

Iono comparisons : Filtr Iter versus Filtr

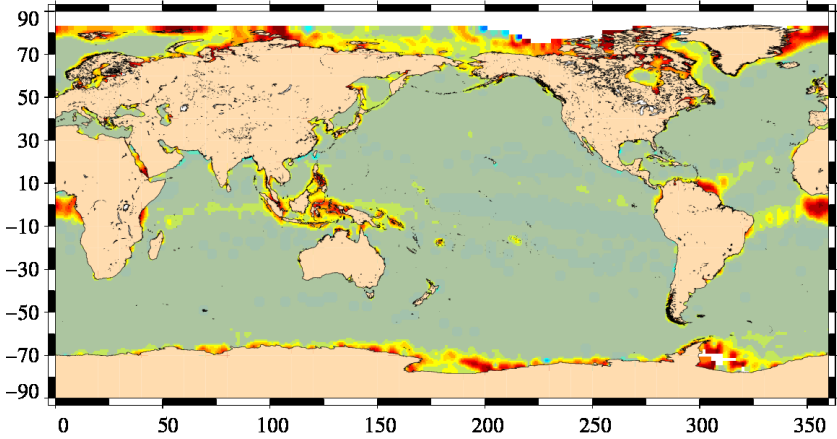
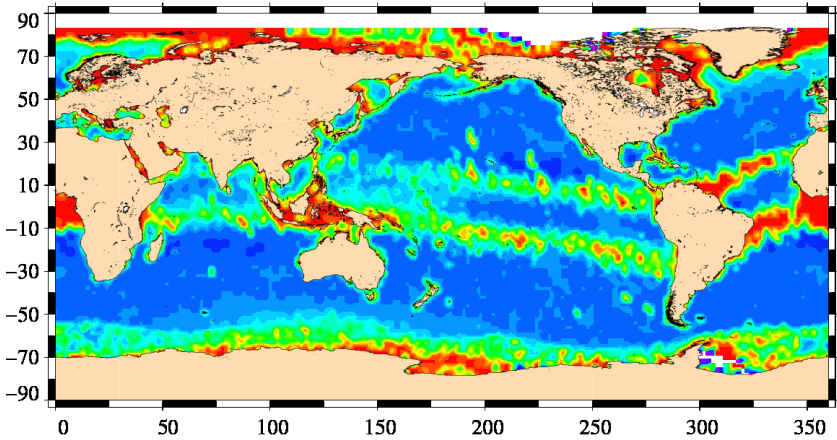
Study variable	FILTR_ITER
Reference variable	FILTR
Missions	Envisat (<i>en</i>)
Period	[19126, 21226]

Creation date : 2012/10/10

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Diagnostic A001 (mission en)	
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.	
<div><div><div>Mean of FILTR_ITER - FILTR</div><div>Mission en, cycles 6 to 64</div><div><div><div>(x10⁻²)</div><div>102030405060</div></div><div><div>3.5</div><div>3.0</div><div>2.5</div><div>2.0</div><div>1.5</div><div>1.0</div></div><div><div>Mean = 0.02377</div><div>Slope = -0.0186 mm/yr</div></div><div><div>2003</div><div>2004</div><div>2005</div><div>2006</div><div>2007</div></div></div></div></div>	
<div><div><div>Standard deviation of FILTR_ITER - FILTR</div><div>Mission en, cycles 6 to 64</div><div><div><div>102030405060</div></div><div><div>0.30</div><div>0.25</div><div>0.20</div><div>0.15</div><div>0.10</div></div><div><div>Mean = 0.1493</div></div><div><div>2003</div><div>2004</div><div>2005</div><div>2006</div><div>2007</div></div></div></div></div>	

Diagnostic A002 (mission en)	
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 FILTR_ITER – FILTR Mission en, cycles 6 to 64</div>  <div>-0.2 -0.12 -0.04 0.04 0.12 0.2</div> <div>Mean (cm)</div> <div>Standard deviation of FILTR_ITER – FILTR Mission en, cycles 6 to 64</div>  <div>0 0.04 0.08 0.12 0.16 0.2</div> <div>Standard Deviation (cm)</div>	

Diagnostic A003_a (mission en)	
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.	
<div><div><div>iodogram of the mean of FILTR_ITER - FILTR (reference period = 1 ye</div><div>(x10⁻³)</div><div>Mission en, cycles 6 to 64</div><div><div>Amplitude (cm)</div><div>1.5</div><div>1.0</div><div>0.5</div><div>0.0</div></div><div><div>Period (days)</div><div>300</div><div>350</div><div>400</div><div>450</div><div>500</div></div></div><div><div><div>am of the standard deviation of FILTR_ITER - FILTR (reference period</div><div>(x10⁻²)</div><div>Mission en, cycles 6 to 64</div><div><div>Amplitude (cm)</div><div>1.5</div><div>1.0</div><div>0.5</div><div>0.0</div></div><div><div>Period (days)</div><div>300</div><div>350</div><div>400</div><div>450</div><div>500</div></div></div></div></div>	

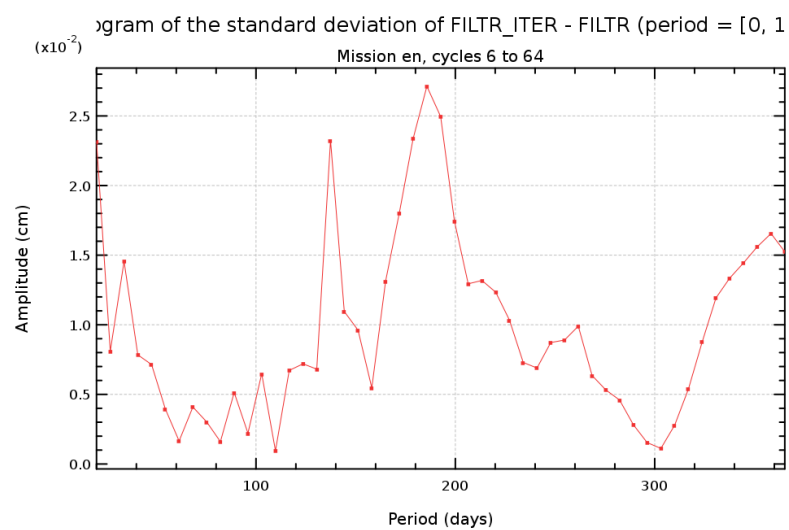
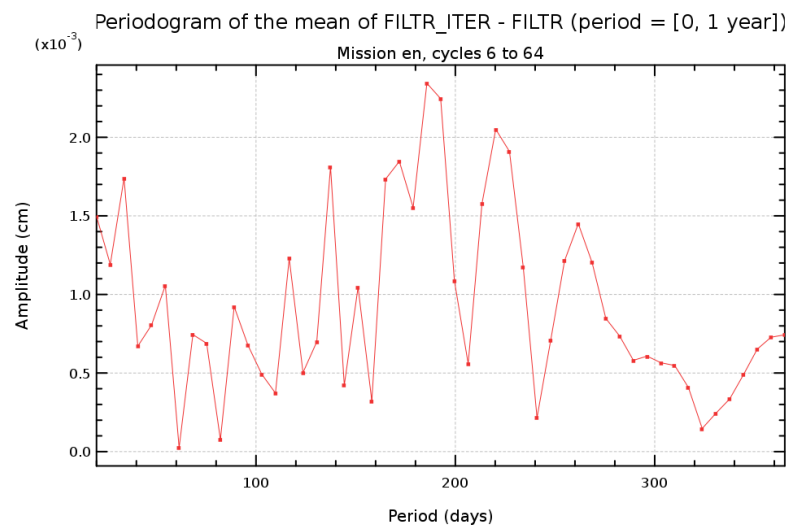
Diagnostic A003_b (mission en)

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



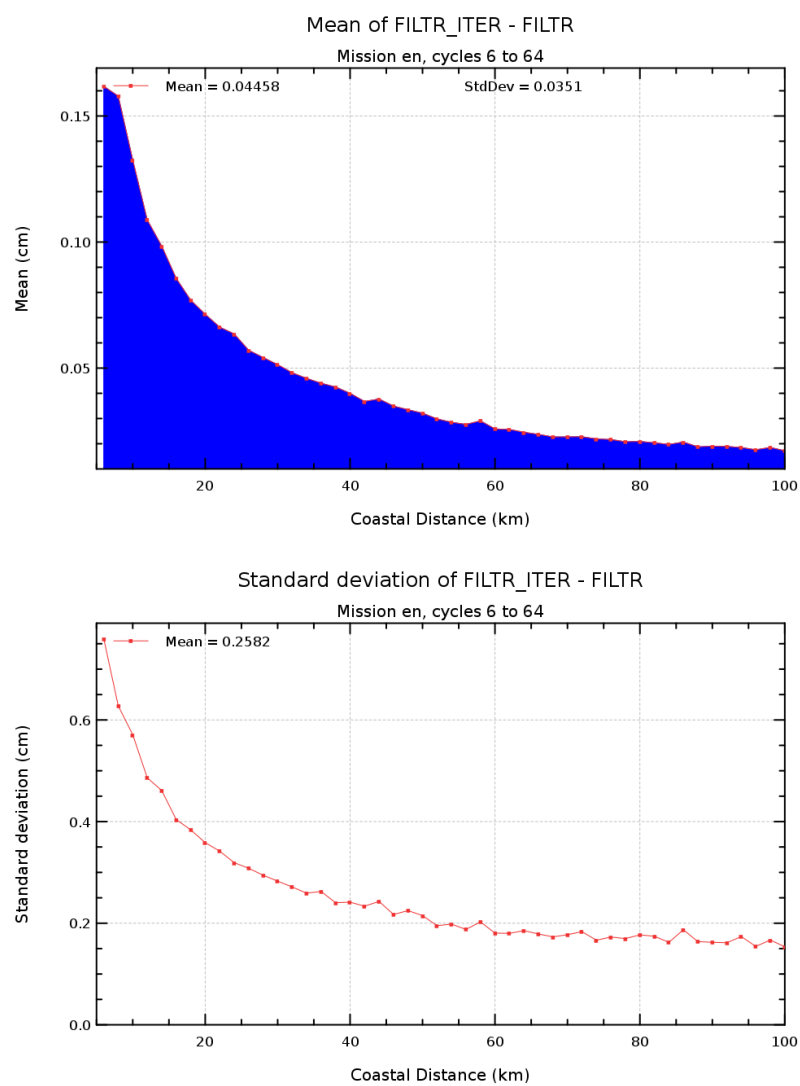
Diagnostic A004 (mission en)

