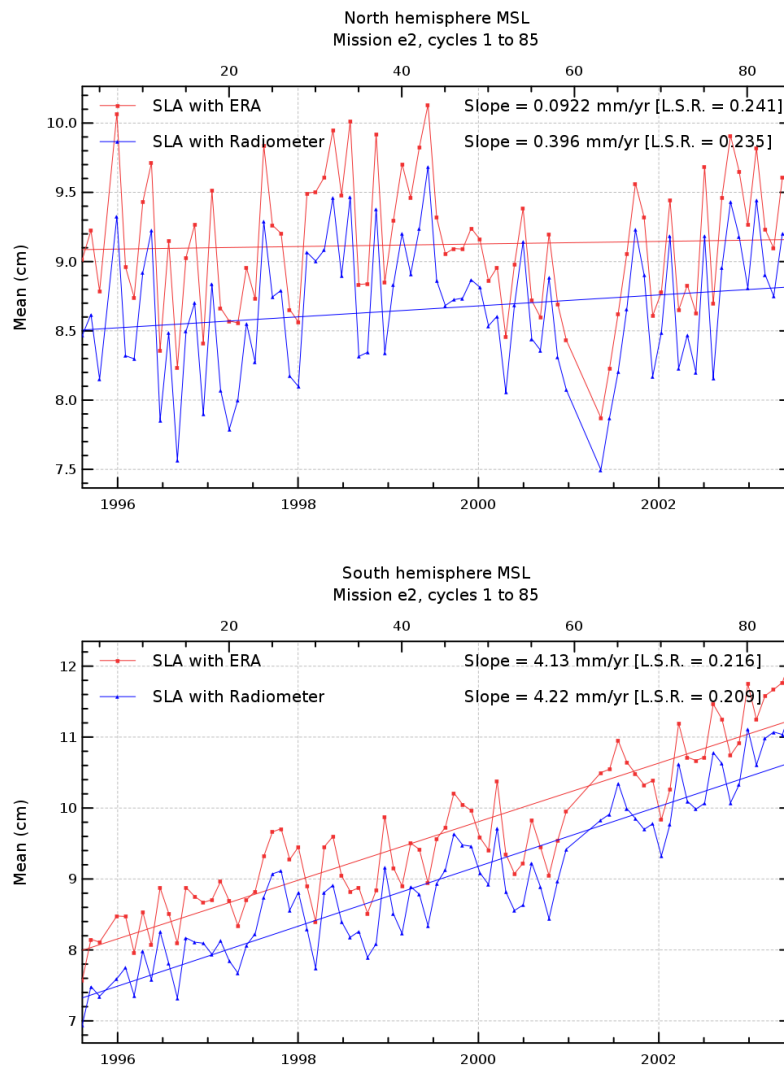
Diagnostic A201_c (mission e2)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses



Diagnostic A201_d (mission e2)

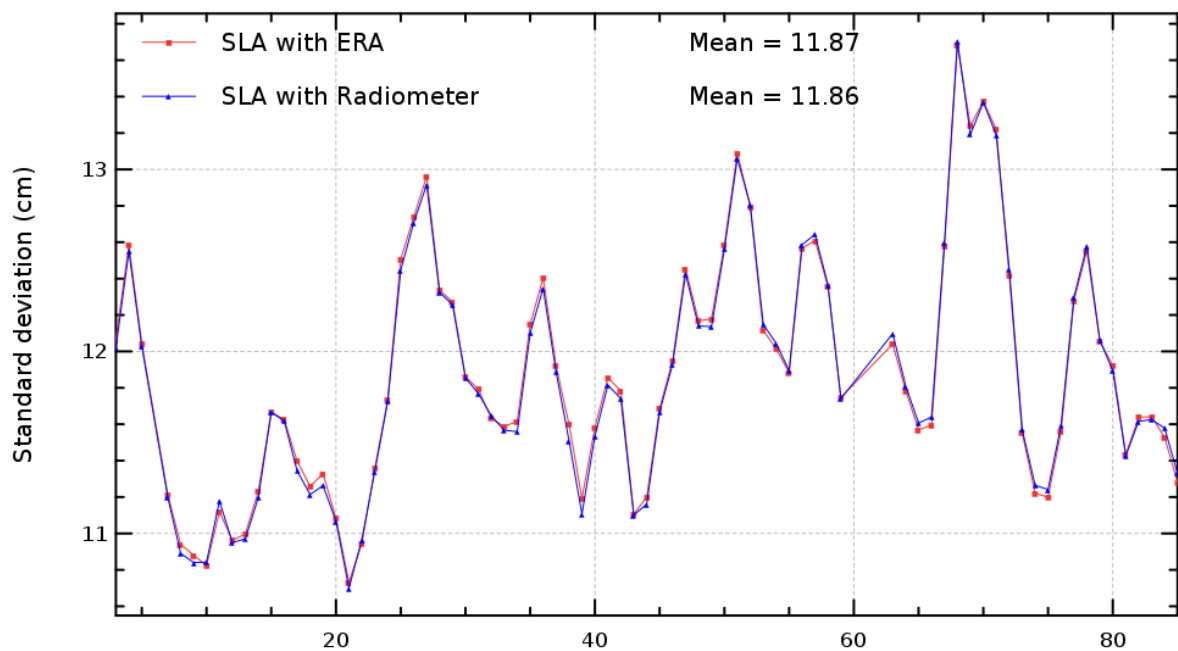
Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses

Global MSL
Mission e2, cycles 1 to 85



Diagnostic A201_e (mission e2)

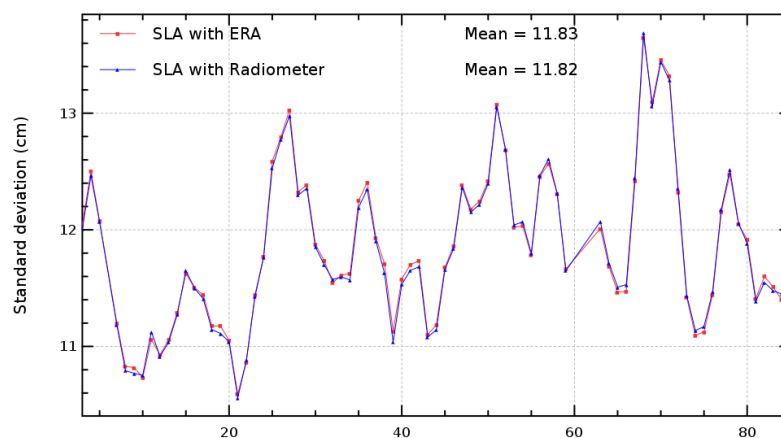
Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

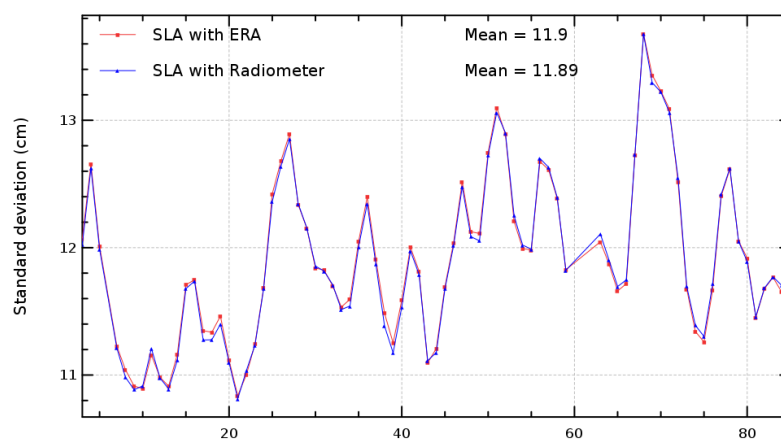
Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses

Global MSL, selecting even pass numbers
Mission e2, cycles 1 to 85



Global MSL, selecting odd pass numbers
Mission e2, cycles 1 to 85



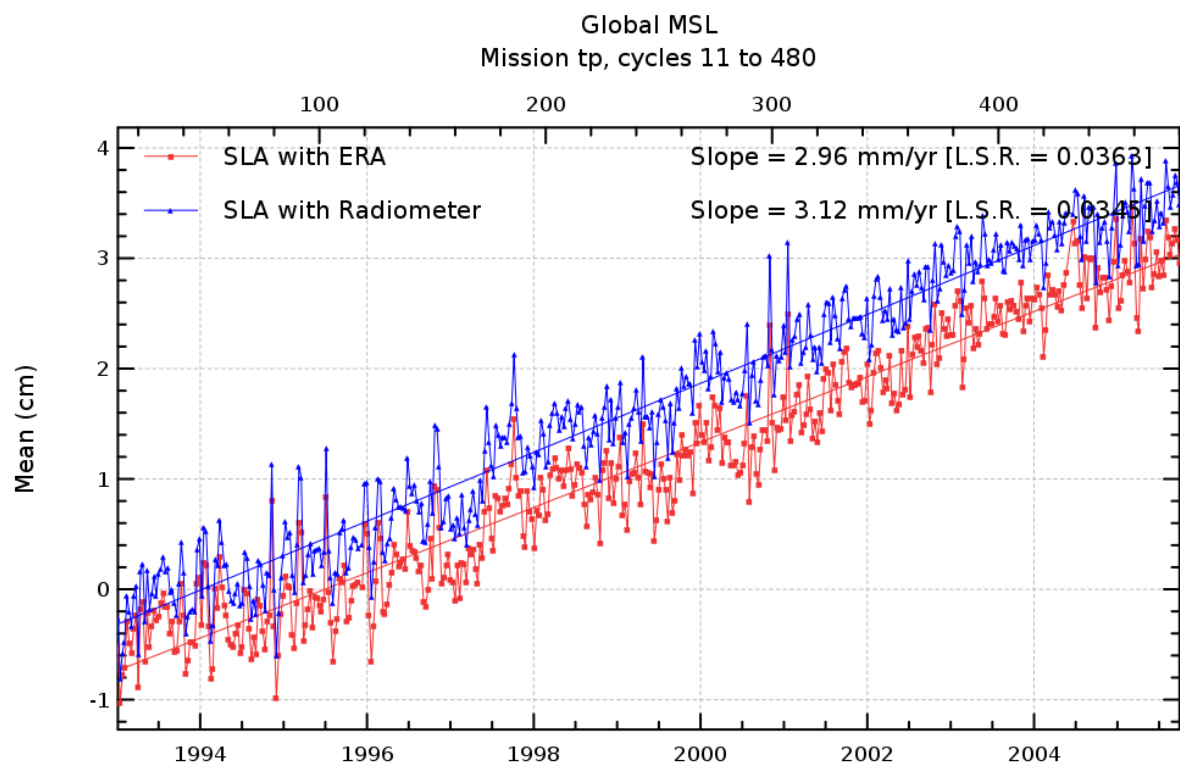
Diagnostic A201_a (mission tp)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses



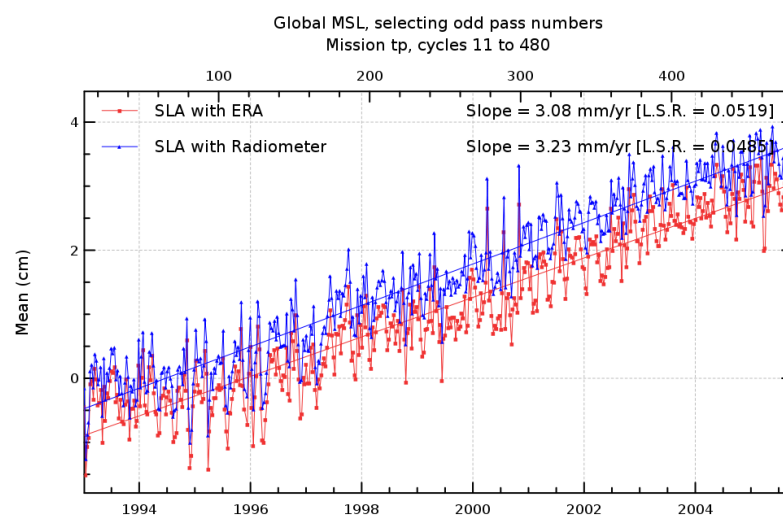
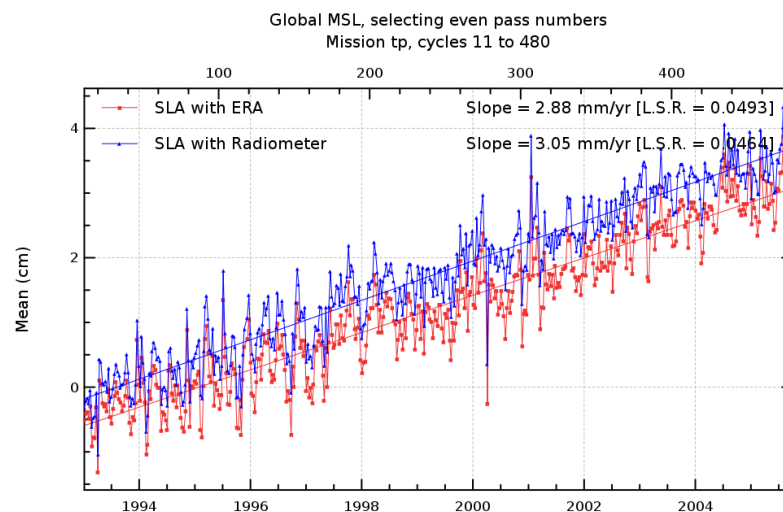
Diagnostic A201_b (mission tp)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses



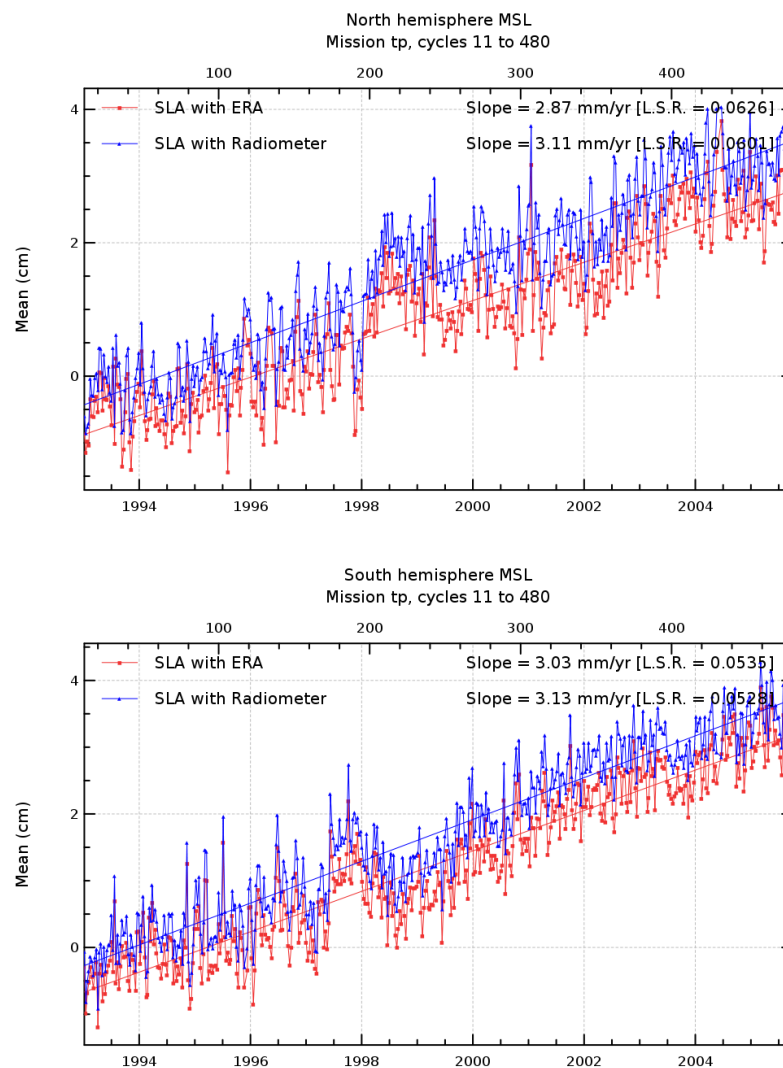
Diagnostic A201_c (mission tp)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses



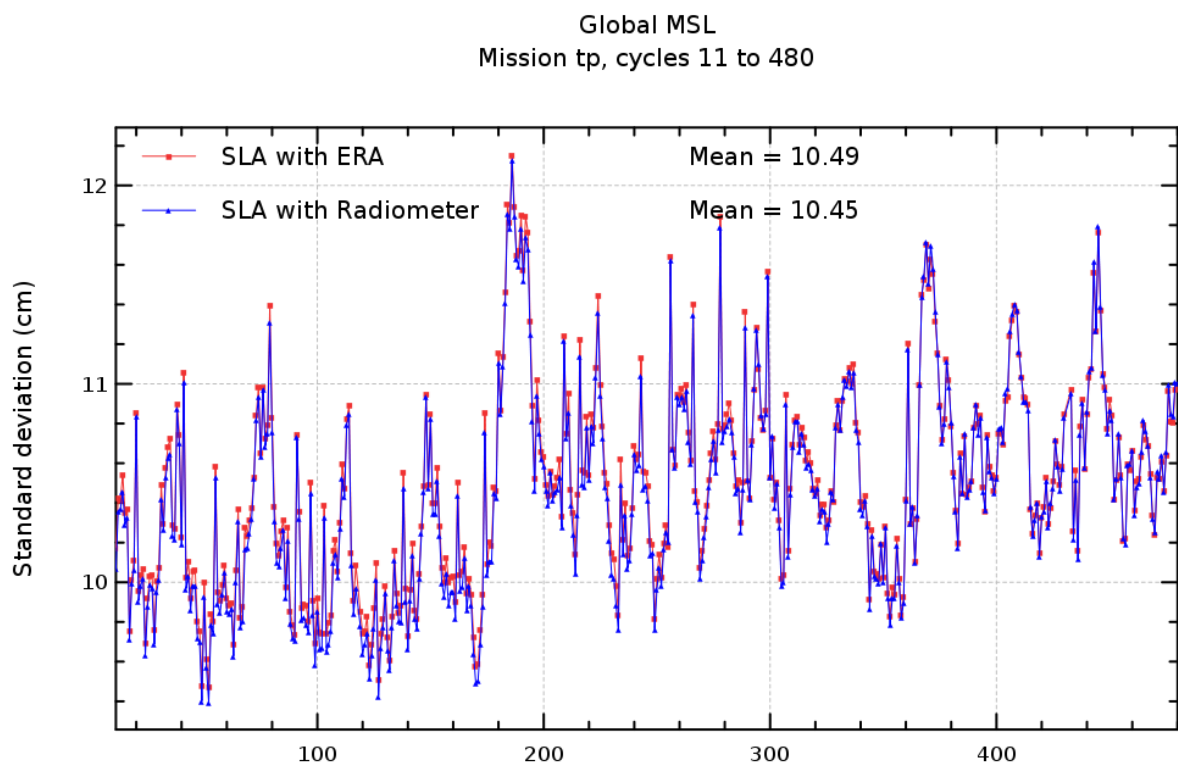
Diagnostic A201_d (mission tp)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

Diagnostic type : Global internal analyses



Diagnostic A201_e (mission tp)

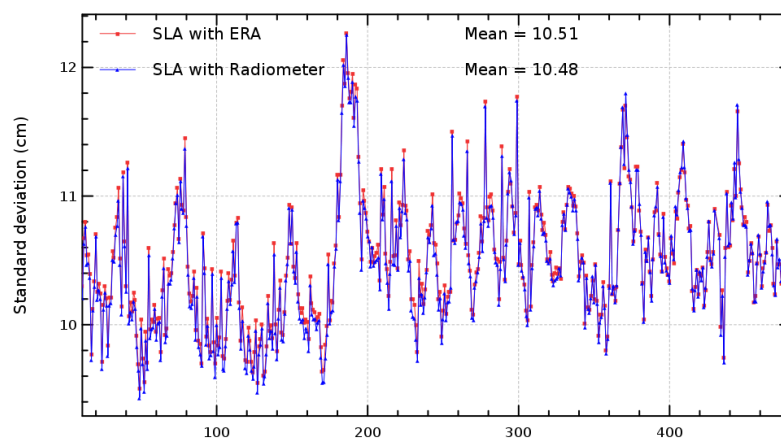
Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

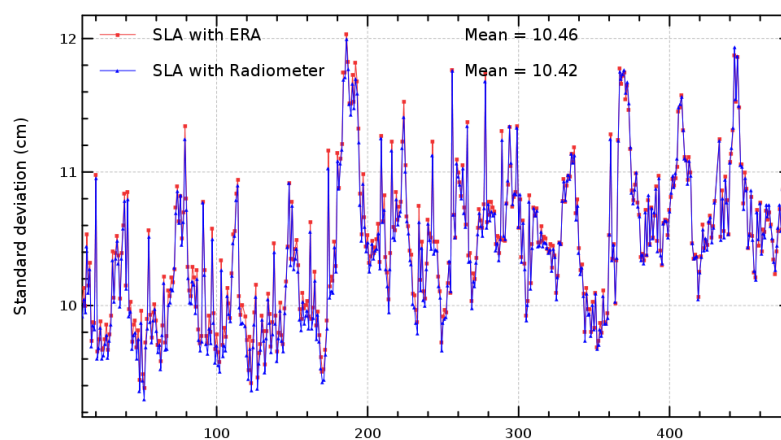
Description : The temporal evolution of SLA statistics (mean, standard deviation) are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SLA calculation. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) , or separating North and South hemispheres.

