

# DAC atmospheric corrections comparison : ERA versus ECMWF

Study variable	<b>ERA</b>
Reference variable	<b>ECMWF</b>
Missions	Envisat ( <i>en</i> ), Jason-1 ( <i>j1</i> ), Jason-2 ( <i>j2</i> )
Period	[22280, 23375]

Creation date : 2014/05/20

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## Study overview

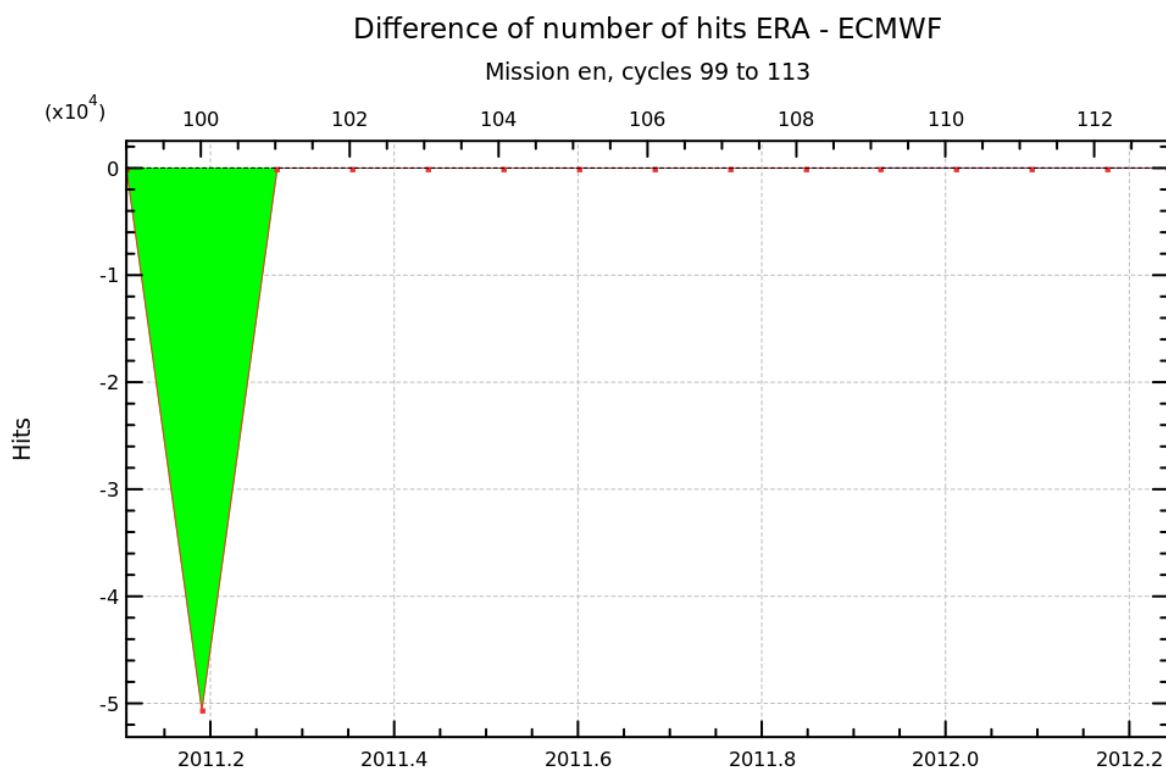
In this study, the Dynamic Atmosphere Correction (DAC) model ERA Interim has been compared to the ECMWF one.

The impact of using these both DACs on the SSH calculation has been analyzed for Jason-1, Jason-2 and Envisat missions :

- for Jason-1 : from January 2011 (cycle 332) to June 2013 (Cycle 529)
- for Jason-2 : from January 2011 (cycle 93) to December 2013 (Cycle 200)
- for Envisat : from January 2011 (cycle 99) to April 2012 (Cycle 113)

The ERA Interim dynamic atmosphere 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 dynamic atmosphere correction is produced by EUMETSAT which uses 3D data from the ECMWF model to generate dynamic atmosphere values.

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



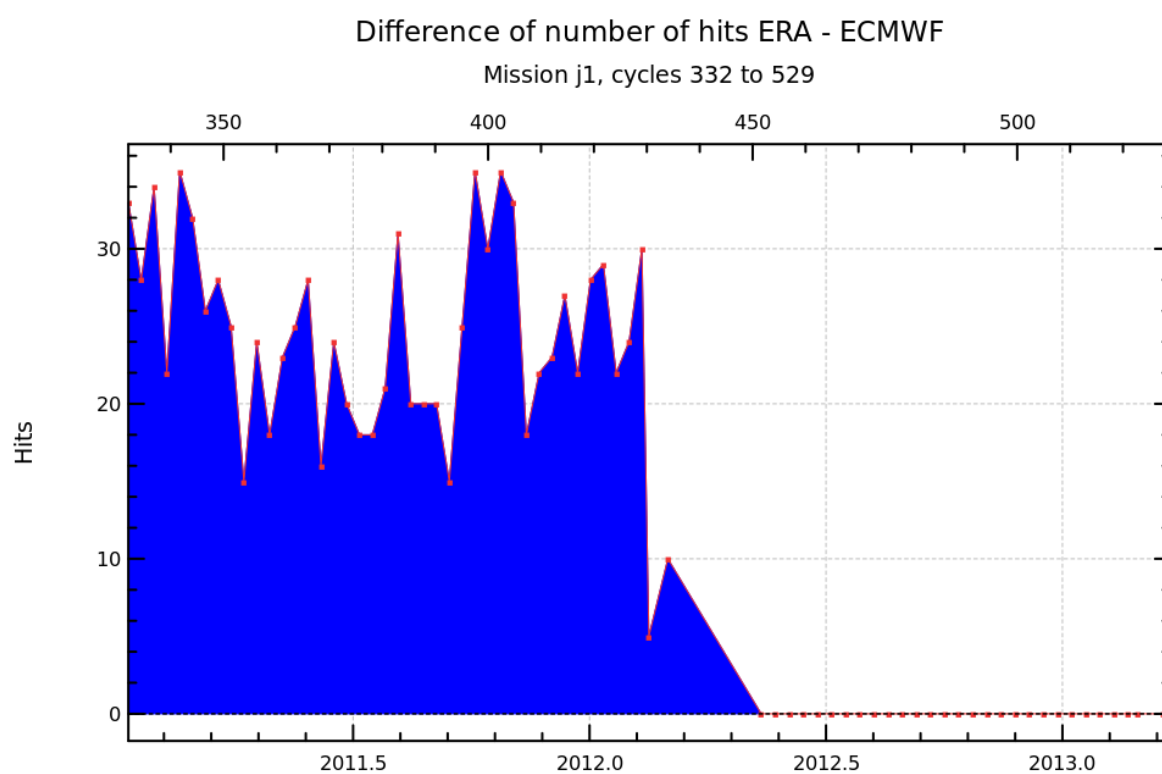
## Diagnostic A000 (mission j1)

**Name :** Differences of number of hits between both altimetric components

**Input data :** Along track altimetric components

**Description :** The difference of number of hits between both parameters.

Diagnostic type : Mono-mission analyses



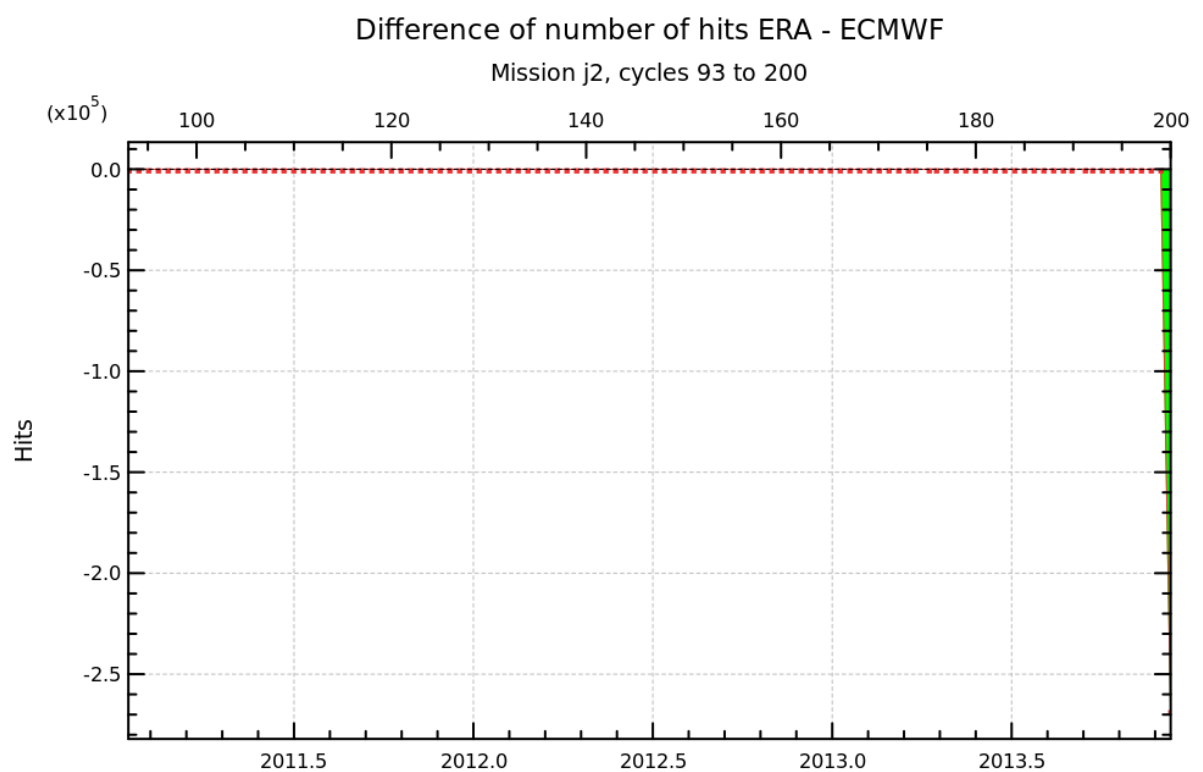
## Diagnostic A000 (mission j2)

**Name :** Differences of number of hits between both altimetric components

**Input data :** Along track altimetric components

**Description :** The difference of number of hits between both parameters.

Diagnostic type : Mono-mission analyses



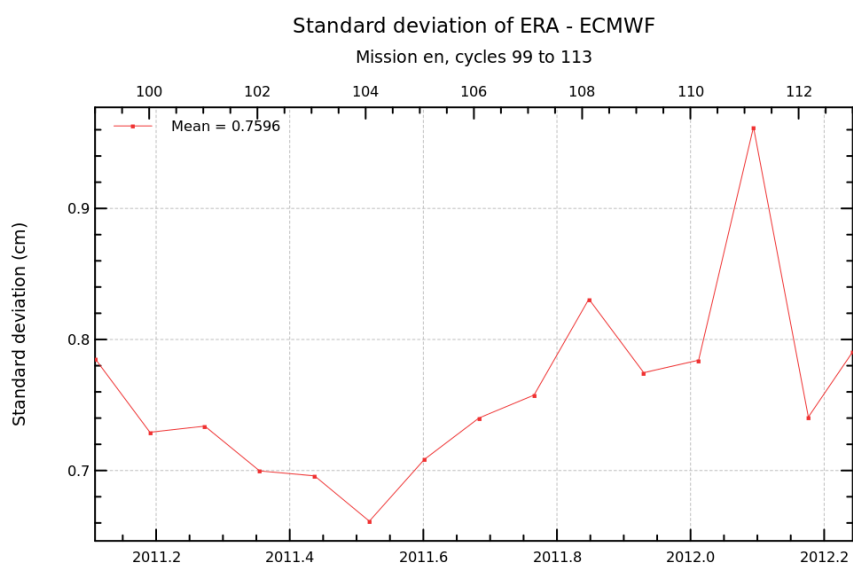
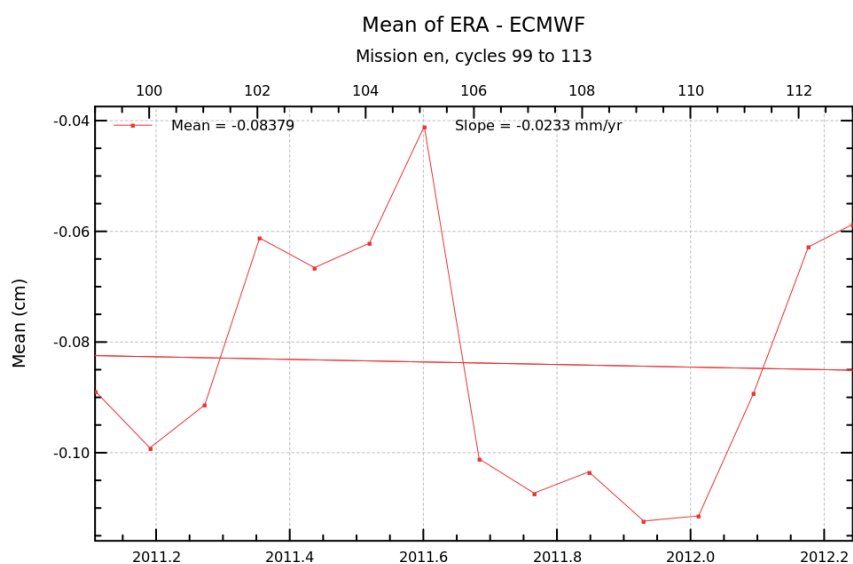
## Diagnostic A001 (mission en)