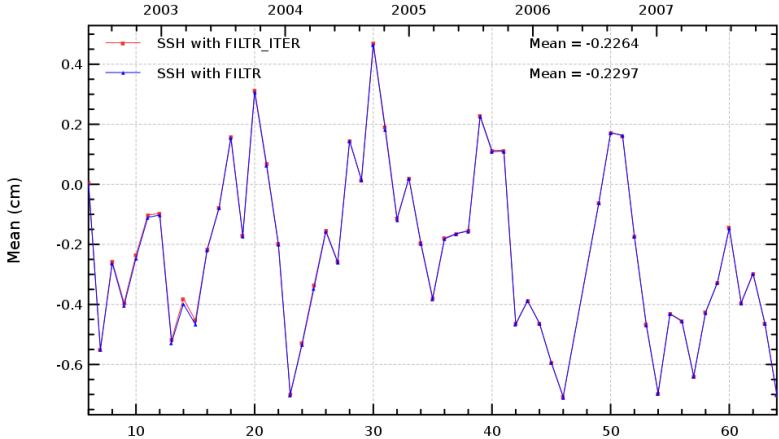
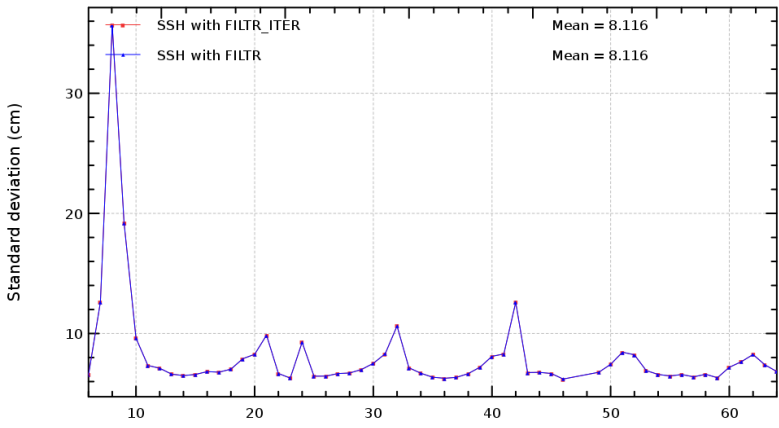
Name : Altimetric component differences versus coastal distances

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 en)	
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 en, cycles 6 to 64</div><div></div></div> <div><div>Standard deviations of SSH crossovers</div><div>Mission en, cycles 6 to 64</div><div></div></div>	

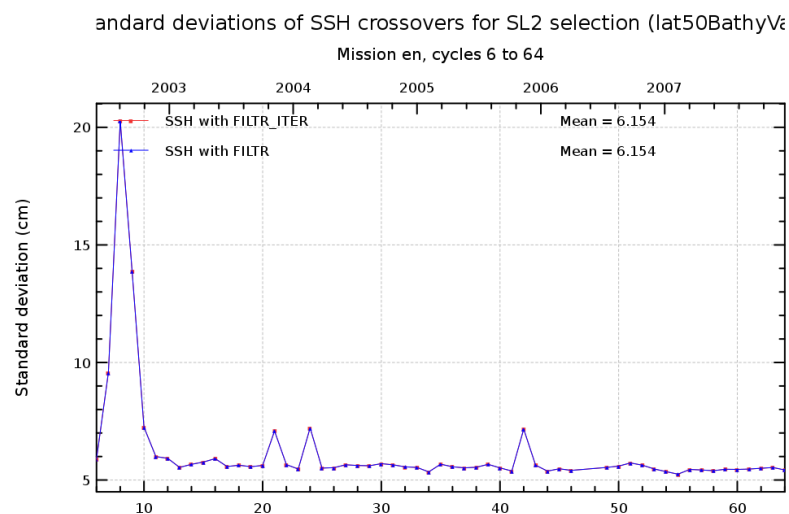
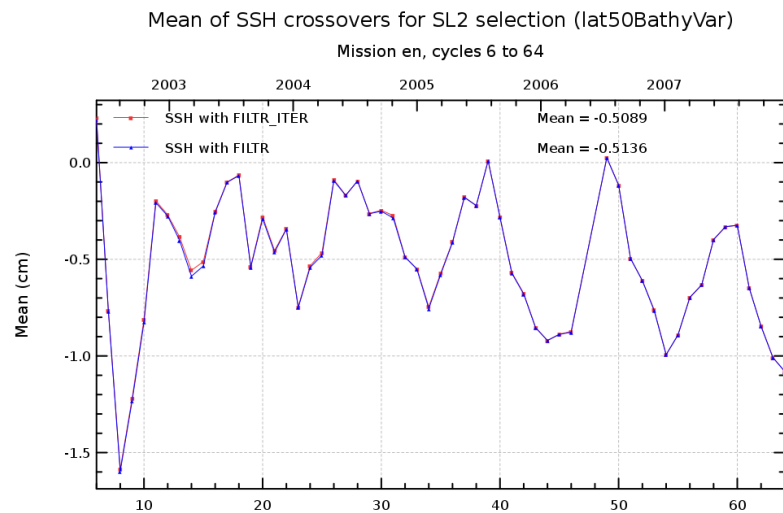
Diagnostic A101 (mission en)

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



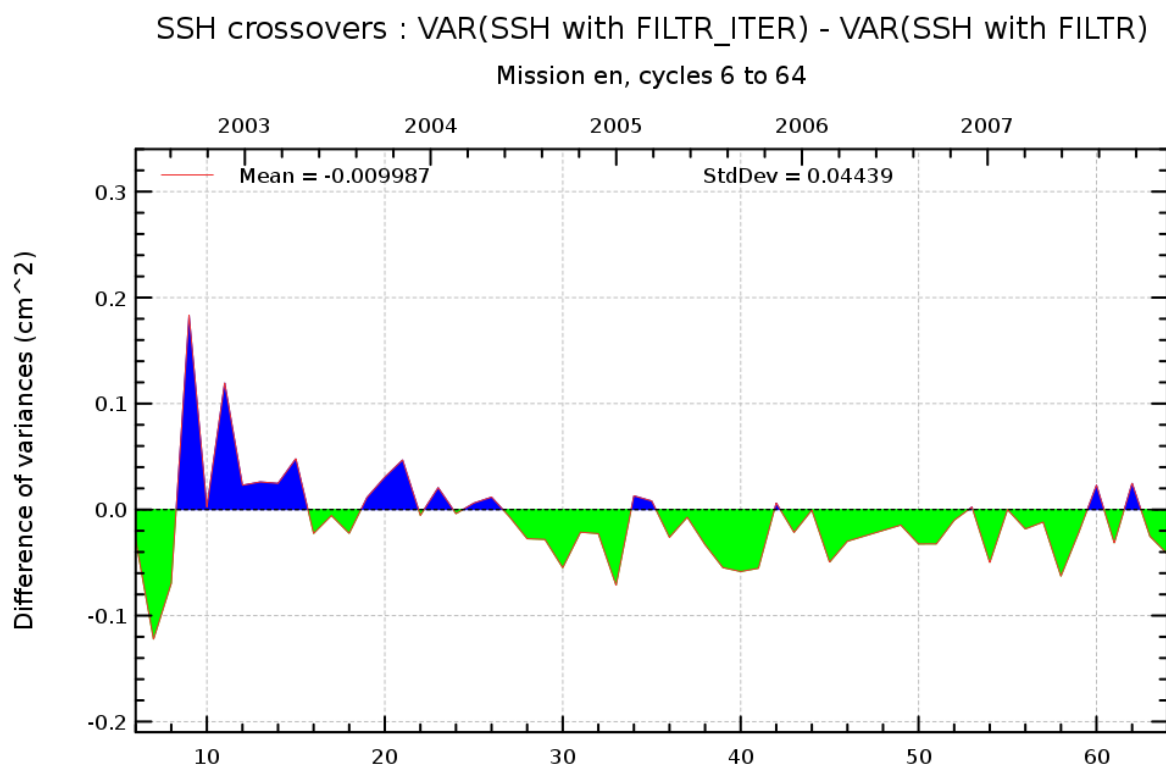
Diagnostic A102 (mission en)