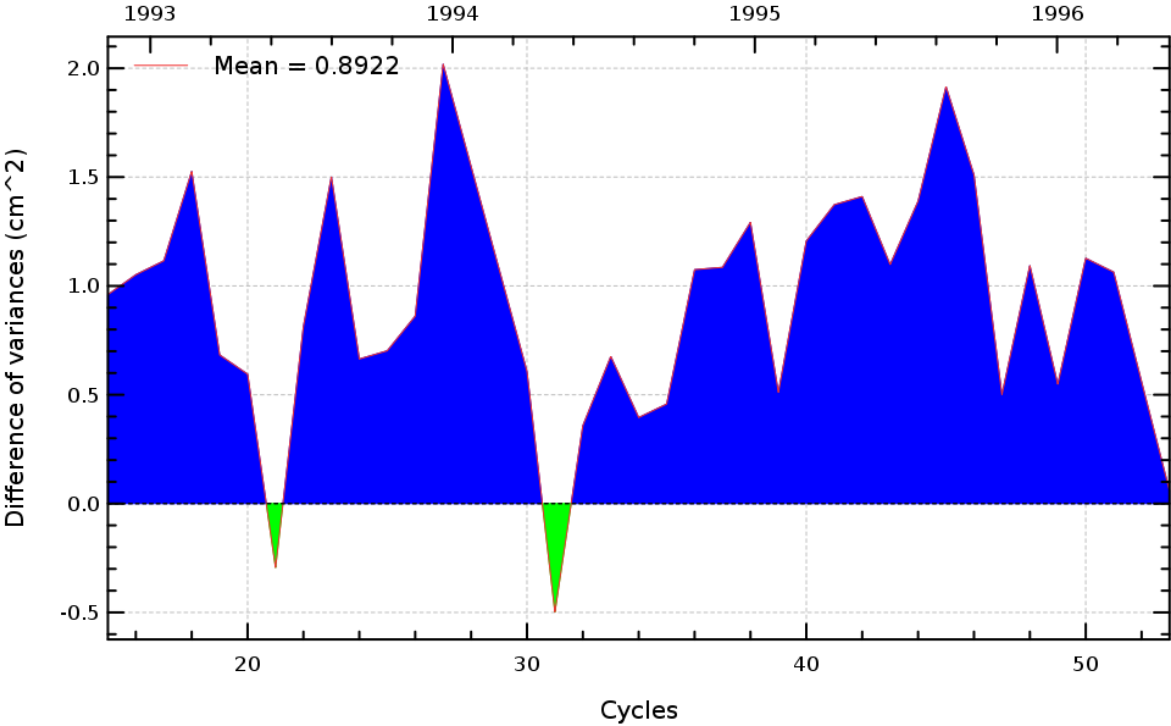
Diagnostic type : Global internal analyses

Global MSL, selecting even pass numbers
Mission tp, cycles 11 to 480



Global MSL, selecting odd pass numbers
Mission tp, cycles 11 to 480



Diagnostic type : Global internal analyses	Diagnostic A202_a (mission e1)
	Name : Differences between temporal evolution of Sea Level Anomaly (SLA)
	Input data : Along track SLA
	Description : The differences between temporal evolution of SLA are calculated from statistics derived from diagnostic A201 (mean, variance) using 2 different components in the SLA calculation. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) or separating North and South hemispheres.
	<div>VAR(SLA with ERA) - VAR(SLA with Radiometer) Mission e1, cycles 15 to 53</div> 

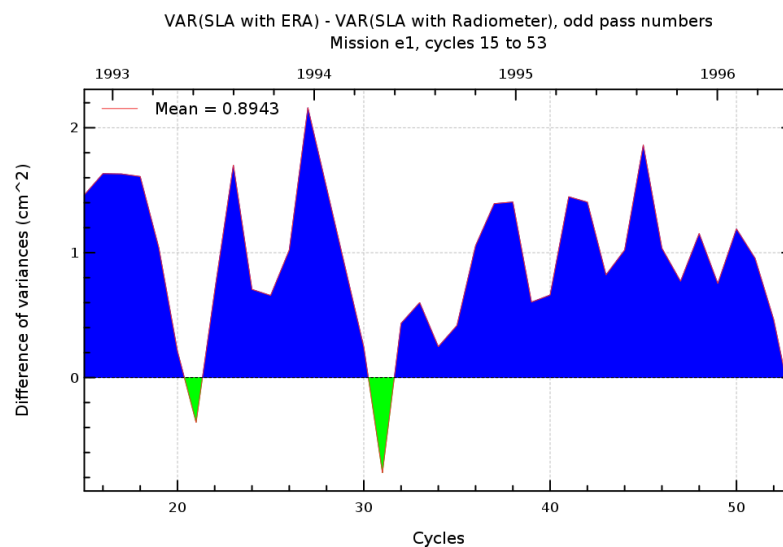
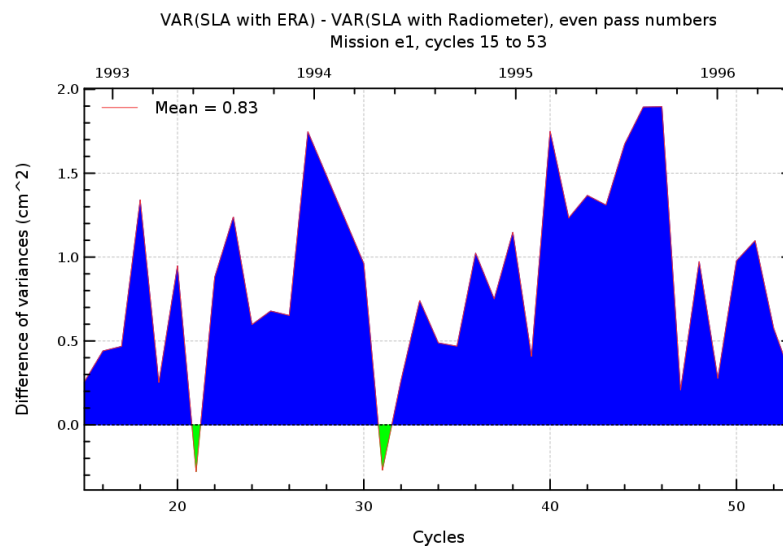
Diagnostic A202_b (mission e1)

Name : Differences between temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The differences between temporal evolution of SLA are calculated from statistics derived from diagnostic A201 (mean, variance) using 2 different components in the SLA calculation. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) or separating North and South hemispheres.

Diagnostic type : Global internal analyses



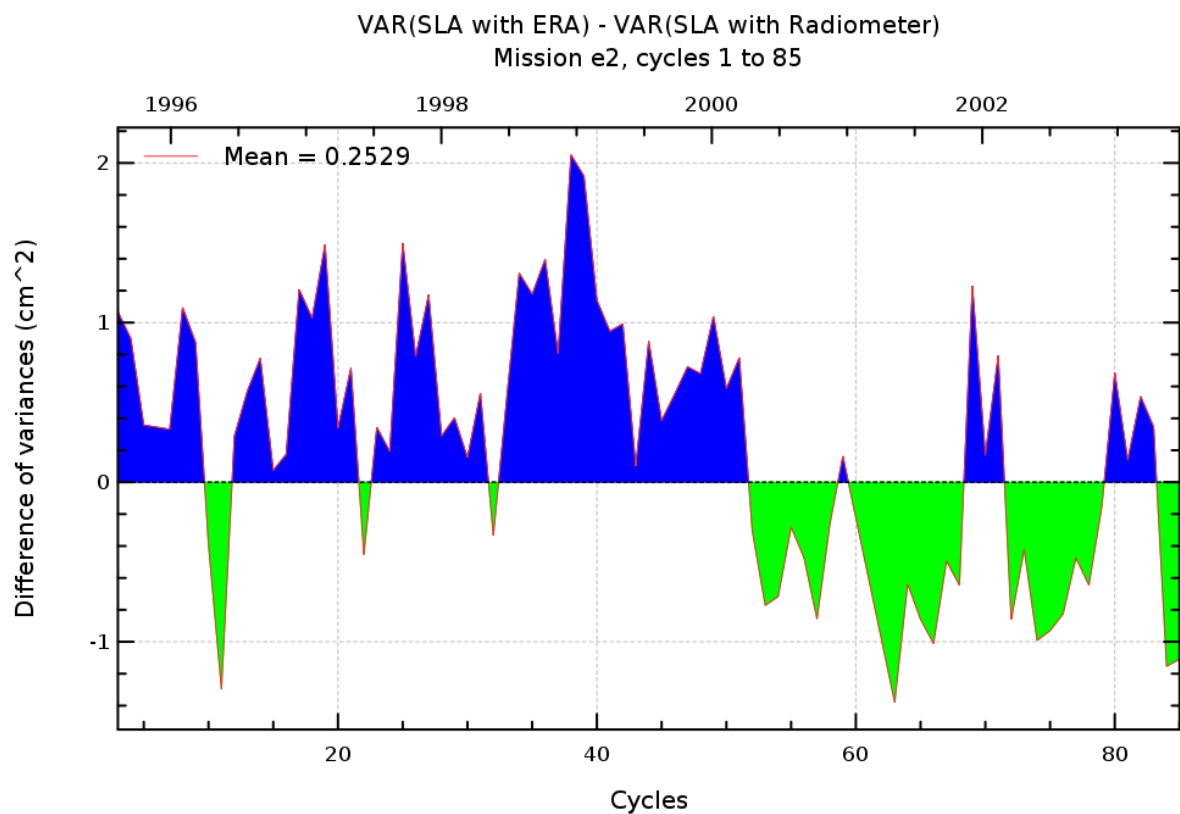
Diagnostic A202_a (mission e2)

Name : Differences between temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The differences between temporal evolution of SLA are calculated from statistics derived from diagnostic A201 (mean, variance) using 2 different components in the SLA calculation. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) or separating North and South hemispheres.

Diagnostic type : Global internal analyses



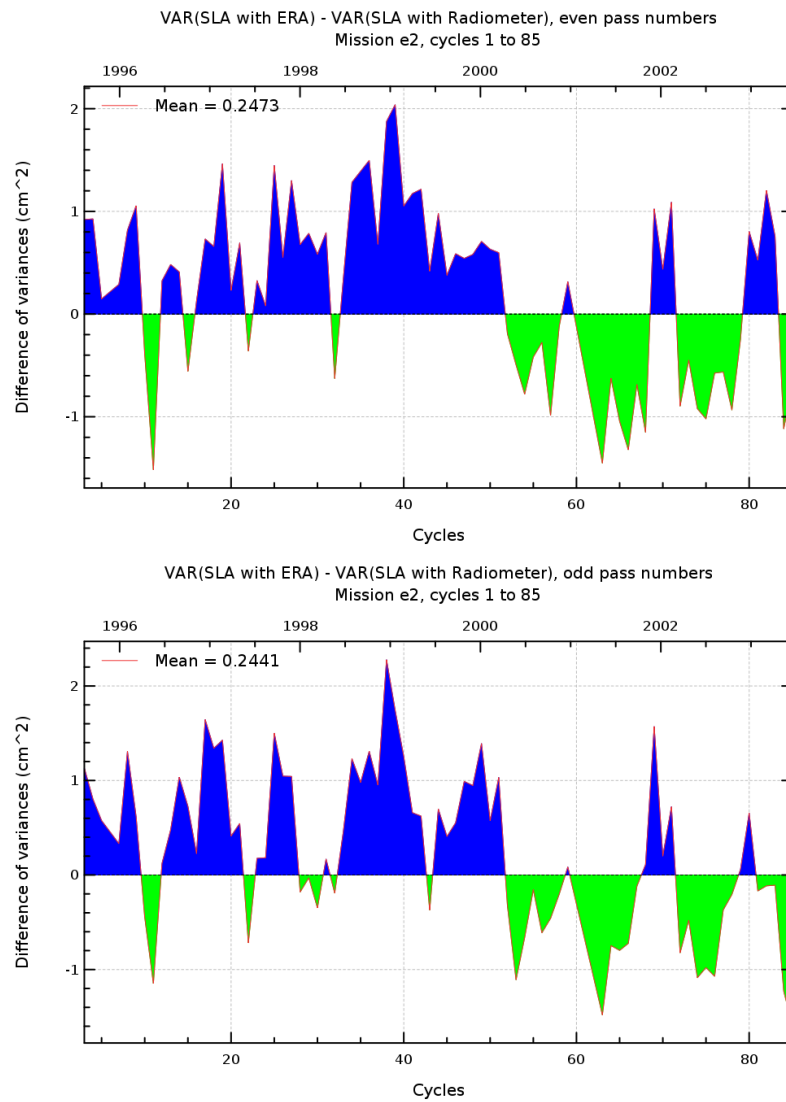
Diagnostic A202_b (mission e2)

Name : Differences between temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The differences between temporal evolution of SLA are calculated from statistics derived from diagnostic A201 (mean, variance) using 2 different components in the SLA calculation. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) or separating North and South hemispheres.

Diagnostic type : Global internal analyses



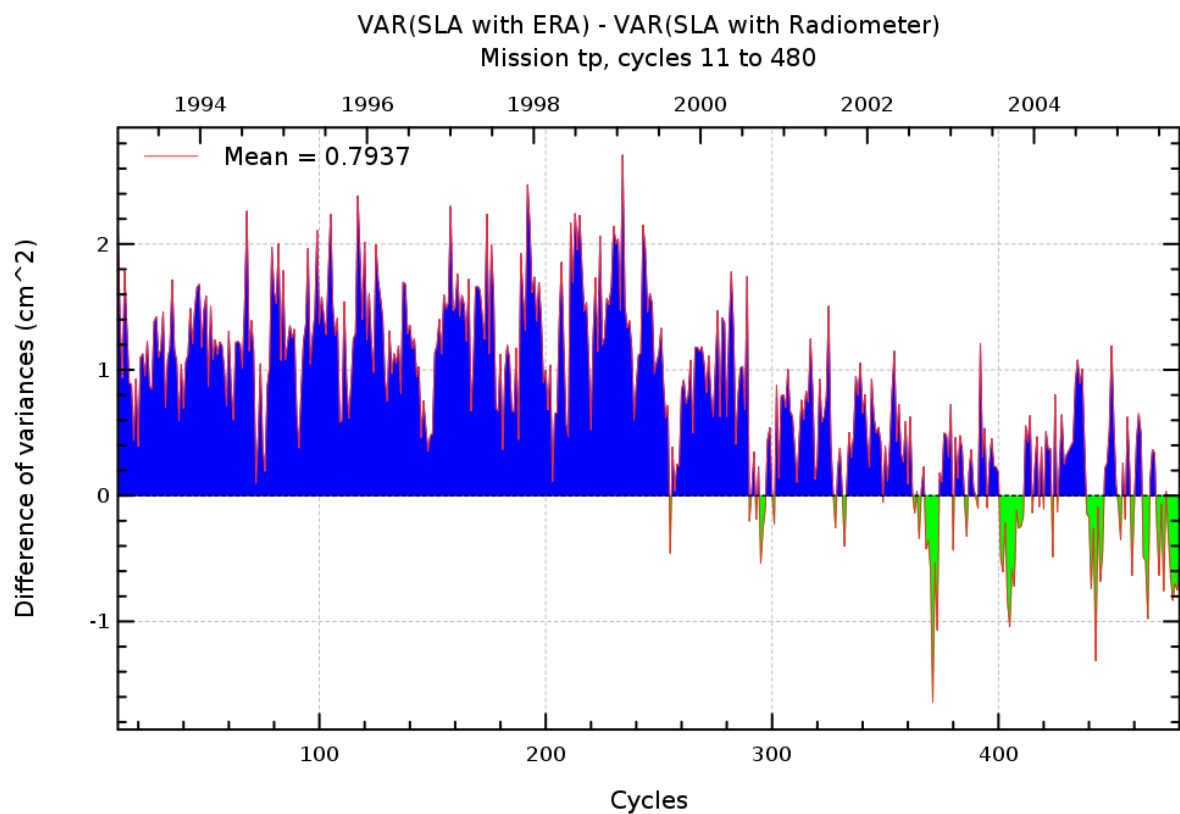
Diagnostic A202_a (mission tp)

Name : Differences between temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The differences between temporal evolution of SLA are calculated from statistics derived from diagnostic A201 (mean, variance) using 2 different components in the SLA calculation. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) or separating North and South hemispheres.

Diagnostic type : Global internal analyses



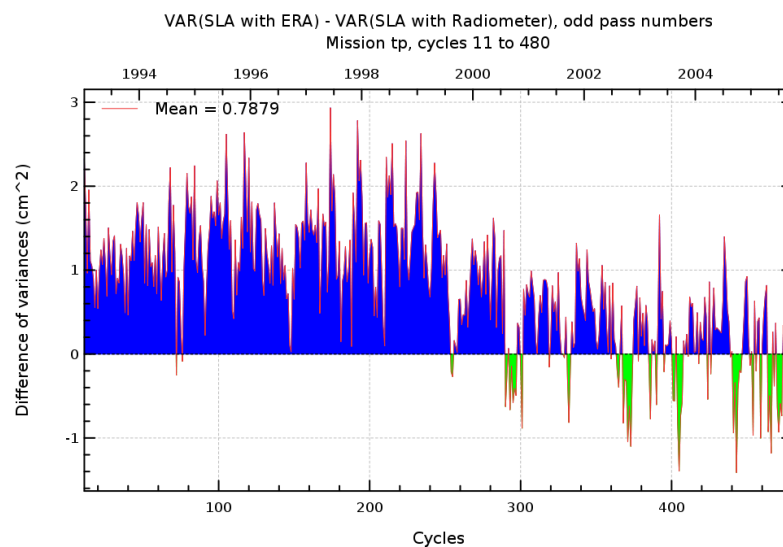
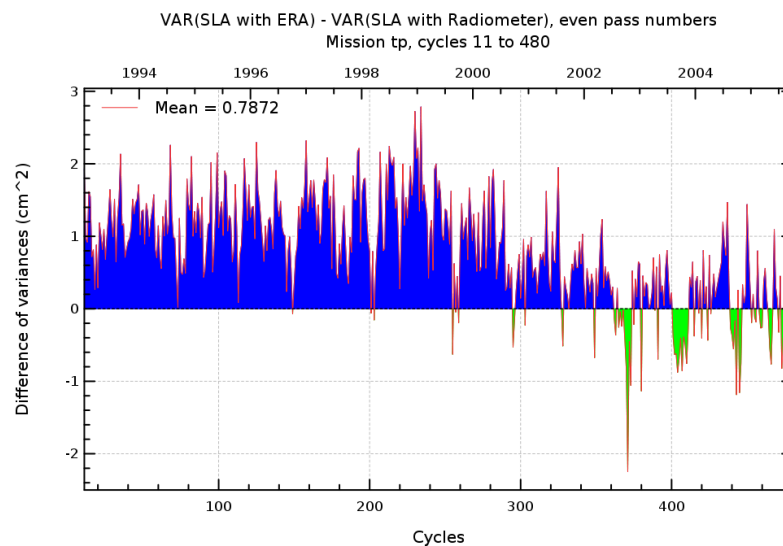
Diagnostic A202_b (mission tp)

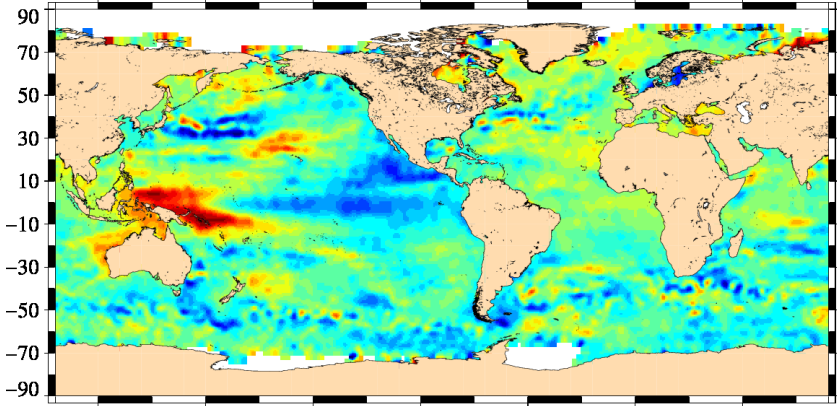
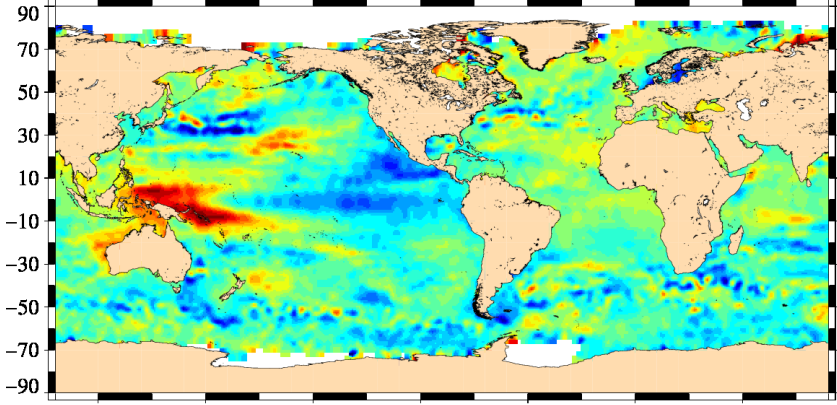
Name : Differences between temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The differences between temporal evolution of SLA are calculated from statistics derived from diagnostic A201 (mean, variance) using 2 different components in the SLA calculation. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) or separating North and South hemispheres.