**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.

Diagnostic type : Mono-mission analyses



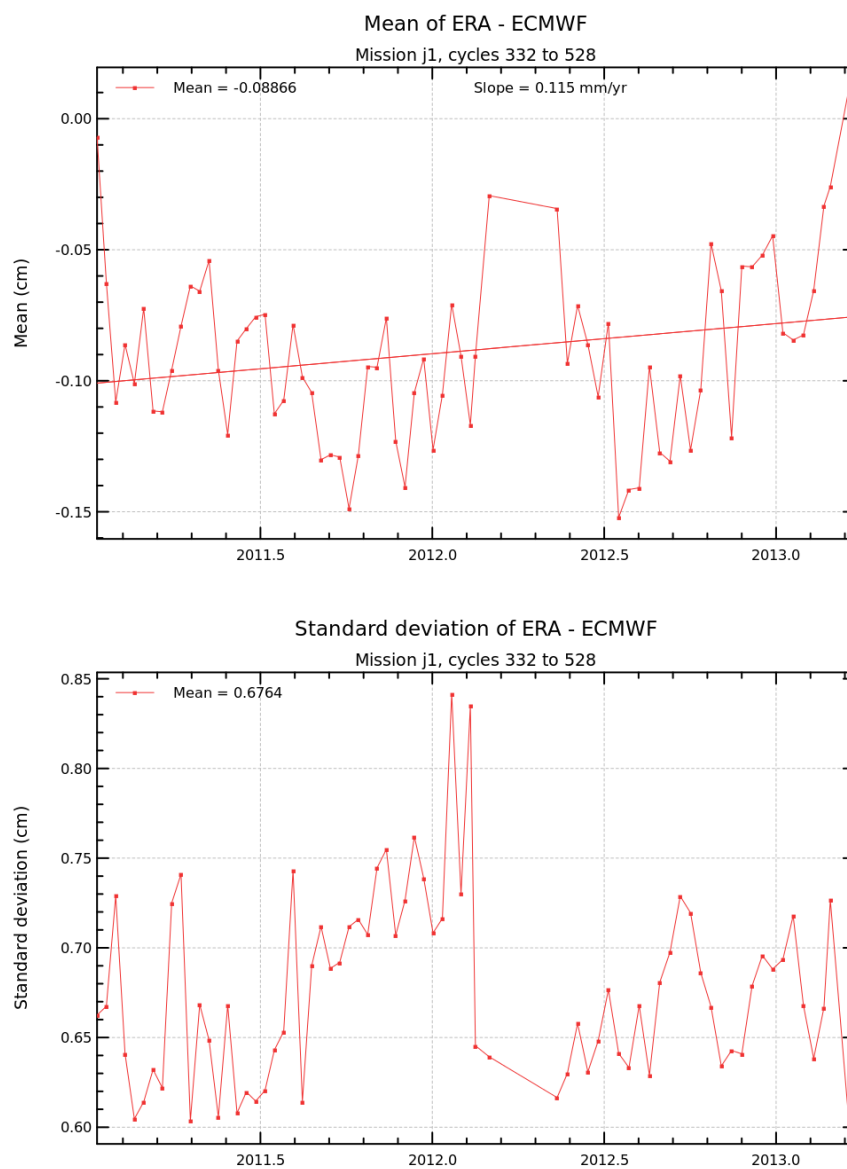
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Diagnostic type : Mono-mission analyses



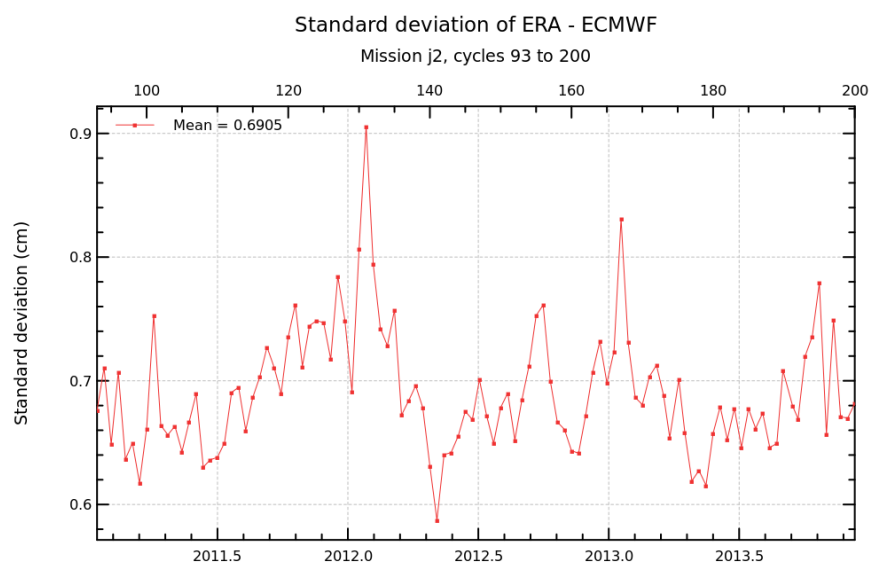
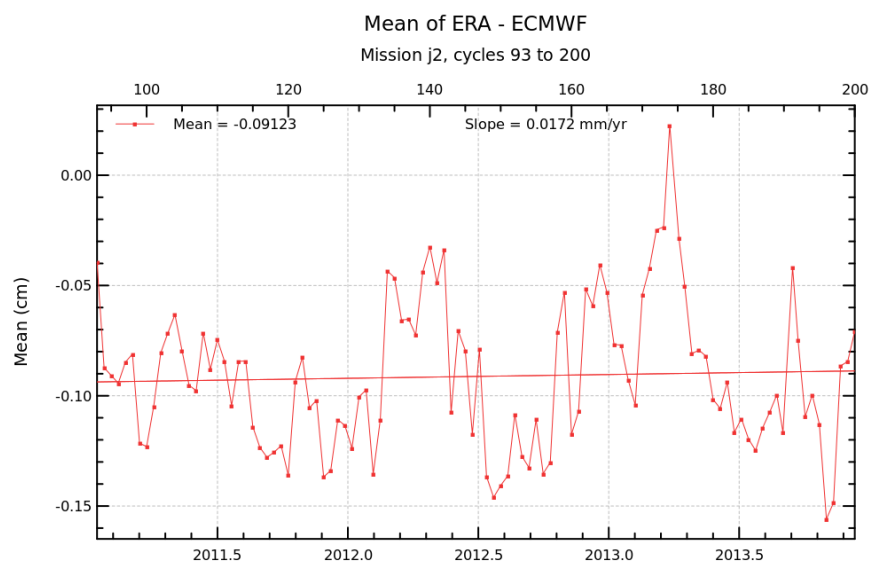
## Diagnostic A001 (mission j2)

**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 : Mono-mission analyses

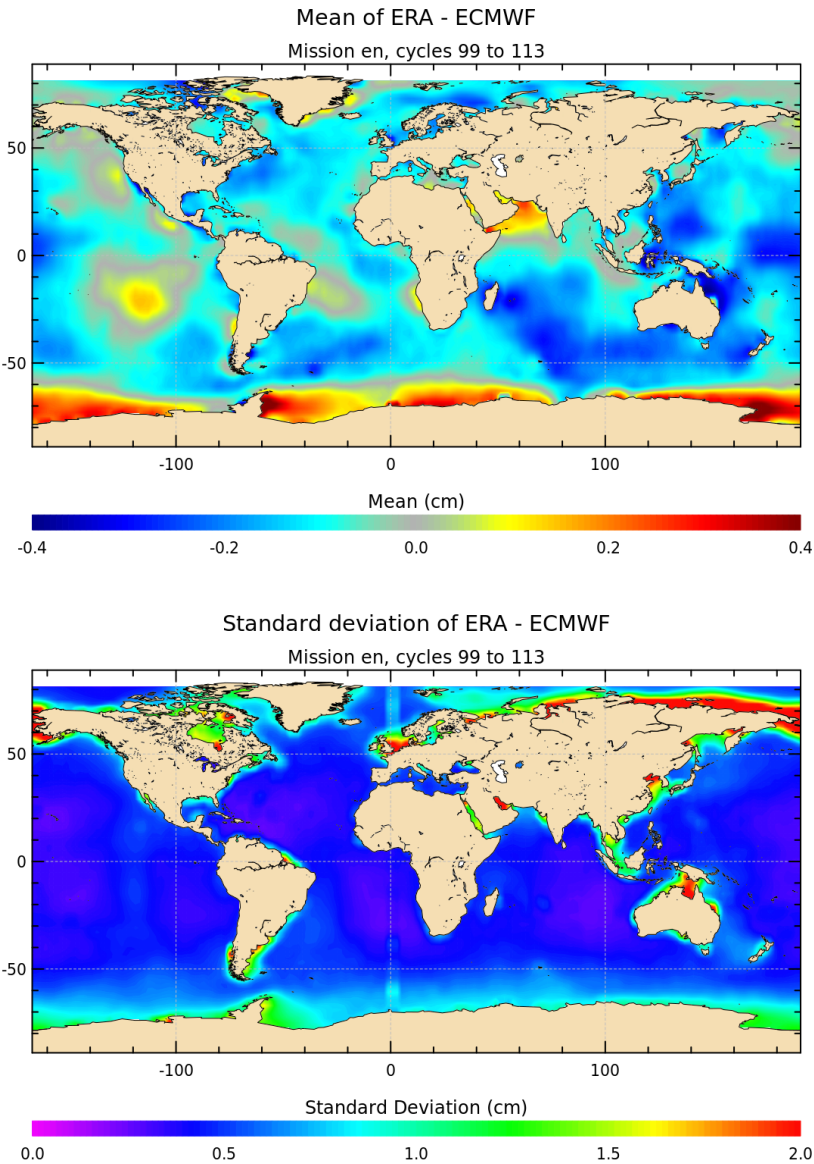


Diagnostic A002 (mission en)

**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.





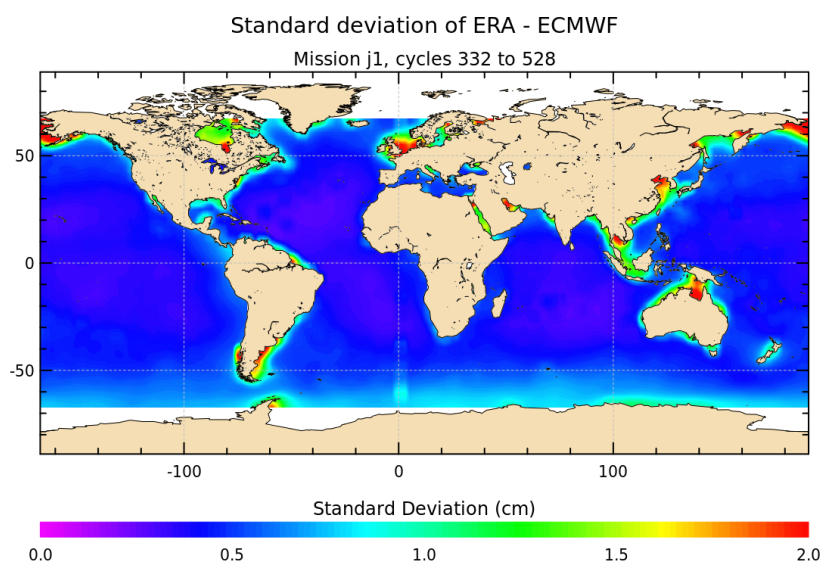
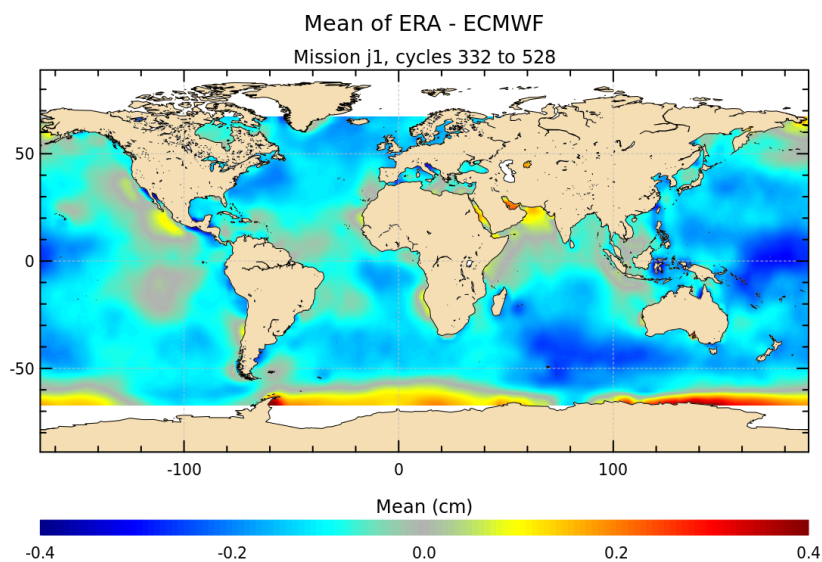
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Diagnostic type : Mono-mission analyses



