

Sea State Bias: **SSB_GDRDC_IONOG_ORB_GDRD** versus **BEM_NPARAM**

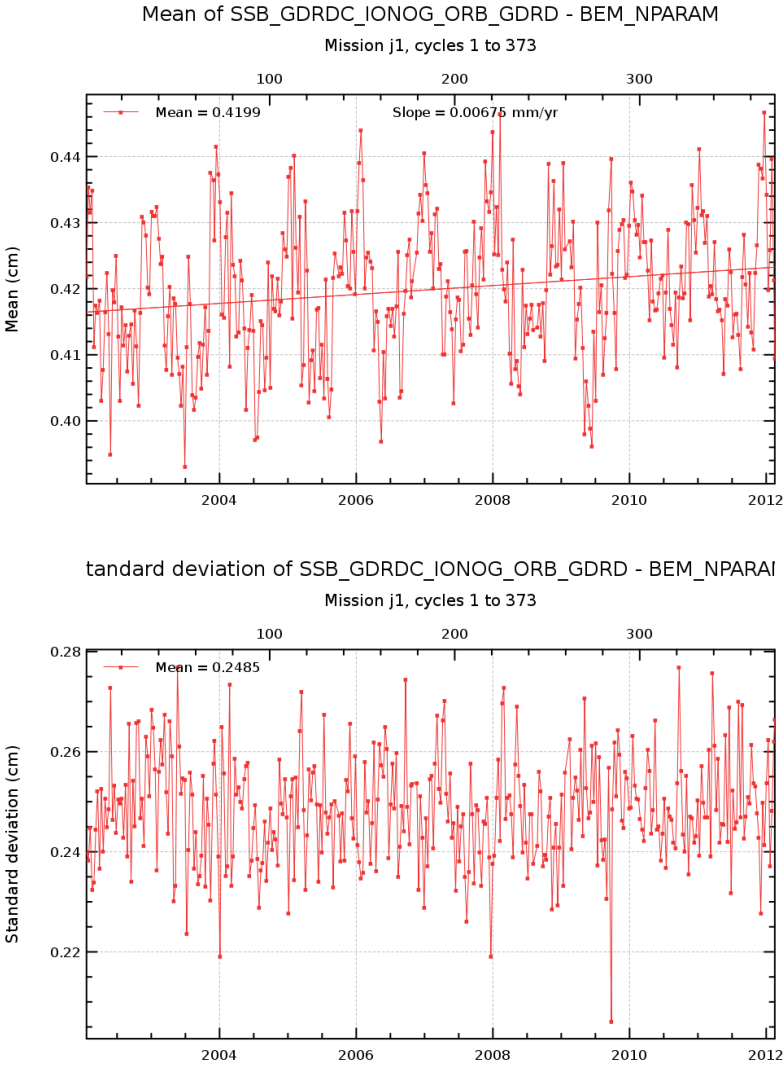
Study variable	SSB_GDRDC_IONOG_ORB_GDRD
Reference variable	BEM_NPARAM
Missions	Jason-1 (<i>j1</i>)
Period	[19007, 22707]

Creation date : 2012/09/11

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Diagnostic A001 (mission j1)	
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.	



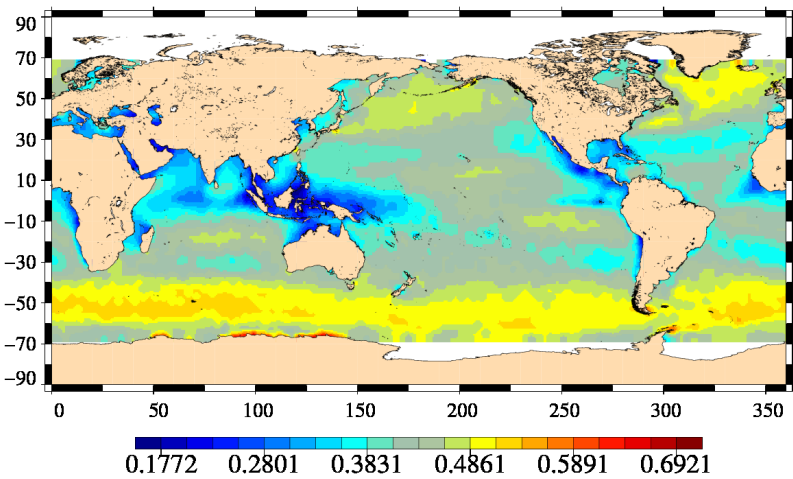
Diagnostic A002 (mission j1)

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

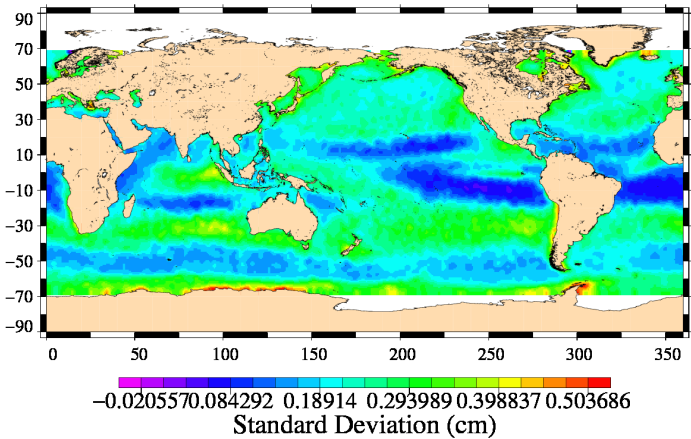
Input data : Along-track altimetric components

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.

Mean of SSB_GDRDC_IONOG_ORB_GDRD – BEM_NPARAM
Mission j1, cycles 1 to 373



standard deviation of SSB_GDRDC_IONOG_ORB_GDRD – BEM_NPARAM
Mission j1, cycles 1 to 373



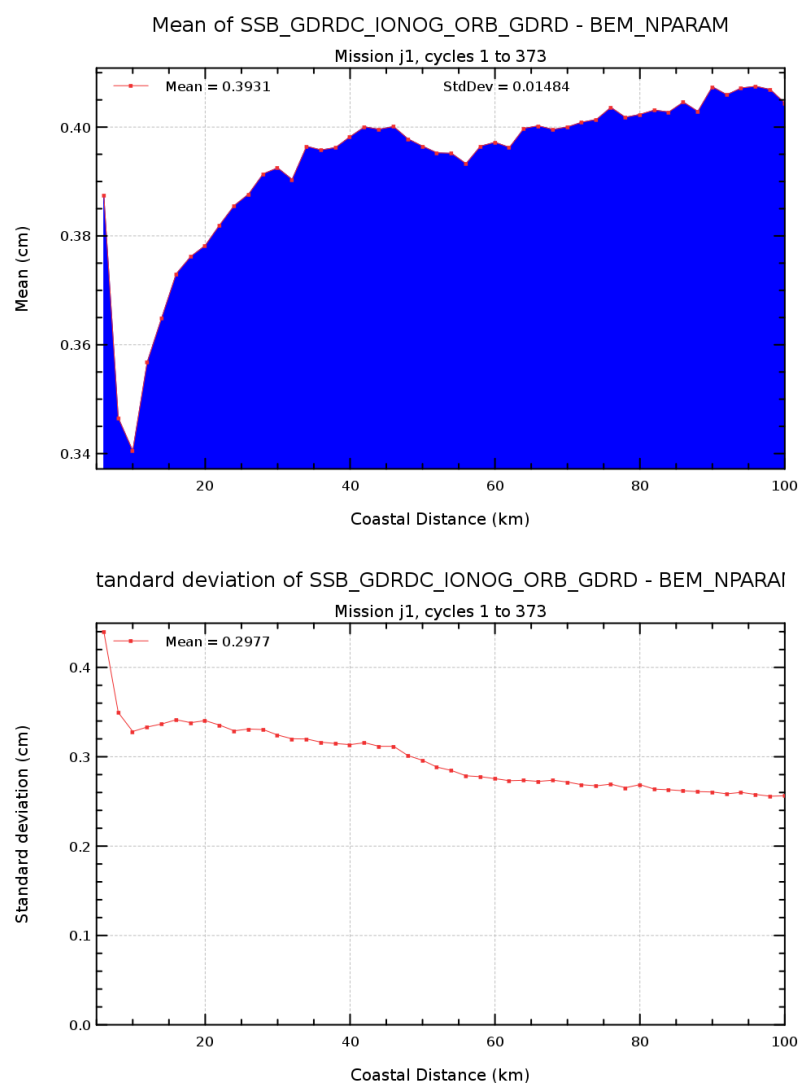
Diagnostic A004 (mission j1)