Diagnostic type : Global internal analyses



Diagnostic type : Global internal analyses	Diagnostic A203_a (mission e1)	
	Name : Map of Sea Level Anomaly (SLA) over all the period	
	Input data : Along track SLA	
	Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.	
	<div>SLA with ERA trends</div> <div>Mission e1, cycles 15 to 53</div> <div></div> <div>-47.83813-15.78874 16.26065 48.31004</div> <div>Trends (mm/yr)</div> <div>SLA with Radiometer trends</div> <div>Mission e1, cycles 15 to 53</div> <div></div> <div>-47.58211-15.44692 16.68826 48.82344</div> <div>Trends (mm/yr)</div>	

Diagnostic A203_b (mission e1)

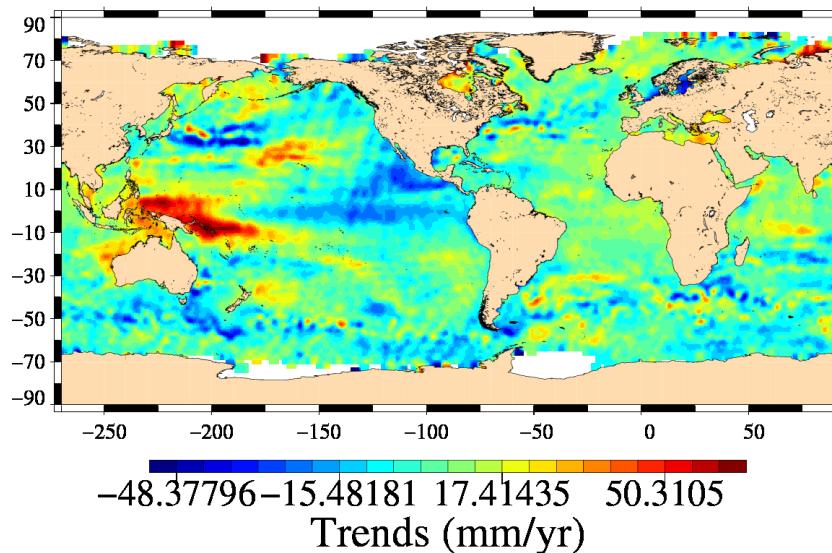
Name : Map of Sea Level Anomaly (SLA) over all the period

Input data : Along track SLA

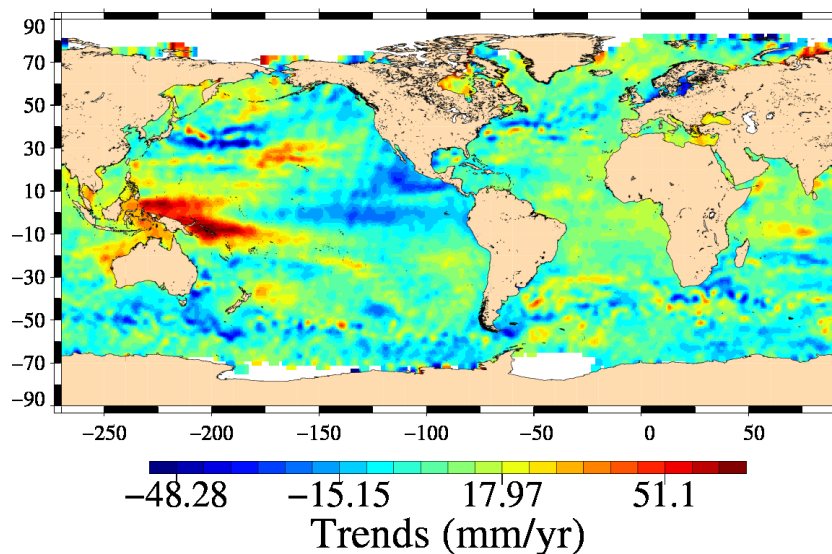
Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses

SLA with ERA trends : even pass numbers
Mission e1, cycles 15 to 53



SLA with Radiometer trends : even pass numbers
Mission e1, cycles 15 to 53



Diagnostic A203_c (mission e1)

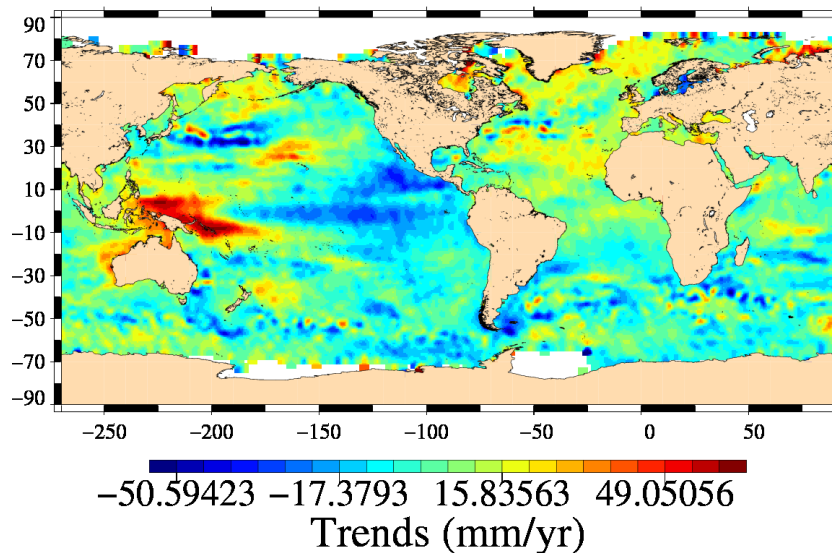
Name : Map of Sea Level Anomaly (SLA) over all the period

Input data : Along track SLA

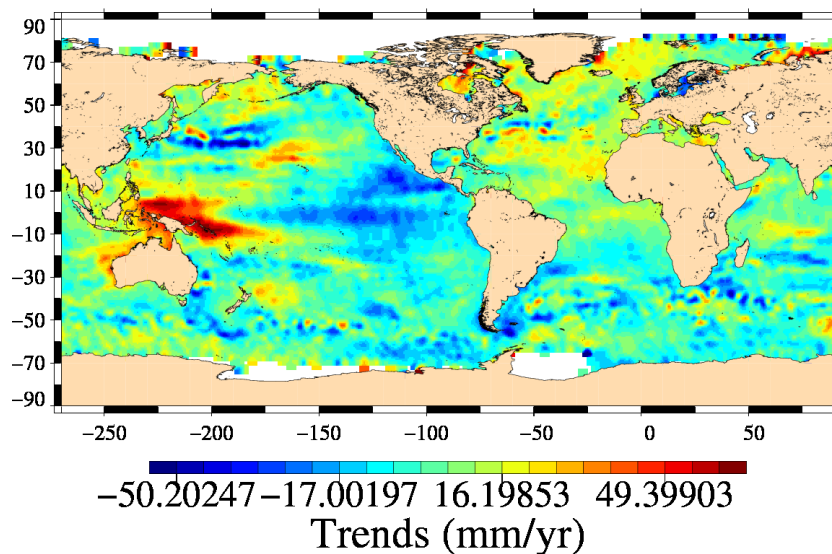
Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses

SLA with ERA trends : odd pass numbers
Mission e1, cycles 15 to 53



SLA with Radiometer trends : odd pass numbers
Mission e1, cycles 15 to 53



Diagnostic A203_a (mission e2)

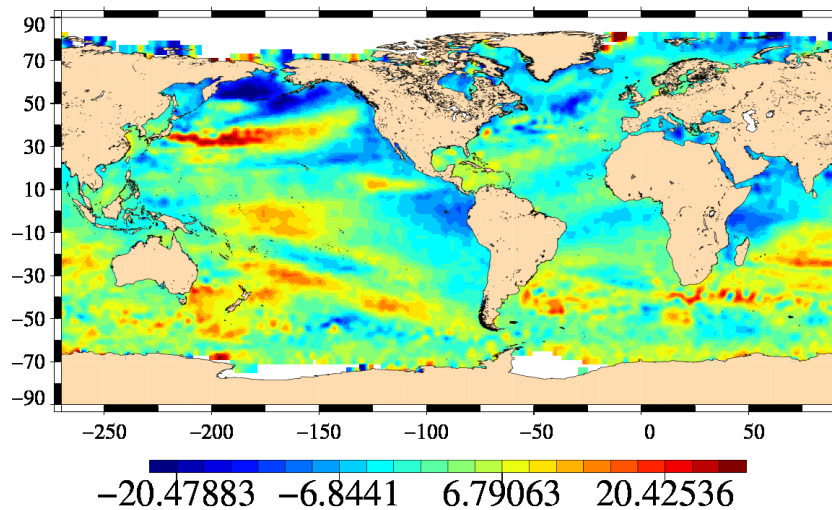
Name : Map of Sea Level Anomaly (SLA) over all the period

Input data : Along track SLA

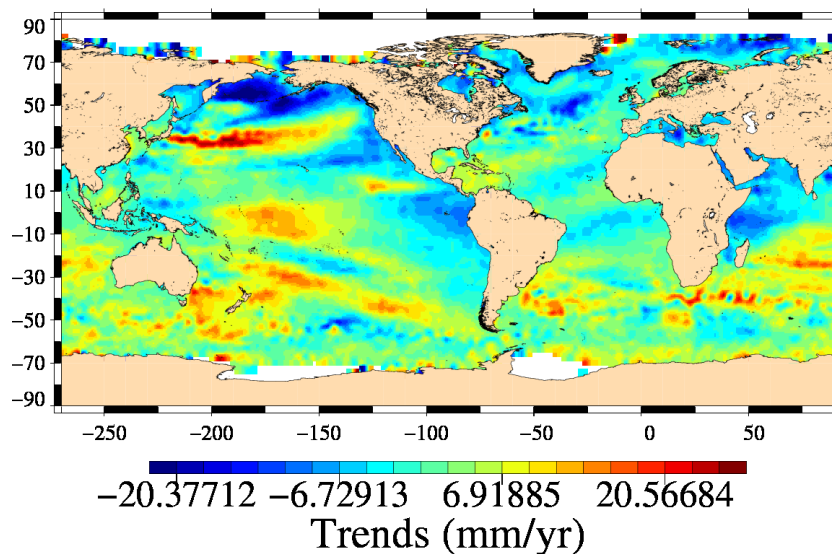
Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses

SLA with ERA trends
Mission e2, cycles 1 to 85



SLA with Radiometer trends
Mission e2, cycles 1 to 85



Diagnostic A203_b (mission e2)

Name : Map of Sea Level Anomaly (SLA) over all the period

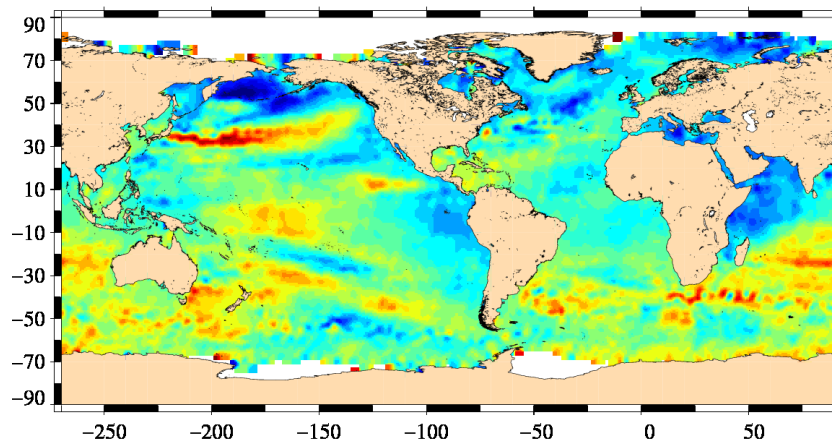
Input data : Along track SLA

Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses

SLA with ERA trends : even pass numbers

Mission e2, cycles 1 to 85

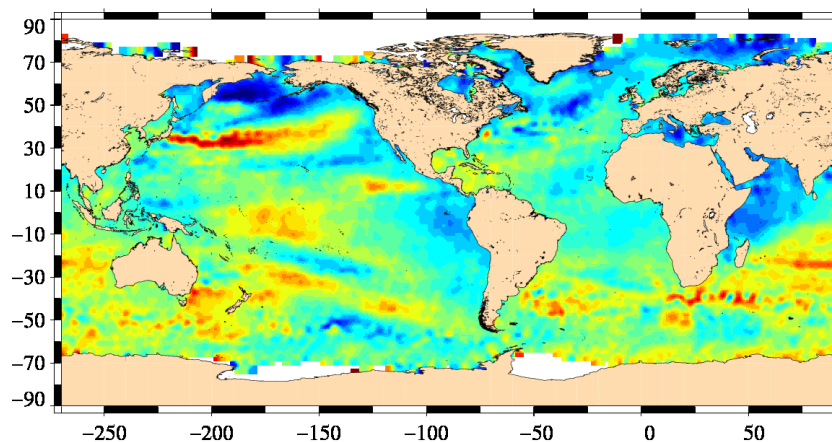


-21.51367 -6.82682 7.86002 22.54687

Trends (mm/yr)

SLA with Radiometer trends : even pass numbers

Mission e2, cycles 1 to 85



-21.43849 -6.71087 8.01675 22.74437

Trends (mm/yr)

Diagnostic A203_c (mission e2)

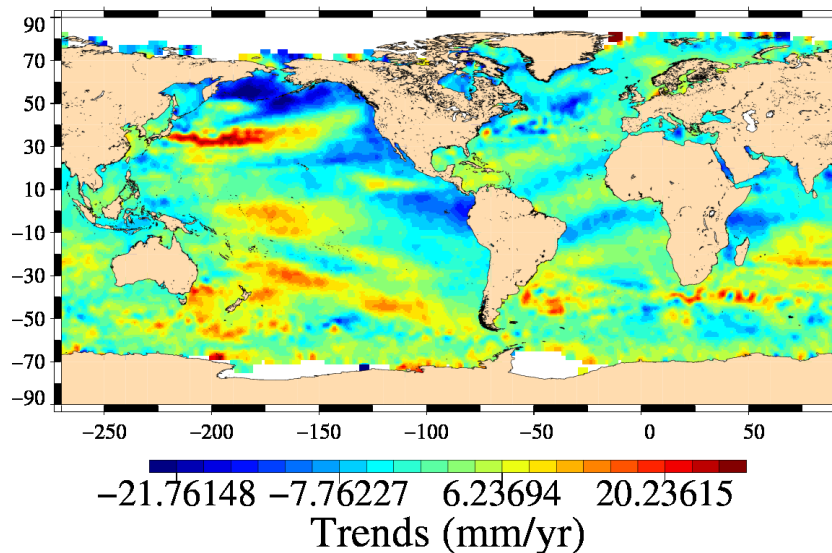
Name : Map of Sea Level Anomaly (SLA) over all the period

Input data : Along track SLA

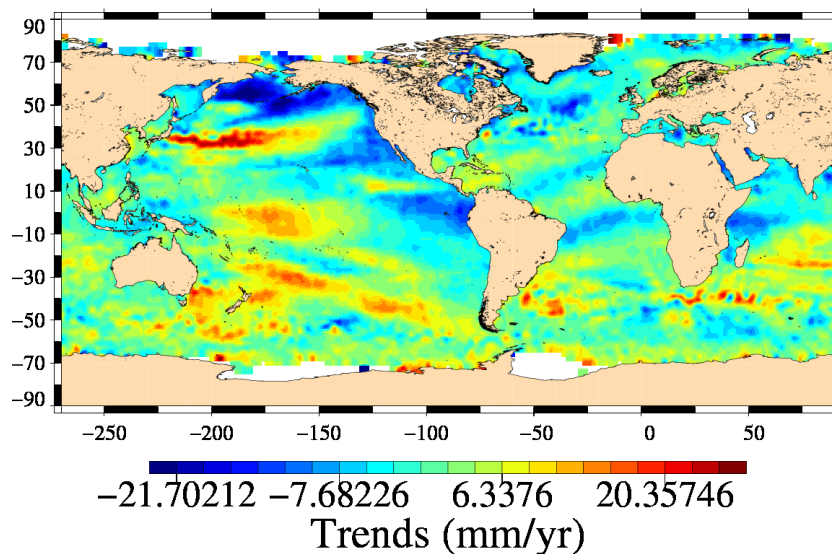
Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses

SLA with ERA trends : odd pass numbers
Mission e2, cycles 1 to 85



SLA with Radiometer trends : odd pass numbers
Mission e2, cycles 1 to 85



Diagnostic A203_a (mission tp)

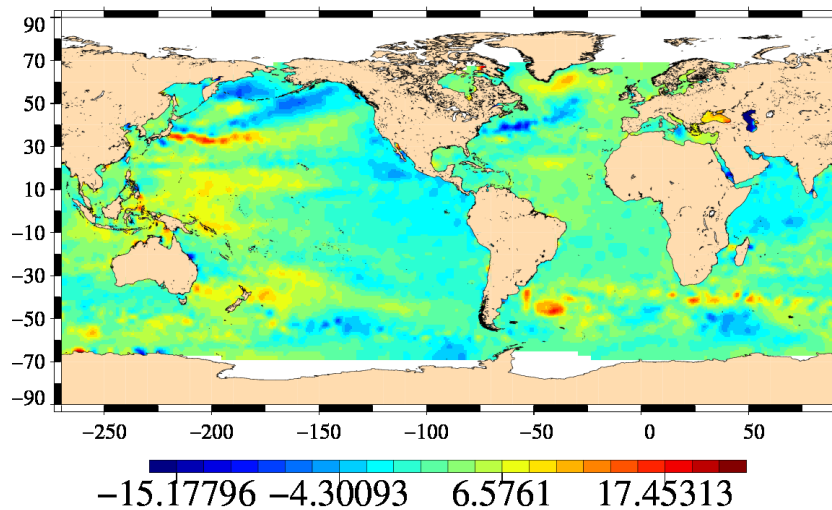
Name : Map of Sea Level Anomaly (SLA) over all the period

Input data : Along track SLA

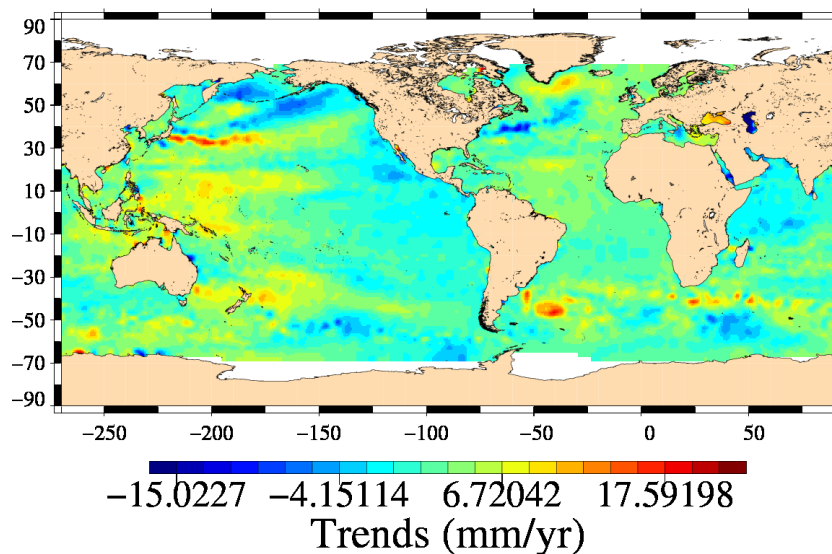
Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses

SLA with ERA trends
Mission tp, cycles 11 to 480



SLA with Radiometer trends
Mission tp, cycles 11 to 480



Diagnostic A203_b (mission tp)

Name : Map of Sea Level Anomaly (SLA) over all the period

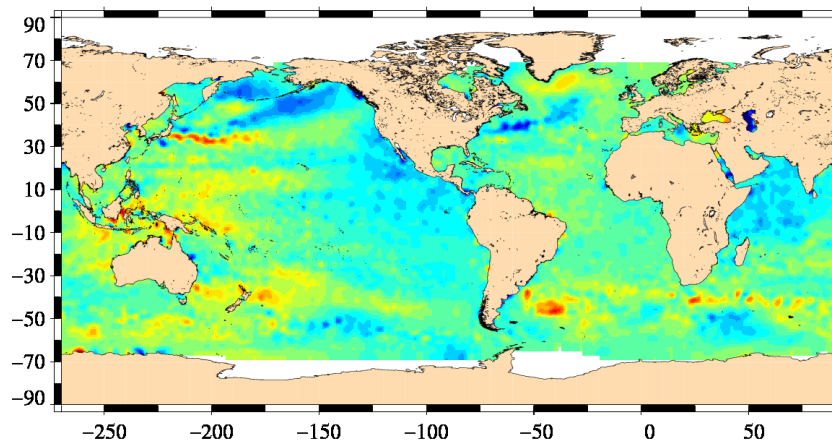
Input data : Along track SLA

Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses

SLA with ERA trends : even pass numbers

Mission tp, cycles 11 to 480

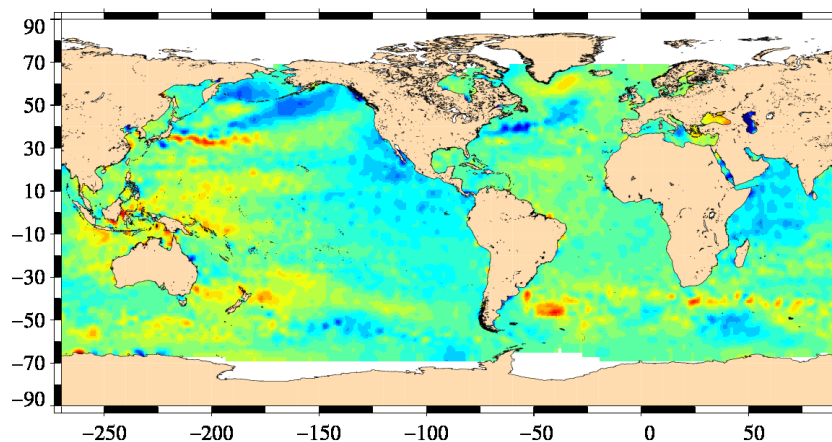


-15.51114 -4.46383 6.58348 17.63078

Trends (mm/yr)

SLA with Radiometer trends : even pass numbers

Mission tp, cycles 11 to 480



-15.34089 -4.30158 6.73774 17.77706

Trends (mm/yr)

Diagnostic A203_c (mission tp)

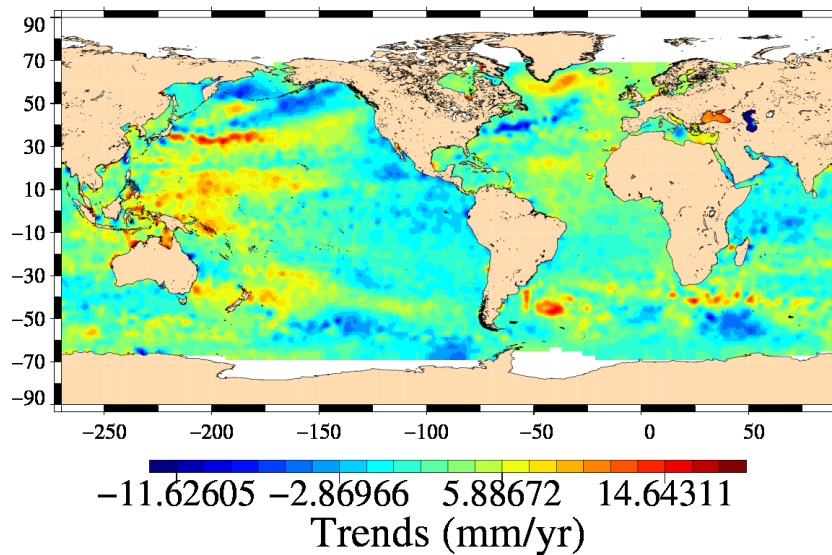
Name : Map of Sea Level Anomaly (SLA) over all the period