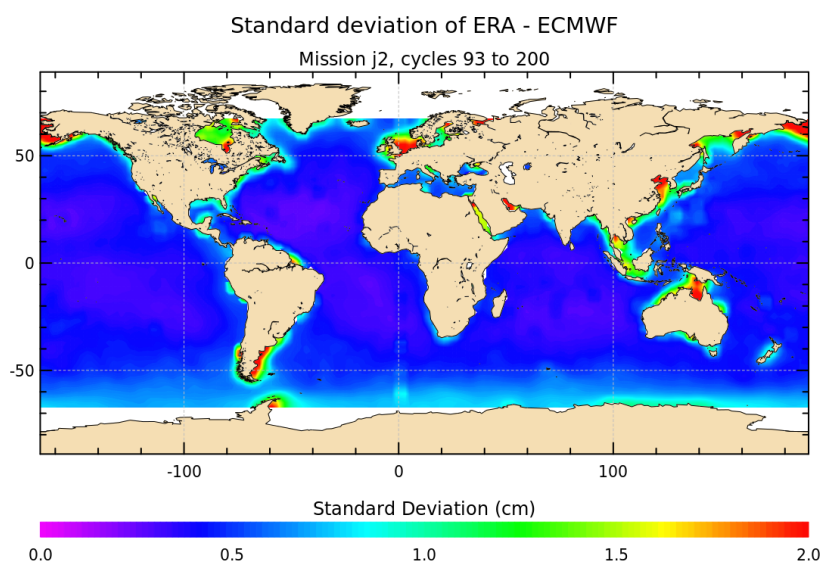
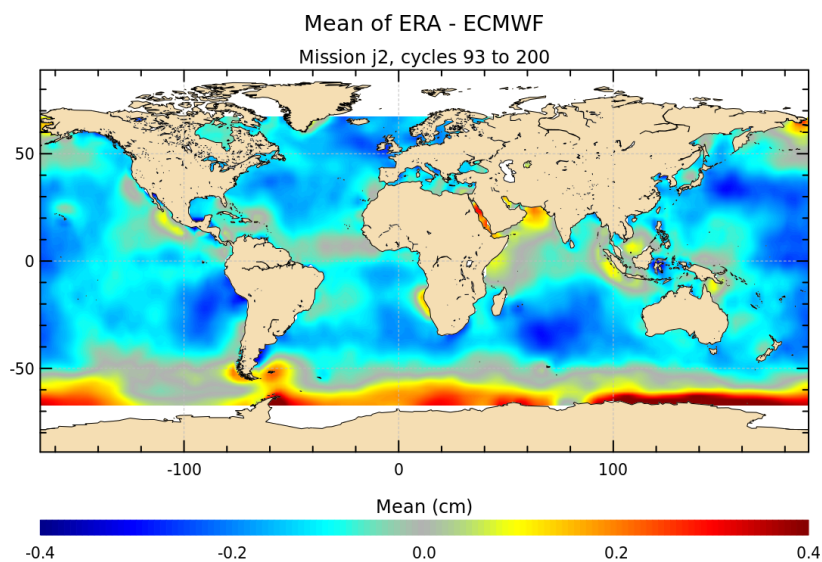
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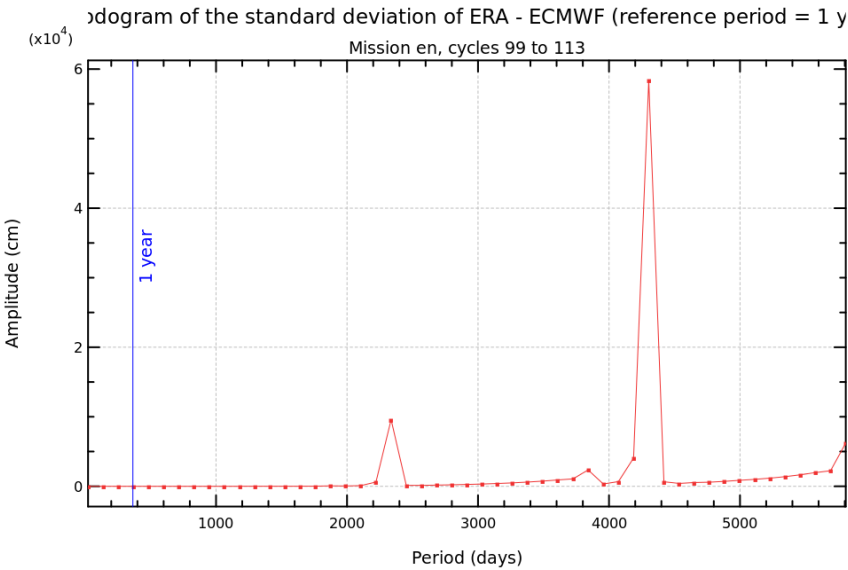
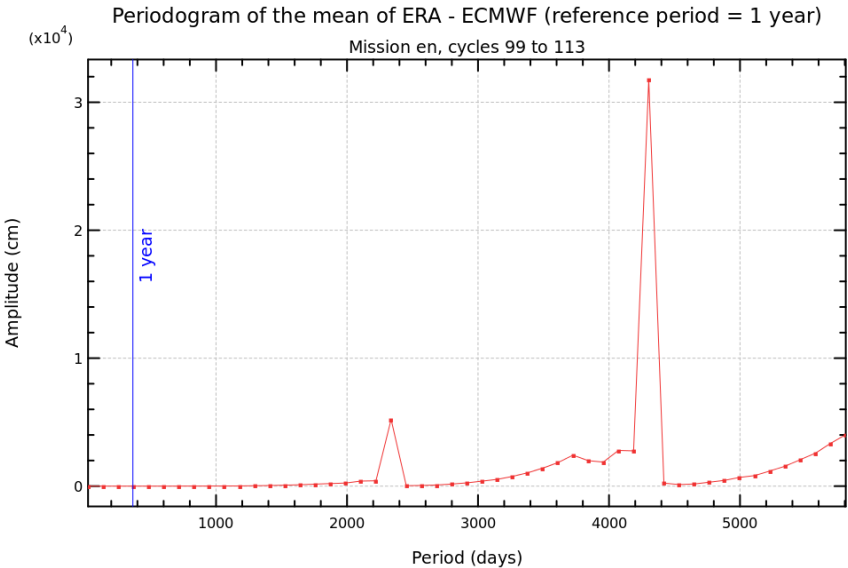
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Diagnostic type : Mono-mission analyses



<b>Diagnostic A003_a (mission en)</b>
<b>Name :</b> Periodogram derived from temporal evolution of altimetric component differences
<b>Input data :</b> Along track altimetric components
<b>Description :</b> 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.



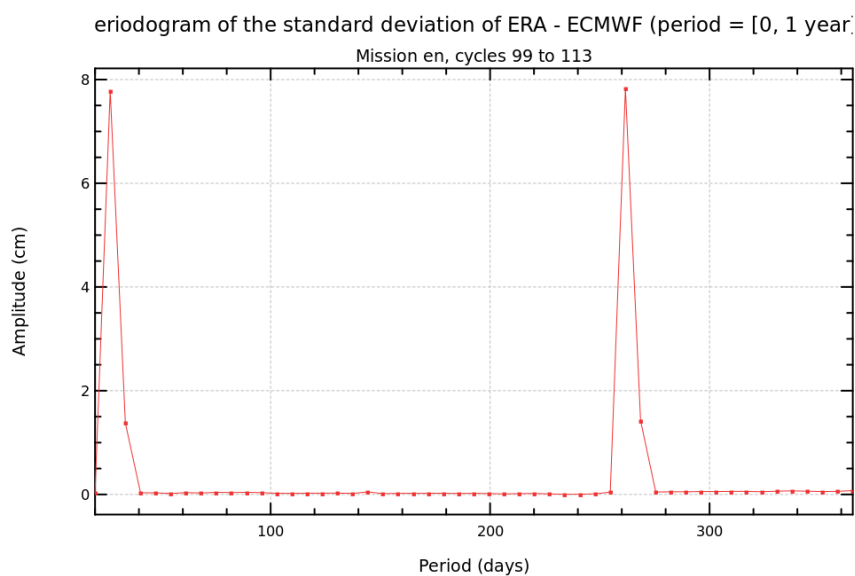
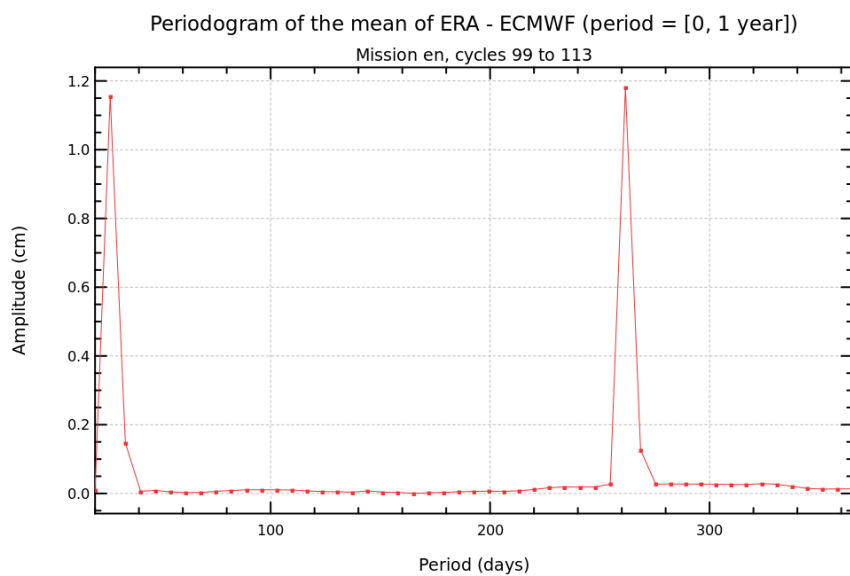
## Diagnostic A003\_b (mission en)

**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 : Mono-mission analyses



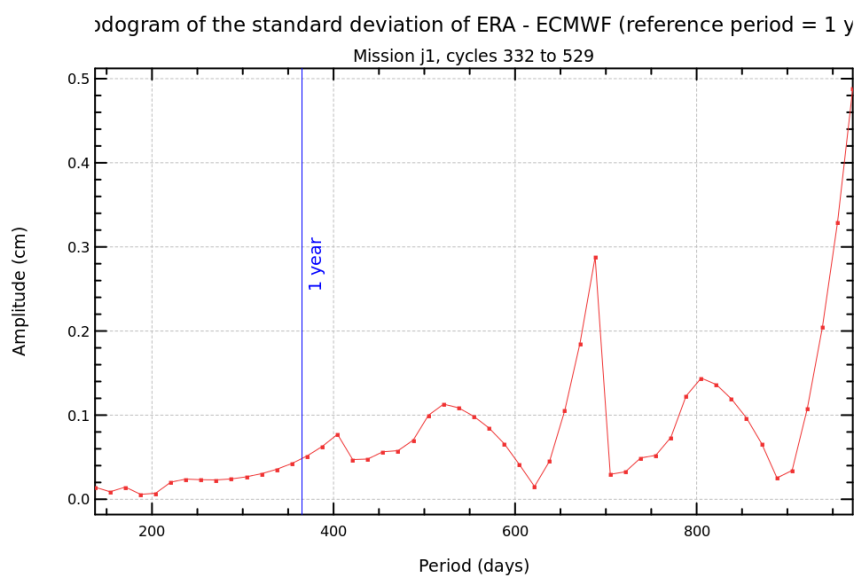
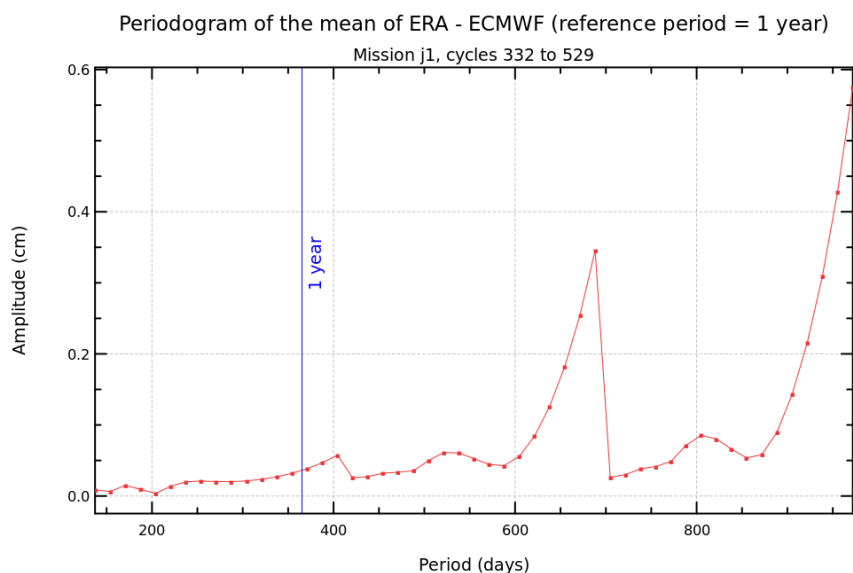
## Diagnostic A003\_a (mission j1)

**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 : Mono-mission analyses



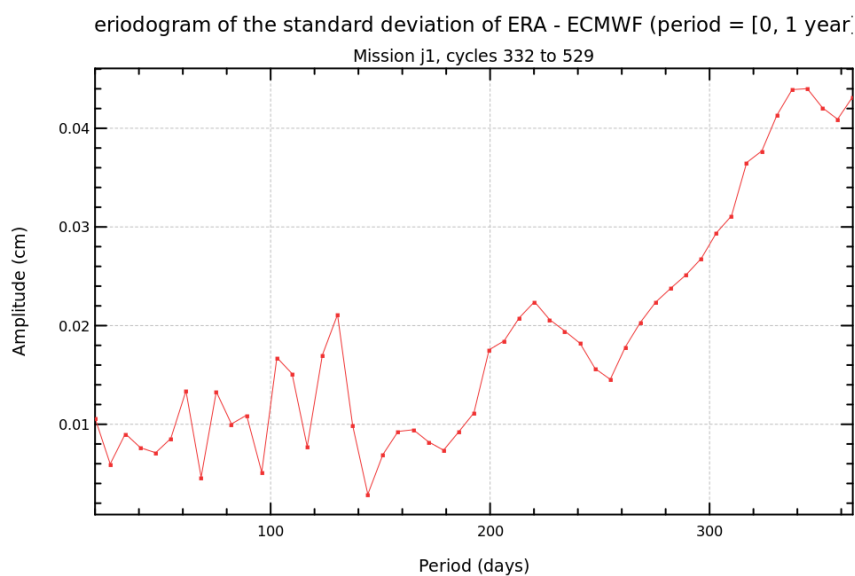
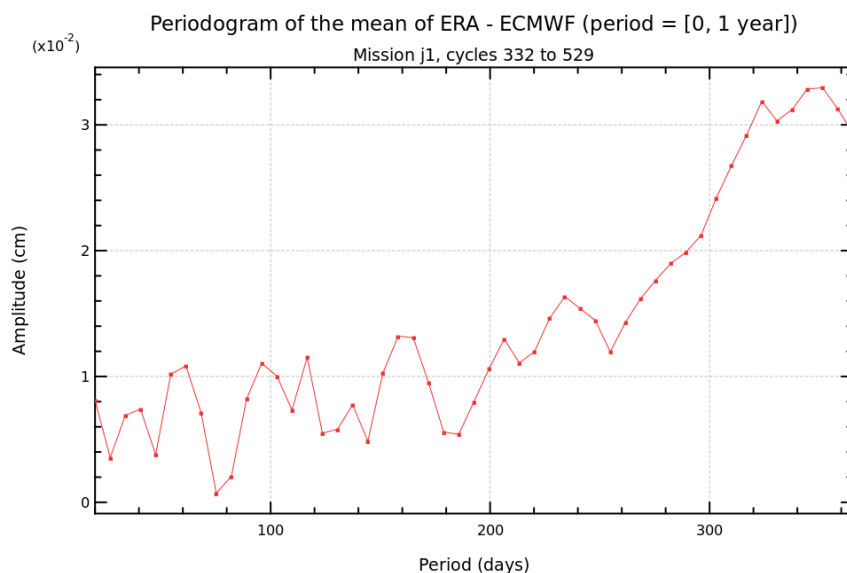
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**Input data :** Along track altimetric components