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



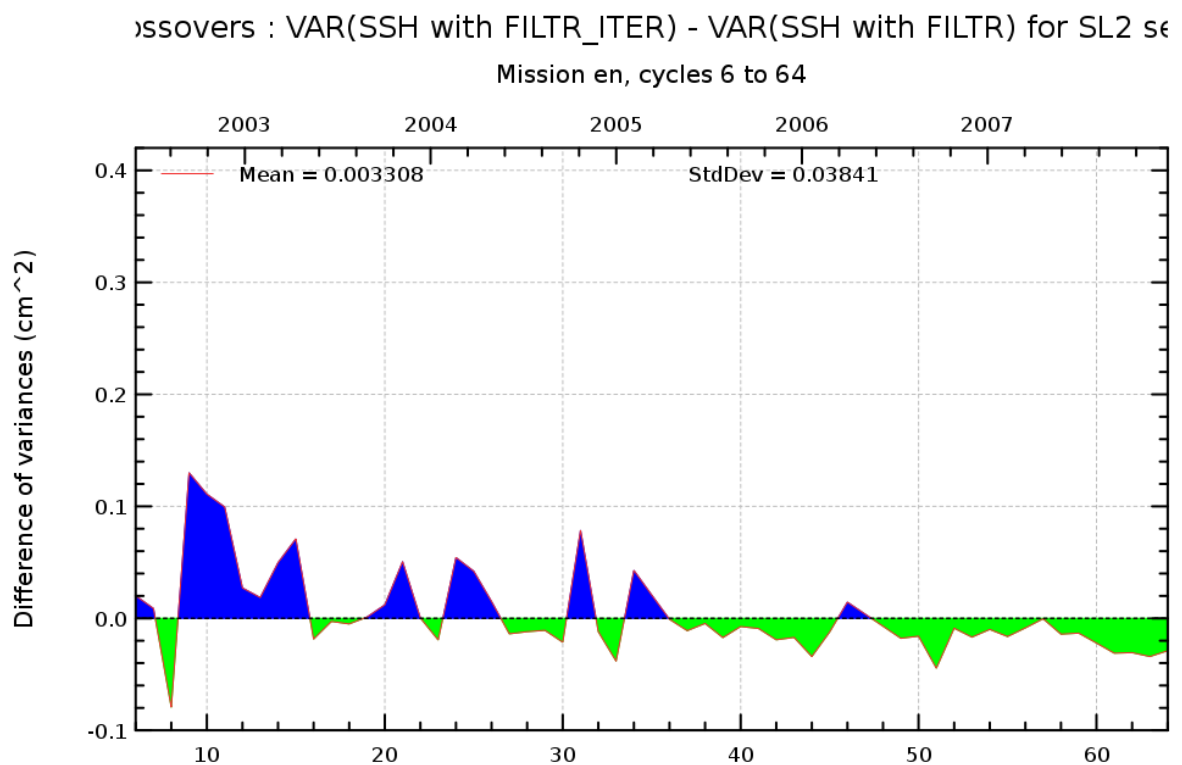
Diagnostic A102 (mission en)

Name : Differences between temporal evolution of SSH crossovers

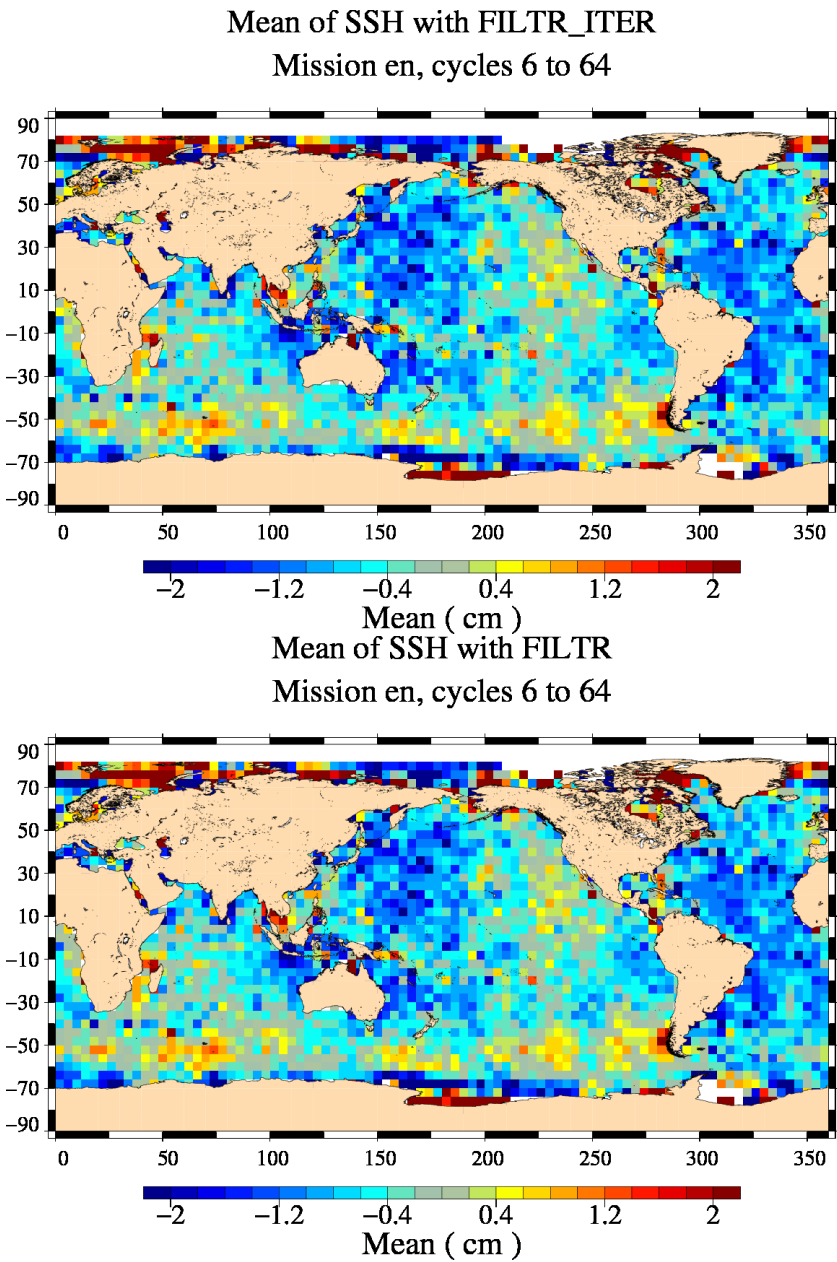
Input data : Sea Surface Height (SSH) crossovers

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 en)	
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 A104 (mission en)

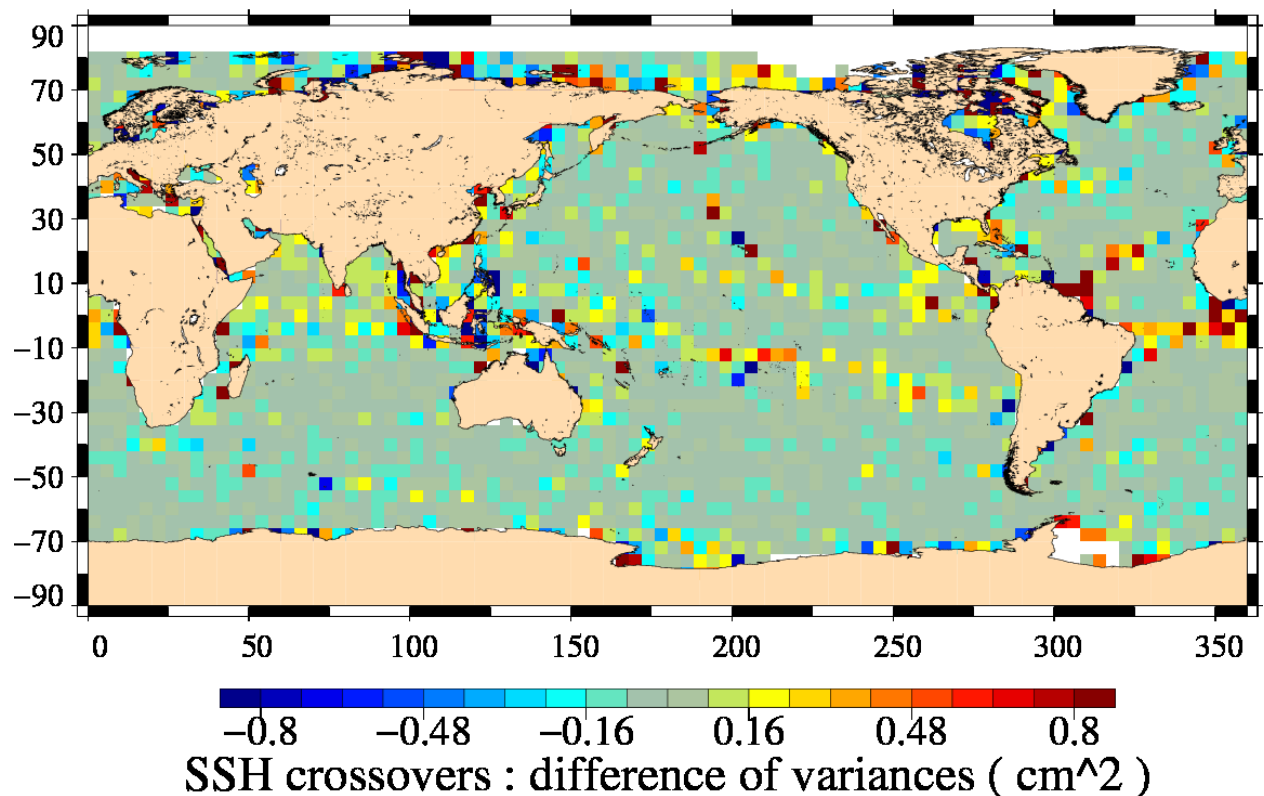
Name : Differences between maps of SSH crossovers

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 FILTR_ITER) – VAR(SSH with FILTR)
Mission en, cycles 6 to 64