Input data : Along track SLA

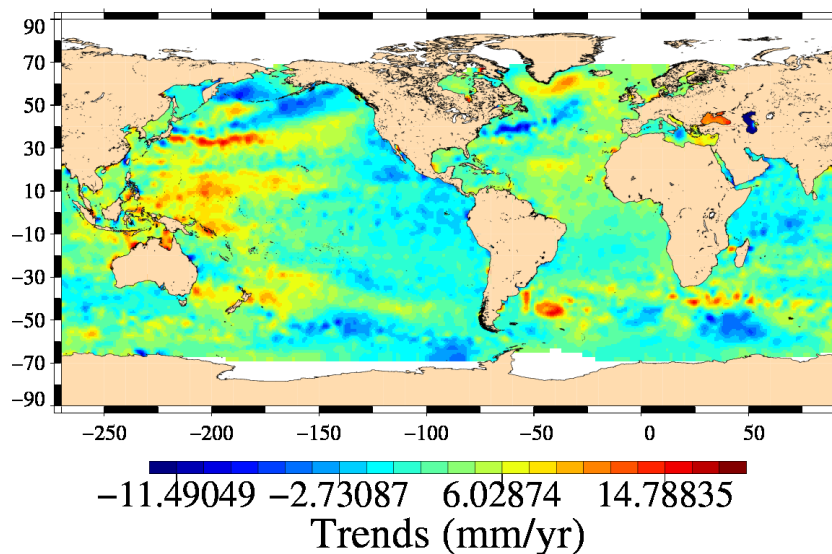
Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

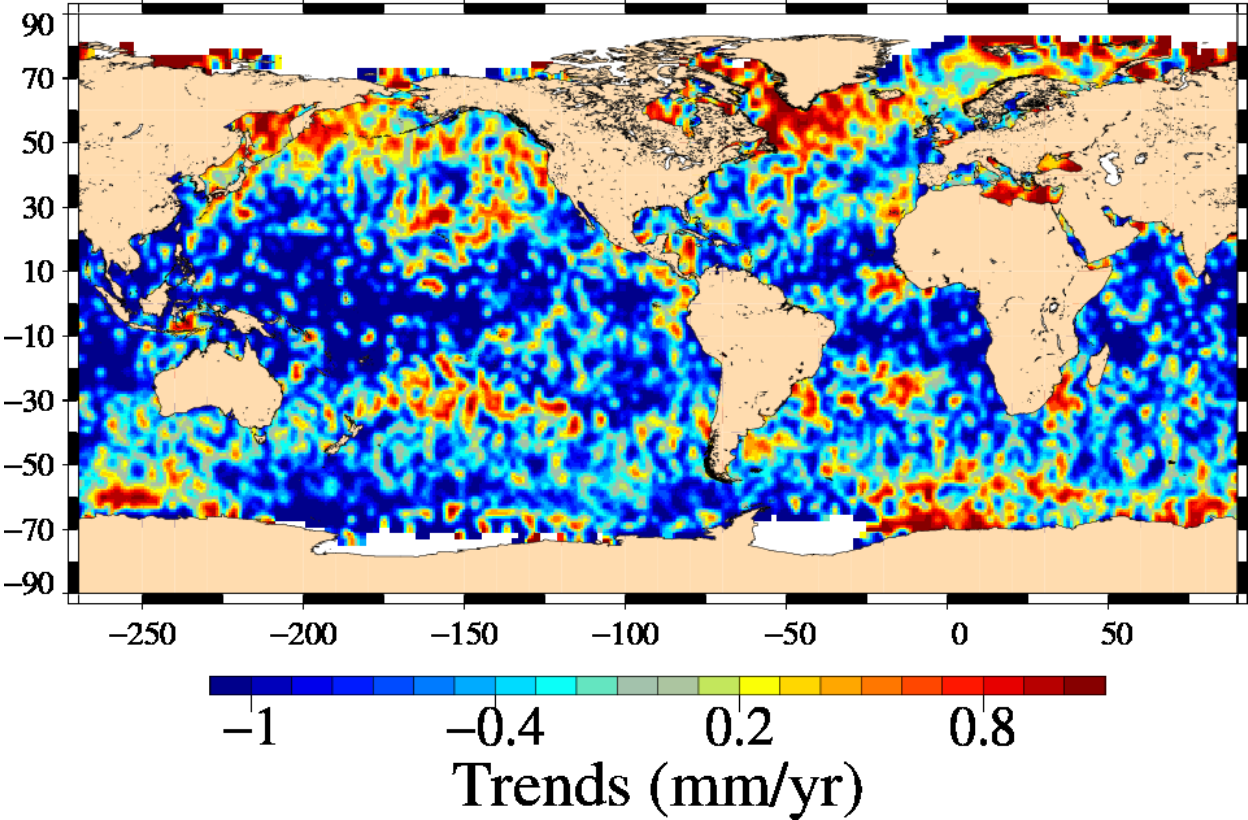
Diagnostic type : Global internal analyses

SLA with ERA trends : odd pass numbers
Mission tp, cycles 11 to 480



SLA with Radiometer trends : odd pass numbers
Mission tp, cycles 11 to 480



Diagnostic type : Global internal analyses	Diagnostic A204_a (mission e1)	
	Name : Differences between maps of SLA	
	Input data : Along track SLA	
	Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).	
	<div>SLA with ERA trends – SLA with Radiometer trends</div> <div>Mission e1, cycles 15 to 53</div> 	

Diagnostic A204_b (mission e1)

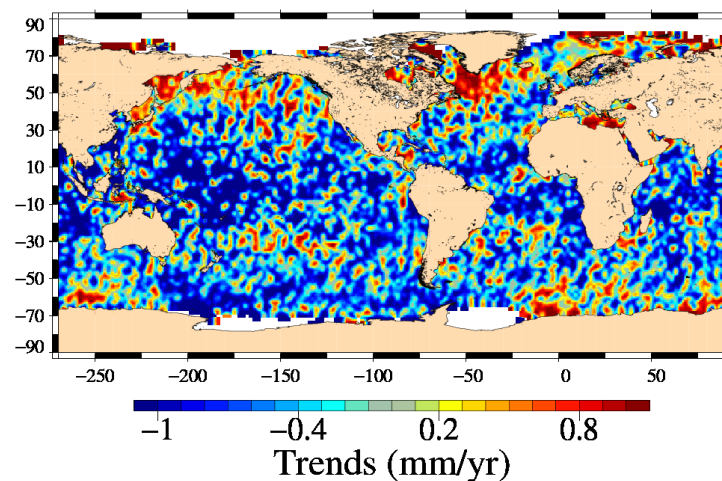
Name : Differences between maps of SLA

Input data : Along track SLA

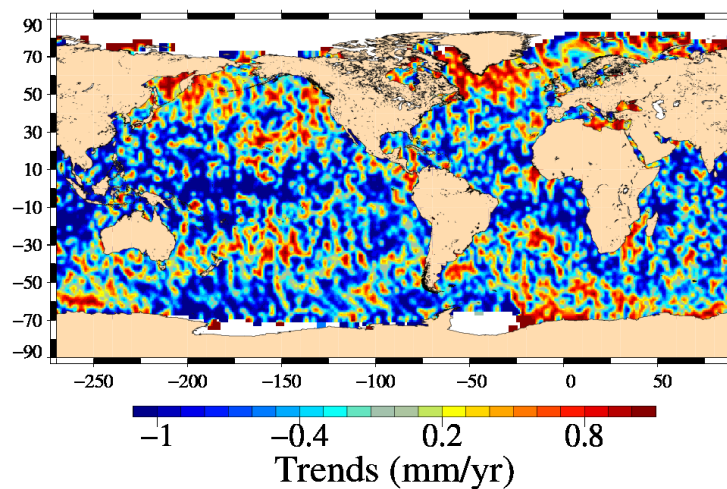
Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).

Diagnostic type : Global internal analyses

SLA with ERA trends – SLA with Radiometer trends : even pass numbers
Mission e1, cycles 15 to 53



SLA with ERA trends – SLA with Radiometer trends : odd pass numbers
Mission e1, cycles 15 to 53



Diagnostic A204_a (mission e2)

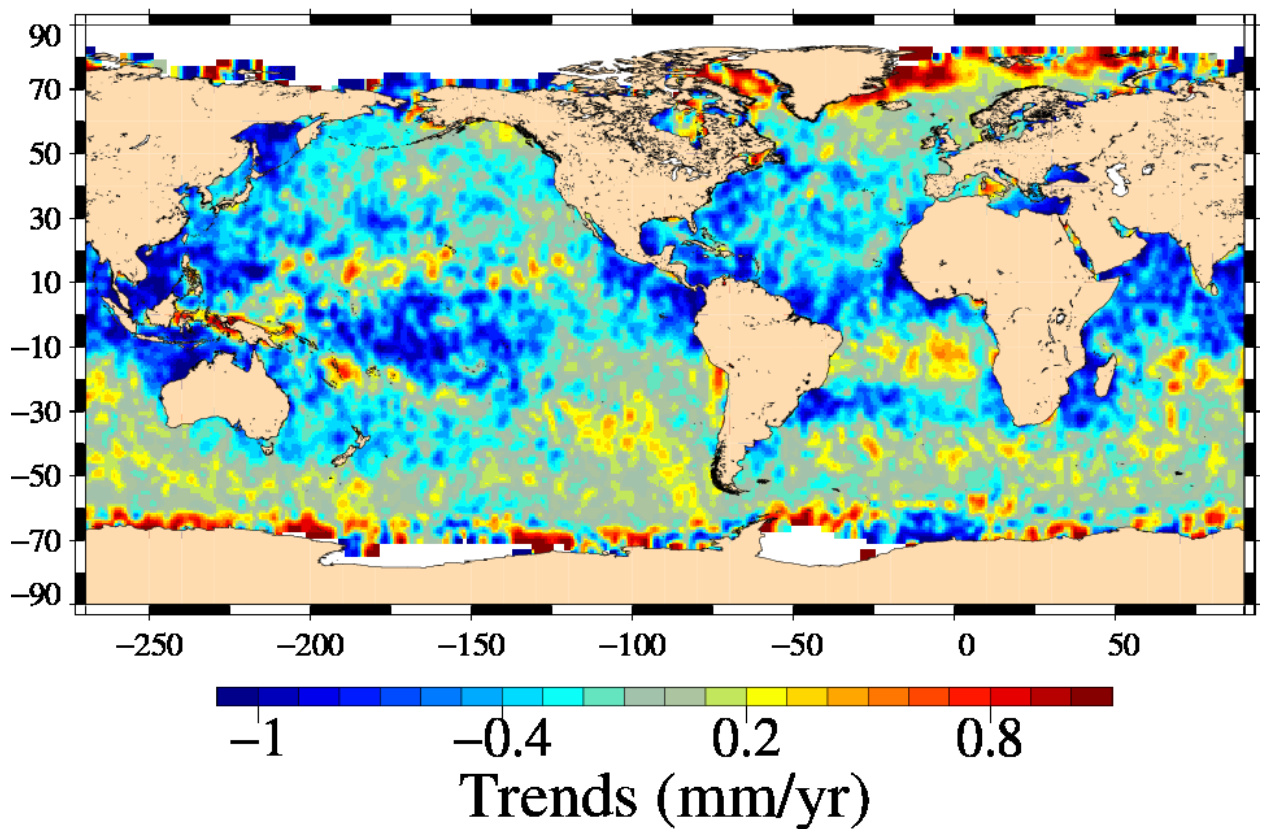
Name : Differences between maps of SLA

Input data : Along track SLA

Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).

Diagnostic type : Global internal analyses

SLA with ERA trends – SLA with Radiometer trends Mission e2, cycles 1 to 85



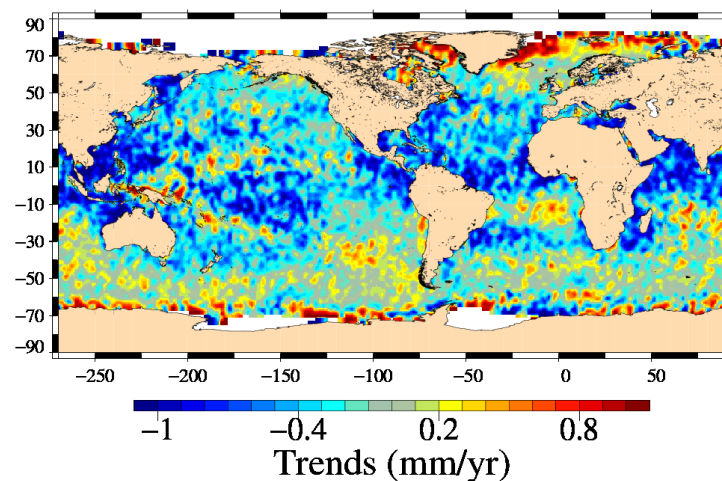
Diagnostic A204_b (mission e2)

Name : Differences between maps of SLA

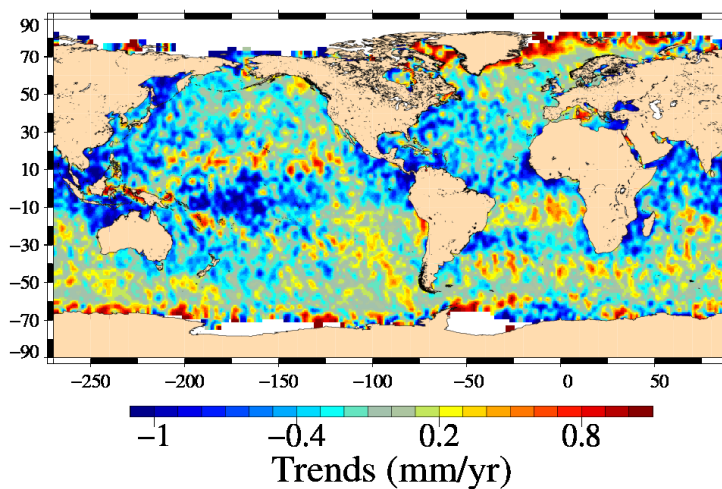
Input data : Along track SLA

Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).

SLA with ERA trends – SLA with Radiometer trends : even pass numbers
Mission e2, cycles 1 to 85



SLA with ERA trends – SLA with Radiometer trends : odd pass numbers
Mission e2, cycles 1 to 85



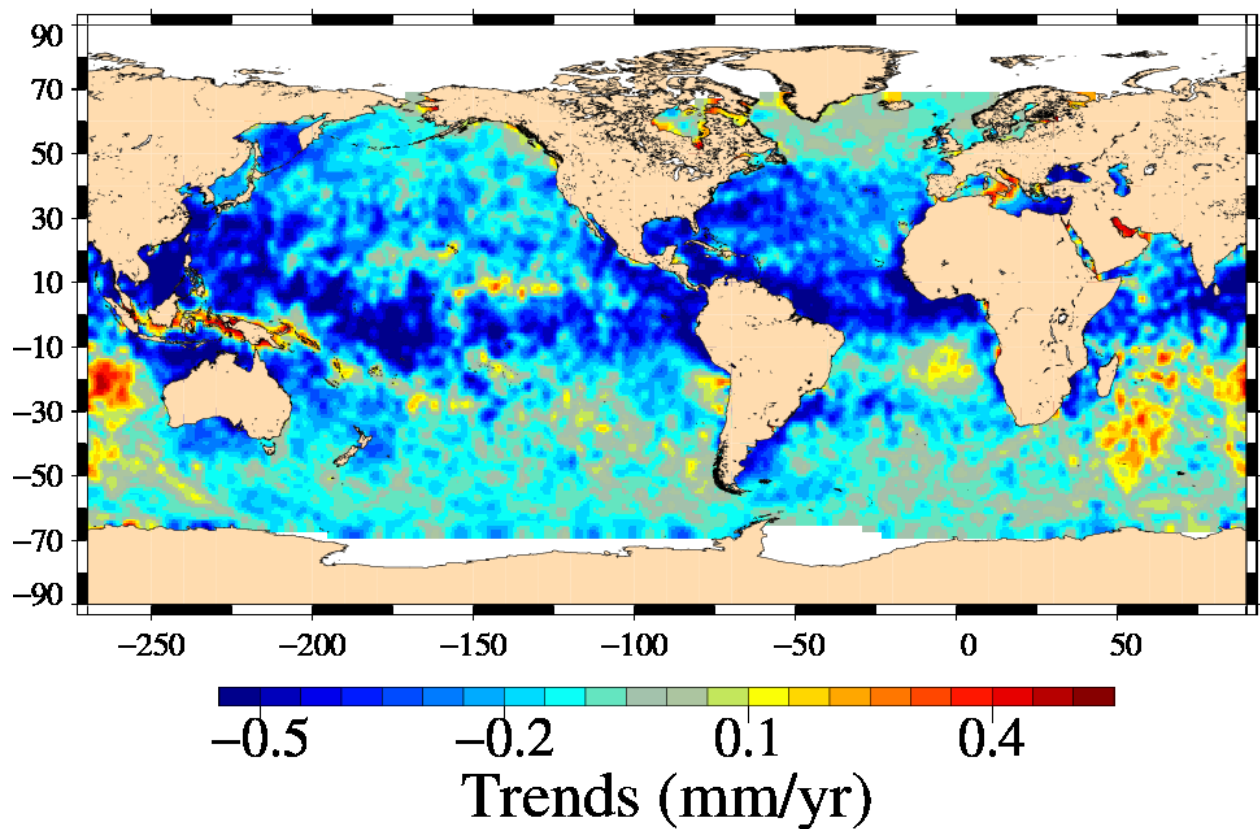
Diagnostic A204_a (mission tp)

Name : Differences between maps of SLA

Input data : Along track SLA

Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).

SLA with ERA trends – SLA with Radiometer trends Mission tp, cycles 11 to 480



Diagnostic A204_b (mission tp)

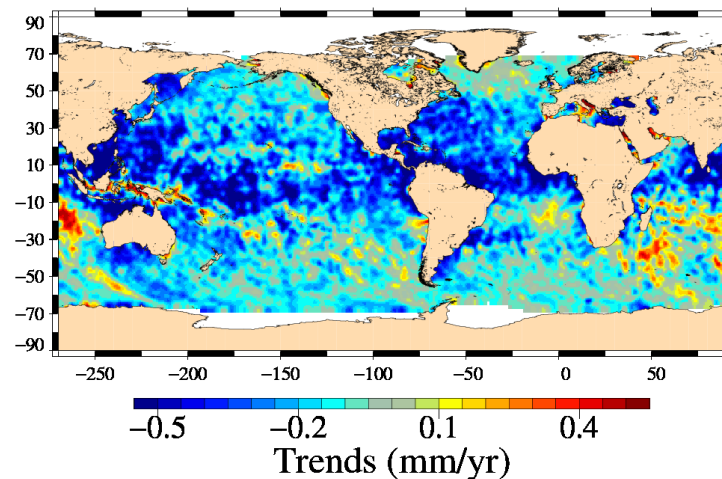
Name : Differences between maps of SLA

Input data : Along track SLA

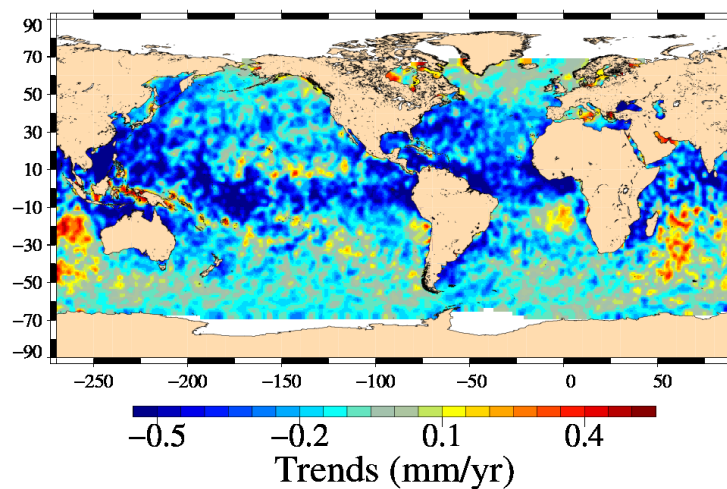
Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).