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Diagnostic type : Mono-mission analyses



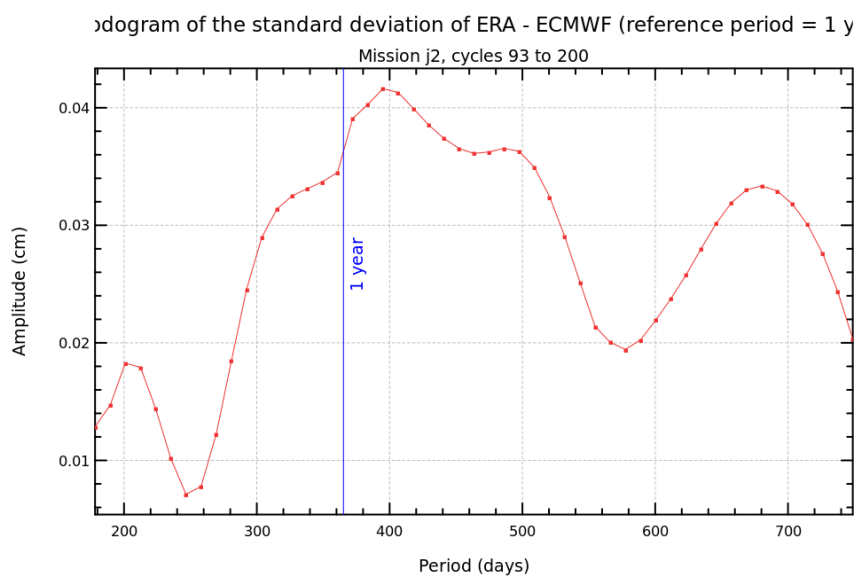
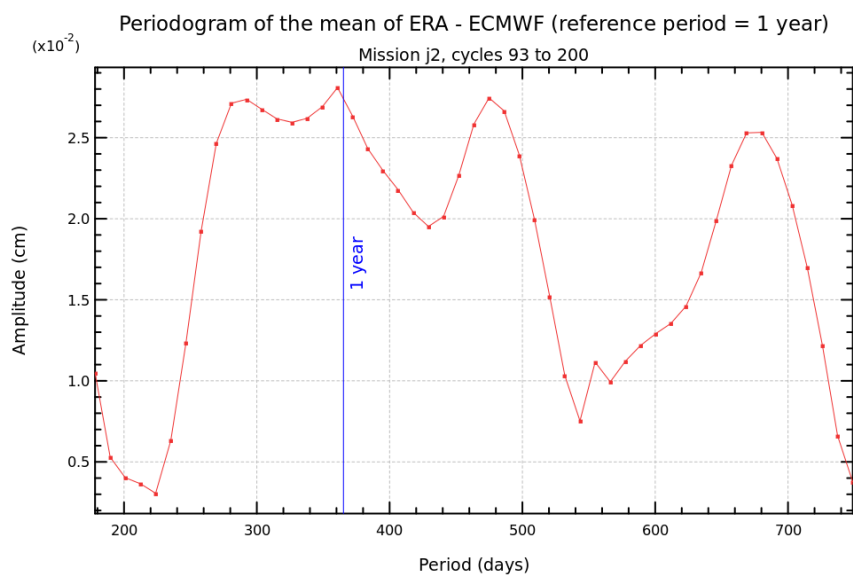
## Diagnostic A003\_a (mission j2)

**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 : Mono-mission analyses



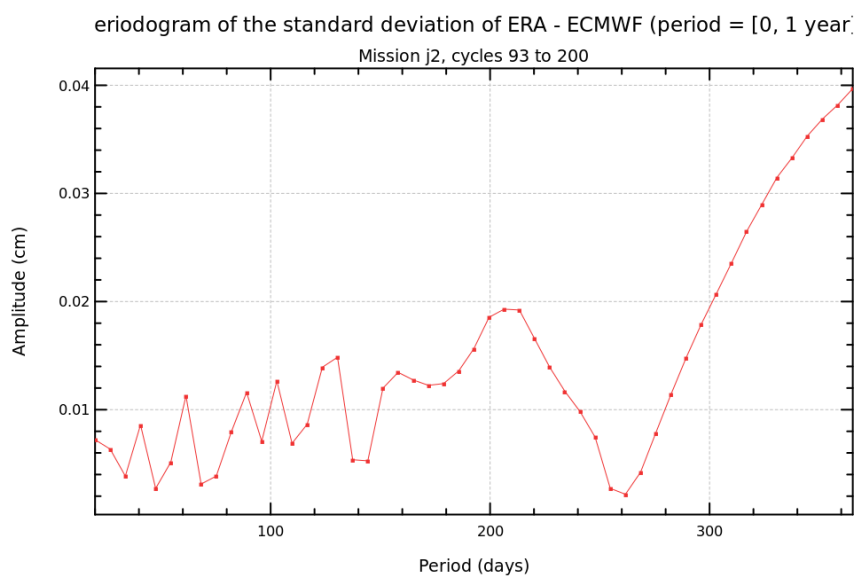
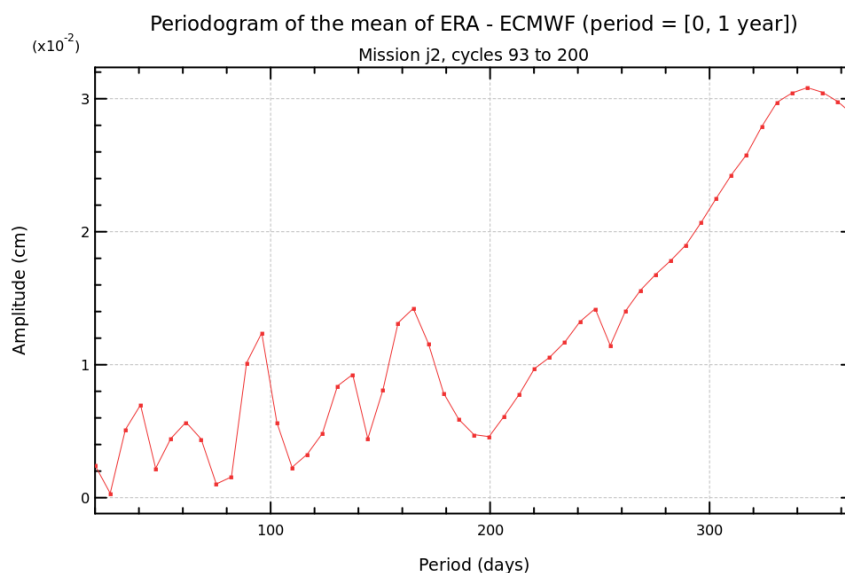
## Diagnostic A003\_b (mission j2)

**Name :** Periodogram derived from temporal evolution of altimetric component differences

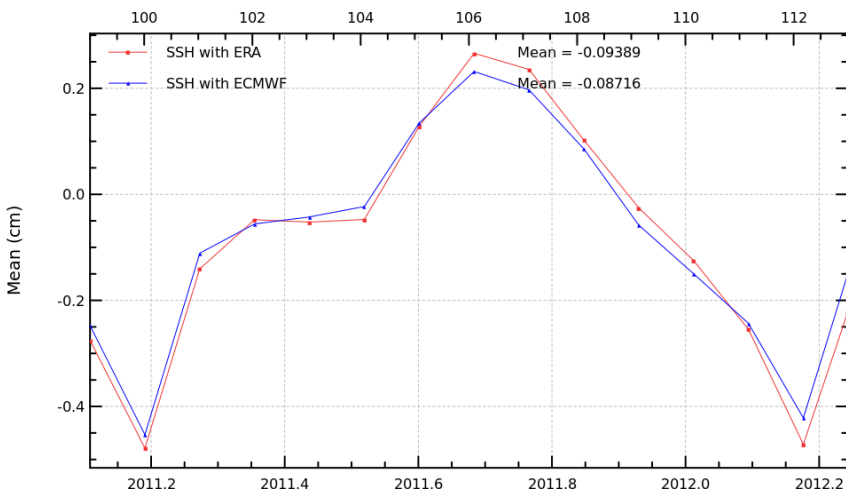
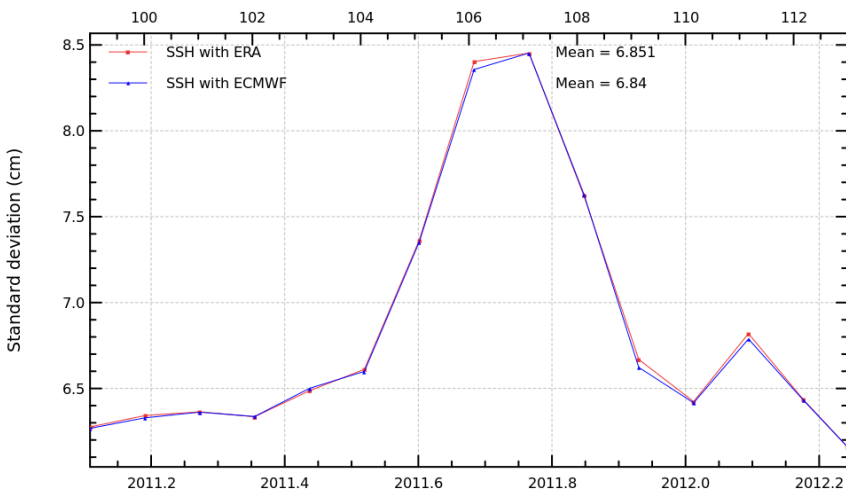
**Input data :** Along track altimetric components

**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 : Mono-mission analyses





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Input data : Sea Surface Height (SSH) crossovers																																																																																					
<p><b>Description :</b> 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</div><div>Mission en, cycles 99 to 113</div><table><caption>Mean of SSH crossovers (cm)</caption><tr><th>Mission Cycle</th><th>SSH with ERA (cm)</th><th>SSH with ECMWF (cm)</th></tr><tr><td>100</td><td>-0.30</td><td>-0.25</td></tr><tr><td>101</td><td>-0.45</td><td>-0.40</td></tr><tr><td>102</td><td>-0.10</td><td>-0.10</td></tr><tr><td>103</td><td>-0.05</td><td>-0.05</td></tr><tr><td>104</td><td>-0.05</td><td>-0.05</td></tr><tr><td>105</td><td>0.10</td><td>0.10</td></tr><tr><td>106</td><td>0.20</td><td>0.20</td></tr><tr><td>107</td><td>0.25</td><td>0.25</td></tr><tr><td>108</td><td>0.15</td><td>0.15</td></tr><tr><td>109</td><td>0.00</td><td>0.00</td></tr><tr><td>110</td><td>-0.10</td><td>-0.10</td></tr><tr><td>111</td><td>-0.25</td><td>-0.25</td></tr><tr><td>112</td><td>-0.40</td><td>-0.40</td></tr></table></div><div><div>Standard deviations of SSH crossovers</div><div>Mission en, cycles 99 to 113</div><table><caption>Standard deviations of SSH crossovers (cm)</caption><tr><th>Mission Cycle</th><th>SSH with ERA (cm)</th><th>SSH with ECMWF (cm)</th></tr><tr><td>100</td><td>6.3</td><td>6.3</td></tr><tr><td>101</td><td>6.35</td><td>6.35</td></tr><tr><td>102</td><td>6.35</td><td>6.35</td></tr><tr><td>103</td><td>6.4</td><td>6.4</td></tr><tr><td>104</td><td>6.5</td><td>6.5</td></tr><tr><td>105</td><td>6.6</td><td>6.6</td></tr><tr><td>106</td><td>7.4</td><td>7.4</td></tr><tr><td>107</td><td>8.4</td><td>8.4</td></tr><tr><td>108</td><td>7.6</td><td>7.6</td></tr><tr><td>109</td><td>6.6</td><td>6.6</td></tr><tr><td>110</td><td>6.4</td><td>6.4</td></tr><tr><td>111</td><td>6.8</td><td>6.8</td></tr><tr><td>112</td><td>6.2</td><td>6.2</td></tr></table></div></div>		Mission Cycle	SSH with ERA (cm)	SSH with ECMWF (cm)	100	-0.30	-0.25	101	-0.45	-0.40	102	-0.10	-0.10	103	-0.05	-0.05	104	-0.05	-0.05	105	0.10	0.10	106	0.20	0.20	107	0.25	0.25	108	0.15	0.15	109	0.00	0.00	110	-0.10	-0.10	111	-0.25	-0.25	112	-0.40	-0.40	Mission Cycle	SSH with ERA (cm)	SSH with ECMWF (cm)	100	6.3	6.3	101	6.35	6.35	102	6.35	6.35	103	6.4	6.4	104	6.5	6.5	105	6.6	6.6	106	7.4	7.4	107	8.4	8.4	108	7.6	7.6	109	6.6	6.6	110	6.4	6.4	111	6.8	6.8	112	6.2	6.2
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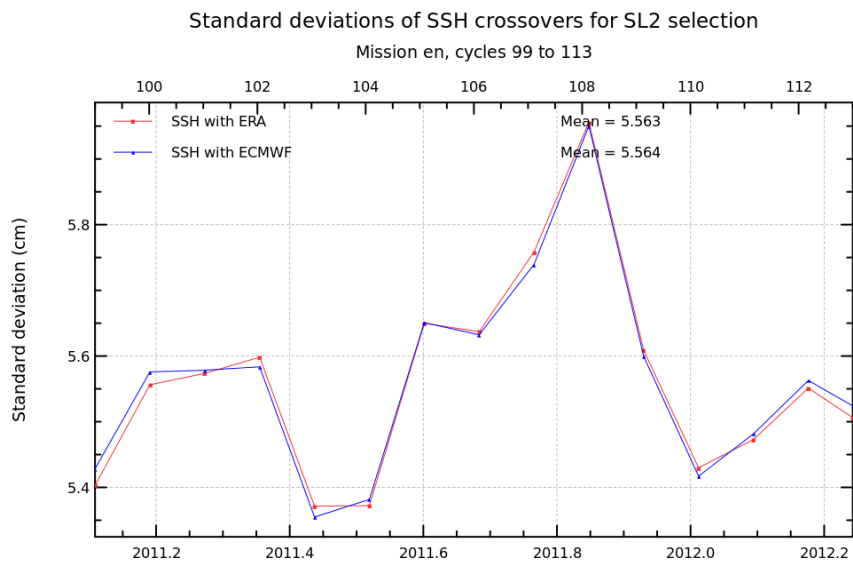
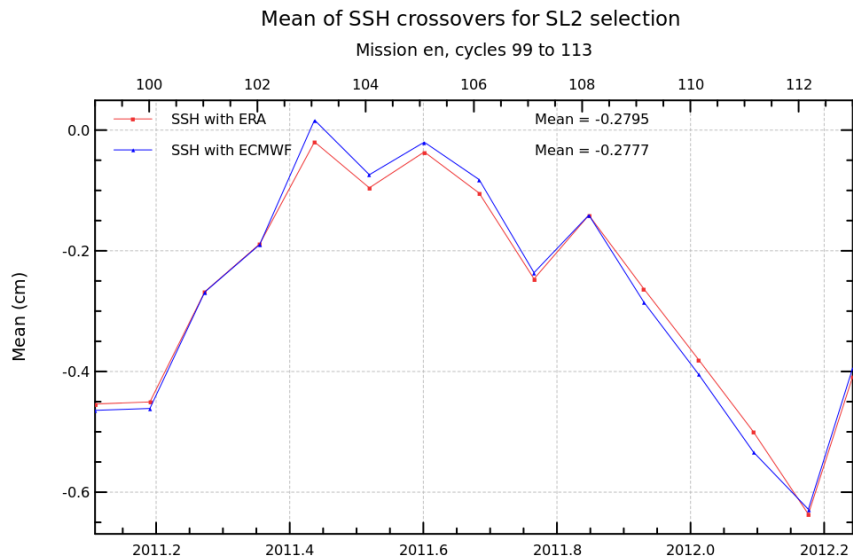
## Diagnostic A101\_b (mission en)