Name : Altimetric component differences versus coastal distances

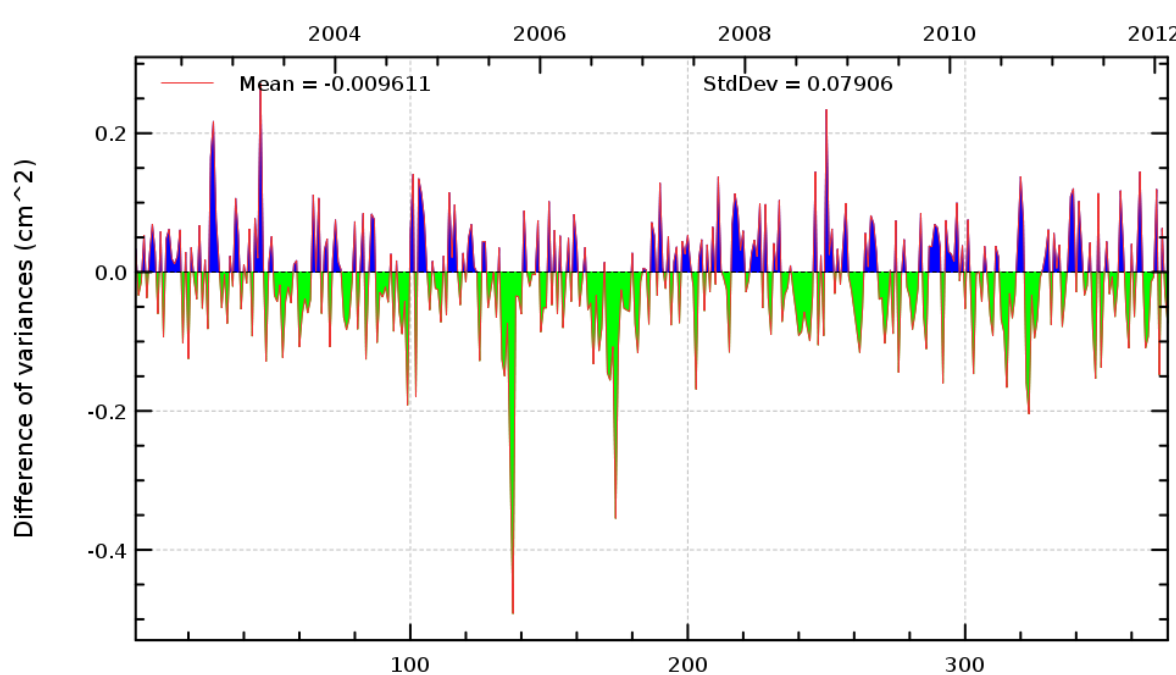
Input data : Along-track altimetric components

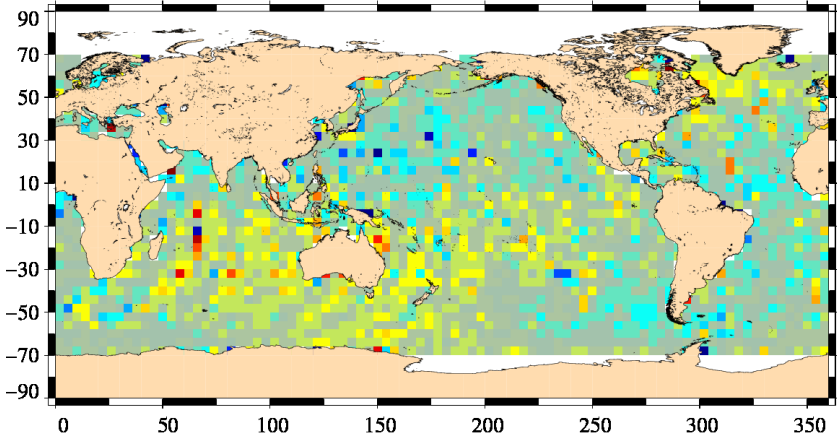
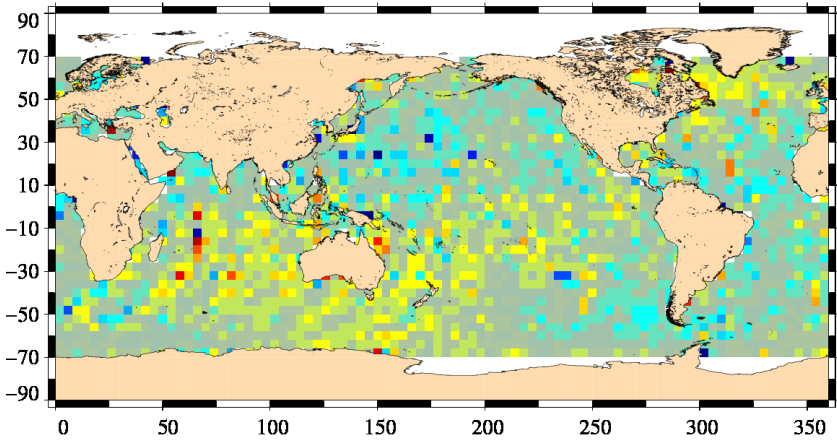
Description : Mean and standard deviation of the differences between 2 different standards of a same altimetric component (sea surface height correction, altimeter parameter, orbit) are computed and plotted in function of coastal distances between 0 and 100 km.

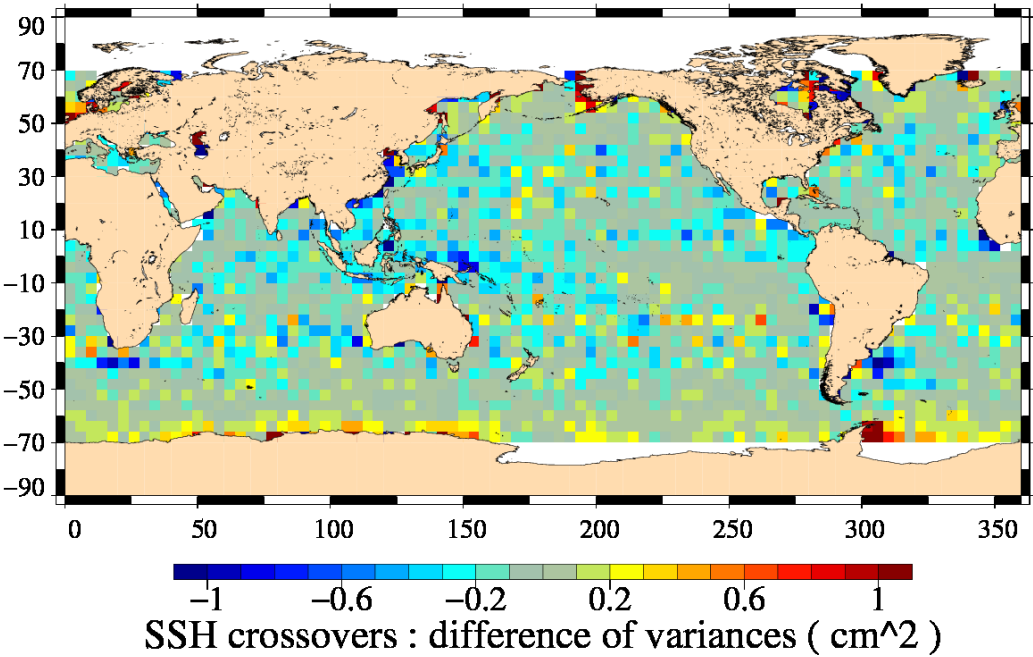
Diagnostic type : Global internal analyses



Diagnostic A101 (mission j1)	
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>Mean of SSH crossovers</div><div>Mission j1, cycles 1 to 373</div><div></div></div> <div><div>Standard deviations of SSH crossovers</div><div>Mission j1, cycles 1 to 373</div><div></div></div>	

Diagnostic type : Global internal analyses	Diagnostic A102 (mission j1)	
	Name : Differences between temporal evolution of SSH crossovers	
	Input data : Sea Surface Height (SSH) crossovers	
	<p>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).</p>	
	<p>Formula : $\text{VAR}(\text{SSH with SSB_GDRDC_IONOG_ORB_GDRD}) - \text{VAR}(\text{SSH with EOR})$</p> <p>Mission j1, cycles 1 to 373</p>  <p>Difference of variances (cm²)</p>	