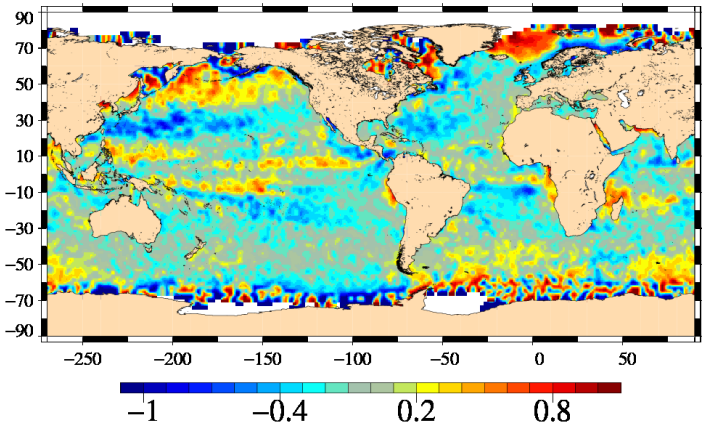
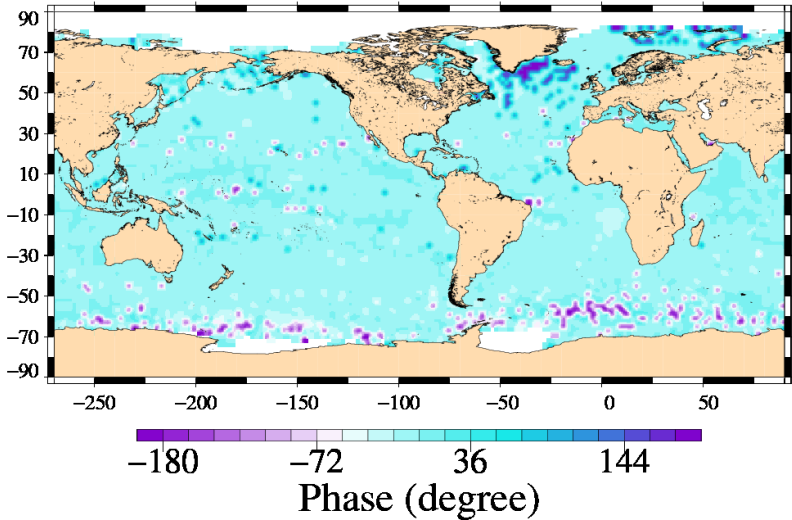
Diagnostic type : Global internal analyses

SLA with ERA trends – SLA with Radiometer trends : even pass numbers
Mission tp, cycles 11 to 480



SLA with ERA trends – SLA with Radiometer trends : odd pass numbers
Mission tp, cycles 11 to 480



Diagnostic type : Global internal analyses	Diagnostic A205_a (mission e1)	
	Name : Differences between maps of SLA (2)	
	Input data : Along track SLA	
	Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).	
	<div>SLA with ERA amplitude – SLA with Radiometer amplitude : annual signal</div> <div>Mission e1, cycles 15 to 53</div> <div><p>A global map showing the difference in SLA amplitude between ERA and Radiometer data for mission e1, cycles 15 to 53. The map uses a color scale from -1 to 0.8 cm, with blue representing negative values and red representing positive values. The map shows significant variations across the globe, with higher positive values (red) concentrated in the North Atlantic and parts of the Pacific, and negative values (blue) in the Southern Ocean and parts of the Atlantic.</p></div> <div>SLA with ERA phase – SLA with Radiometer phase : annual signal</div> <div>Mission e1, cycles 15 to 53</div> <div><p>A global map showing the difference in SLA phase between ERA and Radiometer data for mission e1, cycles 15 to 53. The map uses a color scale from -180 to 144 degrees, with purple representing negative values and yellow representing positive values. The map shows a mix of positive and negative values across the globe, with higher positive values (yellow) in the North Atlantic and parts of the Pacific, and negative values (purple) in the Southern Ocean and parts of the Atlantic.</p></div>	

Diagnostic A205_b (mission e1)

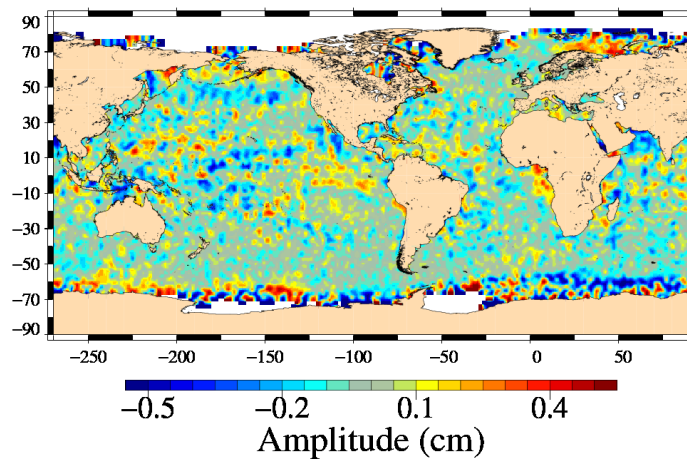
Name : Differences between maps of SLA (2)

Input data : Along track SLA

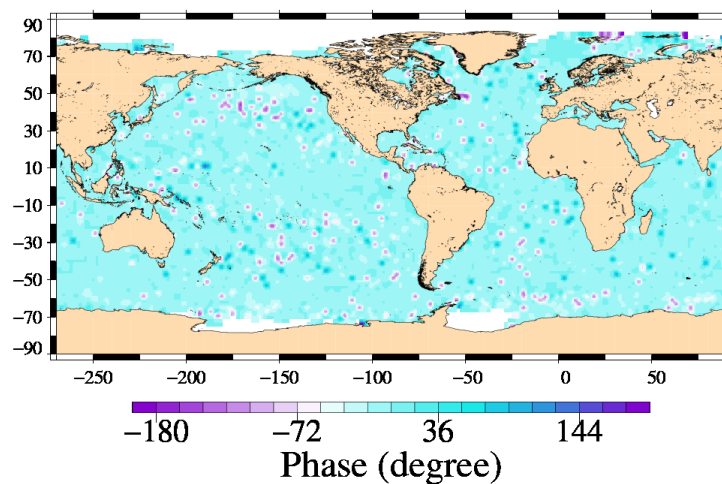
Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).

Diagnostic type : Global internal analyses

SLA with ERA amplitude – SLA with Radiometer amplitude : semi-annual signal
Mission e1, cycles 15 to 53



SLA with ERA phase – SLA with Radiometer phase : semi-annual signal
Mission e1, cycles 15 to 53



Diagnostic A205_a (mission e2)

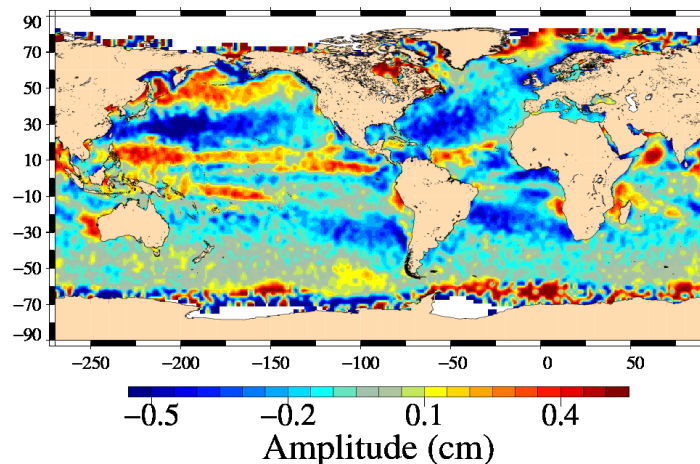
Name : Differences between maps of SLA (2)

Input data : Along track SLA

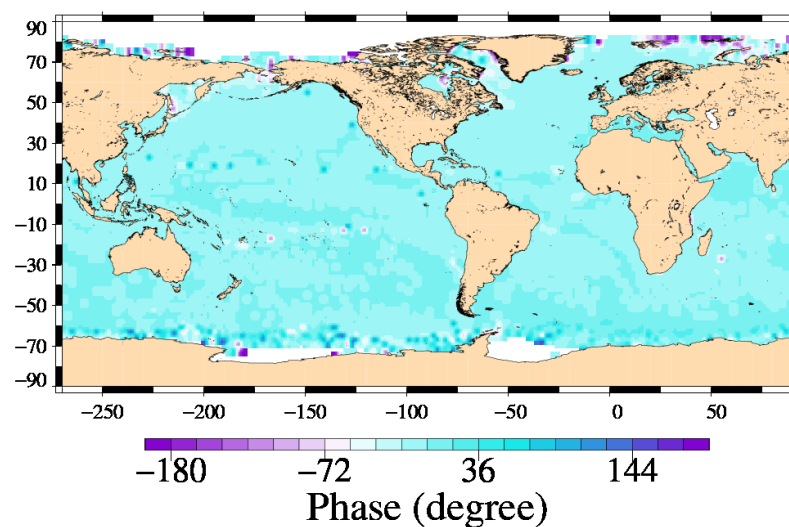
Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).

Diagnostic type : Global internal analyses

SLA with ERA amplitude – SLA with Radiometer amplitude : annual signal
Mission e2, cycles 1 to 85



SLA with ERA phase – SLA with Radiometer phase : annual signal
Mission e2, cycles 1 to 85



Diagnostic A205_b (mission e2)

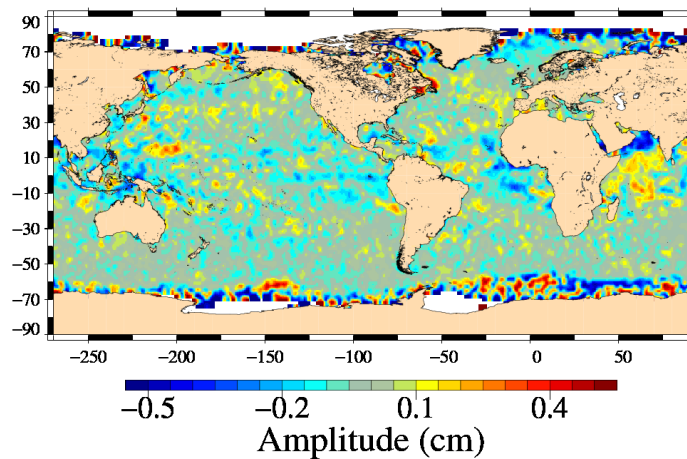
Name : Differences between maps of SLA (2)

Input data : Along track SLA

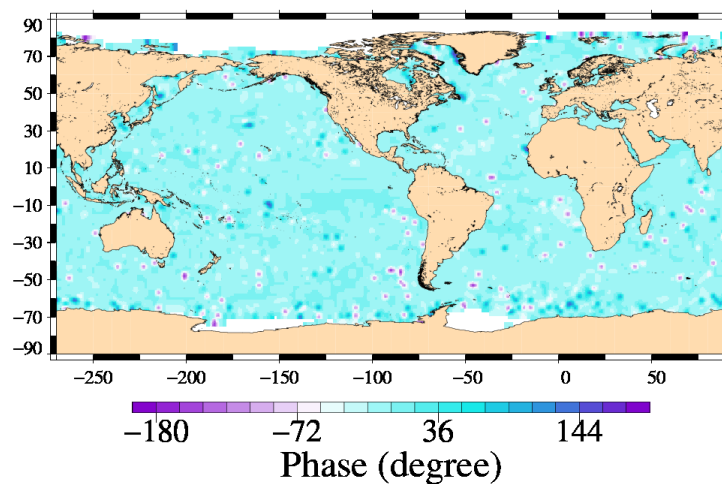
Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).

Diagnostic type : Global internal analyses

SLA with ERA amplitude – SLA with Radiometer amplitude : semi-annual signal
Mission e2, cycles 1 to 85



SLA with ERA phase – SLA with Radiometer phase : semi-annual signal
Mission e2, cycles 1 to 85



Diagnostic A205_a (mission tp)

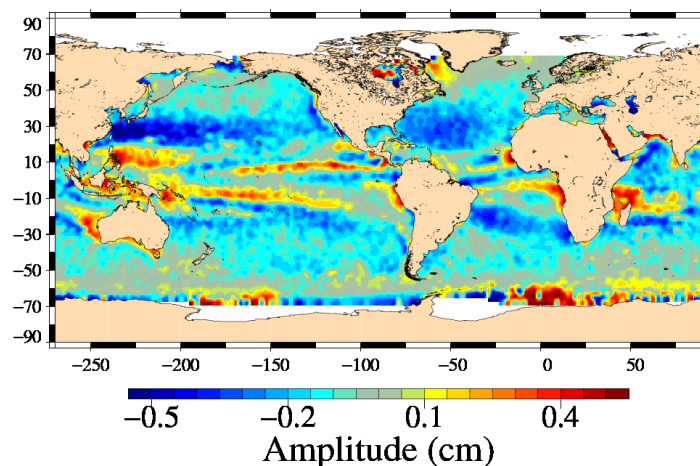
Name : Differences between maps of SLA (2)

Input data : Along track SLA

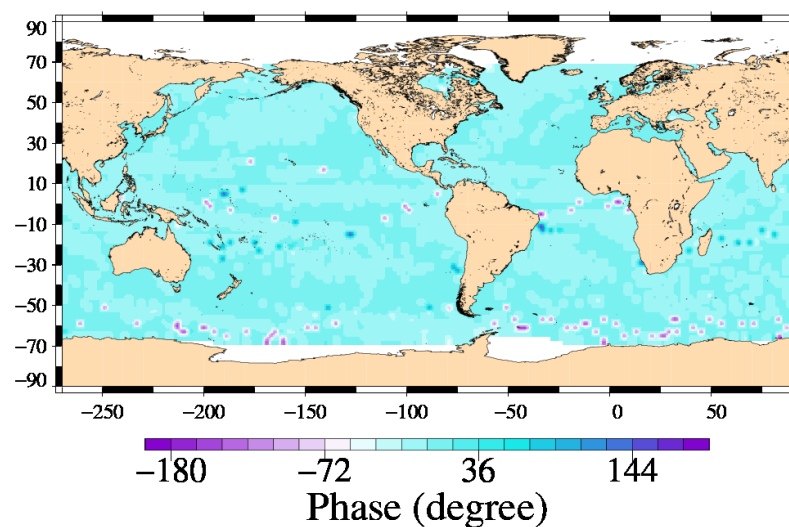
Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).

Diagnostic type : Global internal analyses

SLA with ERA amplitude – SLA with Radiometer amplitude : annual signal
Mission tp, cycles 11 to 480



SLA with ERA phase – SLA with Radiometer phase : annual signal
Mission tp, cycles 11 to 480



Diagnostic A205_b (mission tp)

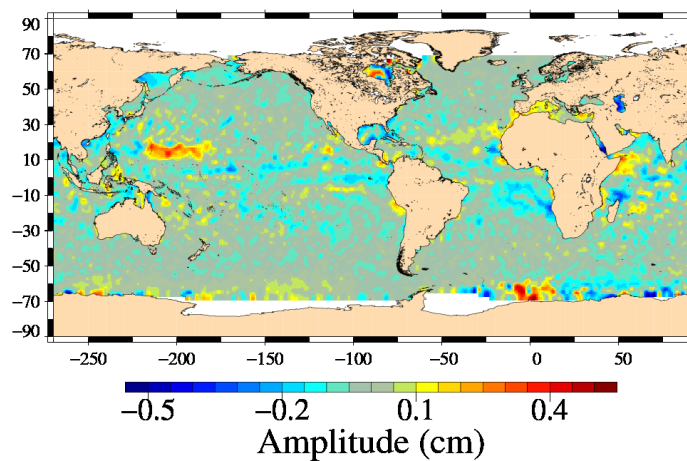
Name : Differences between maps of SLA (2)

Input data : Along track SLA

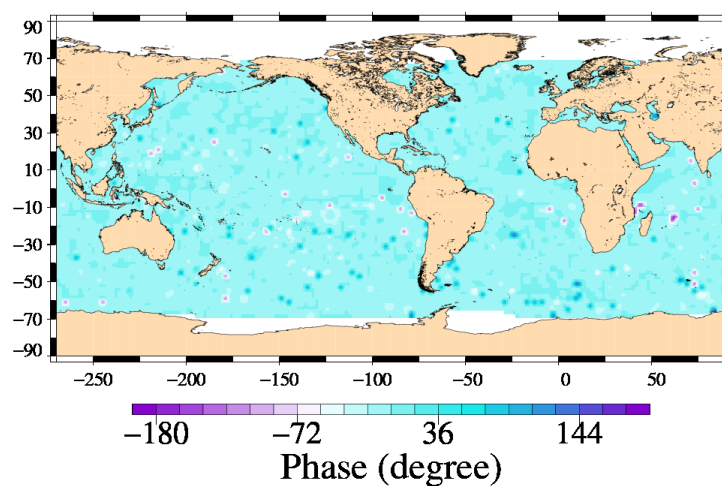
Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except for SLA Grids).

Diagnostic type : Global internal analyses

SLA with ERA amplitude – SLA with Radiometer amplitude : semi-annual signal
Mission tp, cycles 11 to 480



SLA with ERA phase – SLA with Radiometer phase : semi-annual signal
Mission tp, cycles 11 to 480

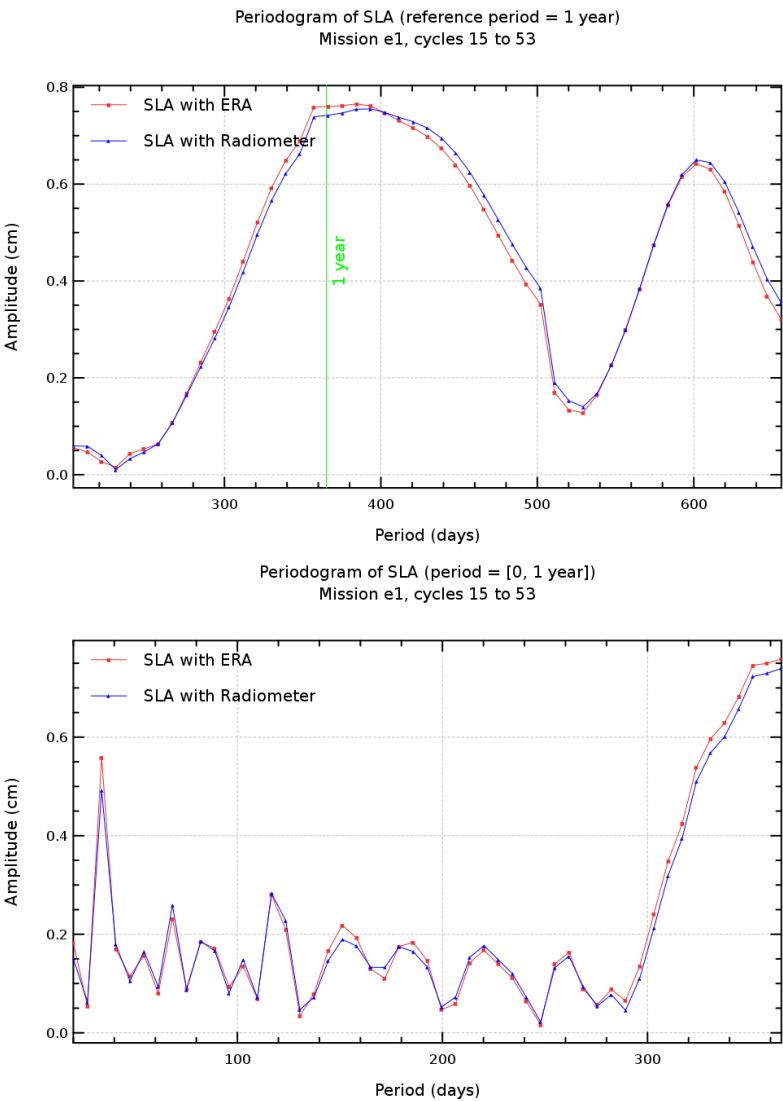


Diagnostic A206_a (mission e1)

Name : Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time data series are plotted as a periodogram.



Diagnostic A206_b (mission e1)

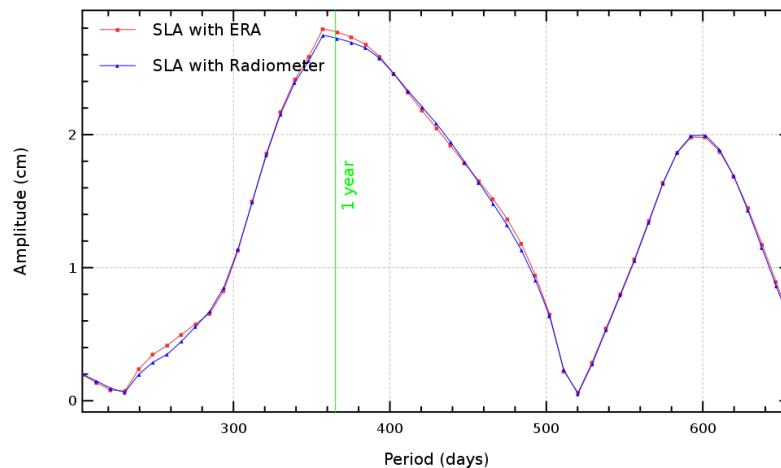
Name : Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

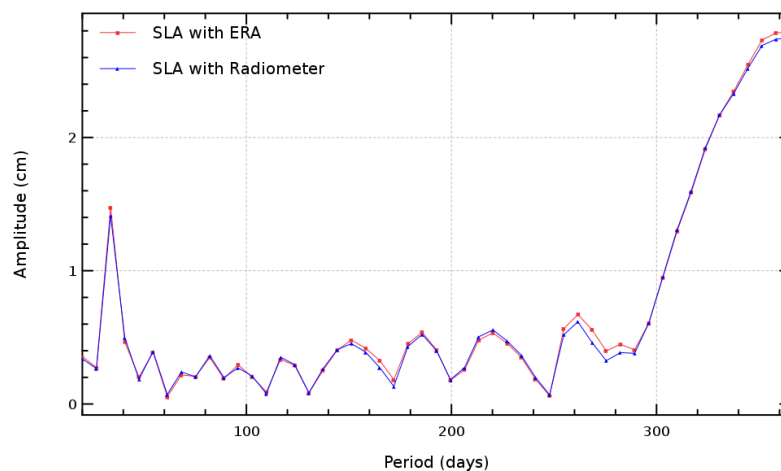
Description : The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time data series are plotted as a periodogram.

Diagnostic type : Global internal analyses

Periodogram of north hemisphere SLA (reference period = 1 year)
Mission e1, cycles 15 to 53



Periodogram of north hemisphere SLA (period = [0, 1 year])
Mission e1, cycles 15 to 53



Diagnostic A206_c (mission e1)

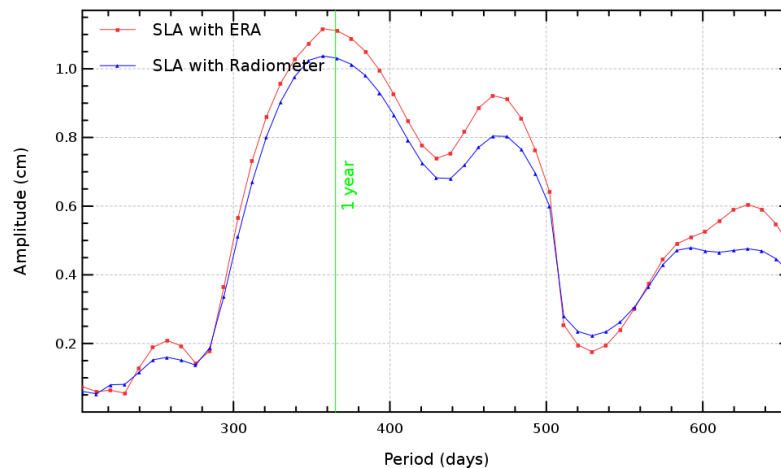
Name : Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

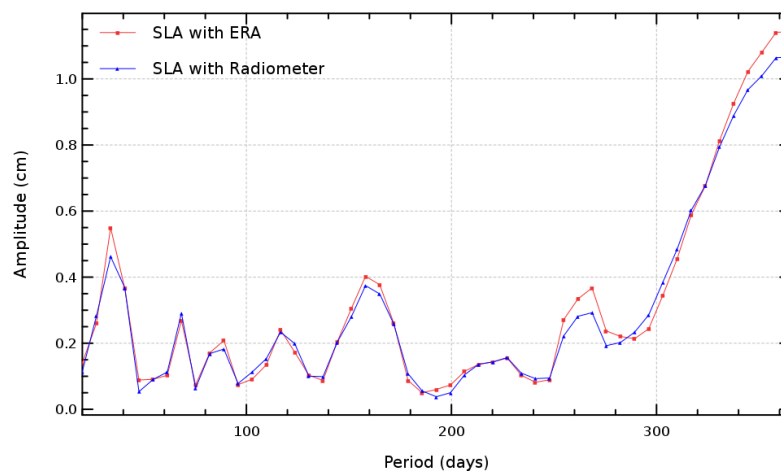
Description : The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time data series are plotted as a periodogram.