Diagnostic type : Global internal analyses	Diagnostic A201 a (mission en)																					
	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</div> <div>Mission en, cycles 6 to 64</div> <table border="1"><caption>Approximate data points from the Global MSL graph</caption><thead><tr><th>Year</th><th>SLA with FILTR_ITER (cm)</th><th>SLA with FILTR (cm)</th></tr></thead><tbody><tr><td>2003 (start)</td><td>47.5</td><td>47.5</td></tr><tr><td>2003 (mid)</td><td>47.4</td><td>47.4</td></tr><tr><td>2004 (start)</td><td>47.3</td><td>47.3</td></tr><tr><td>2005 (start)</td><td>47.2</td><td>47.2</td></tr><tr><td>2006 (start)</td><td>47.1</td><td>47.1</td></tr><tr><td>2007 (start)</td><td>47.0</td><td>47.0</td></tr></tbody></table>		Year	SLA with FILTR_ITER (cm)	SLA with FILTR (cm)	2003 (start)	47.5	47.5	2003 (mid)	47.4	47.4	2004 (start)	47.3	47.3	2005 (start)	47.2	47.2	2006 (start)	47.1	47.1	2007 (start)	47.0
Year	SLA with FILTR_ITER (cm)	SLA with FILTR (cm)																				
2003 (start)	47.5	47.5																				
2003 (mid)	47.4	47.4																				
2004 (start)	47.3	47.3																				
2005 (start)	47.2	47.2																				
2006 (start)	47.1	47.1																				
2007 (start)	47.0	47.0																				

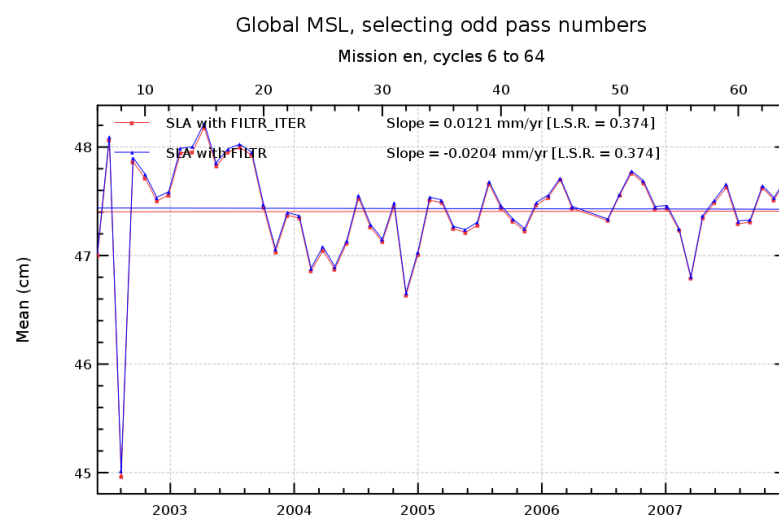
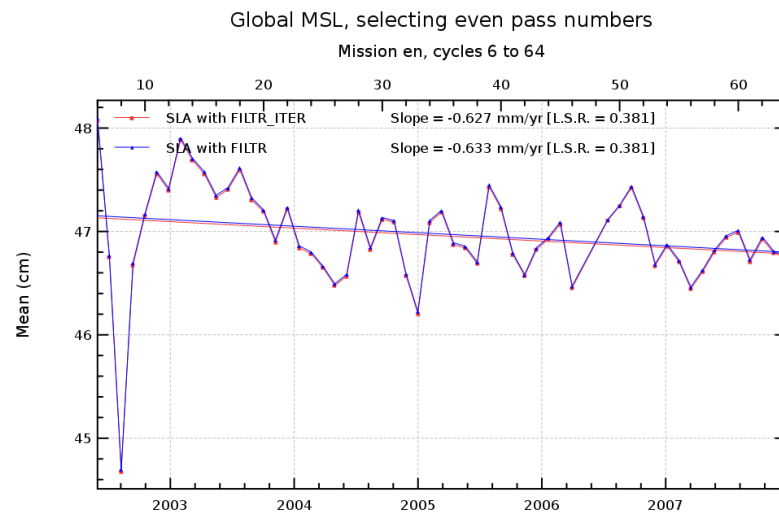
Diagnostic A201_b (mission en)

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



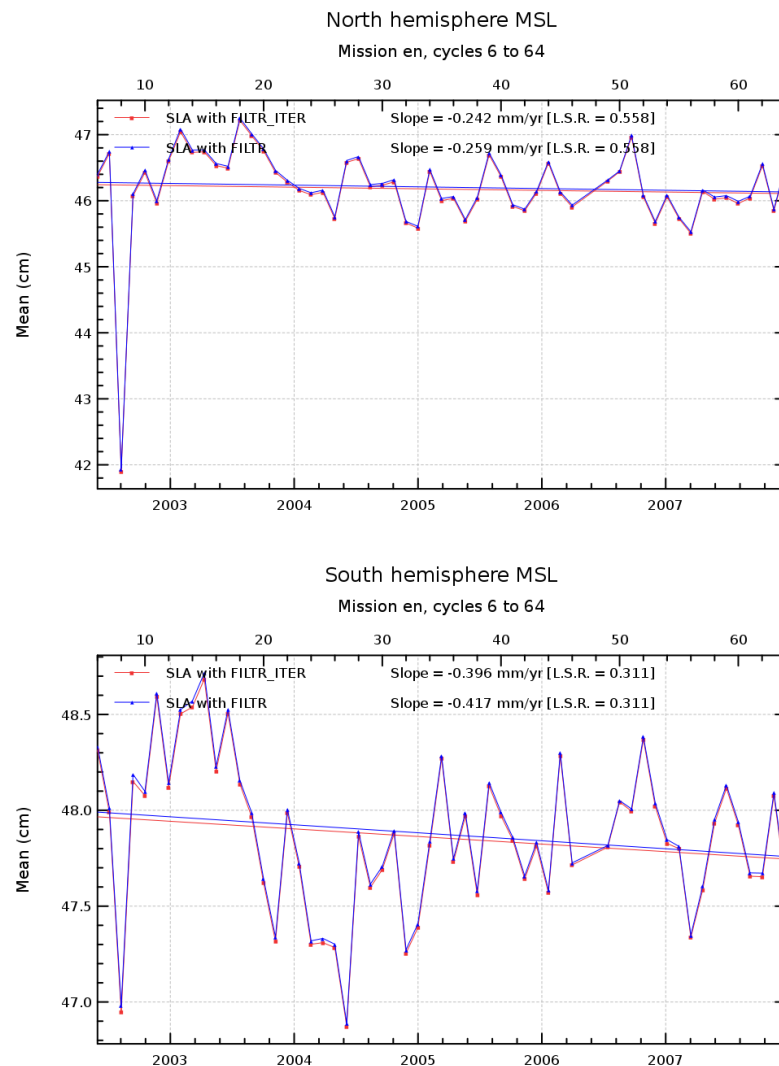
Diagnostic A201_c (mission en)

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



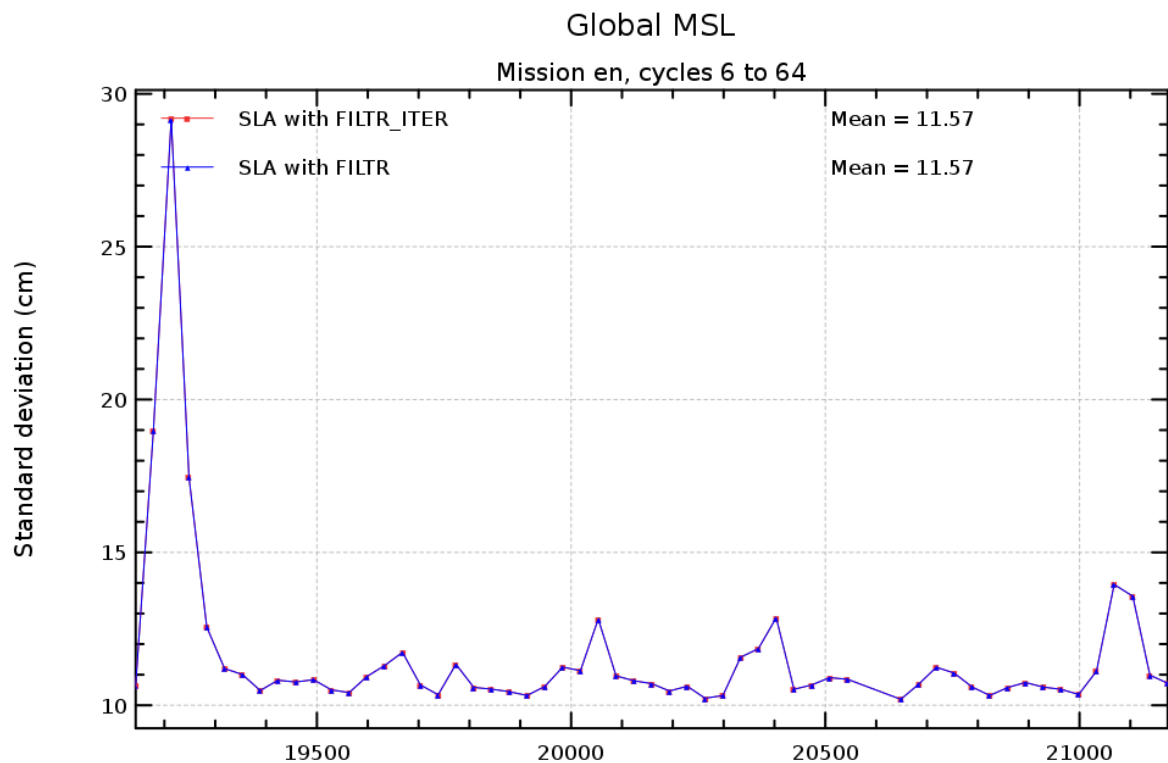
Diagnostic A201_d (mission en)