Diagnostic A103 (mission j1)	
Name : Map of SSH crossovers	
Input data : Sea Surface Height (SSH) crossovers	
<p>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).</p>	
<div>Mean of SSH with SSB_GDRDC_IONOG_ORB_GDRD Mission j1, cycles 1 to 373</div>  <div>Mean (cm) Mean of SSH with BEM_NPARAM Mission j1, cycles 1 to 373</div> 	

Diagnostic type : Global internal analyses	Diagnostic A104 (mission j1)	
	Name : Differences between maps of SSH crossovers	
	Input data : Sea Surface Height (SSH) crossovers	
	<p>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).</p>	
	<p>SH with SSB_GDRDC_IONOG_ORB_GDRD) – VAR(SSH with BEM_NP/ Mission j1, cycles 1 to 373</p>  <p>The figure is a global map showing the difference of variances of Sea Surface Height (SSH) crossovers. The map uses a color scale from -1 (dark blue) to 1 (dark red), with intermediate values at -0.6, -0.2, 0.2, and 0.6. The map shows significant spatial variability, with higher positive values (red/orange) concentrated in the tropical Pacific and Indian Oceans, and higher negative values (blue) in the tropical Atlantic and parts of the Pacific. The map is bounded by latitudes from -90 to 90 and longitudes from 0 to 350. The title above the map is 'SH with SSB_GDRDC_IONOG_ORB_GDRD) – VAR(SSH with BEM_NP/ Mission j1, cycles 1 to 373'.</p>	

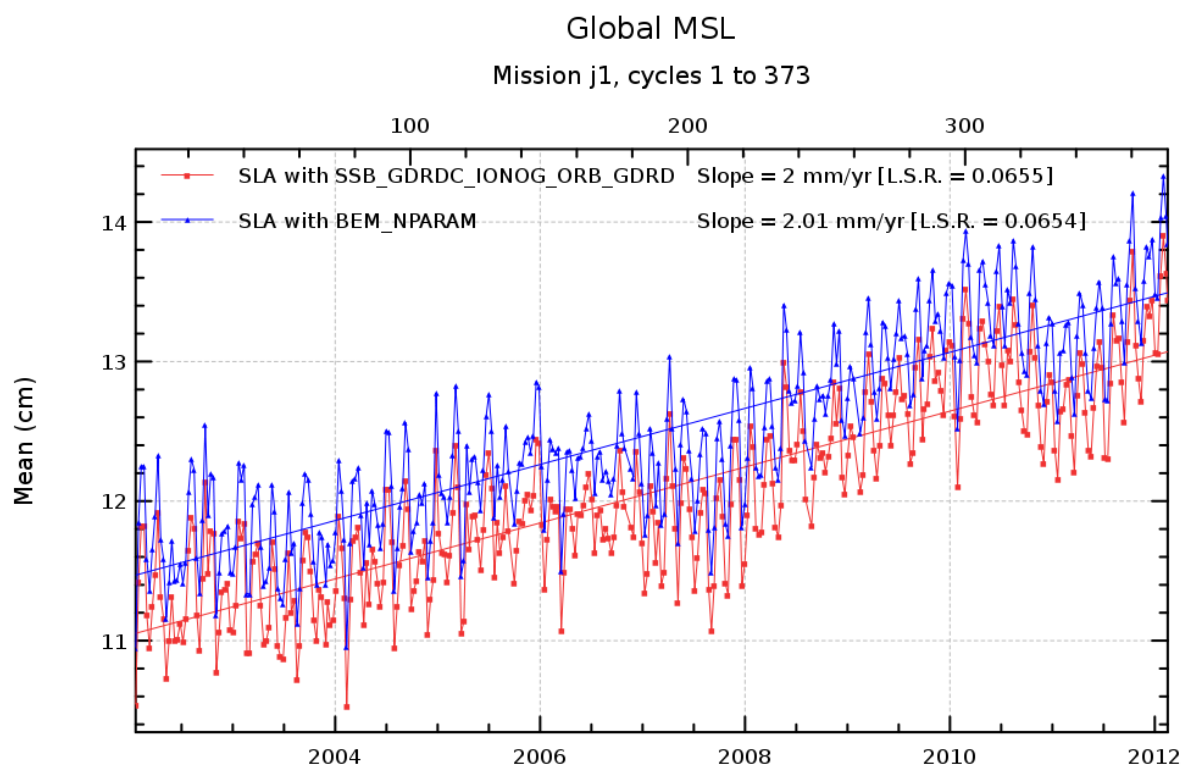
Diagnostic A201_a (mission j1)

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



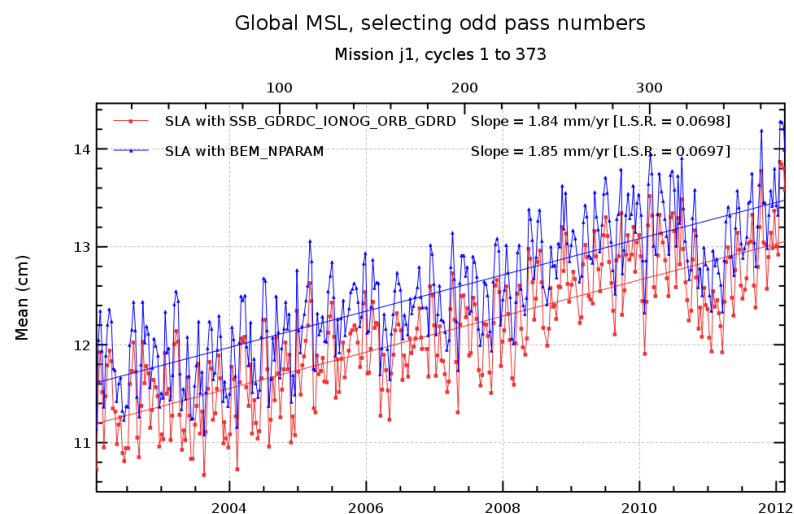
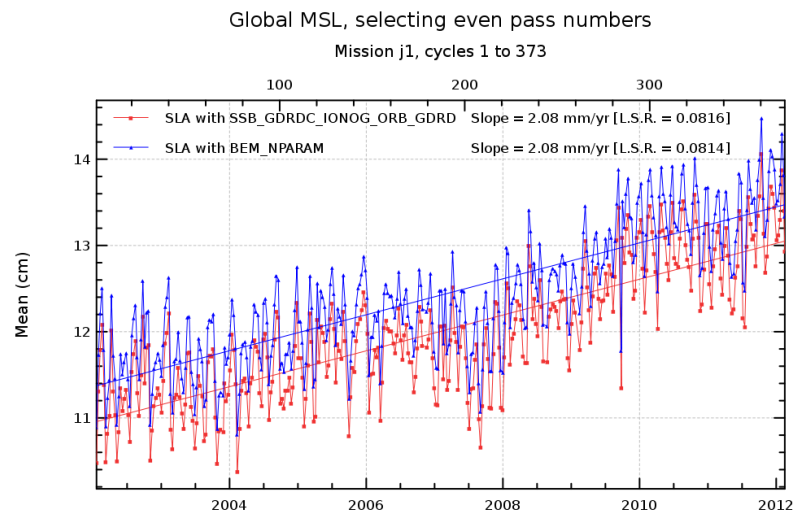
Diagnostic A201_b (mission j1)