**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 : Mono-mission analyses



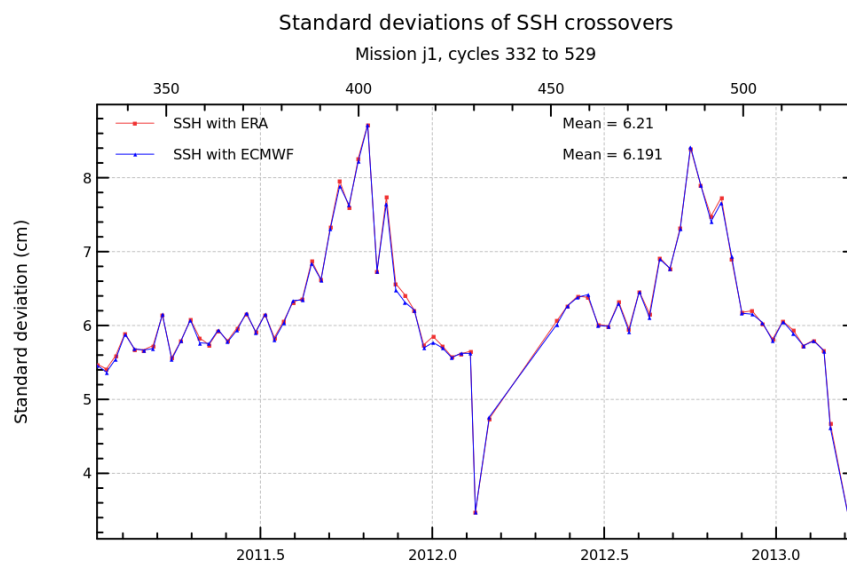
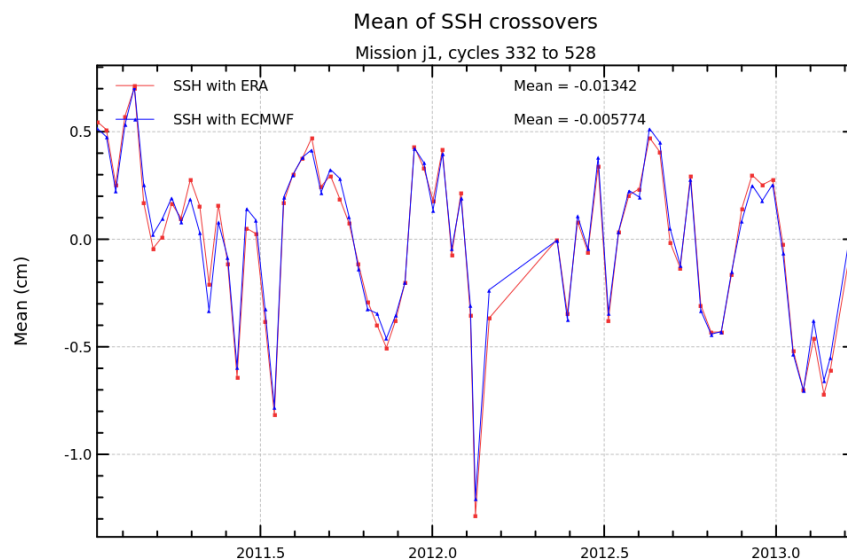
## Diagnostic A101\_a (mission j1)

**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 : Mono-mission analyses



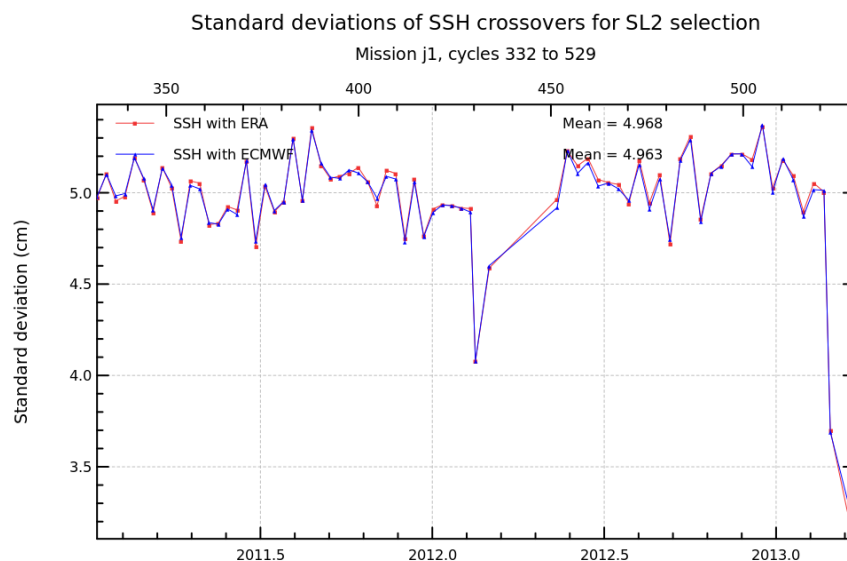
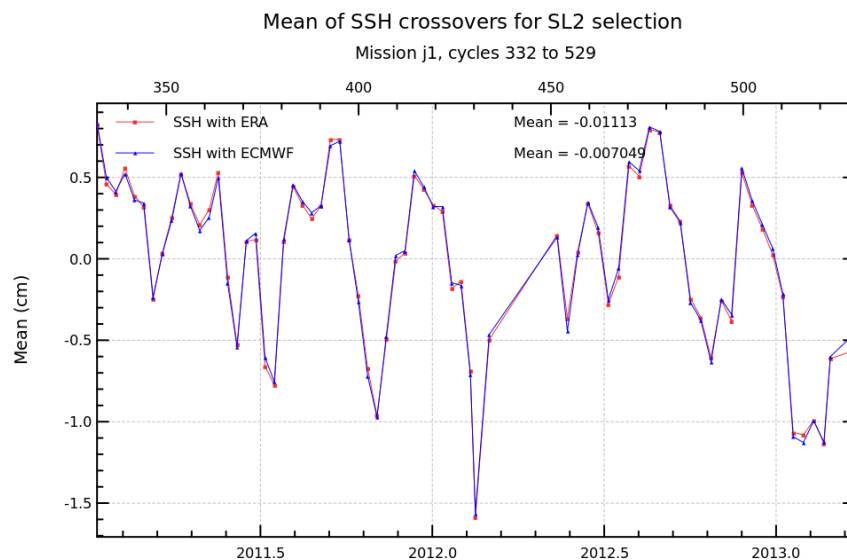
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Diagnostic type : Mono-mission analyses



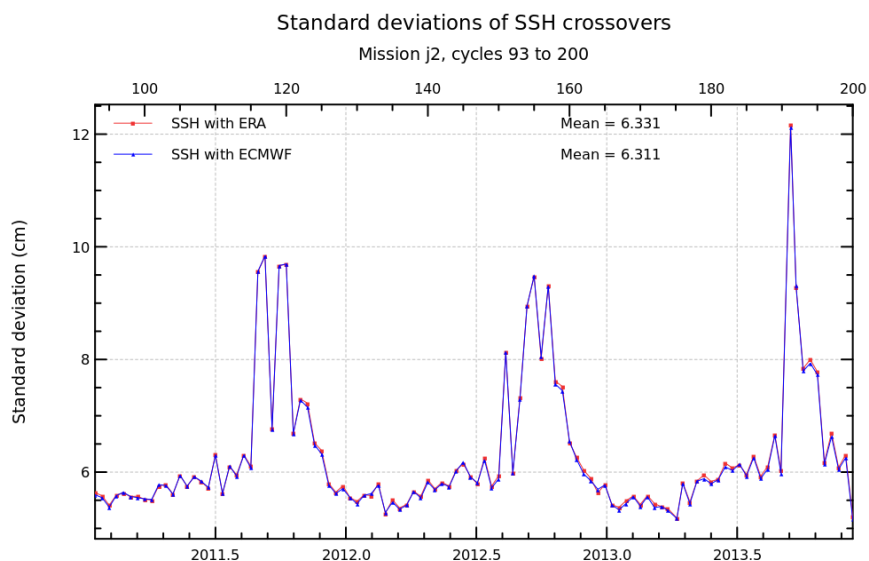
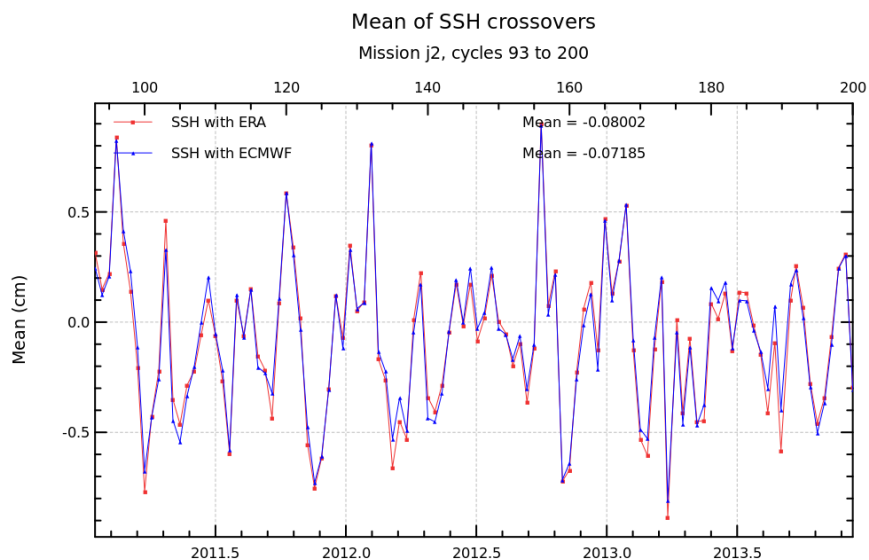
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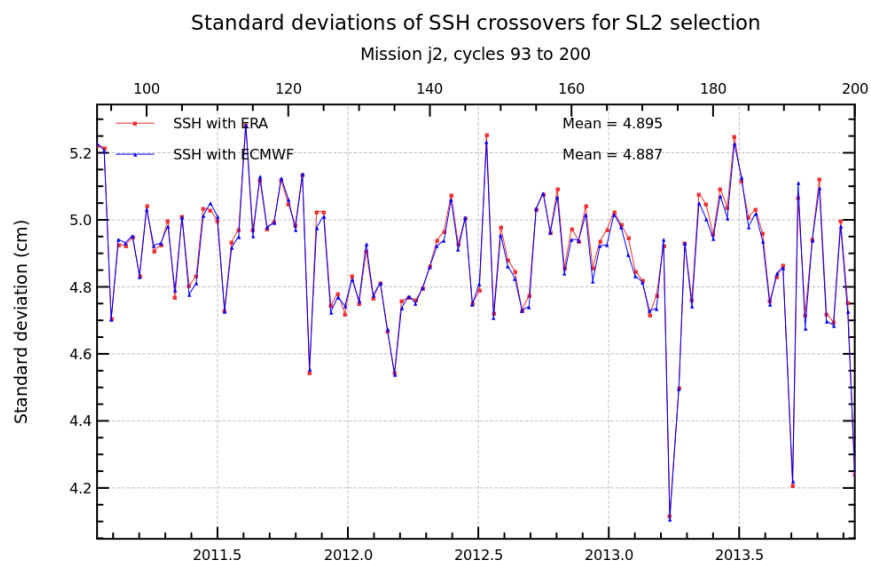
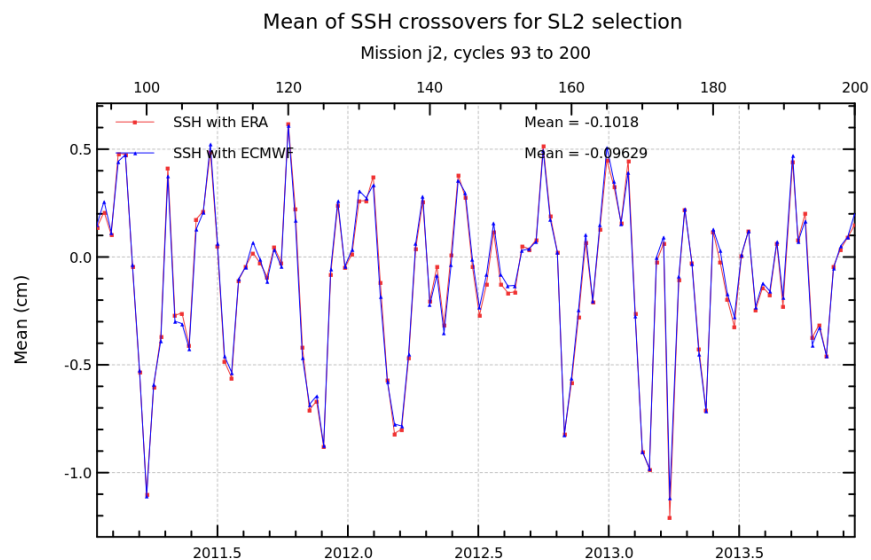
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**Description :** The temporal evolution of global statistics (mean, standard deviation) of SSH differences are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in the SSH calculation. 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 : Mono-mission analyses