Diagnostic type : Global internal analyses

Periodogram of south hemisphere SLA (reference period = 1 year)
Mission e1, cycles 15 to 53



Periodogram of south hemisphere SLA (period = [0, 1 year])
Mission e1, cycles 15 to 53



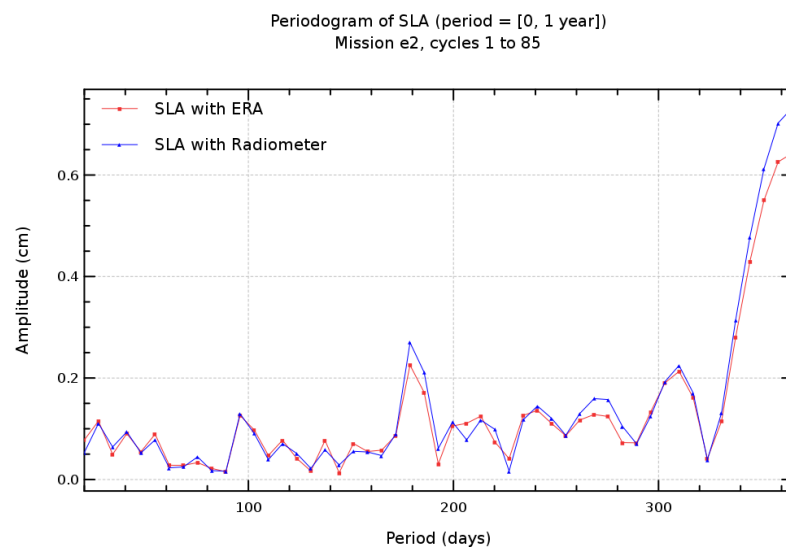
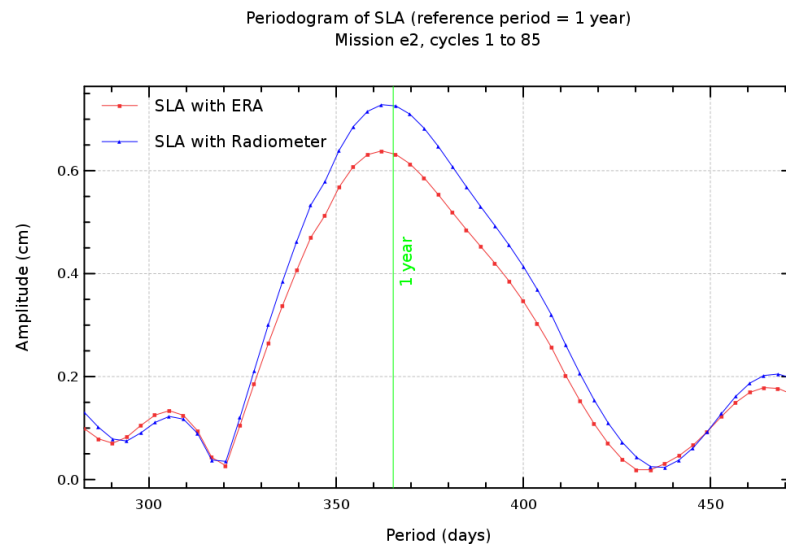
Diagnostic A206_a (mission e2)

Name : Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time data series are plotted as a periodogram.

Diagnostic type : Global internal analyses



Diagnostic A206_b (mission e2)

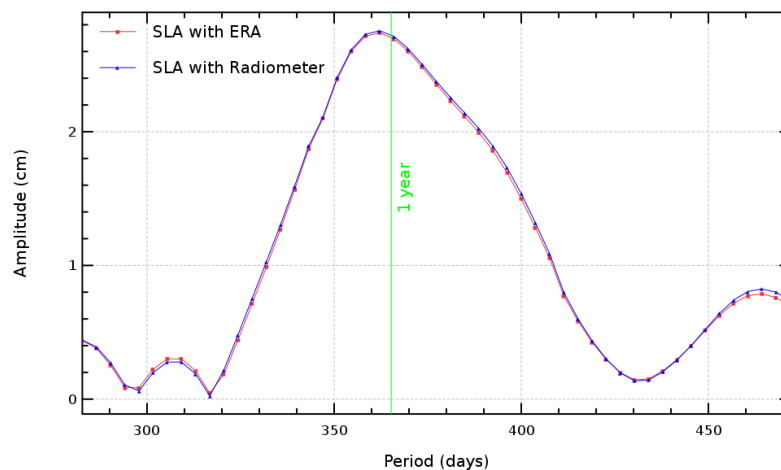
Name : Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

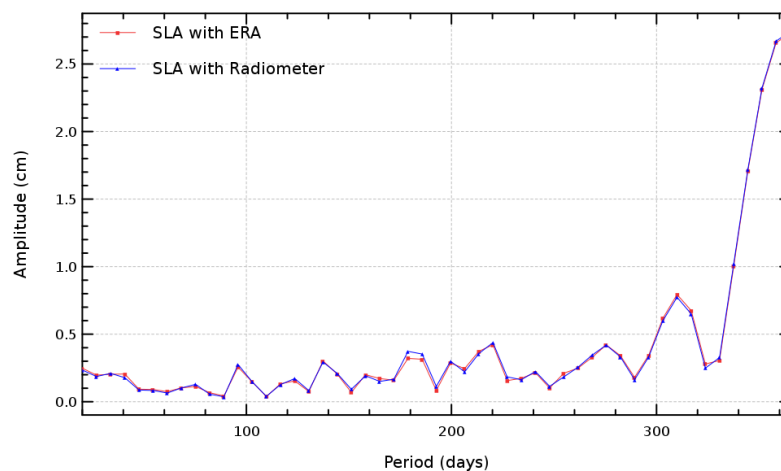
Description : The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time data series are plotted as a periodogram.

Diagnostic type : Global internal analyses

Periodogram of north hemisphere SLA (reference period = 1 year)
Mission e2, cycles 1 to 85



Periodogram of north hemisphere SLA (period = [0, 1 year])
Mission e2, cycles 1 to 85



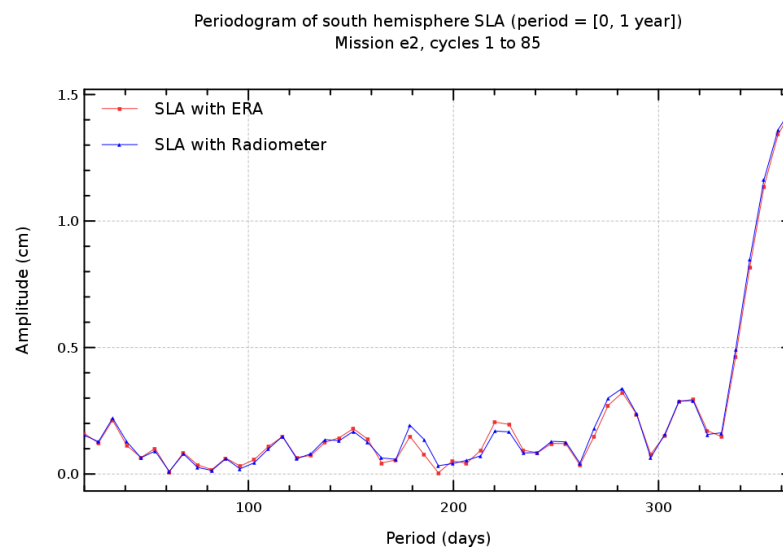
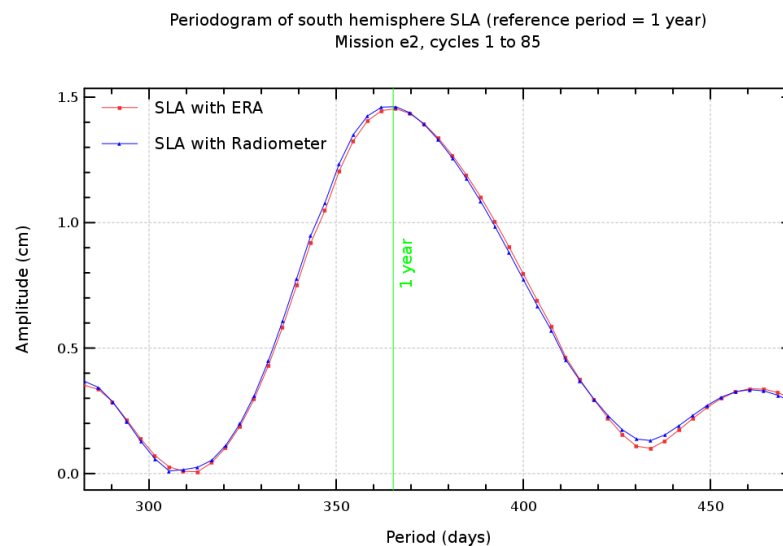
Diagnostic A206_c (mission e2)

Name : Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time data series are plotted as a periodogram.

Diagnostic type : Global internal analyses



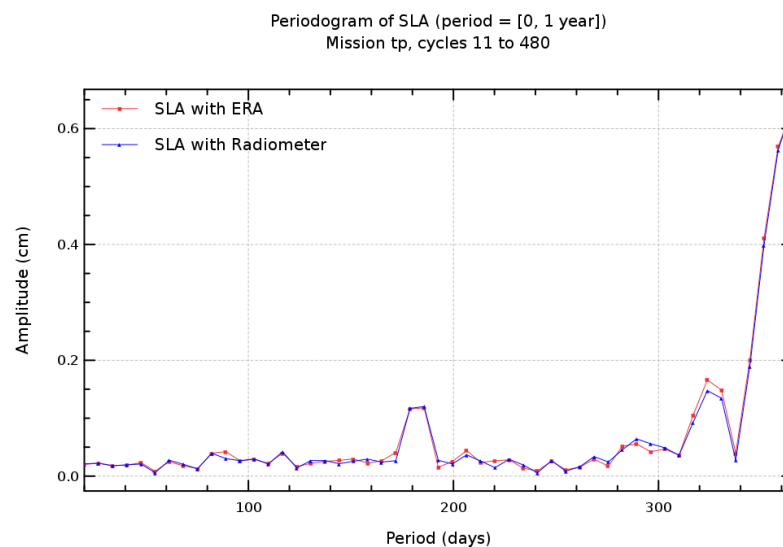
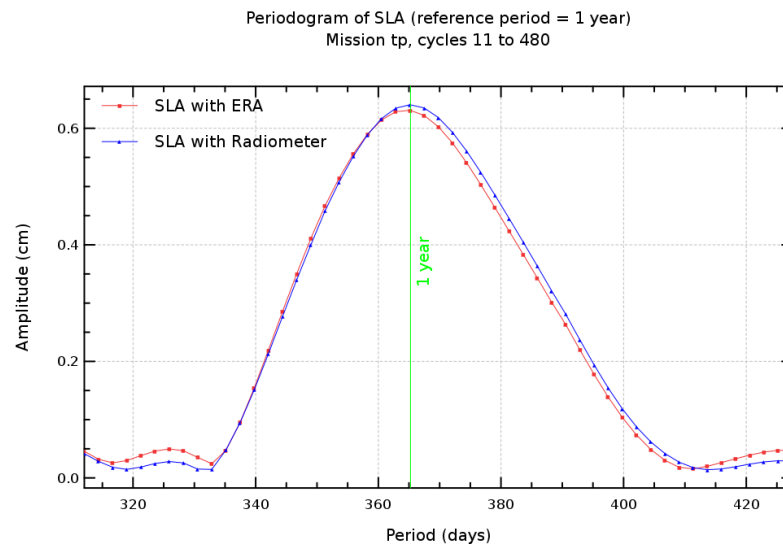
Diagnostic A206_a (mission tp)

Name : Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time data series are plotted as a periodogram.

Diagnostic type : Global internal analyses



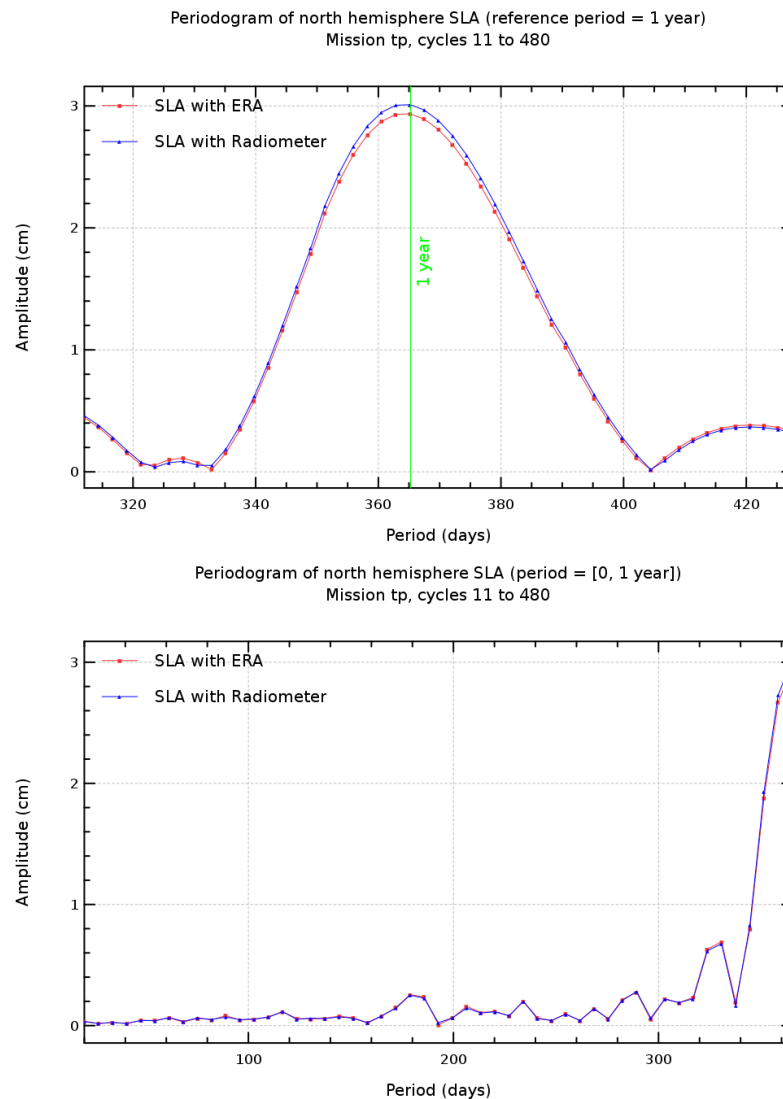
Diagnostic A206_b (mission tp)

Name : Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time data series are plotted as a periodogram.

Diagnostic type : Global internal analyses



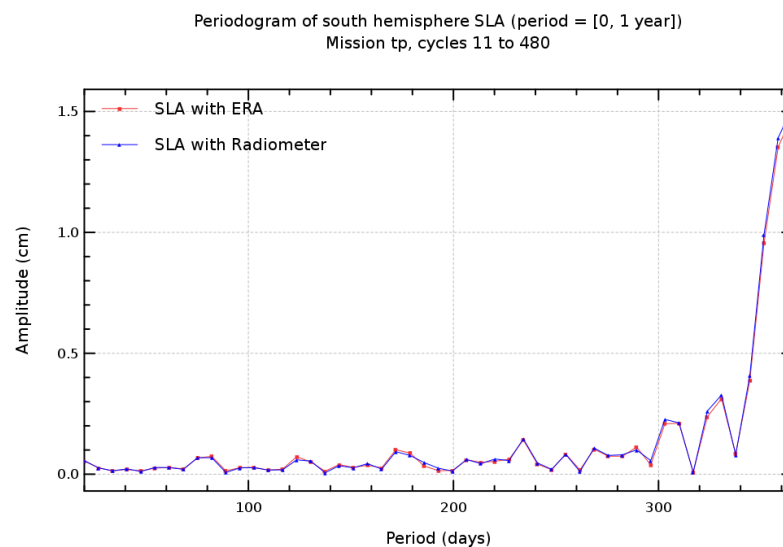
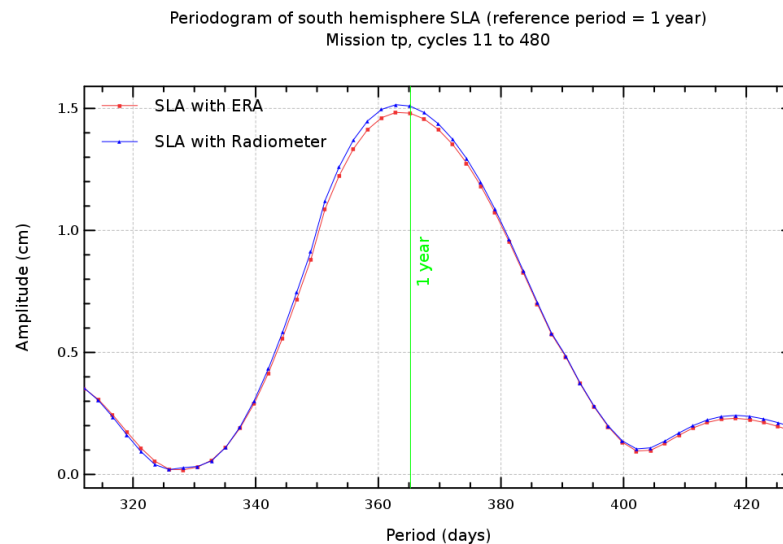
Diagnostic A206_c (mission tp)

Name : Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

Description : The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time data series are plotted as a periodogram.

Diagnostic type : Global internal analyses

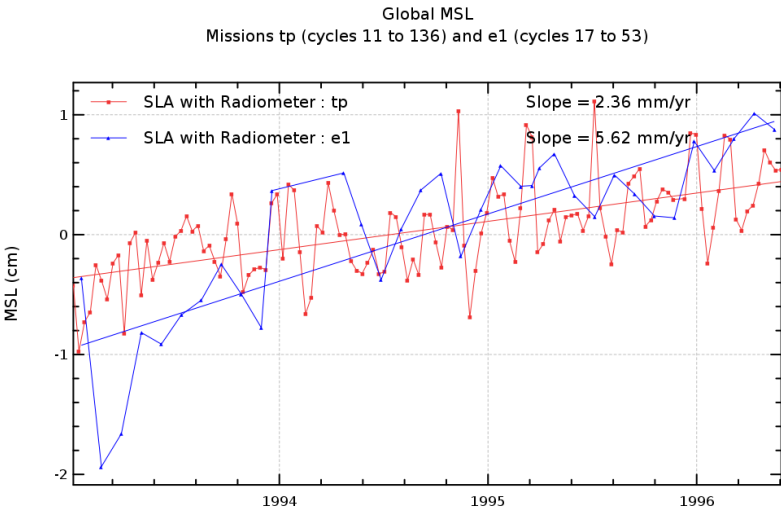
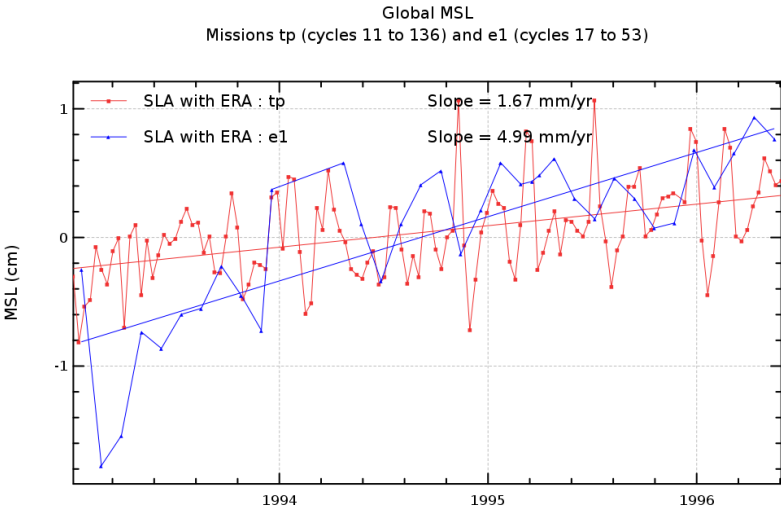


Diagnostic B201_a

Name : Temporal evolution of Sea level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

Description : Temporal evolution of SLA statistics (mean, standard deviation) of 2 or more missions are computed over the same period as longest as possible using successively both components in the SLA calculation. This can be done globally, or separating in ascending and descending or in northern and southern hemisphere. In order to assure comparability, statistics are computed using sea level standard calculation (mean per box of 2x2 and weighted by cosine of latitude for the global mean) limited to 66 latitude.



Diagnostic B201_b

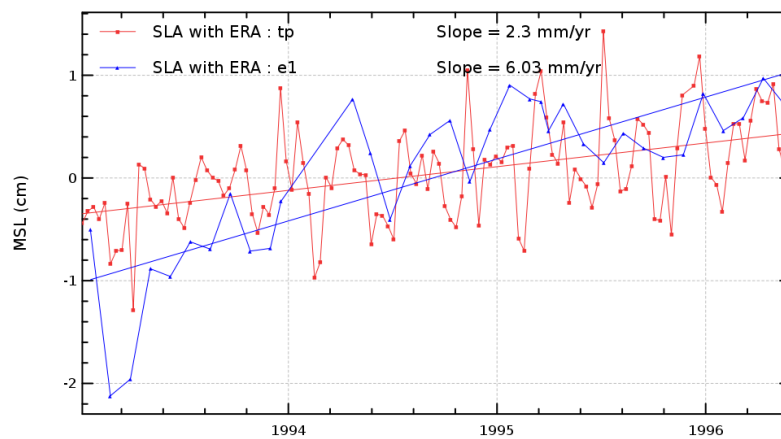
Name : Temporal evolution of Sea level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

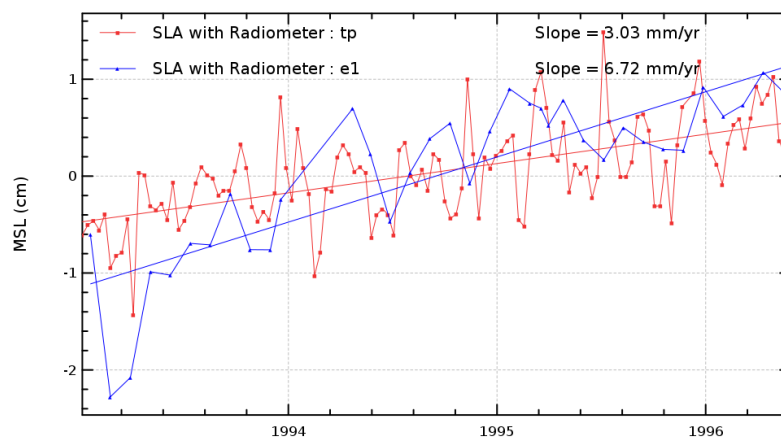
Description : Temporal evolution of SLA statistics (mean, standard deviation) of 2 or more missions are computed over the same period as longest as possible using successively both components in the SLA calculation. This can be done globally, or separating in ascending and descending or in northern and southern hemisphere. In order to assure comparability, statistics are computed using sea level standard calculation (mean per box of 2x2 and weighted by cosine of latitude for the global mean) limited to 66 latitude.