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



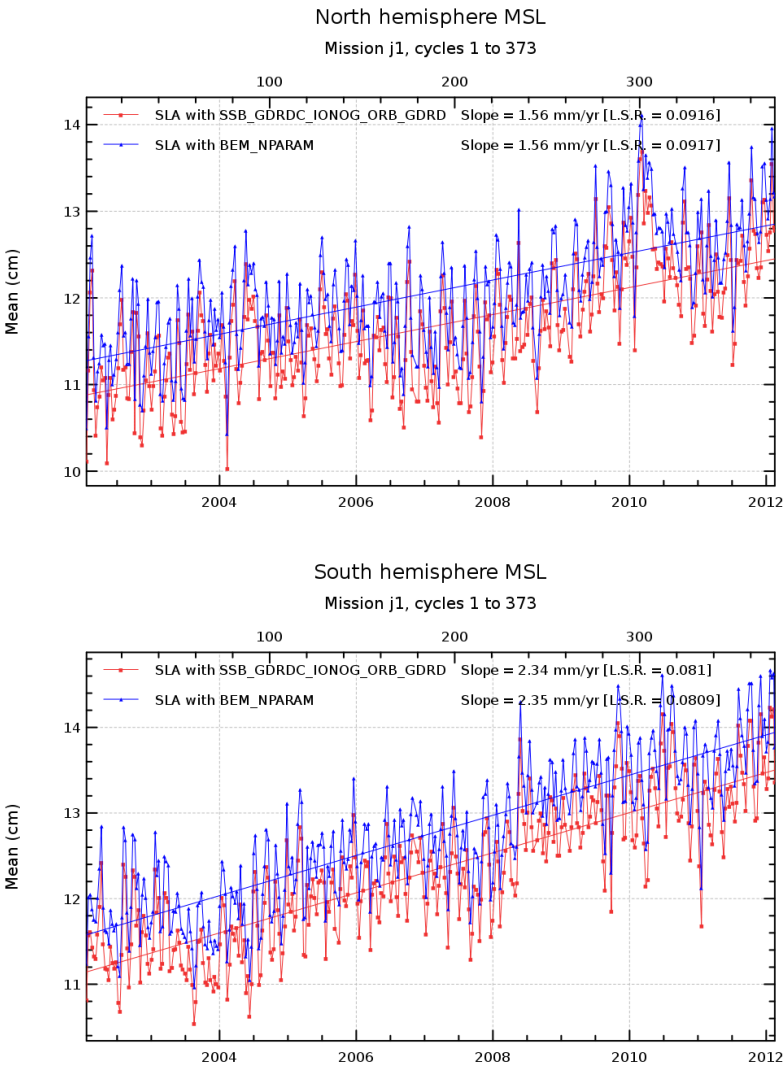
Diagnostic A201_c (mission j1)

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



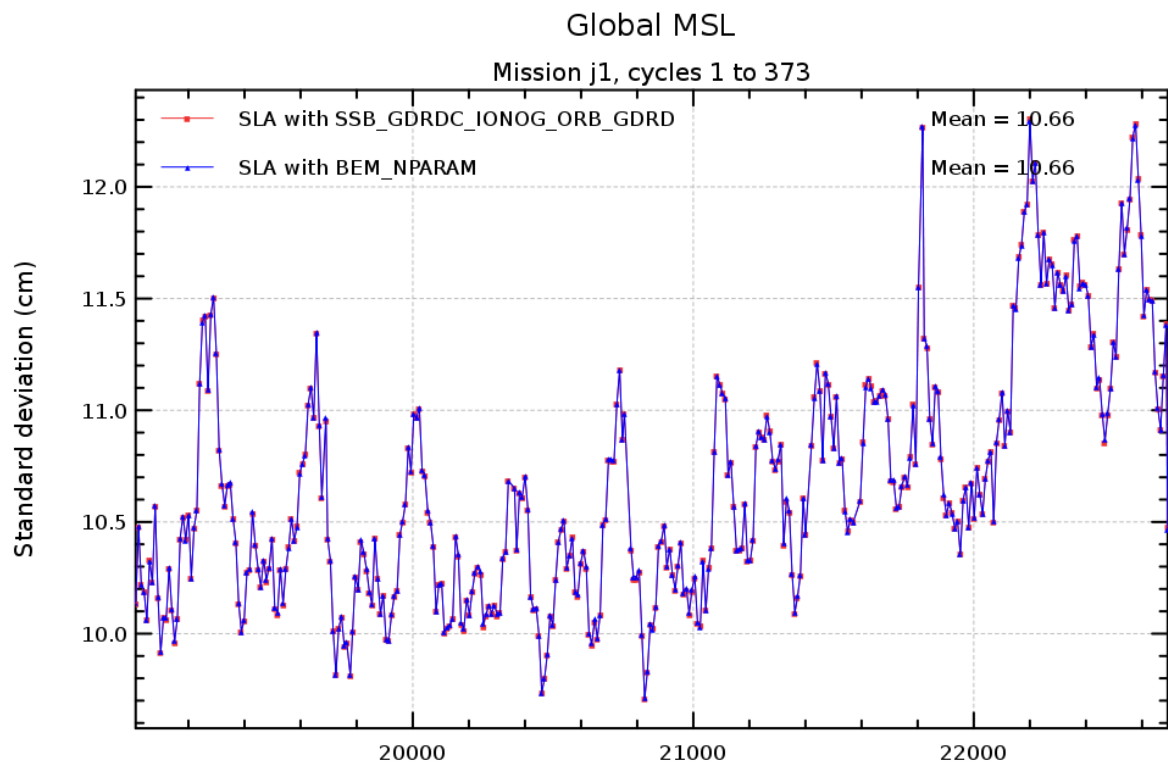
Diagnostic A201_d (mission j1)

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



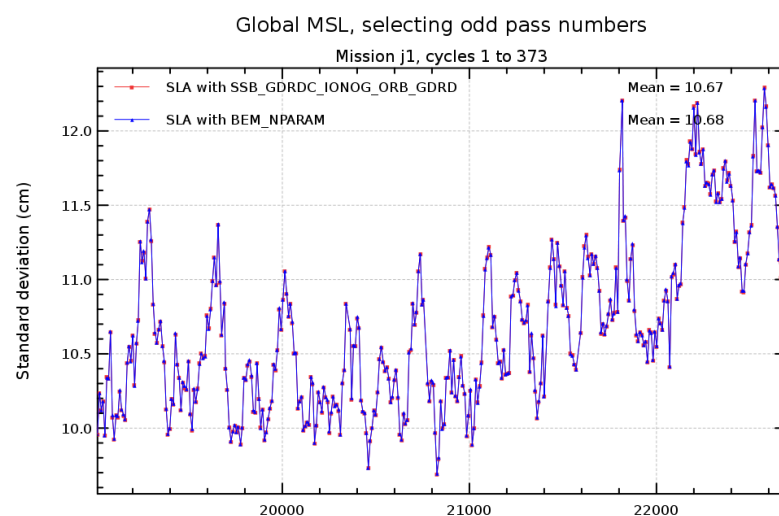
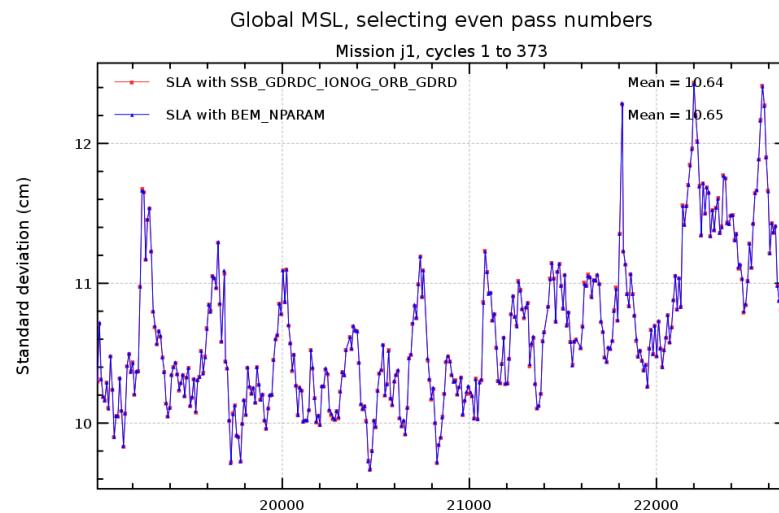
Diagnostic A201_e (mission j1)