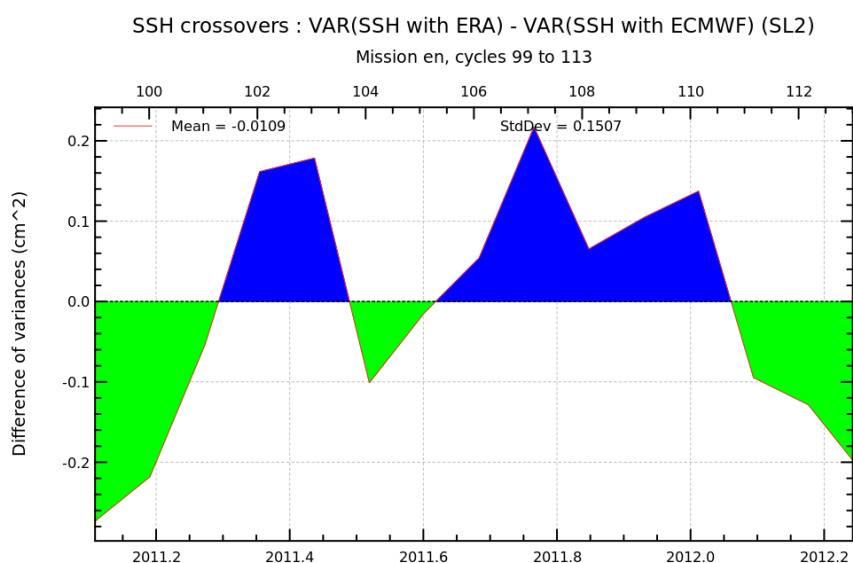
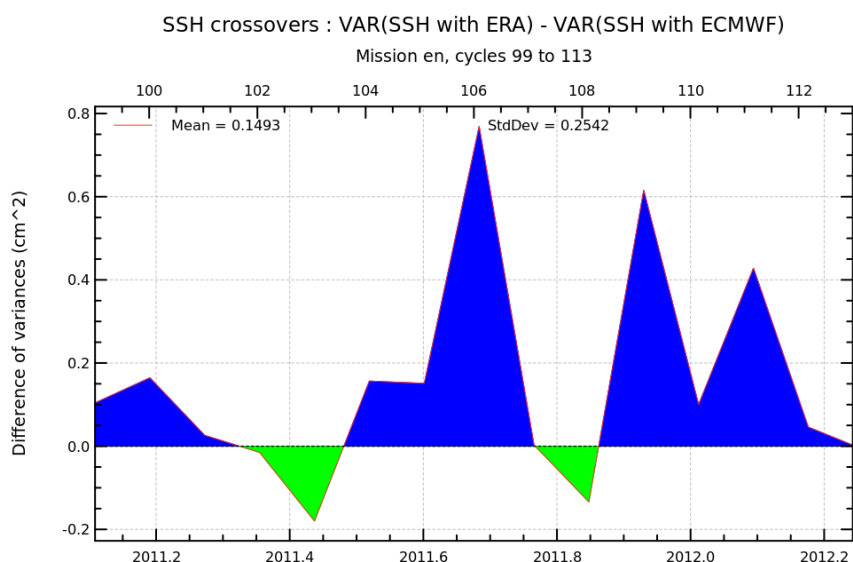
## Diagnostic A102 (mission en)

**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 : Mono-mission analyses



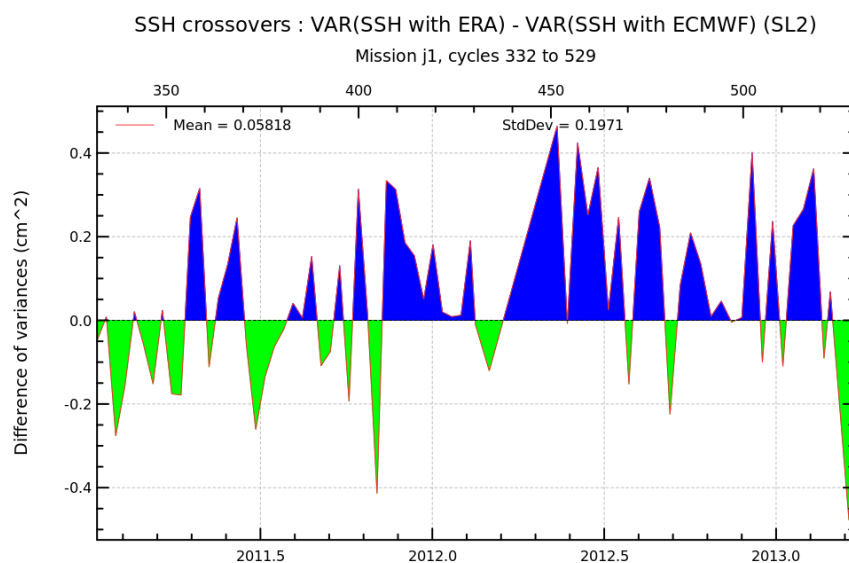
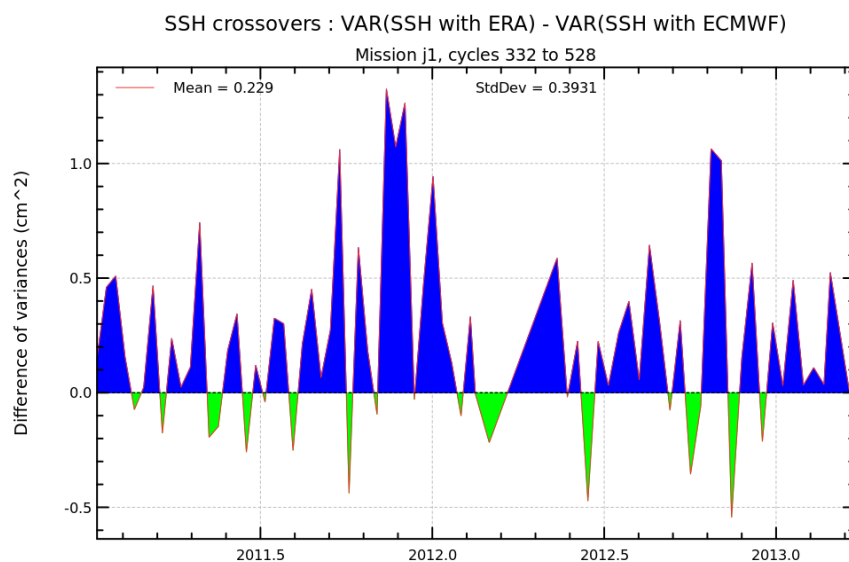
## Diagnostic A102 (mission j1)

**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 : Mono-mission analyses





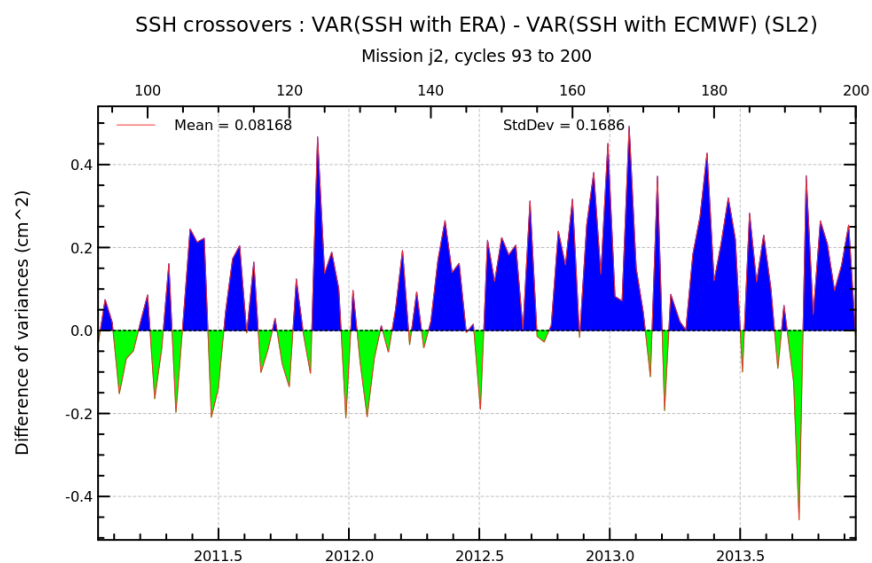
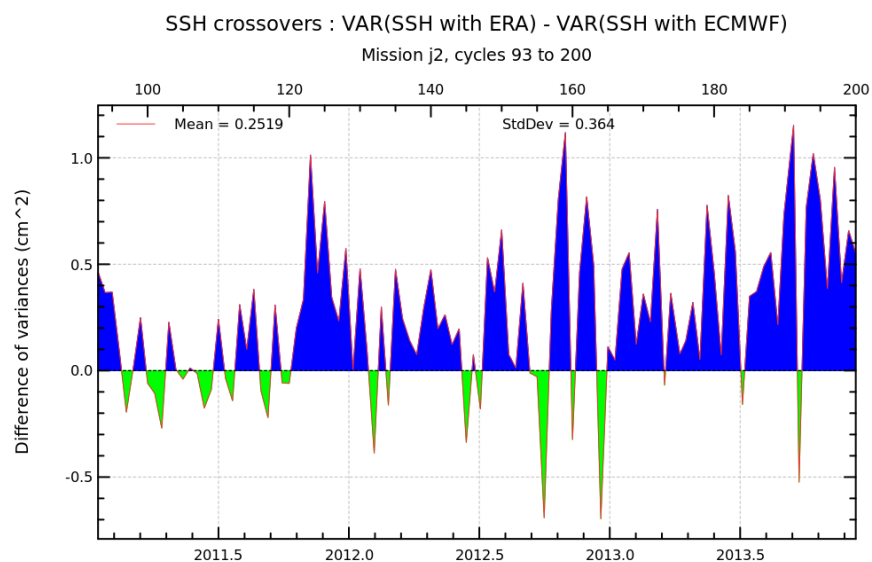
## Diagnostic A102 (mission j2)

**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 : Mono-mission analyses



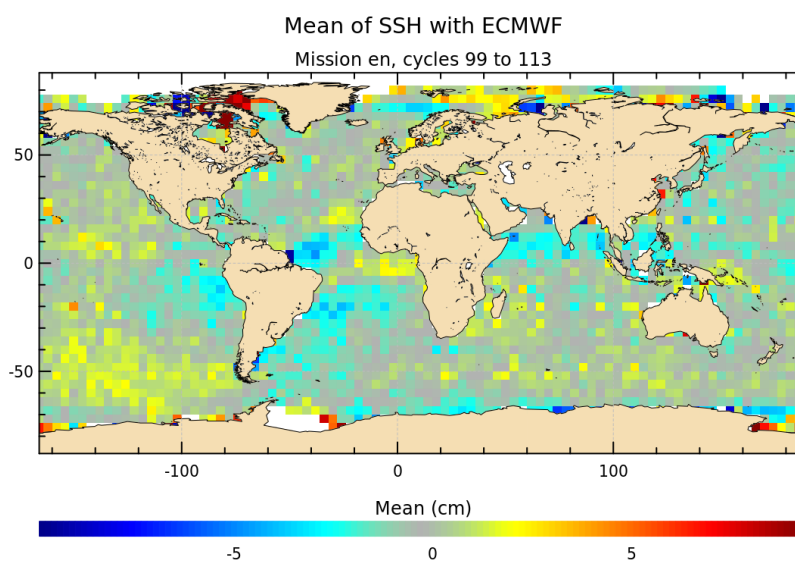
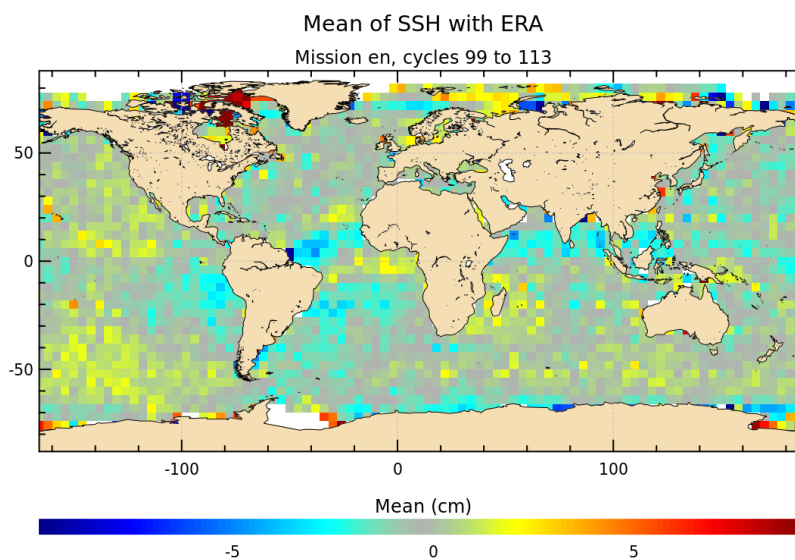
**Diagnostic A103 (mission en)**