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



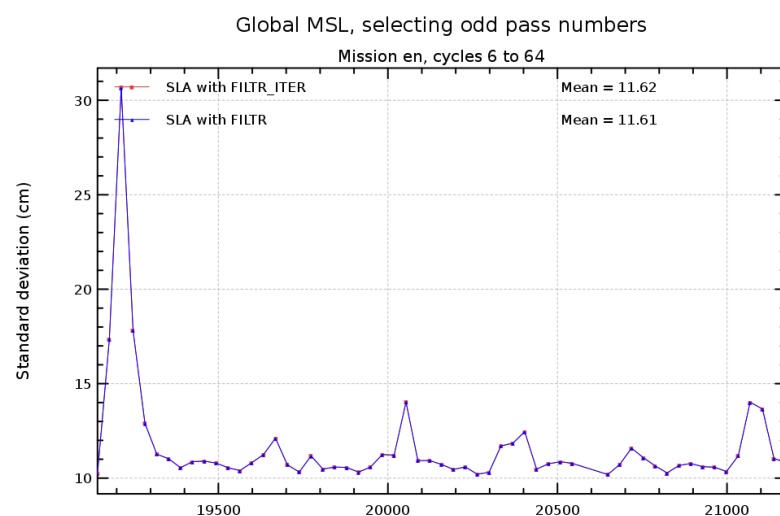
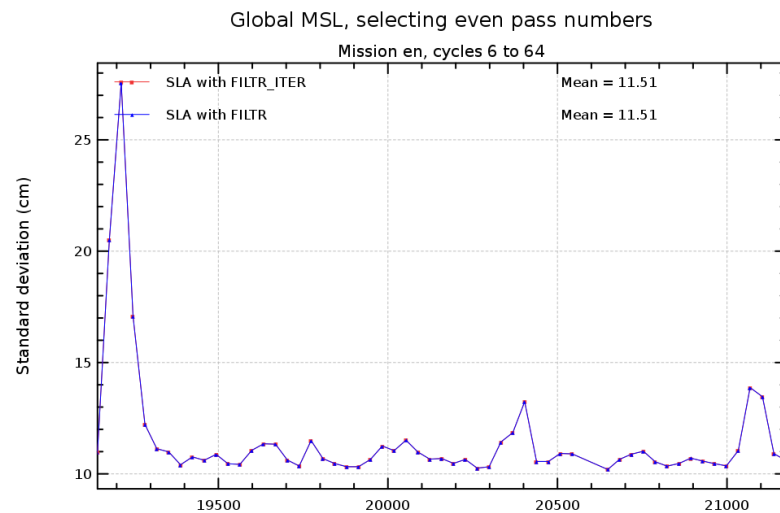
Diagnostic A201_e (mission en)

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



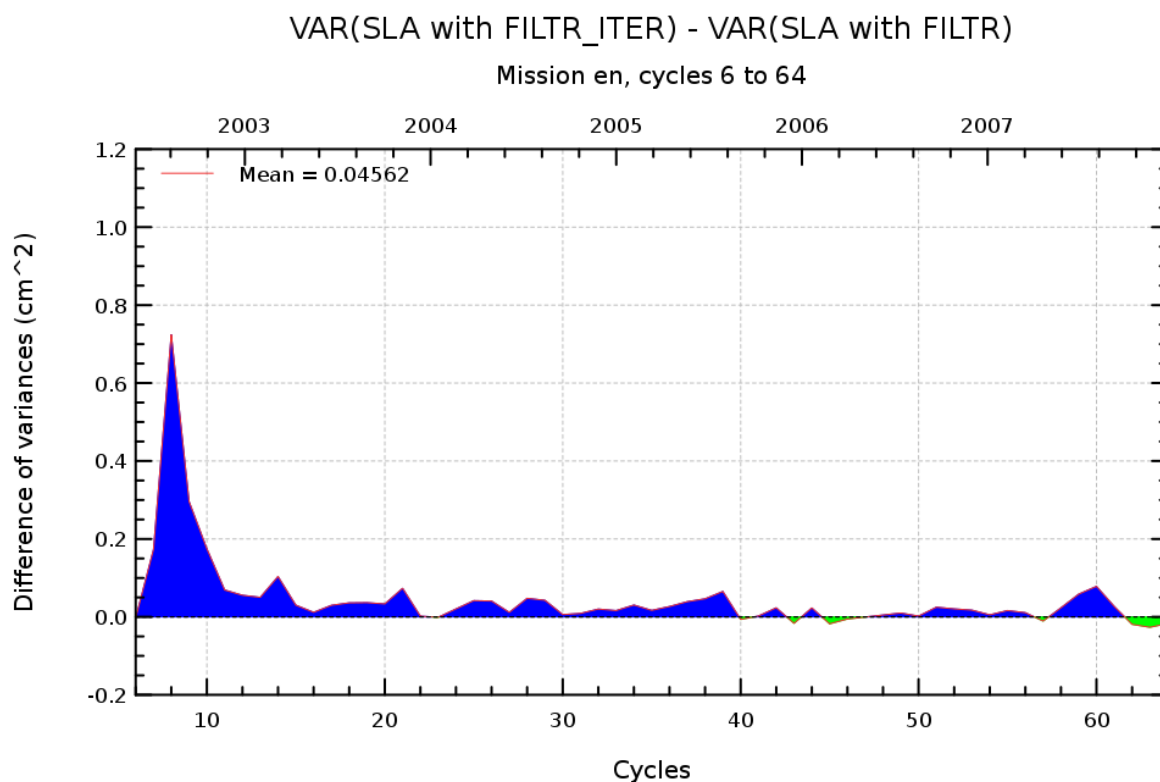
Diagnostic A202_a (mission en)

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



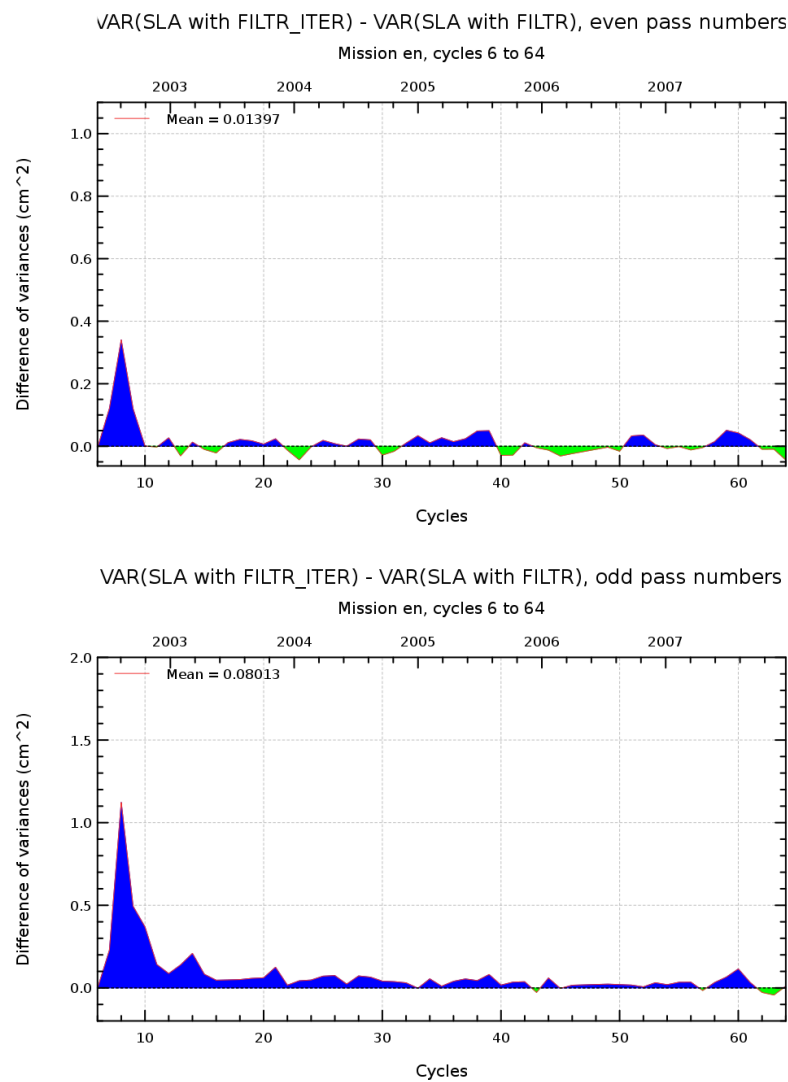
Diagnostic A202_b (mission en)

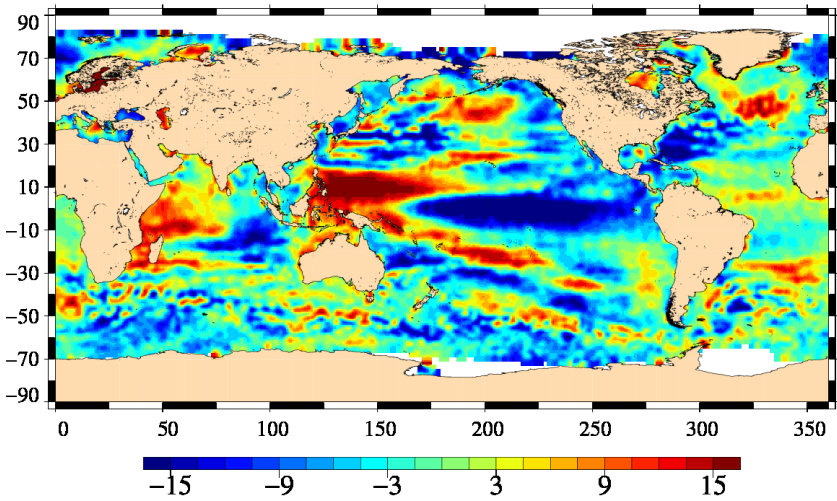
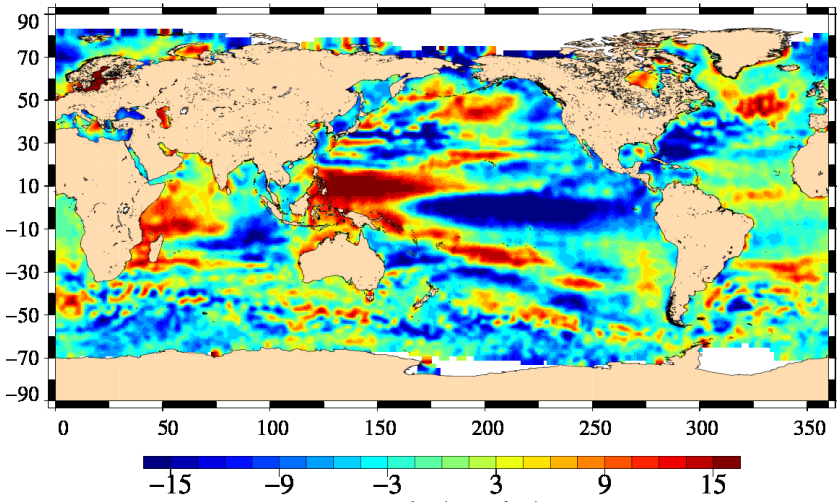
Name : Differences between temporal evolution of Sea Level Anomaly (SLA)