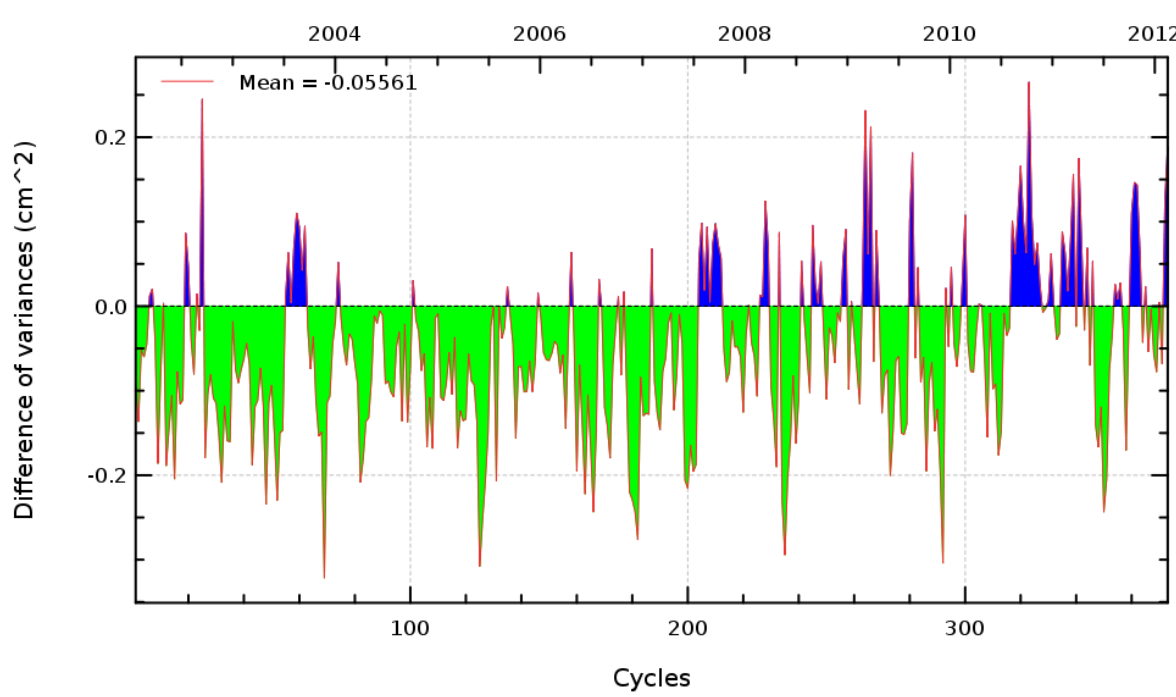
Name : Temporal evolution of Sea Level Anomaly (SLA)

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 type : Global internal analyses	Diagnostic A202_a (mission j1)
	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.
	<p>SLA with SSB_GDRDC_IONOG_ORB_GDRD) - VAR(SLA with BEM_NPA Mission j1, cycles 1 to 373</p>  <p>The graph displays the difference of variances (cm²) over cycles (1 to 373). The y-axis ranges from -0.2 to 0.2, and the x-axis ranges from 0 to 373. The signal is highly oscillatory, with a mean value of -0.05561. The signal is colored green for negative values and blue for positive values. The top x-axis shows years from 2004 to 2012.</p>

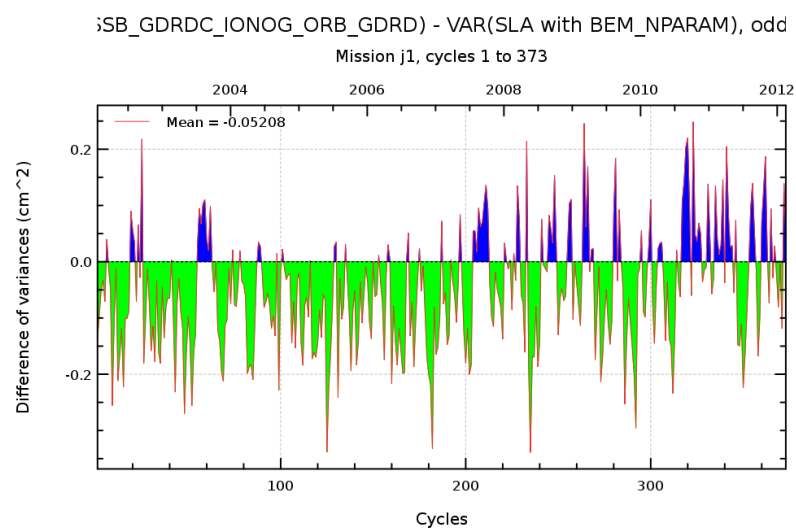
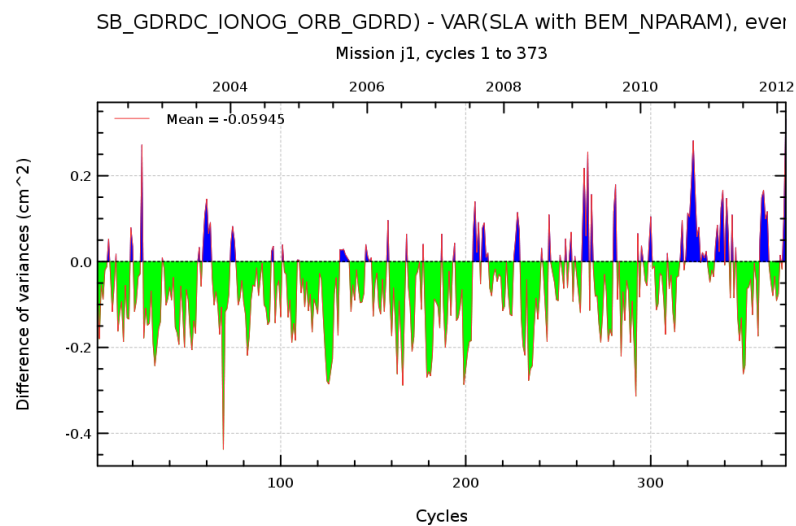
Diagnostic A202_b (mission j1)

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

Input data : Along track SLA

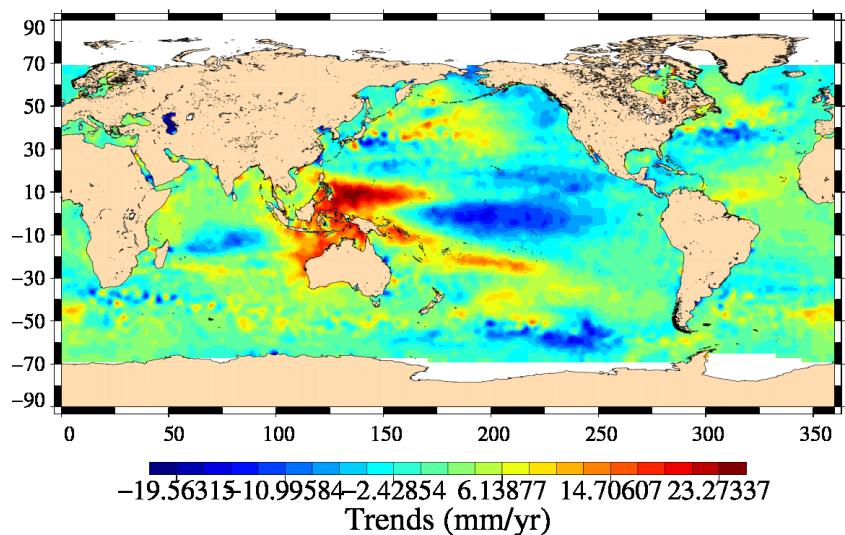
Description : The differences between temporal evolution of SLA are calculated from statistics derived from diagnostic A201 (mean, variance) using 2 different components in the SLA calculation. They are calculated globally, but also separating ascending and descending passes (except for SLA Grids) or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

Diagnostic type : Global internal analyses

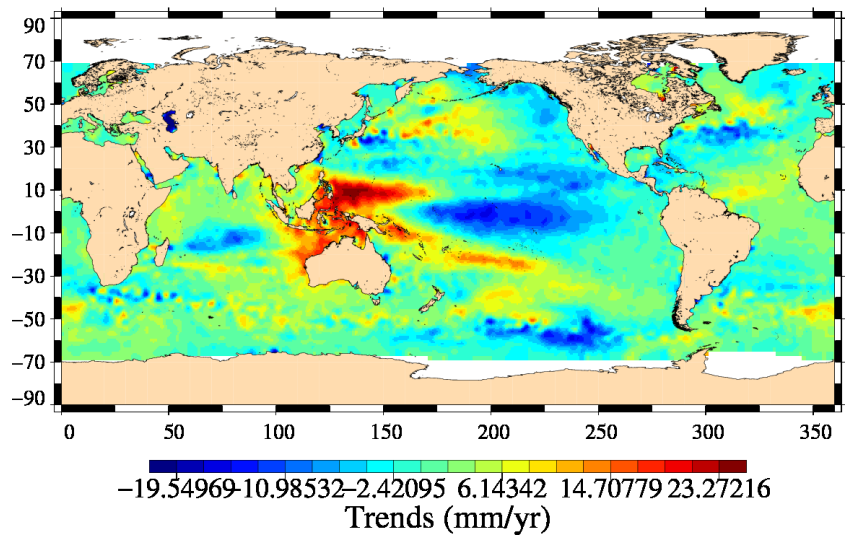


Diagnostic A203_a (mission j1)	
Name : Map of Sea Level Anomaly (SLA) over all the period	
Input data : Along track SLA	
Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.	