**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 type : Mono-mission analyses



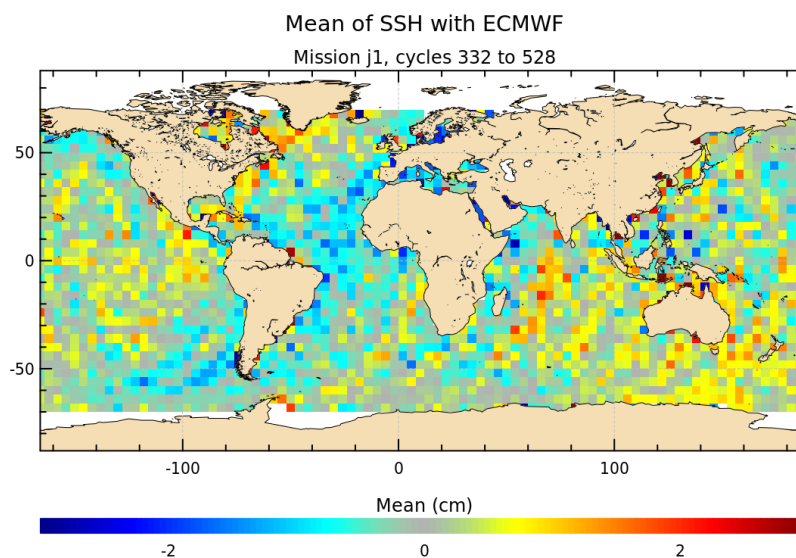
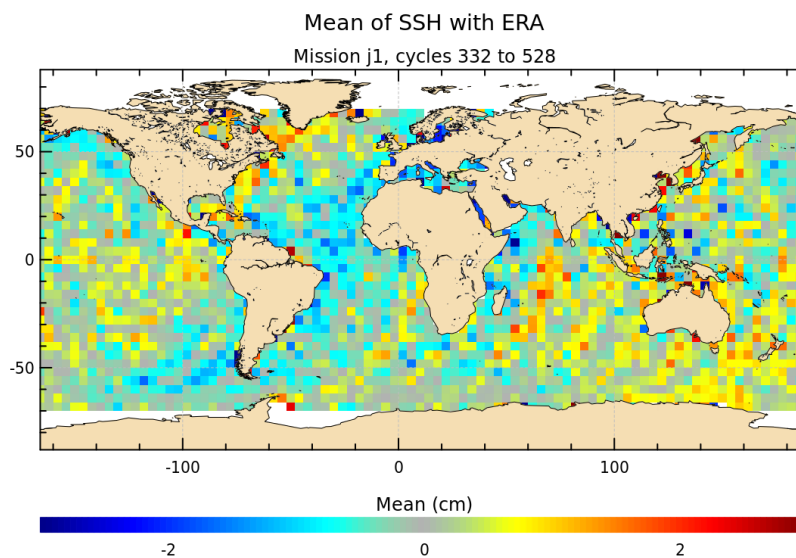
## Diagnostic A103 (mission j1)

**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 : Mono-mission analyses



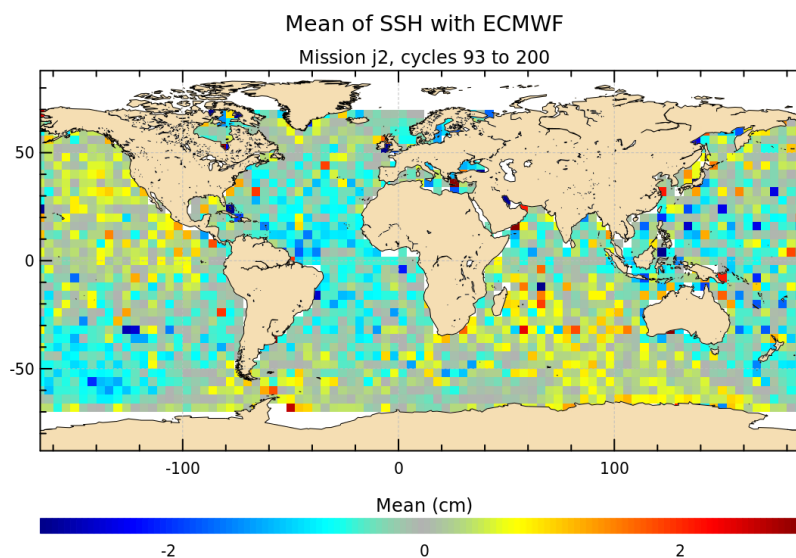
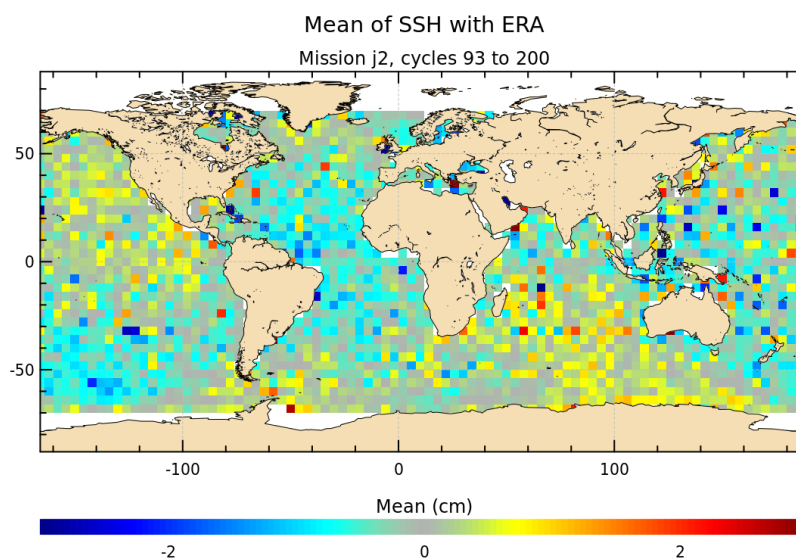
## Diagnostic A103 (mission j2)

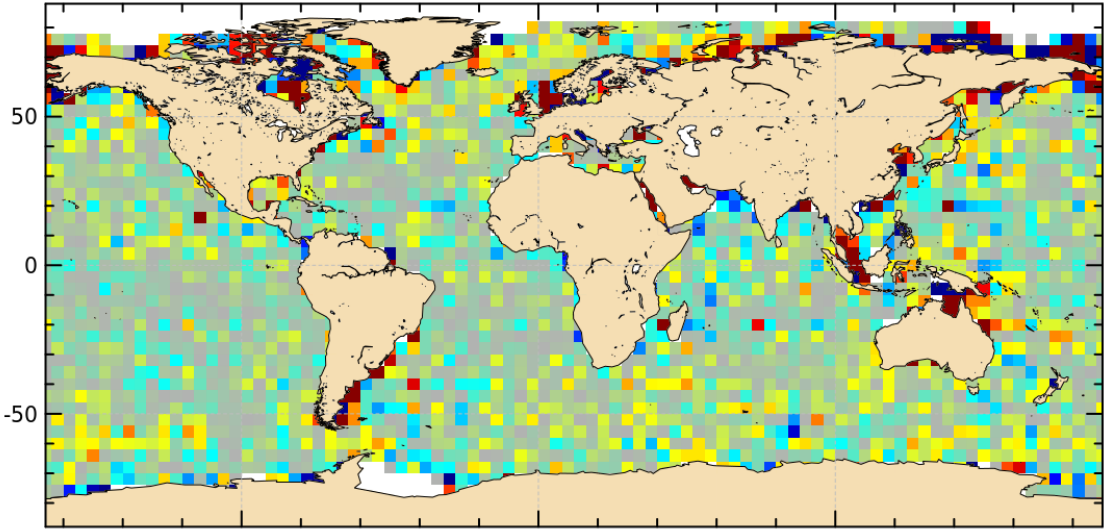
**Name :** Map of SSH crossovers

**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 : Mono-mission analyses



Diagnostic type : Mono-mission analyses	Diagnostic A104 (mission en)	
	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>	
	<div><p>VAR(SSH with ERA) - VAR(SSH with ECMWF)</p><p>Mission en, cycles 99 to 113</p><p>SSH crossovers : difference of variances (cm<sup>2</sup>)</p><p>-4      -2      0      2      4</p></div>	

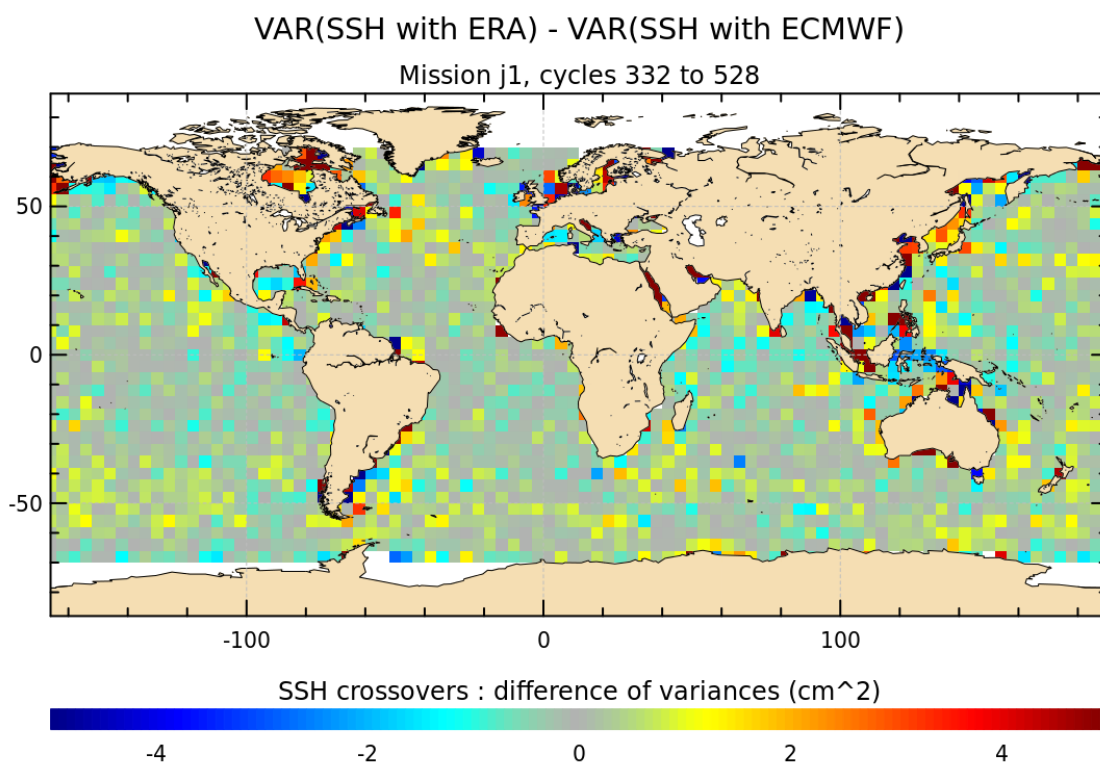
## Diagnostic A104 (mission j1)

**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 : Mono-mission analyses



## Diagnostic A104 (mission j2)

**Name :** Differences between maps of SSH crossovers

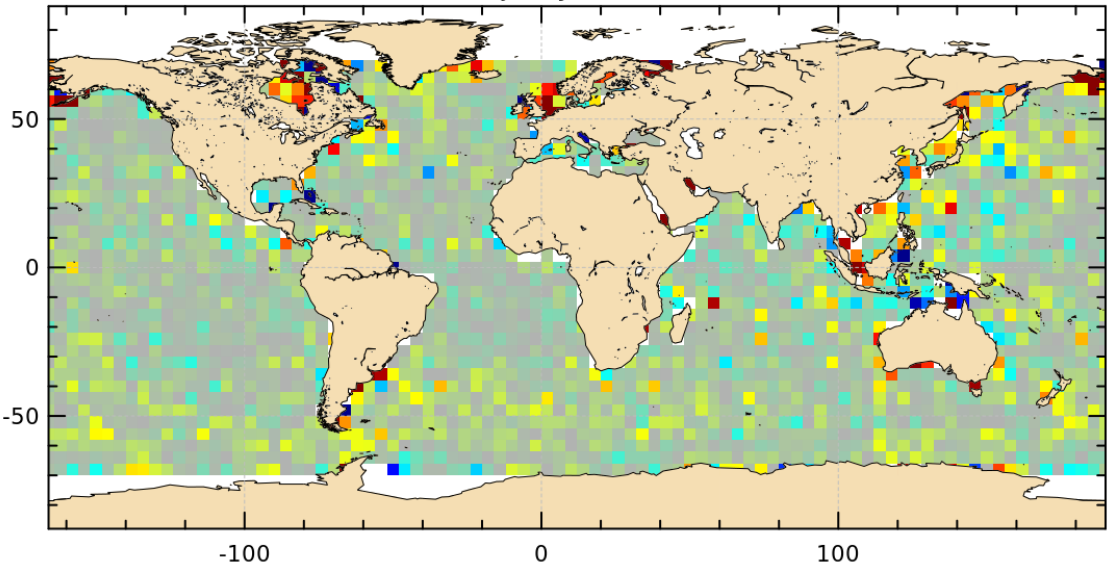
**Input data :** Sea Surface Height (SSH) crossovers