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 en)	
	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 FILTR_ITER trends Mission en, cycles 6 to 64</div>  <div>Trends (mm/yr)</div> <div>SLA with FILTR trends Mission en, cycles 6 to 64</div>  <div>Trends (mm/yr)</div>	

Diagnostic A203_b (mission en)

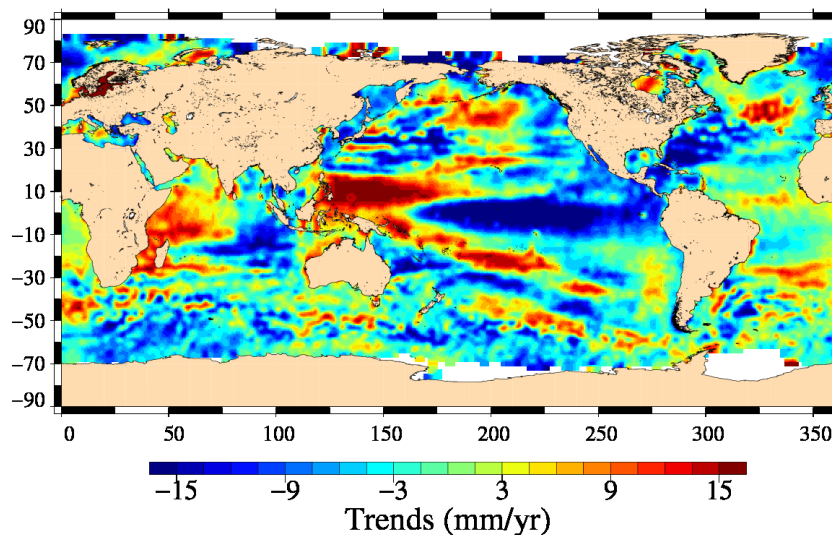
Name : Map of Sea Level Anomaly (SLA) over all the period

Input data : Along track SLA

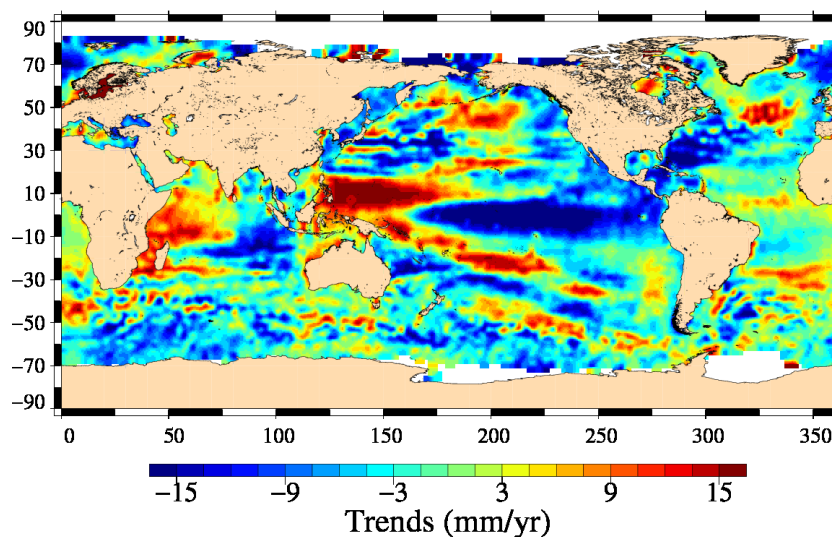
Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

Diagnostic type : Global internal analyses

SLA with FILTR_ITER trends : even pass numbers
Mission en, cycles 6 to 64



SLA with FILTR_ITER trends : even pass numbers
Mission en, cycles 6 to 64



Diagnostic A203_c (mission en)

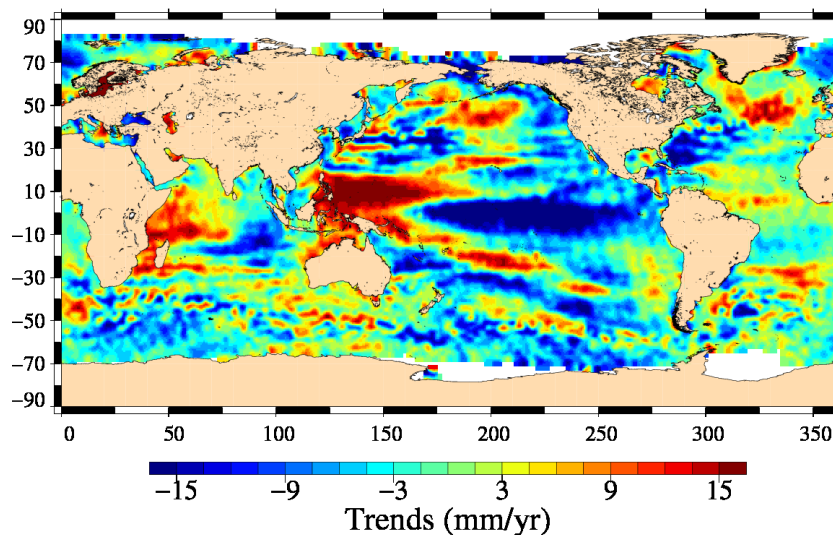
Name : Map of Sea Level Anomaly (SLA) over all the period

Input data : Along track SLA

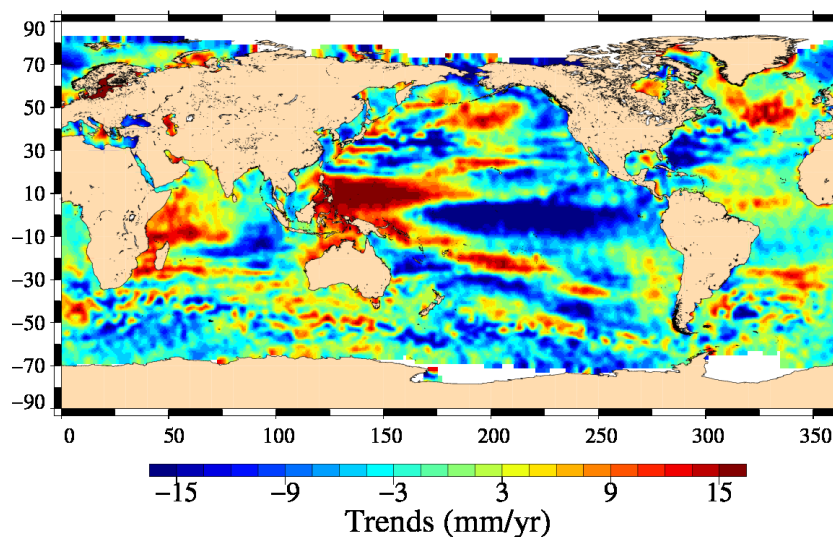
Description : The map of global statistics (mean, standard deviation) of SLA are calculated using successively both altimetric components in the SLA calculation over a large period. These statistics are calculated from 1 Hz altimetric measurements after removing spurious sea level measurements.