SLA with SSB_GDRDC_IONOG_ORB_GDRD trends
Mission j1, cycles 1 to 373



SLA with BEM_NPARAM trends
Mission j1, cycles 1 to 373



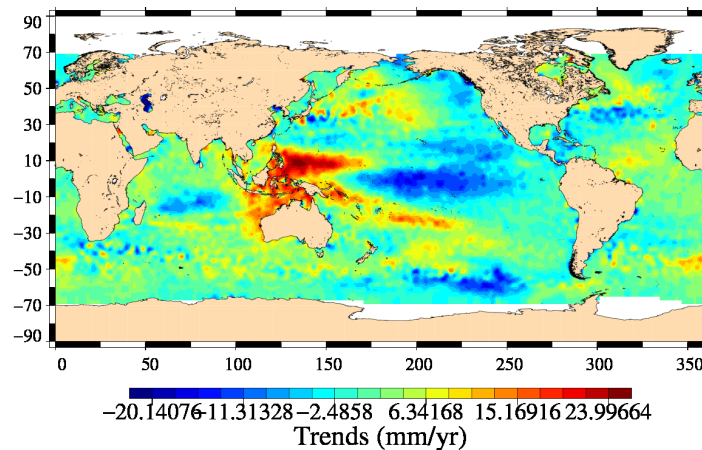
Diagnostic A203_b (mission j1)

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

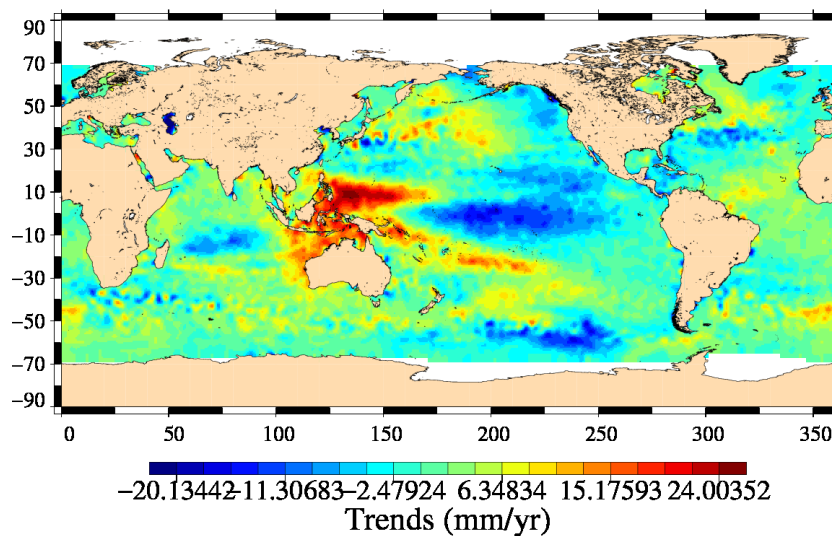
Input data : Along track SLA

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.

SLA with SSB_GDRDC_IONOG_ORB_GDRD trends : even pass numbers
Mission j1, cycles 1 to 373



SLA with BEM_NPARAM trends : even pass numbers
Mission j1, cycles 1 to 373



Diagnostic A203_c (mission j1)

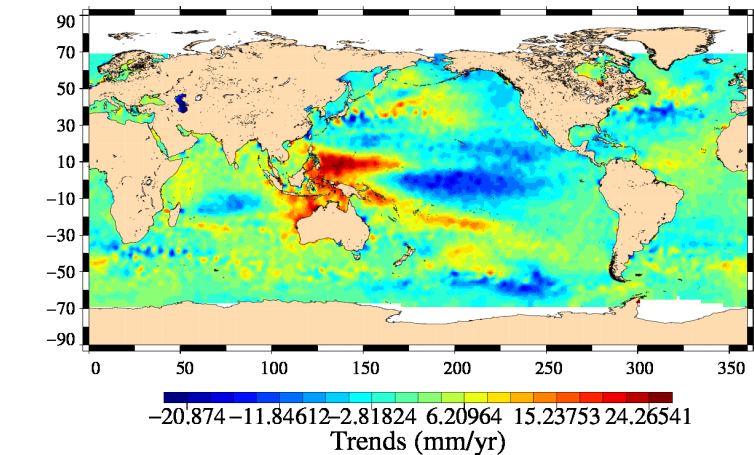
Name : Map of Sea Level Anomaly (SLA) over all the period

Input data : Along track SLA

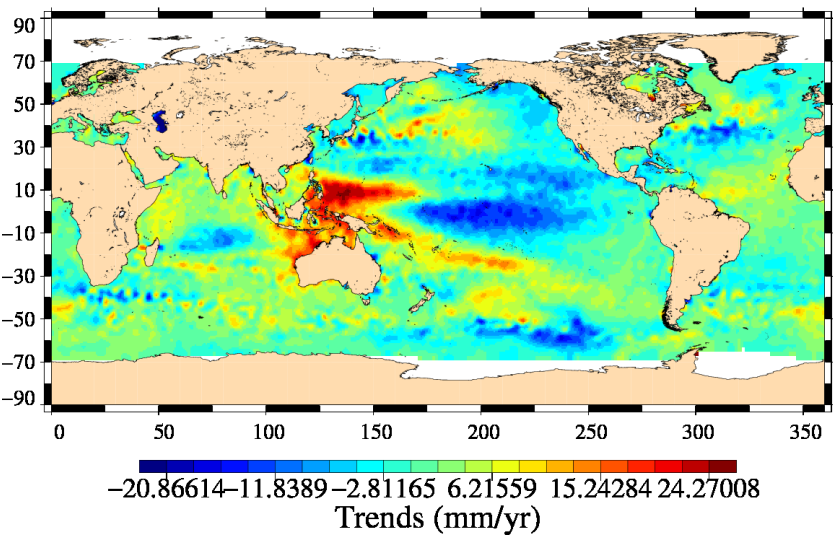
Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

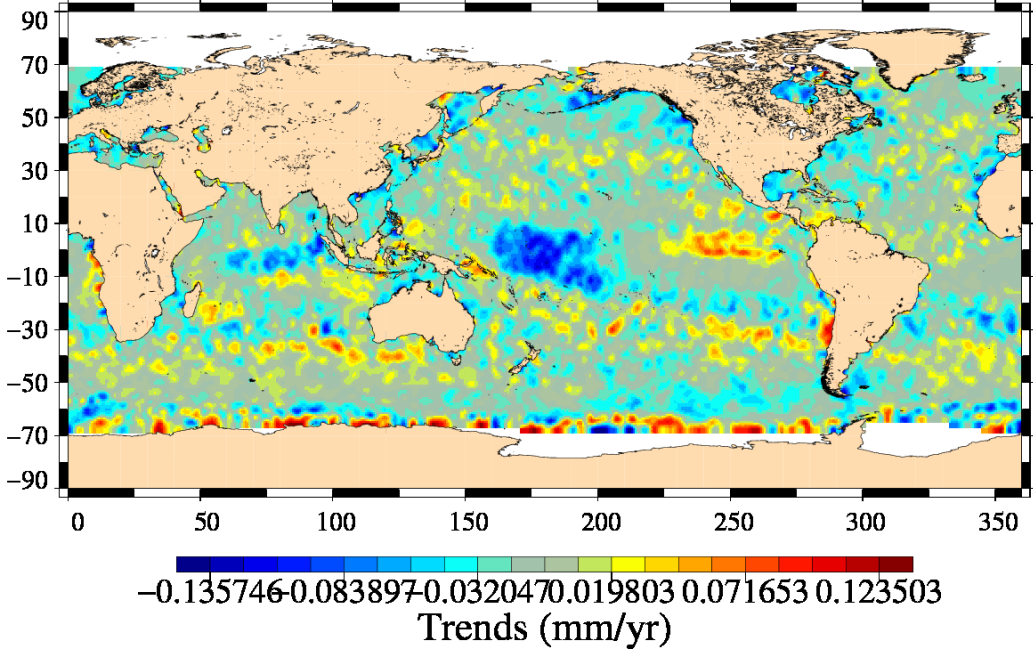
Diagnostic type : Global internal analyses