Diagnostic type : Global multi-mission comparisons

Global MSL, selecting even pass numbers
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



Global MSL, selecting even pass numbers
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



Diagnostic B201_c

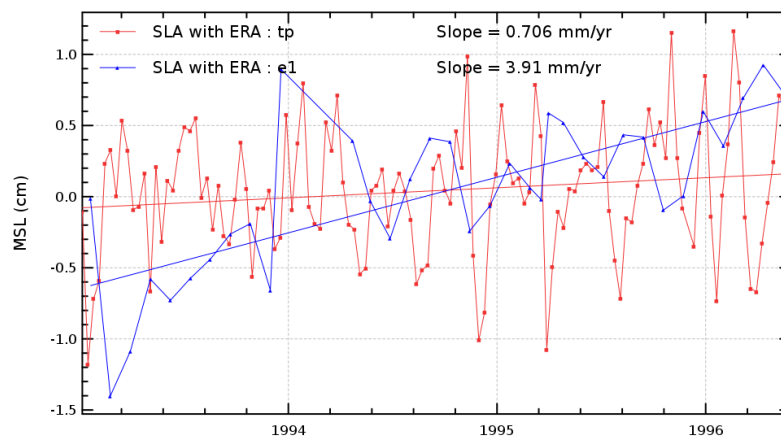
Name : Temporal evolution of Sea level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

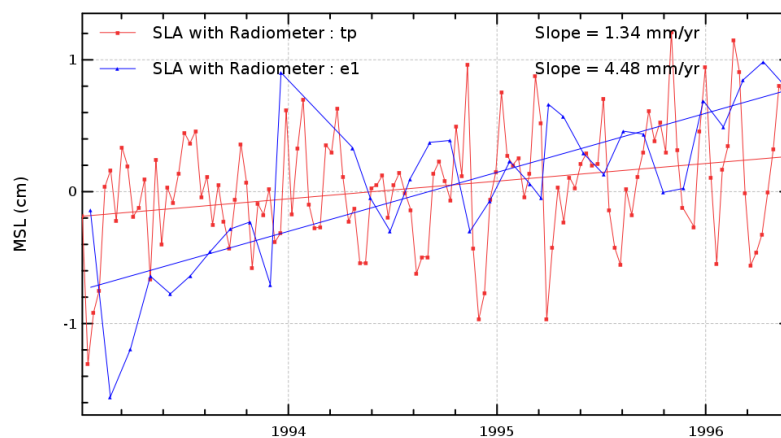
Description : Temporal evolution of SLA statistics (mean, standard deviation) of 2 or more missions are computed over the same period as longest as possible using successively both components in the SLA calculation. This can be done globally, or separating in ascending and descending or in northern and southern hemisphere. In order to assure comparability, statistics are computed using sea level standard calculation (mean per box of 2x2 and weighted by cosine of latitude for the global mean) limited to 66 latitude.

Diagnostic type : Global multi-mission comparisons

Global MSL, selecting odd pass numbers
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



Global MSL, selecting odd pass numbers
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



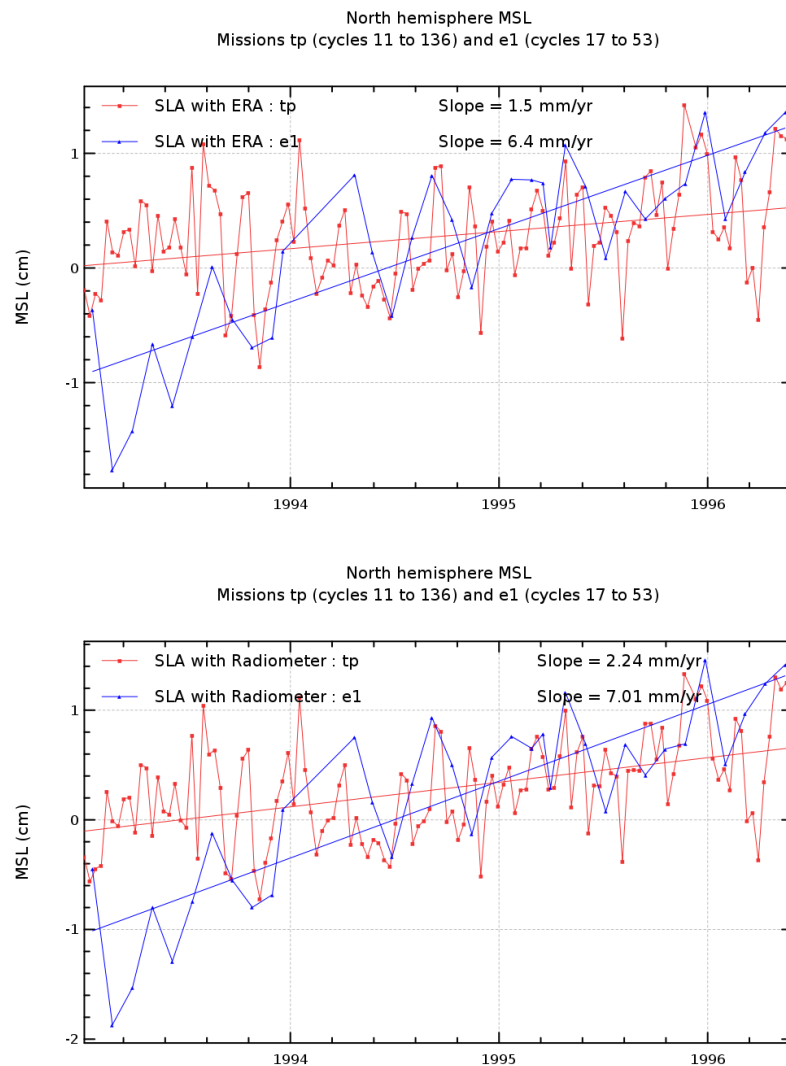
Diagnostic B201_d

Name : Temporal evolution of Sea level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

Description : Temporal evolution of SLA statistics (mean, standard deviation) of 2 or more missions are computed over the same period as longest as possible using successively both components in the SLA calculation. This can be done globally, or separating in ascending and descending or in northern and southern hemisphere. In order to assure comparability, statistics are computed using sea level standard calculation (mean per box of 2x2 and weighted by cosine of latitude for the global mean) limited to 66 latitude.

Diagnostic type : Global multi-mission comparisons



Diagnostic B201_e

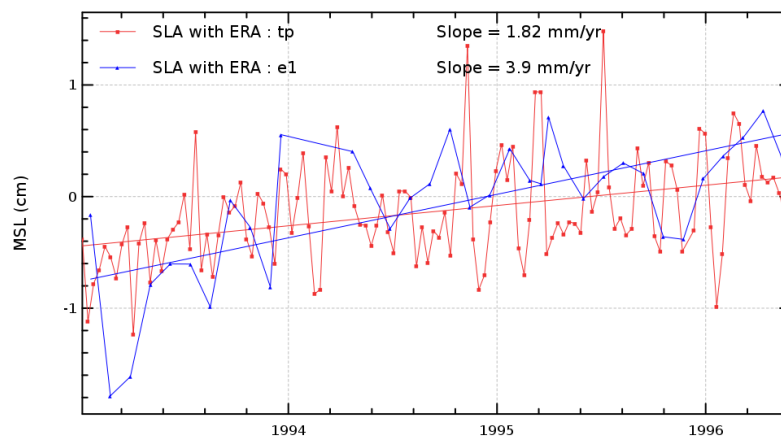
Name : Temporal evolution of Sea level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

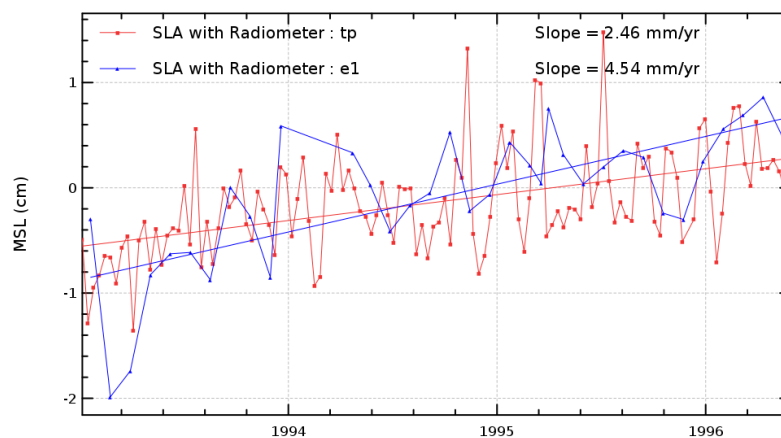
Description : Temporal evolution of SLA statistics (mean, standard deviation) of 2 or more missions are computed over the same period as longest as possible using successively both components in the SLA calculation. This can be done globally, or separating in ascending and descending or in northern and southern hemisphere. In order to assure comparability, statistics are computed using sea level standard calculation (mean per box of 2x2 and weighted by cosine of latitude for the global mean) limited to 66 latitude.

Diagnostic type : Global multi-mission comparisons

South hemisphere MSL
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



South hemisphere MSL
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



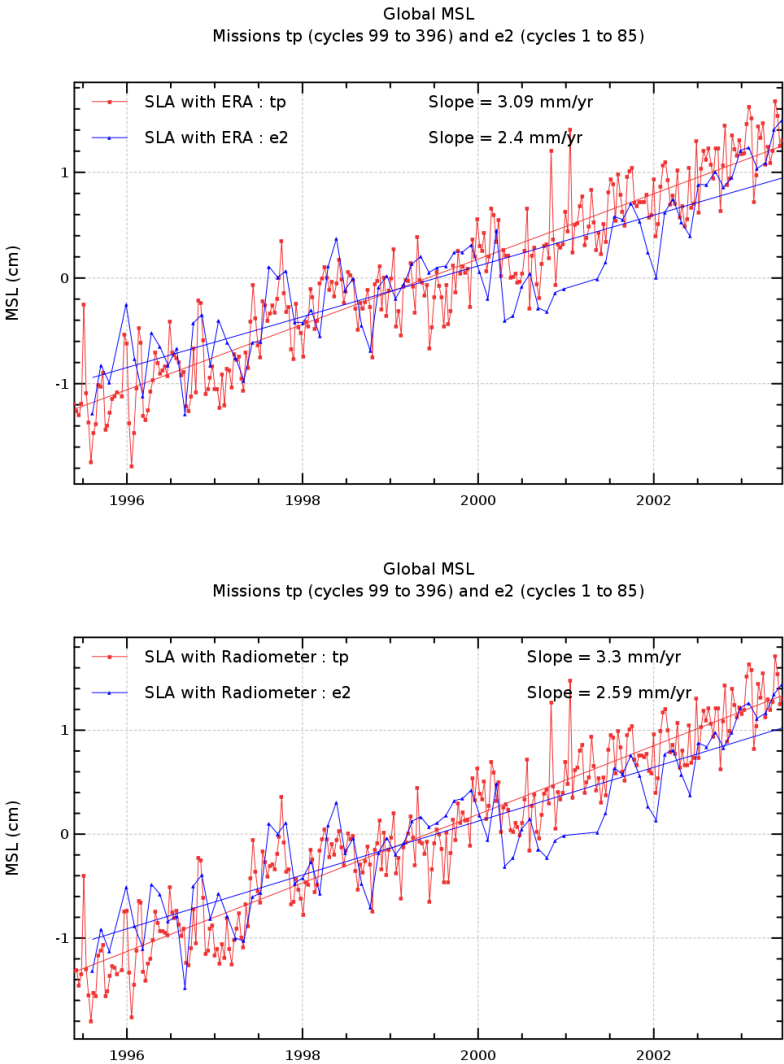
Diagnostic B201_a

Name : Temporal evolution of Sea level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

Description : Temporal evolution of SLA statistics (mean, standard deviation) of 2 or more missions are computed over the same period as longest as possible using successively both components in the SLA calculation. This can be done globally, or separating in ascending and descending or in northern and southern hemisphere. In order to assure comparability, statistics are computed using sea level standard calculation (mean per box of 2x2 and weighted by cosine of latitude for the global mean) limited to 66 latitude.

Diagnostic type : Global multi-mission comparisons



Diagnostic B201_b

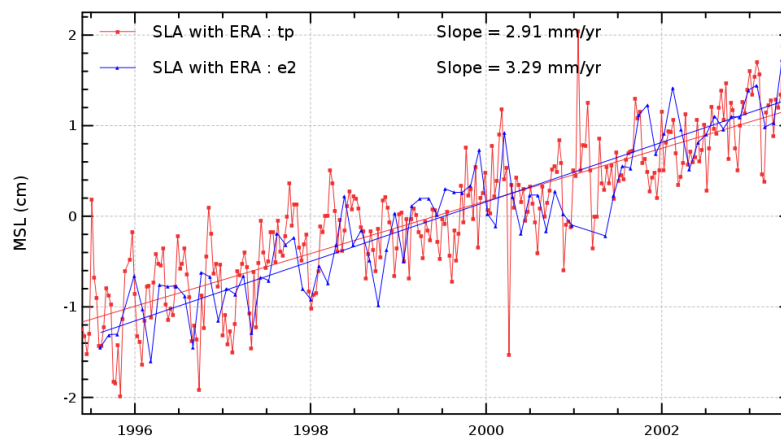
Name : Temporal evolution of Sea level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

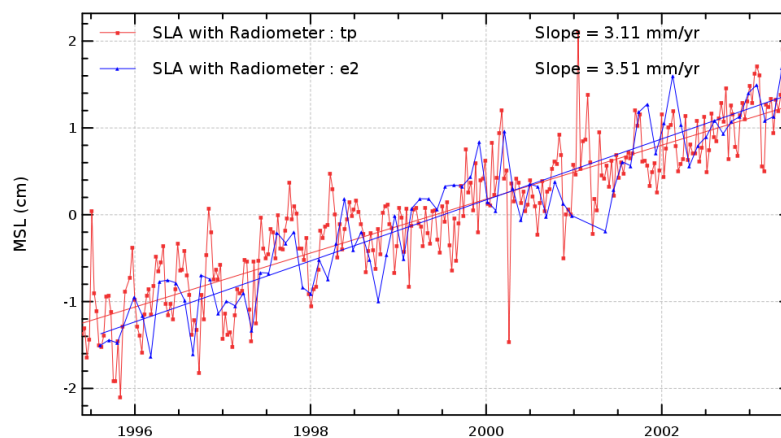
Description : Temporal evolution of SLA statistics (mean, standard deviation) of 2 or more missions are computed over the same period as longest as possible using successively both components in the SLA calculation. This can be done globally, or separating in ascending and descending or in northern and southern hemisphere. In order to assure comparability, statistics are computed using sea level standard calculation (mean per box of 2x2 and weighted by cosine of latitude for the global mean) limited to 66 latitude.

Diagnostic type : Global multi-mission comparisons

Global MSL, selecting even pass numbers
Missions tp (cycles 99 to 396) and e2 (cycles 1 to 85)



Global MSL, selecting even pass numbers
Missions tp (cycles 99 to 396) and e2 (cycles 1 to 85)



Diagnostic B201_c

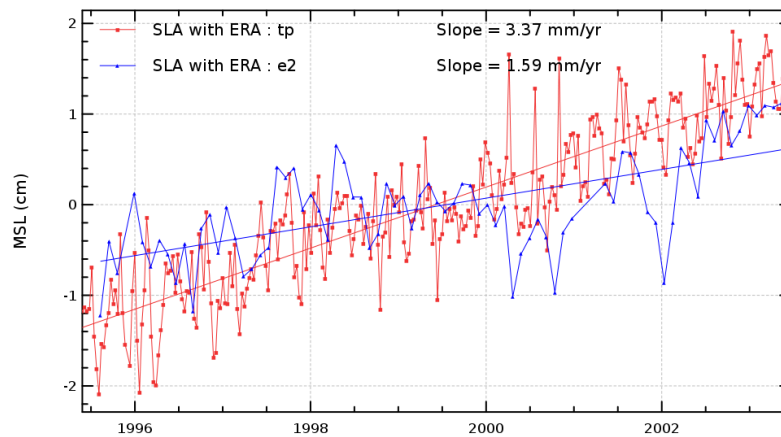
Name : Temporal evolution of Sea level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

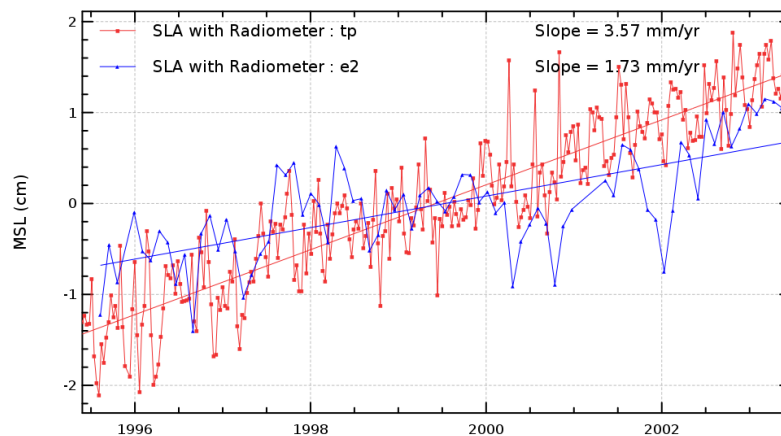
Description : Temporal evolution of SLA statistics (mean, standard deviation) of 2 or more missions are computed over the same period as longest as possible using successively both components in the SLA calculation. This can be done globally, or separating in ascending and descending or in northern and southern hemisphere. In order to assure comparability, statistics are computed using sea level standard calculation (mean per box of 2x2 and weighted by cosine of latitude for the global mean) limited to 66 latitude.

Diagnostic type : Global multi-mission comparisons

Global MSL, selecting odd pass numbers
Missions tp (cycles 99 to 396) and e2 (cycles 1 to 85)



Global MSL, selecting odd pass numbers
Missions tp (cycles 99 to 396) and e2 (cycles 1 to 85)



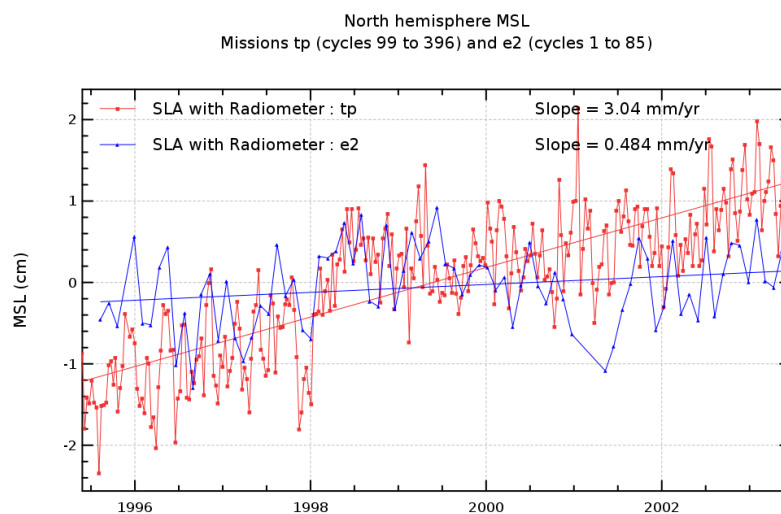
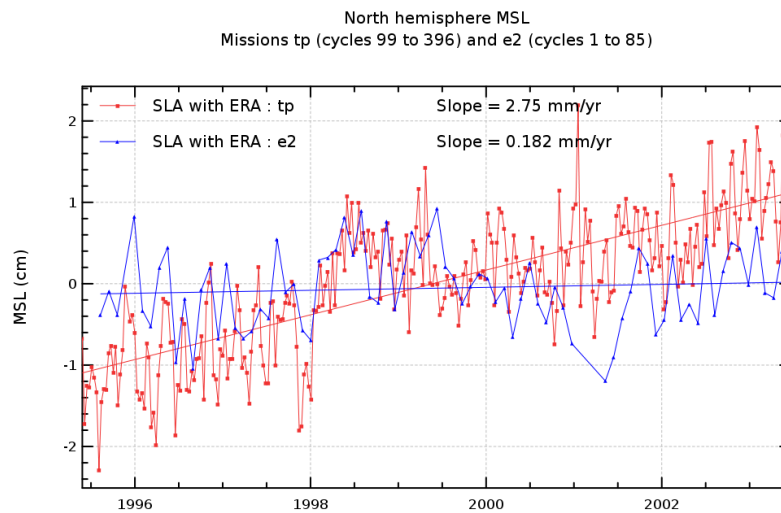
Diagnostic B201_d

Name : Temporal evolution of Sea level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

Description : Temporal evolution of SLA statistics (mean, standard deviation) of 2 or more missions are computed over the same period as longest as possible using successively both components in the SLA calculation. This can be done globally, or separating in ascending and descending or in northern and southern hemisphere. In order to assure comparability, statistics are computed using sea level standard calculation (mean per box of 2x2 and weighted by cosine of latitude for the global mean) limited to 66 latitude.