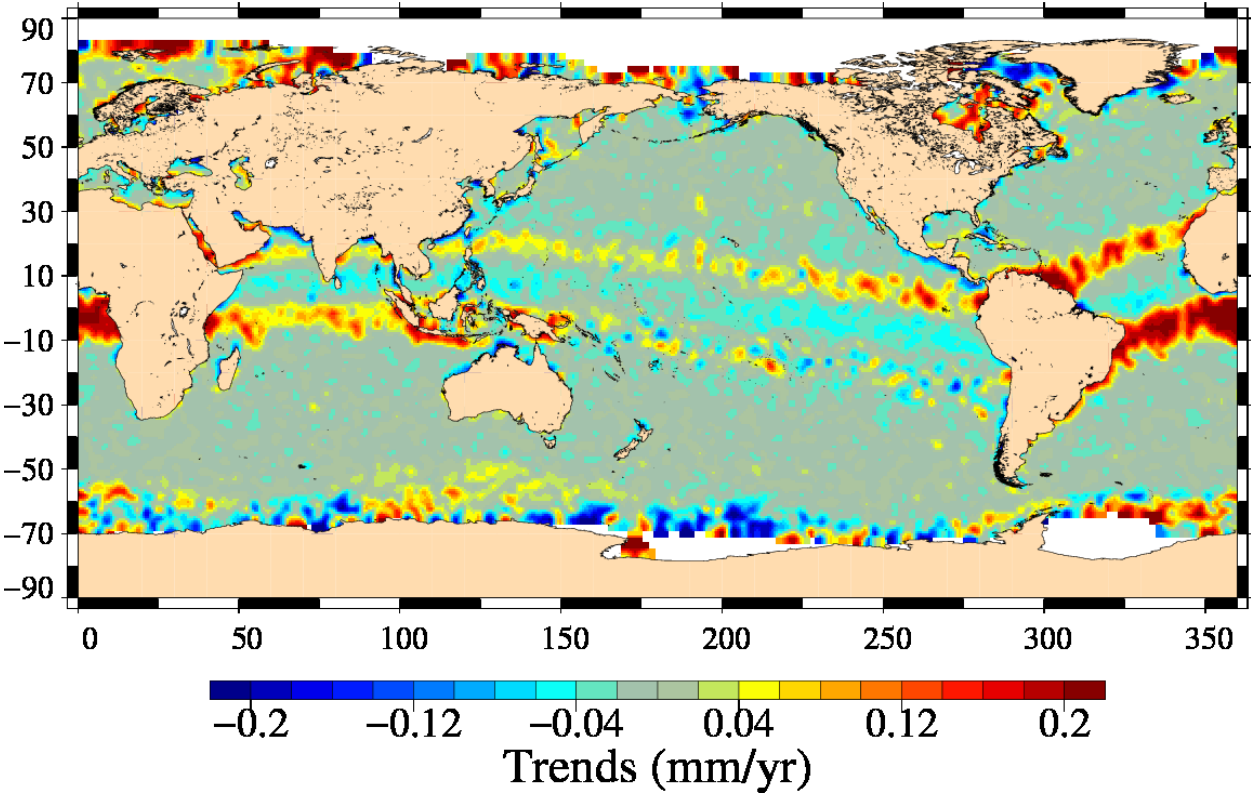
Diagnostic type : Global internal analyses

SLA with FILTR_ITER trends : odd pass numbers
Mission en, cycles 6 to 64



SLA with FILTR trends : odd pass numbers
Mission en, cycles 6 to 64



Diagnostic type : Global internal analyses	Diagnostic A204_a (mission en)	
	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 FILTR_ITER trends – SLA with FILTR trends</div> <div>Mission en, cycles 6 to 64</div> 	

Diagnostic A204_b (mission en)

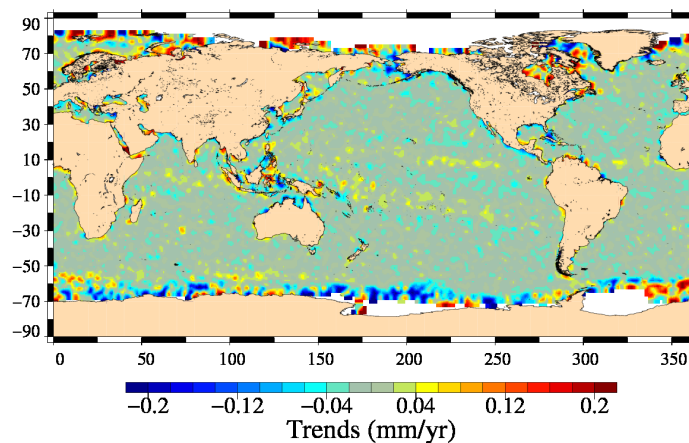
Name : Differences between maps of SLA

Input data : Along track SLA

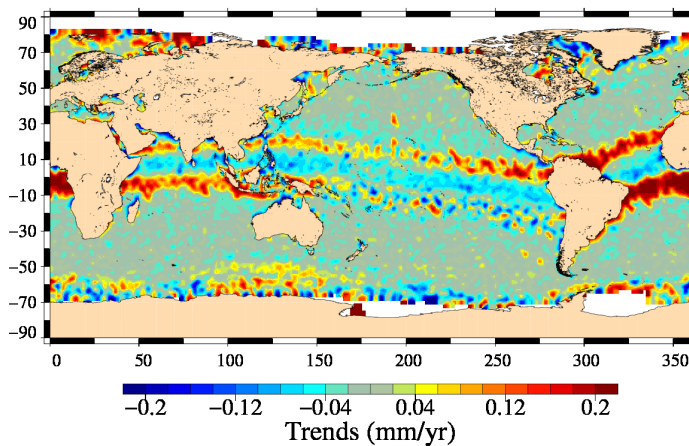
Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

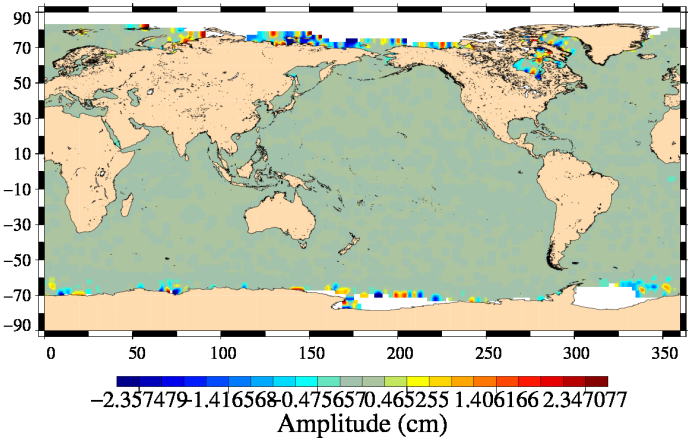
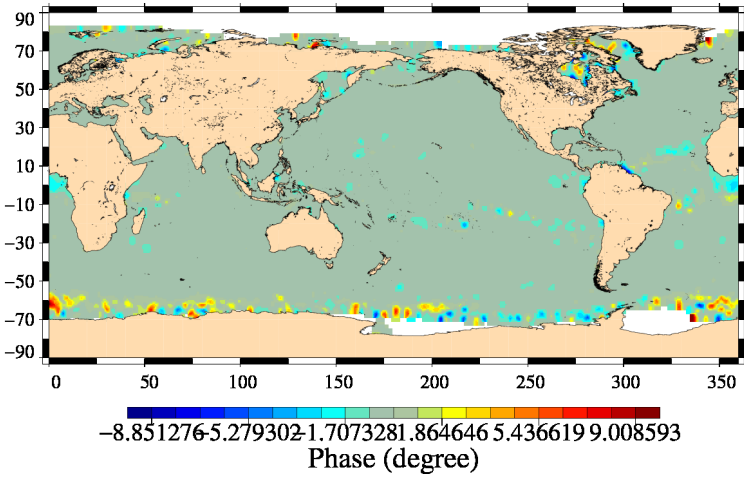
Diagnostic type : Global internal analyses

SLA with FILTR_ITER trends – SLA with FILTR trends : even pass numbers
Mission en, cycles 6 to 64



SLA with FILTR_ITER trends – SLA with FILTR trends : odd pass numbers
Mission en, cycles 6 to 64



Diagnostic type : Global internal analyses	Diagnostic A205_a (mission en)	
	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>LA with FILTR_ITER amplitude – SLA with FILTR amplitude : annual signal Mission en, cycles 6 to 64</div> <div><p>Amplitude (cm)</p></div> <div>SLA with FILTR_ITER phase – SLA with FILTR phase : annual signal Mission en, cycles 6 to 64</div> <div><p>Phase (degree)</p></div>	

Diagnostic A205_b (mission en)

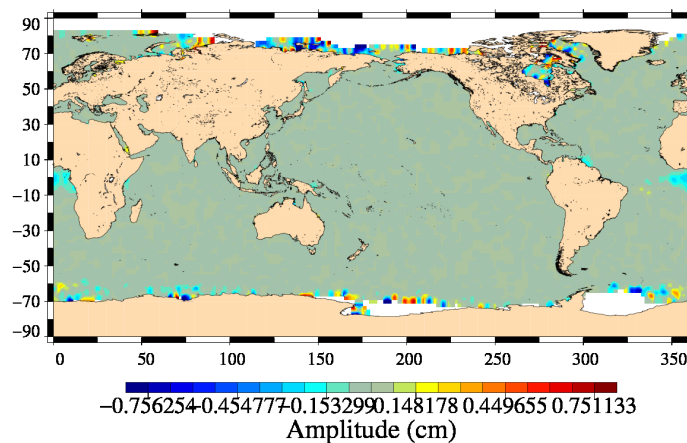
Name : Differences between maps of SLA (2)

Input data : Along track SLA

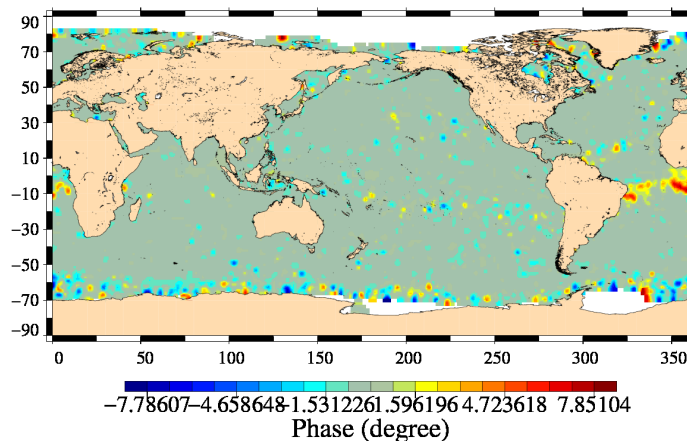
Description : The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

Diagnostic type : Global internal analyses

with FILTR_ITER amplitude – SLA with FILTR amplitude : semi-annual signal
Mission en, cycles 6 to 64



SLA with FILTR_ITER phase – SLA with FILTR phase : semi-annual signal
Mission en, cycles 6 to 64