SLA with SSB_GDRDC_IONOG_ORB_GDRD trends : odd pass numbers
Mission j1, cycles 1 to 373



SLA with BEM_NPARAM trends : odd pass numbers
Mission j1, cycles 1 to 373



Diagnostic type : Global internal analyses	Diagnostic A204_a (mission j1)	
	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).	
	<p>ith SSB_GDRDC_IONOG_ORB_GDRD trends – SLA with BEM_NPARAM Mission j1, cycles 1 to 373</p> 	

Diagnostic A204_b (mission j1)

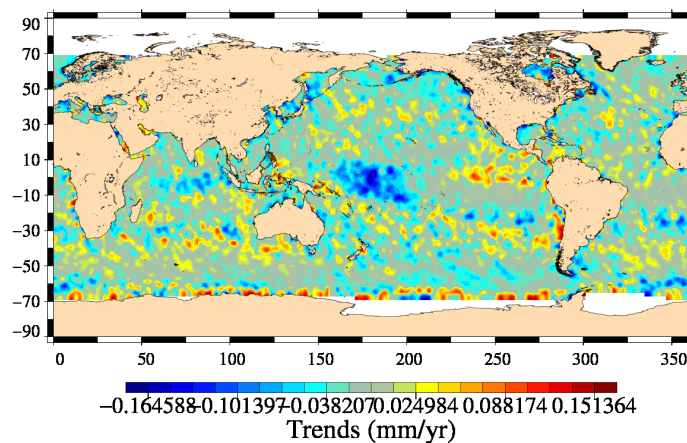
Name : Differences between maps of SLA

Input data : Along track SLA

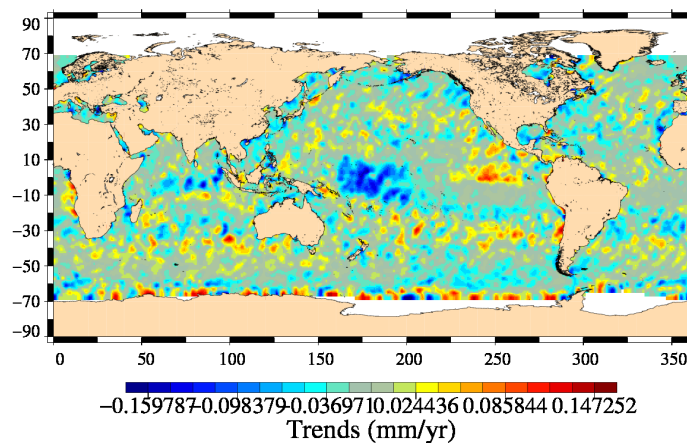
Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

Diagnostic type : Global internal analyses

DRDC_IONOG_ORB_GDRD trends – SLA with BEM_NPARAM trends : e
Mission j1, cycles 1 to 373



DRDC_IONOG_ORB_GDRD trends – SLA with BEM_NPARAM trends : c
Mission j1, cycles 1 to 373

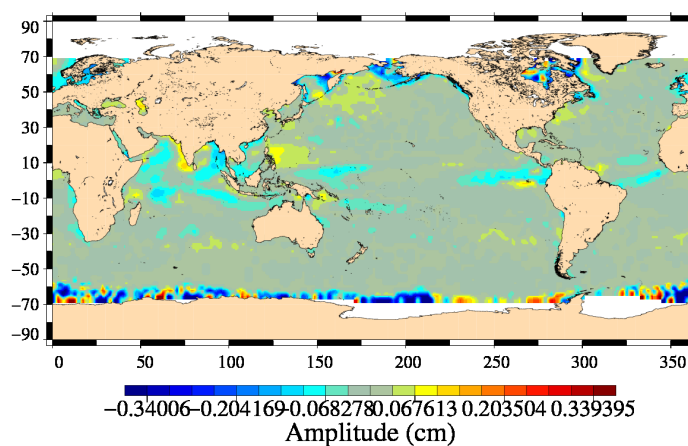


Name : Differences between maps of SLA (2)

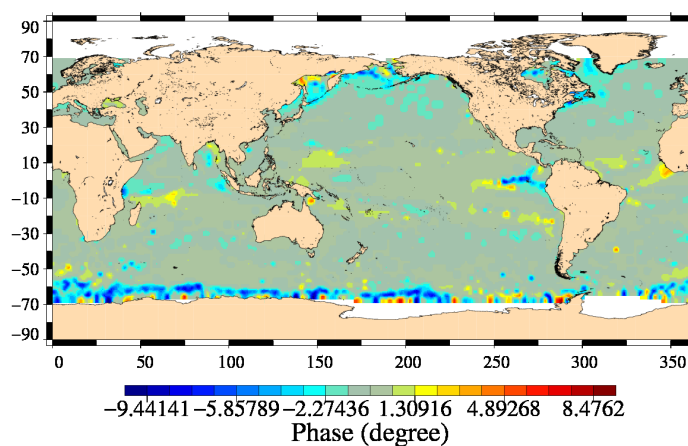
Input data : Along track SLA

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).

ORDC_IONOG_ORB_GDRD amplitude – SLA with BEM_NPARAM amplitude
Mission j1, cycles 1 to 373



Amplitude (cm)
_GDRDC_IONOG_ORB_GDRD phase – SLA with BEM_NPARAM phase
Mission j1, cycles 1 to 373



Diagnostic A205_b (mission j1)

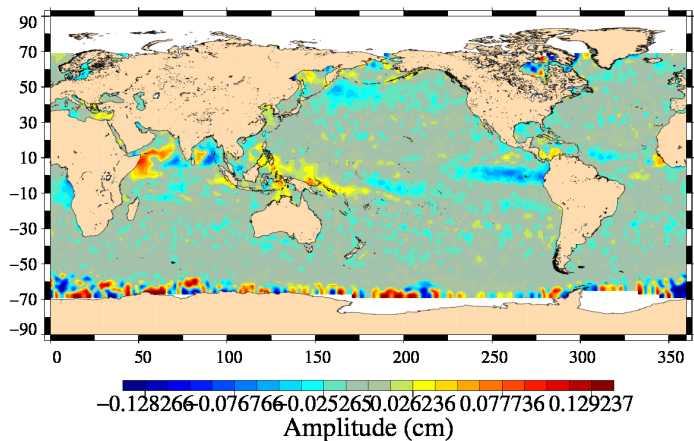
Name : Differences between maps of SLA (2)

Input data : Along track SLA

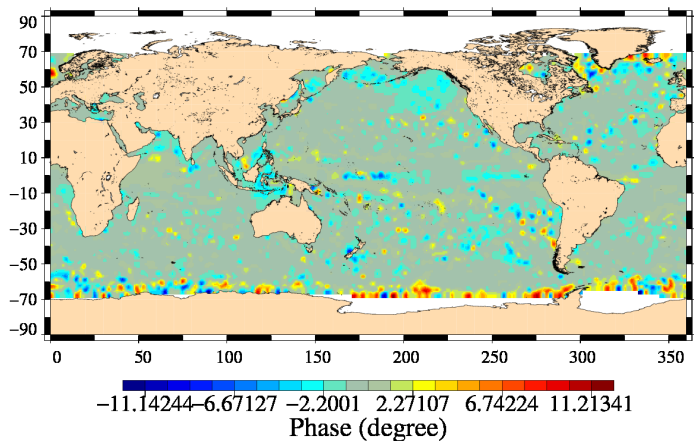
Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