Diagnostic type : Global multi-mission comparisons



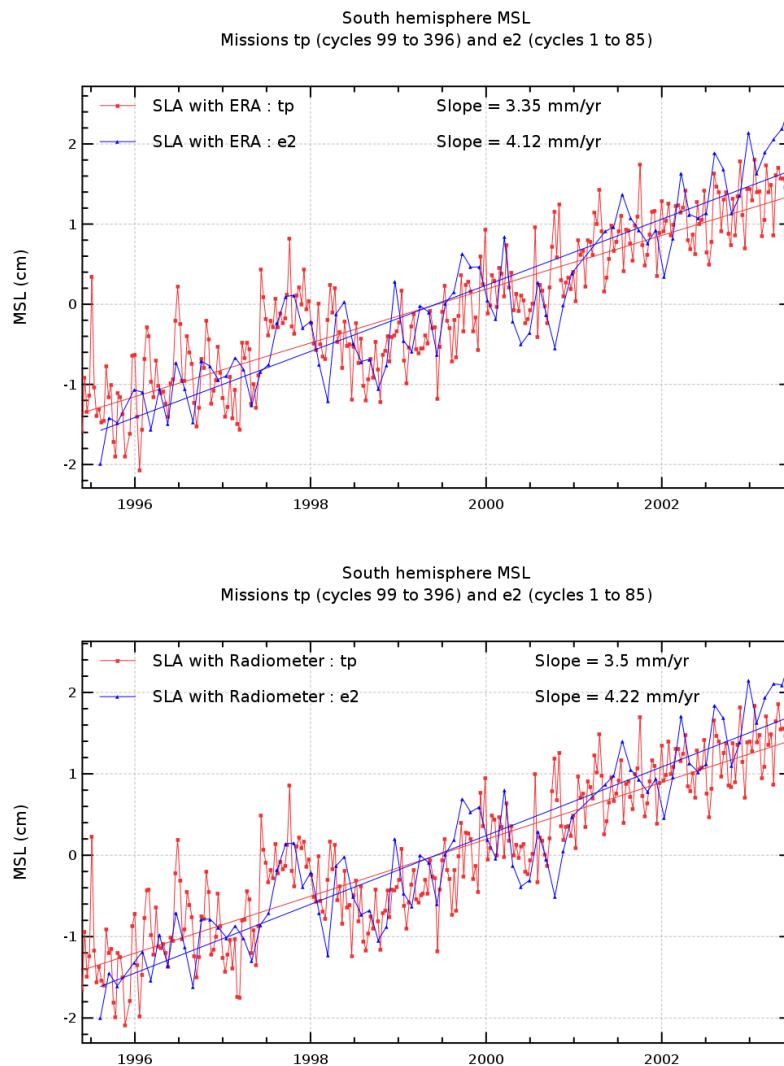
Diagnostic B201_e

Name : Temporal evolution of Sea level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

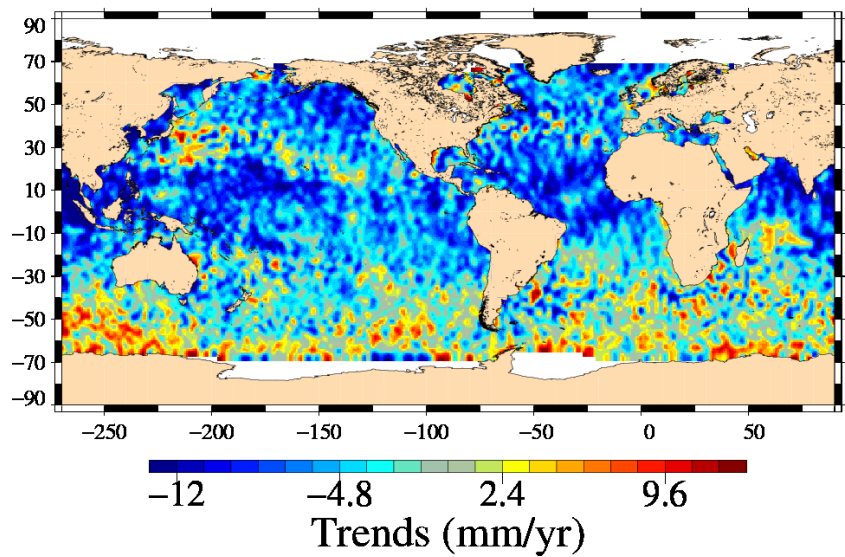
Description : Temporal evolution of SLA statistics (mean, standard deviation) of 2 or more missions are computed over the same period as longest as possible using successively both components in the SLA calculation. This can be done globally, or separating in ascending and descending or in northern and southern hemisphere. In order to assure comparability, statistics are computed using sea level standard calculation (mean per box of 2x2 and weighted by cosine of latitude for the global mean) limited to 66 latitude.

Diagnostic type : Global multi-mission comparisons

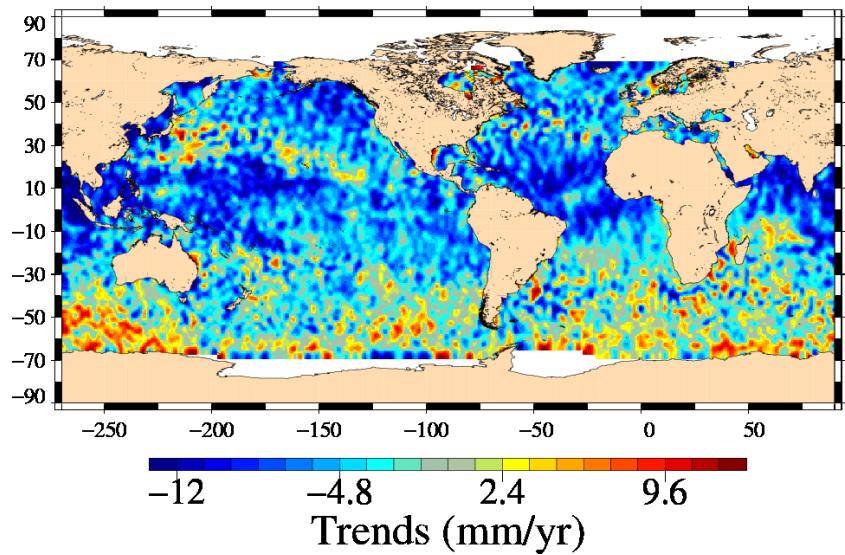


Diagnostic B202_a
Name : Differences between maps of Sea Level Anomaly (SLA) for 2 missions over the same period
Input data : Along track SLA
Description : The differences between maps of SLA (mean, variance or slope) derived from 2 altimetric missions are computed over the same period (as long as possible) using successively both altimetric components in the SLA calculation. Maps are calculated globally, they can be also calculated separating ascending and descending passes.

SLA with ERA differences : tp – e1
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



SLA with Radiometer differences : tp – e1
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



Diagnostic B202_b

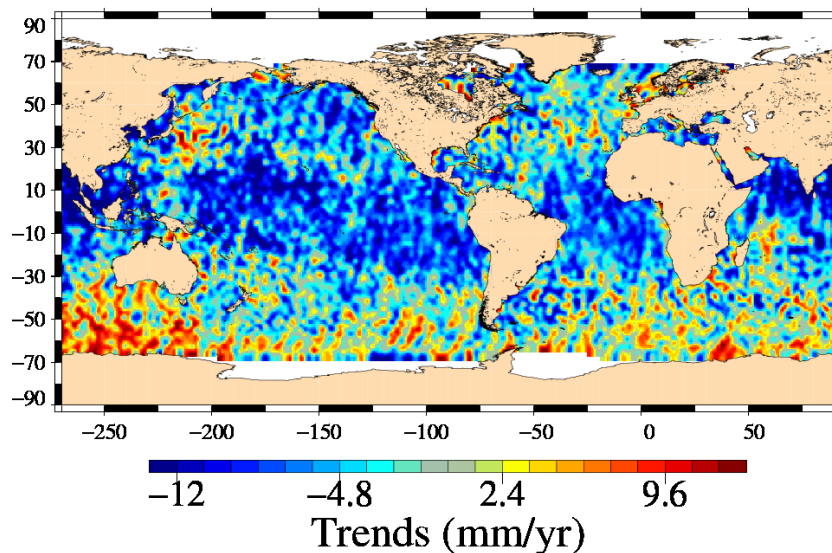
Name : Differences between maps of Sea Level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

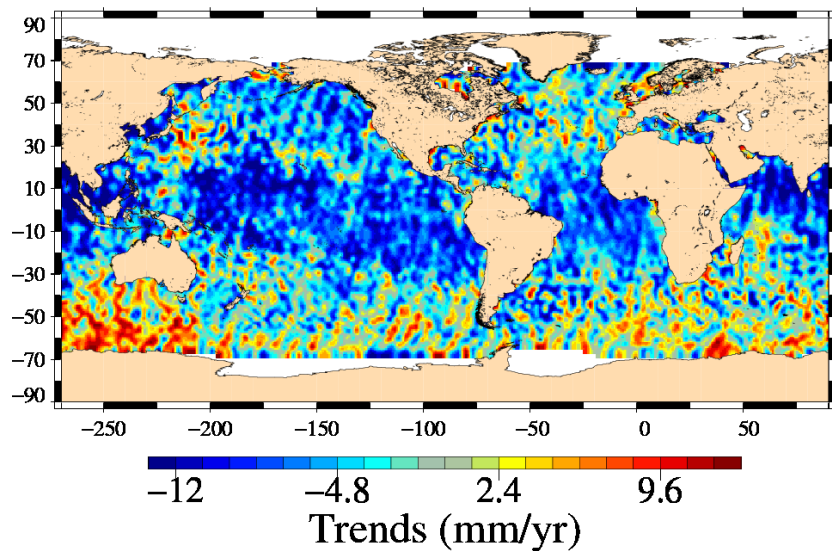
Description : The differences between maps of SLA (mean, variance or slope) derived from 2 altimetric missions are computed over the same period (as long as possible) using successively both altimetric components in the SLA calculation. Maps are calculated globally, they can be also calculated separating ascending and descending passes.

Diagnostic type : Global multi-mission comparisons

SLA with ERA differences : tp – e1, even pass numbers
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



SLA with Radiometer differences : tp – e1, even pass numbers
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



Diagnostic B202_c

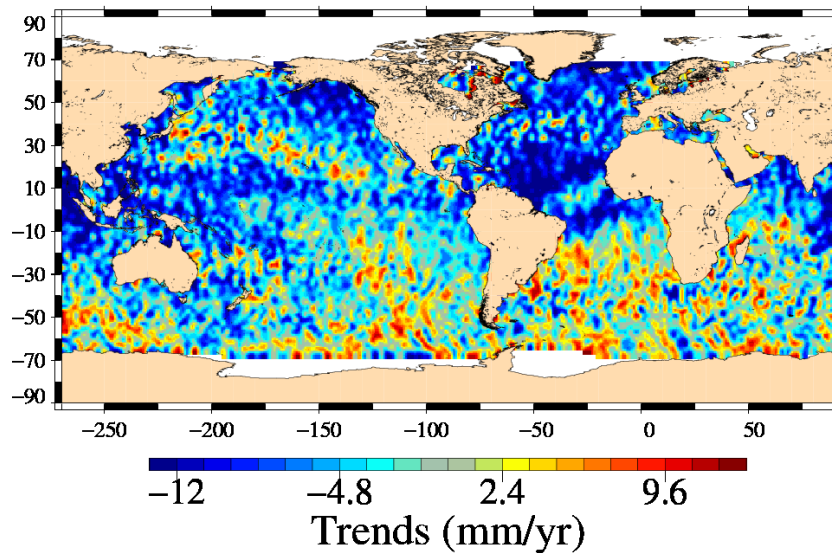
Name : Differences between maps of Sea Level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

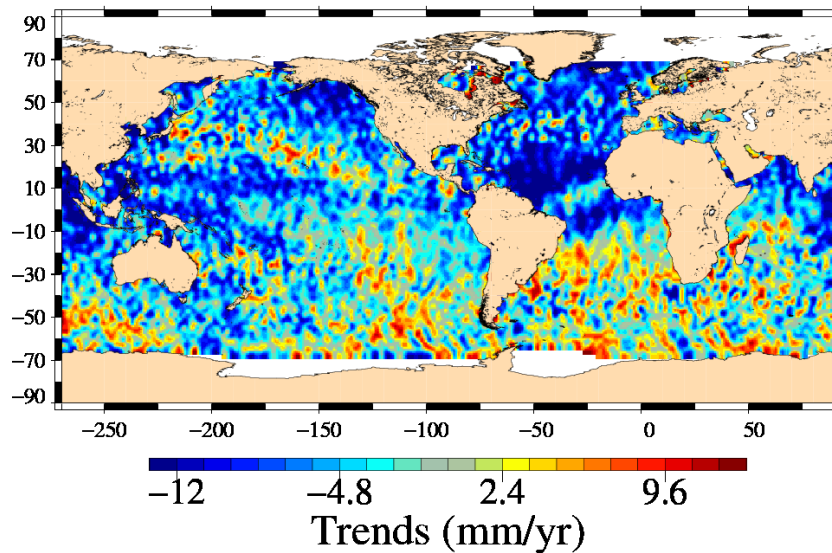
Description : The differences between maps of SLA (mean, variance or slope) derived from 2 altimetric missions are computed over the same period (as long as possible) using successively both altimetric components in the SLA calculation. Maps are calculated globally, they can be also calculated separating ascending and descending passes.

Diagnostic type : Global multi-mission comparisons

SLA with ERA differences : tp – e1, odd pass numbers
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



SLA with Radiometer differences : tp – e1, odd pass numbers
Missions tp (cycles 11 to 136) and e1 (cycles 17 to 53)



Diagnostic B202_a

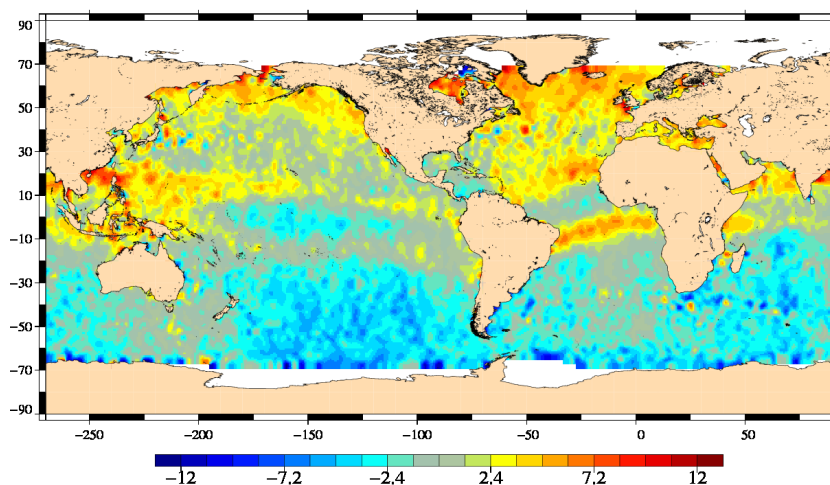
Name : Differences between maps of Sea Level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

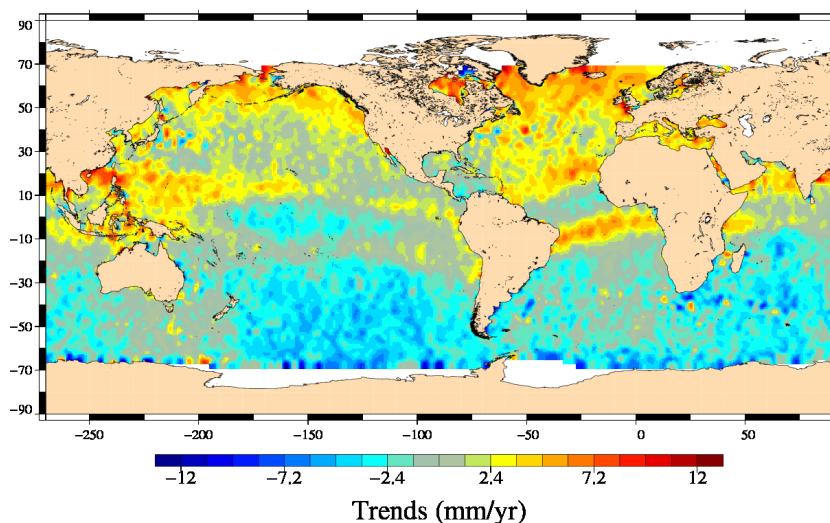
Description : The differences between maps of SLA (mean, variance or slope) derived from 2 altimetric missions are computed over the same period (as long as possible) using successively both altimetric components in the SLA calculation. Maps are calculated globally, they can be also calculated separating ascending and descending passes.

Diagnostic type : Global multi-mission comparisons

SLA with Var. Stu differences : tp - c2
Missions tp (cycles 102 to 396) and c2 (cycles 3 to 84)



Trends (mm/yr)
SLA with Var. Ref differences : tp - c2
Missions tp (cycles 102 to 396) and c2 (cycles 3 to 84)



Diagnostic B202_b

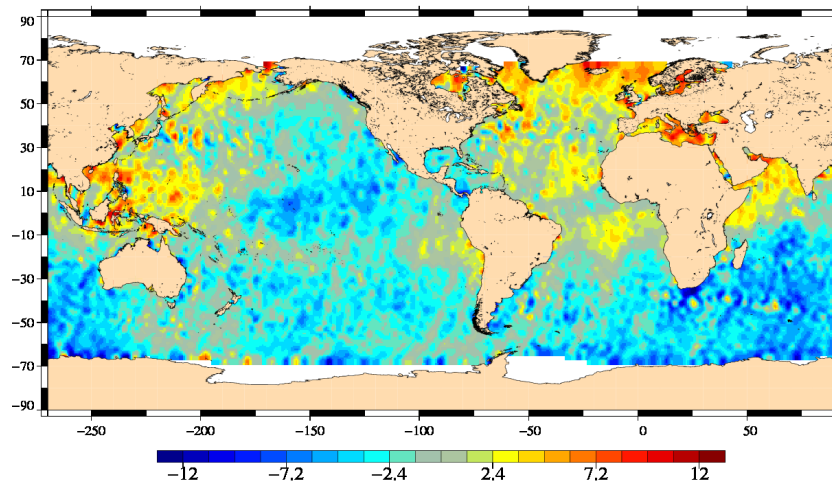
Name : Differences between maps of Sea Level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

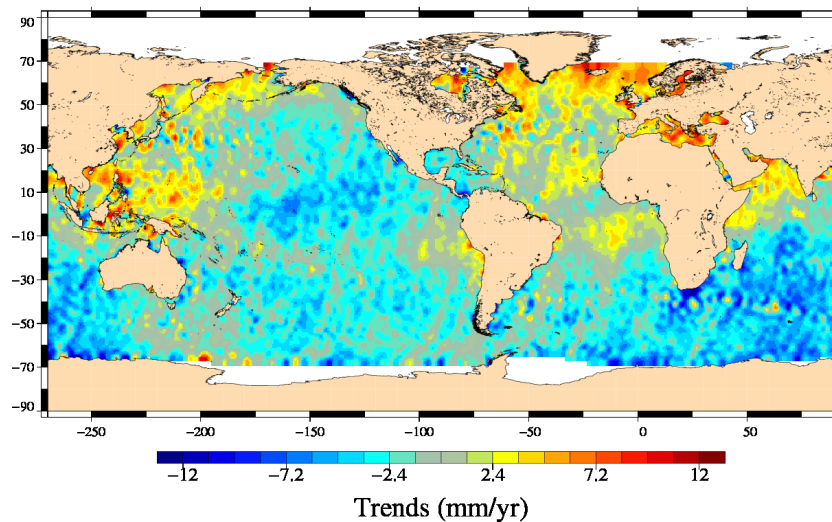
Description : The differences between maps of SLA (mean, variance or slope) derived from 2 altimetric missions are computed over the same period (as long as possible) using successively both altimetric components in the SLA calculation. Maps are calculated globally, they can be also calculated separating ascending and descending passes.

Diagnostic type : Global multi-mission comparisons

SLA with Var_Stu differences : tp - e2, even pass numbers
Missions tp (cycles 102 to 396) and e2 (cycles 3 to 84)



Trends (mm/yr)
SLA with Var_Ref differences : tp - e2, even pass numbers
Missions tp (cycles 102 to 396) and e2 (cycles 3 to 84)



Diagnostic B202_c

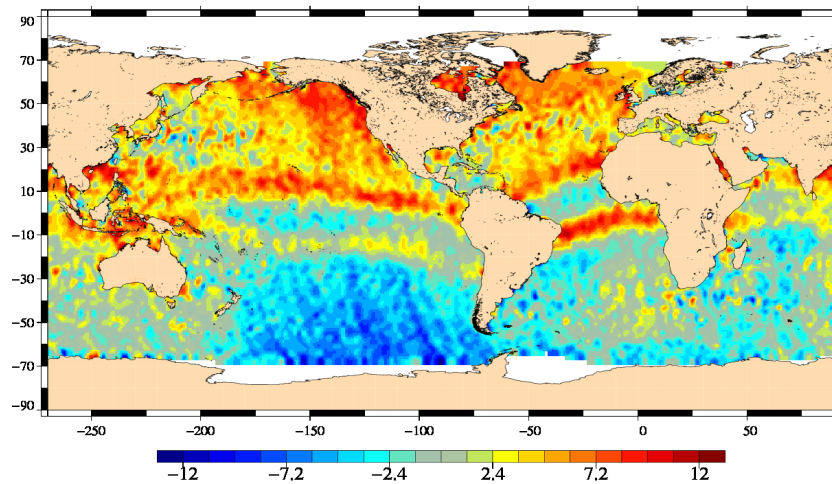
Name : Differences between maps of Sea Level Anomaly (SLA) for 2 missions over the same period

Input data : Along track SLA

Description : The differences between maps of SLA (mean, variance or slope) derived from 2 altimetric missions are computed over the same period (as long as possible) using successively both altimetric components in the SLA calculation. Maps are calculated globally, they can be also calculated separating ascending and descending passes.

Diagnostic type : Global multi-mission comparisons

SLA with Var_Stu differences : tp - e2, odd pass numbers
Missions tp (cycles 102 to 396) and e2 (cycles 3 to 84)



Trends (mm/yr)
SLA with Var_Ref differences : tp - e2, odd pass numbers
Missions tp (cycles 102 to 396) and e2 (cycles 3 to 84)