Diagnostic A206_a (mission en)	
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.	
<div><div>Periodogram of SLA (reference period = 1 year)</div><div>Mission en, cycles 6 to 64</div><p>This plot shows the amplitude of SLA differences versus the period in days. The x-axis ranges from 250 to 550 days, and the y-axis ranges from 0.0 to 0.7 cm. Two data series are shown: 'SLA with FILTR_ITER' (red line with markers) and 'SLA with FILTR' (blue line with markers). Both series show a prominent peak at approximately 360 days, which is marked by a vertical green line labeled '1 year'. The amplitude at this peak is about 0.7 cm. There are smaller peaks around 280 days and 500 days.</p></div> <div><div>Periodogram of SLA (period = [0, 1 year])</div><div>Mission en, cycles 6 to 64</div><p>This plot shows the amplitude of SLA differences versus the period in days, focusing on the range from 0 to 350 days. The x-axis ranges from 0 to 350 days, and the y-axis ranges from 0.0 to 0.7 cm. The same two data series are shown. The plot reveals several smaller peaks, with the most significant one at approximately 350 days, reaching an amplitude of about 0.7 cm. Other notable peaks occur at roughly 50, 120, 180, and 250 days.</p></div>	

Diagnostic A206_b (mission en)

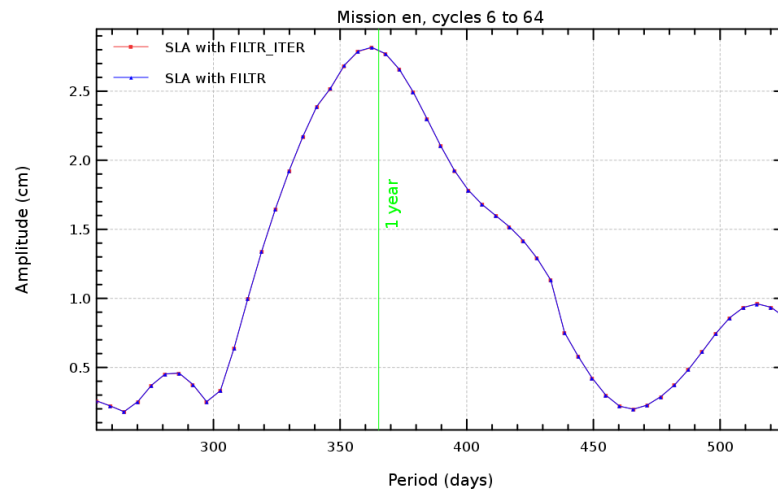
Name : Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

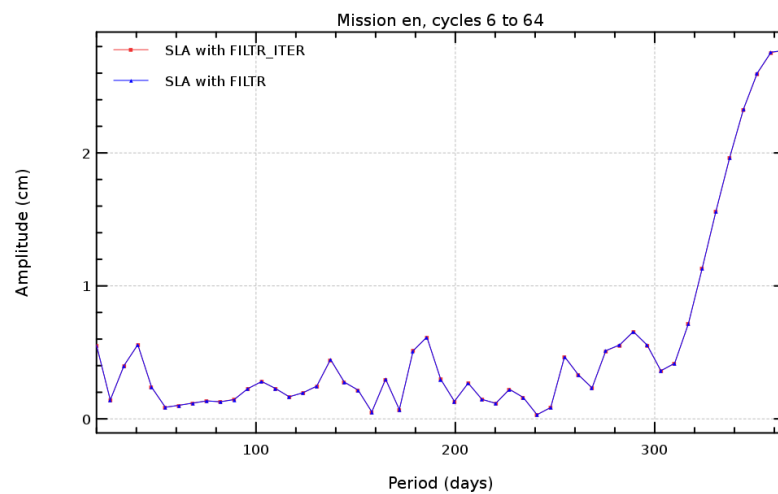
Description : The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time data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

Diagnostic type : Global internal analyses

Periodogram of north hemisphere SLA (reference period = 1 year)



Periodogram of north hemisphere SLA (period = [0, 1 year])



Diagnostic A206_c (mission en)

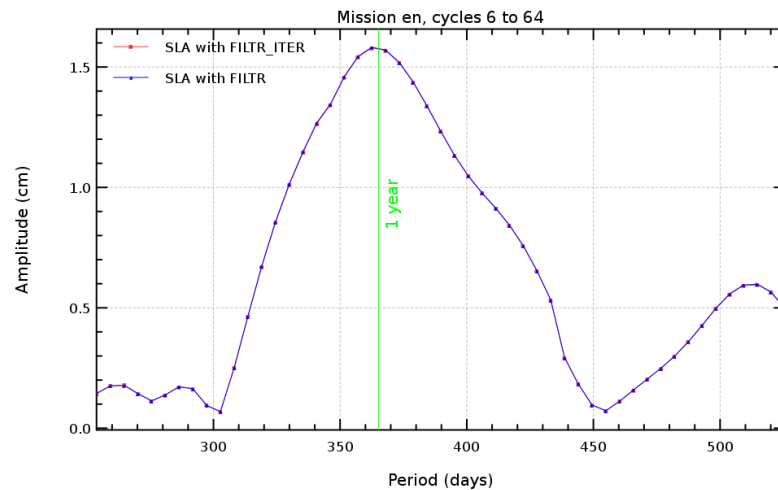
Name : Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

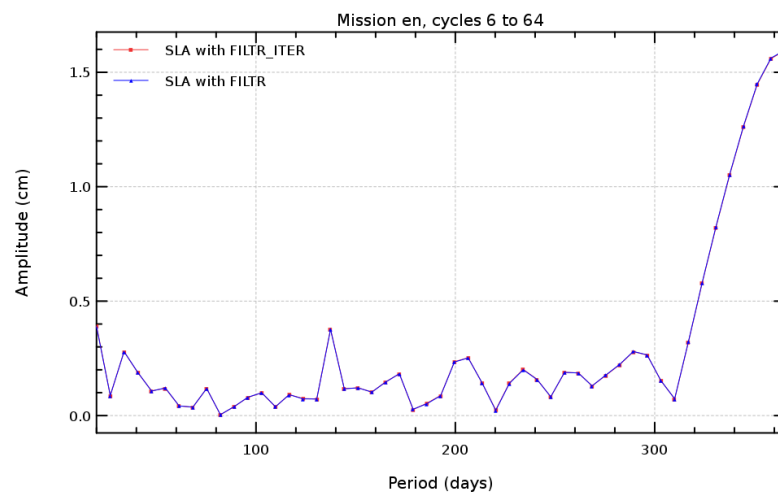
Description : The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time data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

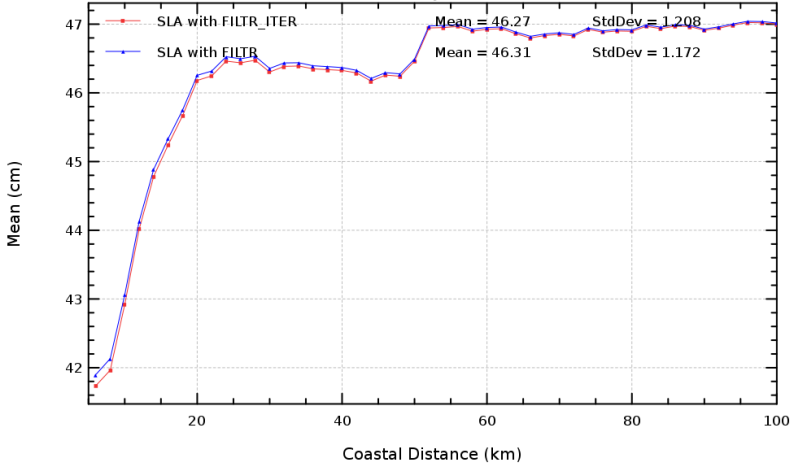
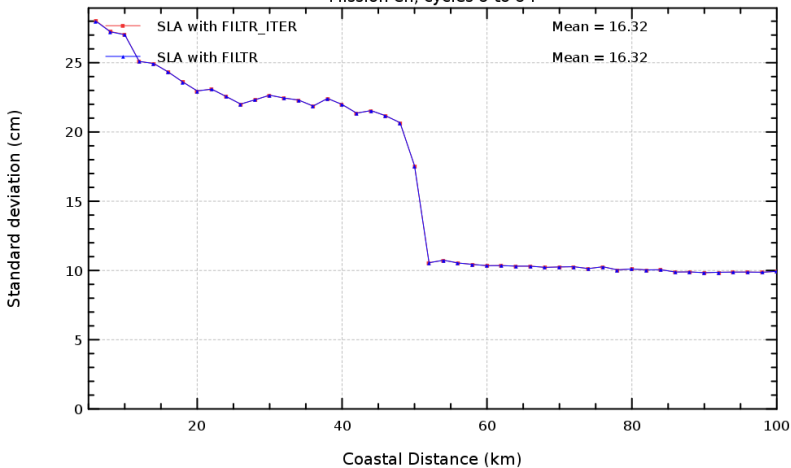
Diagnostic type : Global internal analyses

Periodogram of south hemisphere SLA (reference period = 1 year)



Periodogram of south hemisphere SLA (period = [0, 1 year])



Diagnostic type : Global internal analyses	Diagnostic A207 (mission en)	
	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.	
	<div><div><div>Global MSL</div><div>Mission en, cycles 6 to 64</div><div></div></div><div><div>Global MSL</div><div>Mission en, cycles 6 to 64</div><div></div></div></div>	

Diagnostic type : Global internal analyses	Diagnostic A208 (mission en)
	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><p>VAR(SLA with FILTER_ITER) - VAR(SLA with FILTER)</p><p>Mission en, cycles 6 to 64</p><p>Mean = 0.1521</p><p>Difference of variances (cm²)</p><p>Coastal Distance (km)</p></div>

Diagnostic type : Global internal analyses	Diagnostic A209 (mission en)	
	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>VAR(SLA with FILTR_ITER) – VAR(SLA with FILTR)</div> <div>Mission en, cycles 6 to 64</div> 