Diagnostic type : Global internal analyses

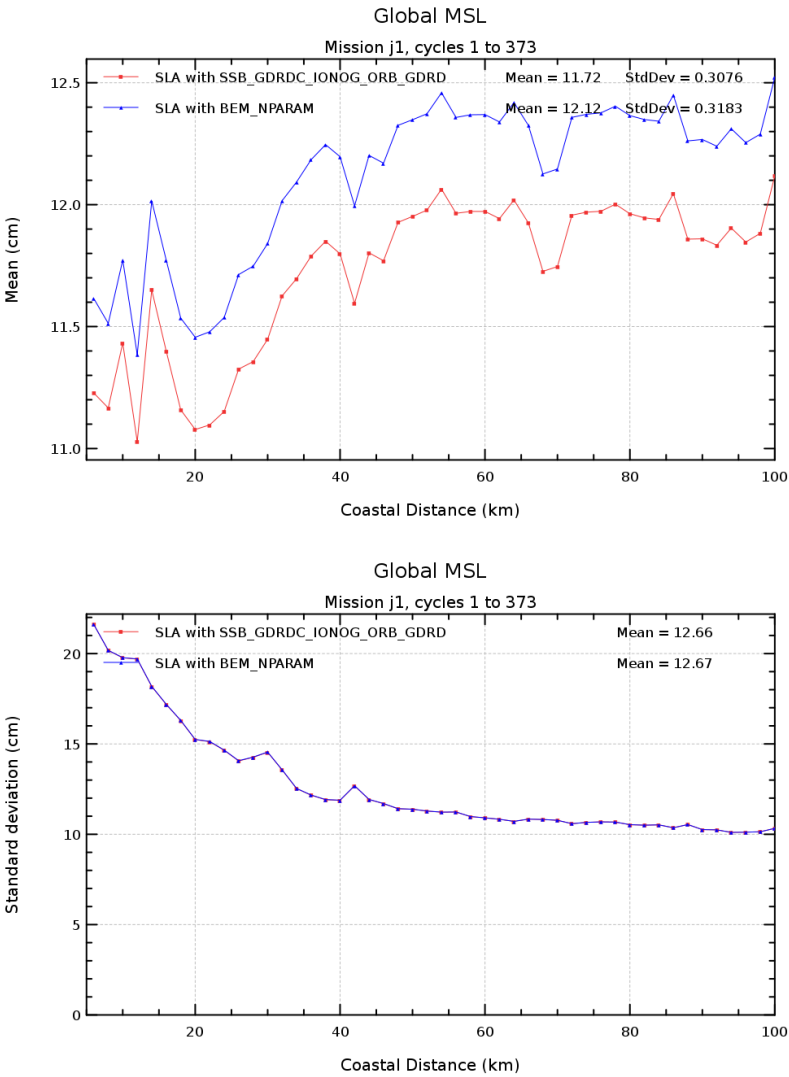
DC_IONOG_ORB_GDRD amplitude – SLA with BEM_NPARAM amplitude
Mission j1, cycles 1 to 373

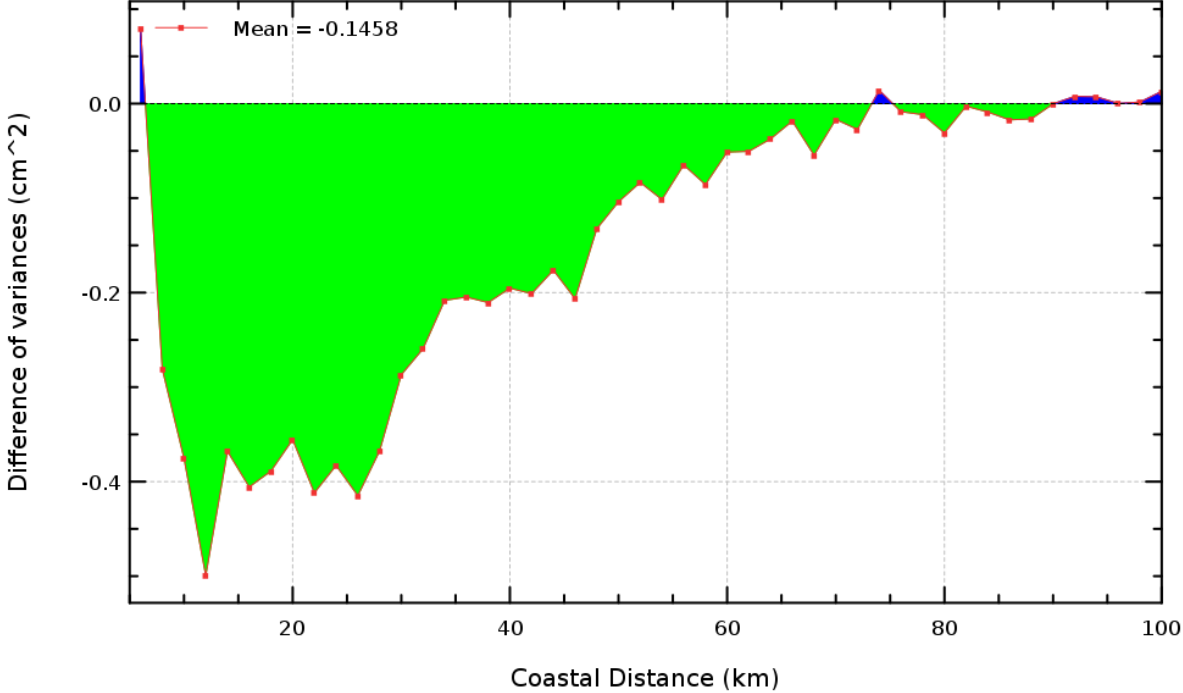


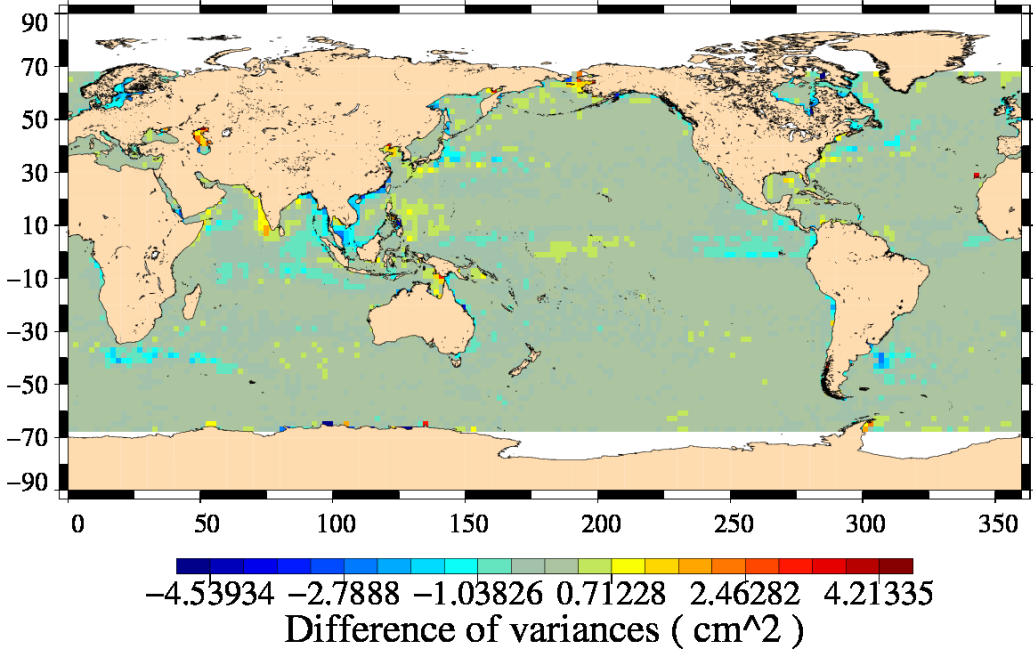
DRDC_IONOG_ORB_GDRD phase – SLA with BEM_NPARAM phase : se
Mission j1, cycles 1 to 373



Diagnostic A207 (mission j1)	
Name : Sea Level Anomaly (SLA) versus coastal distance	
Input data : Along track SLA	
Description : Mean and standard deviation of SLA - computed by using successively both altimetric components - are plotted in function of coastal distances between 0 and 100 km.	



Diagnostic type : Global internal analyses	Diagnostic A208 (mission j1)	
	Name : Sea Level Anomaly (SLA) differences versus coastal distance	
	Input data : Along track SLA	
	Description : The differences of SLA variances - computed by using successively both altimetric components - are plotted in function of coastal distances between 0 and 100 km.	
	<div>SLA with SSB_GDRDC_IONOG_ORB_GDRD) - VAR(SLA with BEM_NPA</div> <div>Mission j1, cycles 1 to 373</div>  <p>Difference of variances (cm²)</p> <p>Coastal Distance (km)</p> <p>Mean = -0.1458</p>	

Diagnostic type : Global internal analyses	Diagnostic A209 (mission j1)	
	Name : Differences between maps of SLA (3)	
	Input data : Along track SLA	
	Description : The differences between maps of SLA are calculated from the SLA differences (mean, standard deviation) using successively both altimetric components in the SLA calculation.	
	<div>LA with SSB_GDRDC_IONOG_ORB_GDRD) – VAR(SLA with BEM_NP/</div> <div>Mission j1, cycles 1 to 373</div> <div></div>	