**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).

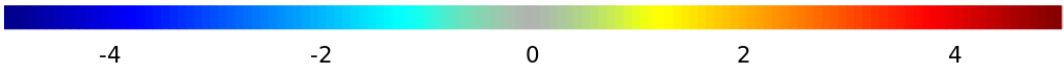
Diagnostic type : Mono-mission analyses

VAR(SSH with ERA) - VAR(SSH with ECMWF)

Mission j2, cycles 93 to 200



SSH crossovers : difference of variances (cm<sup>2</sup>)



Nbr :	2340	Std Dev :	4.197817	Min :	-90.498499
Mean :	0.30537344	Median :	0.10416305	Max :	114.04811

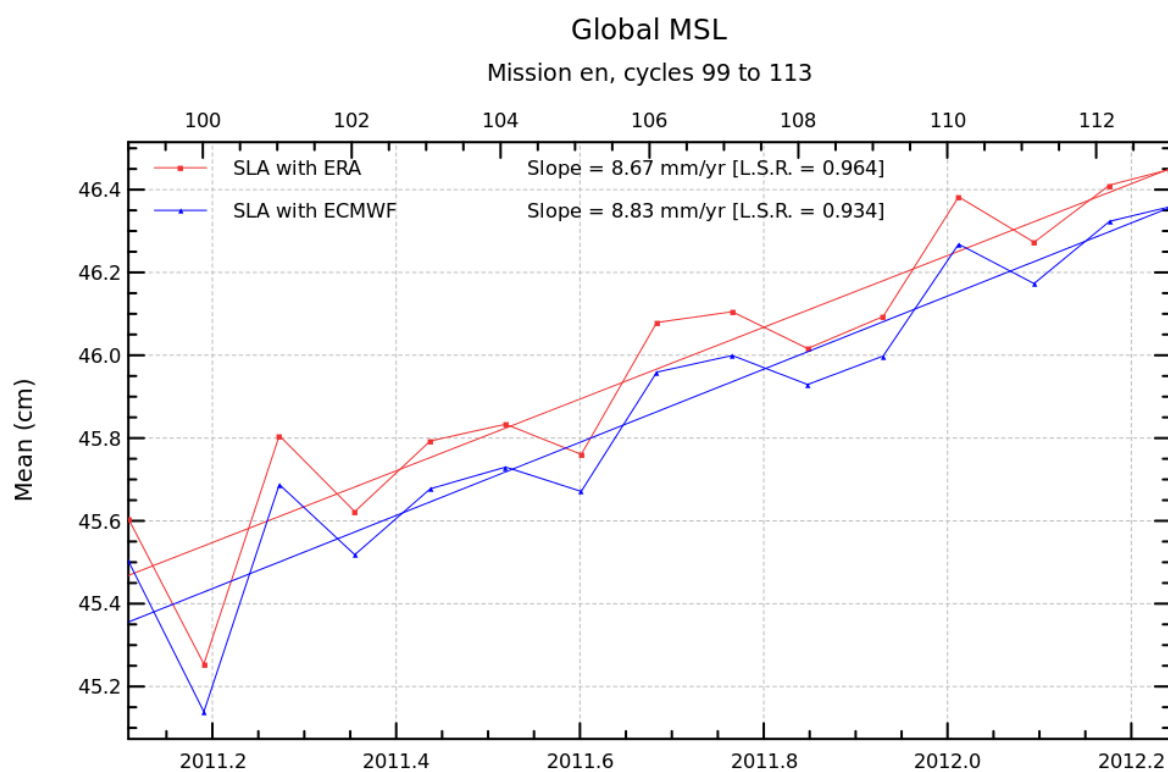
## Diagnostic A201 a (mission en)

**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 : Mono-mission analyses





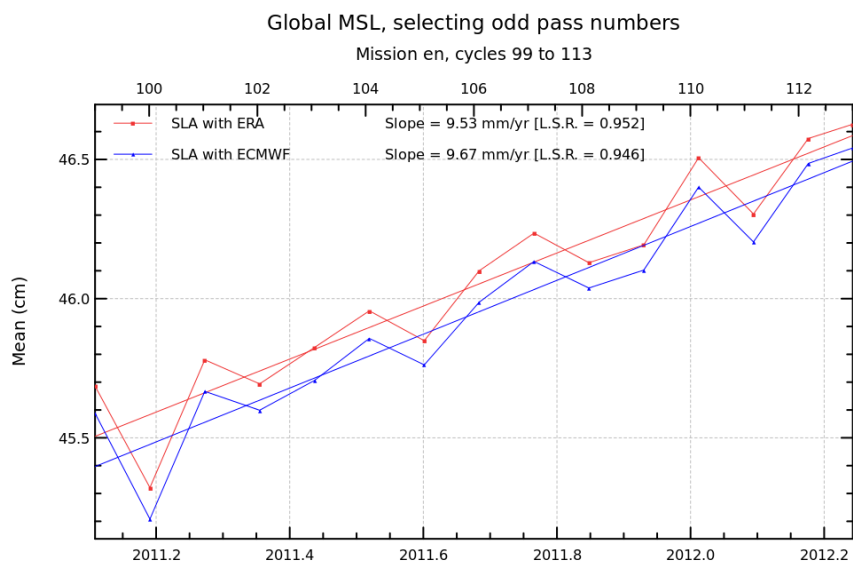
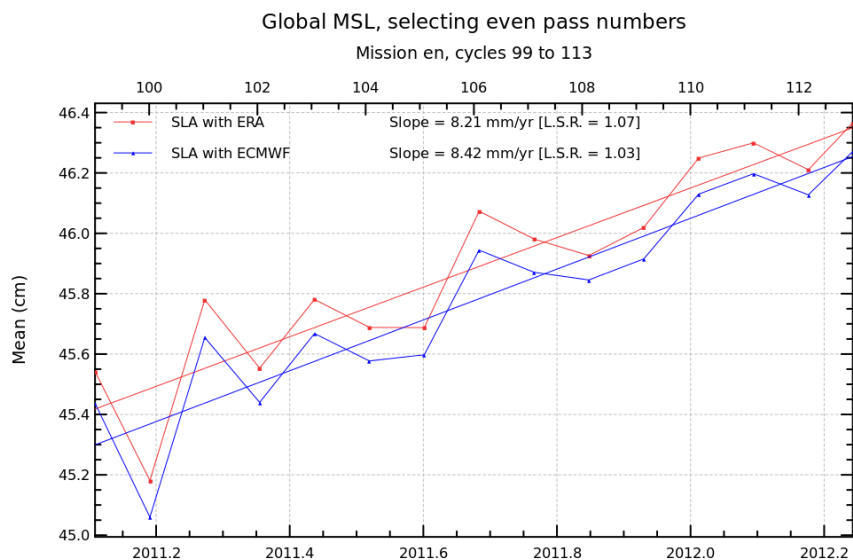
## Diagnostic A201\_b (mission en)

**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 : Mono-mission analyses



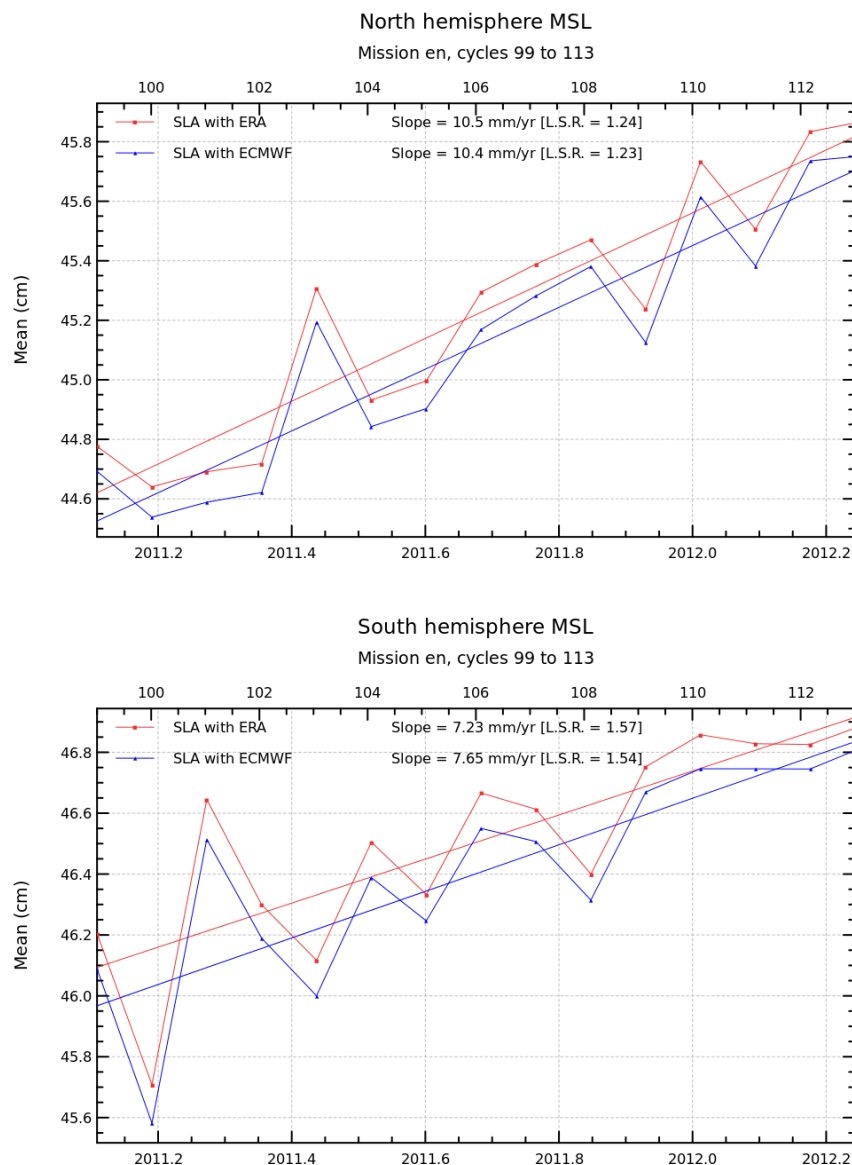
## Diagnostic A201\_c (mission en)

**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 : Mono-mission analyses



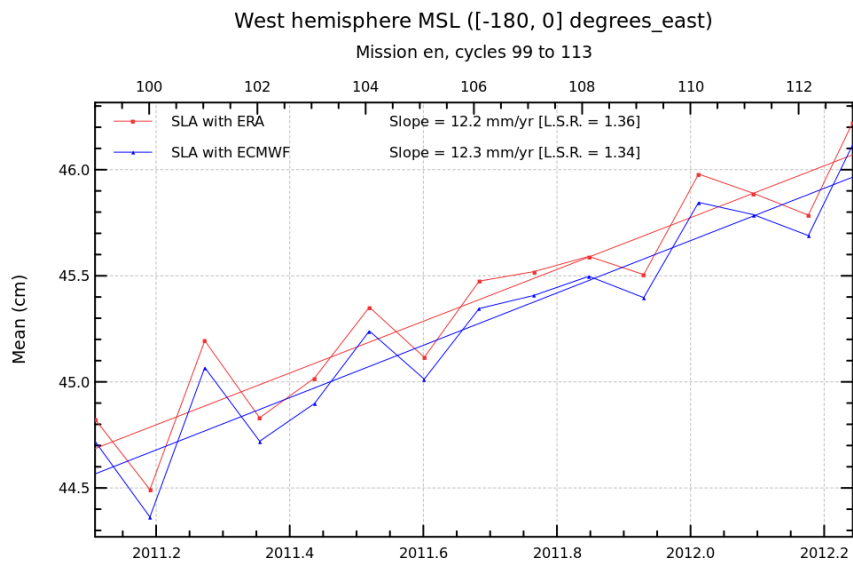
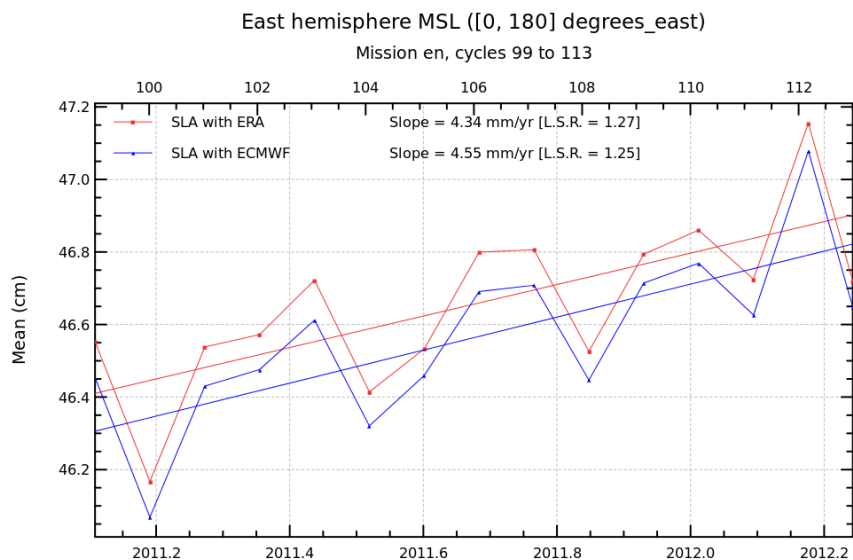
## Diagnostic A201\_d (mission en)

**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 : Mono-mission analyses



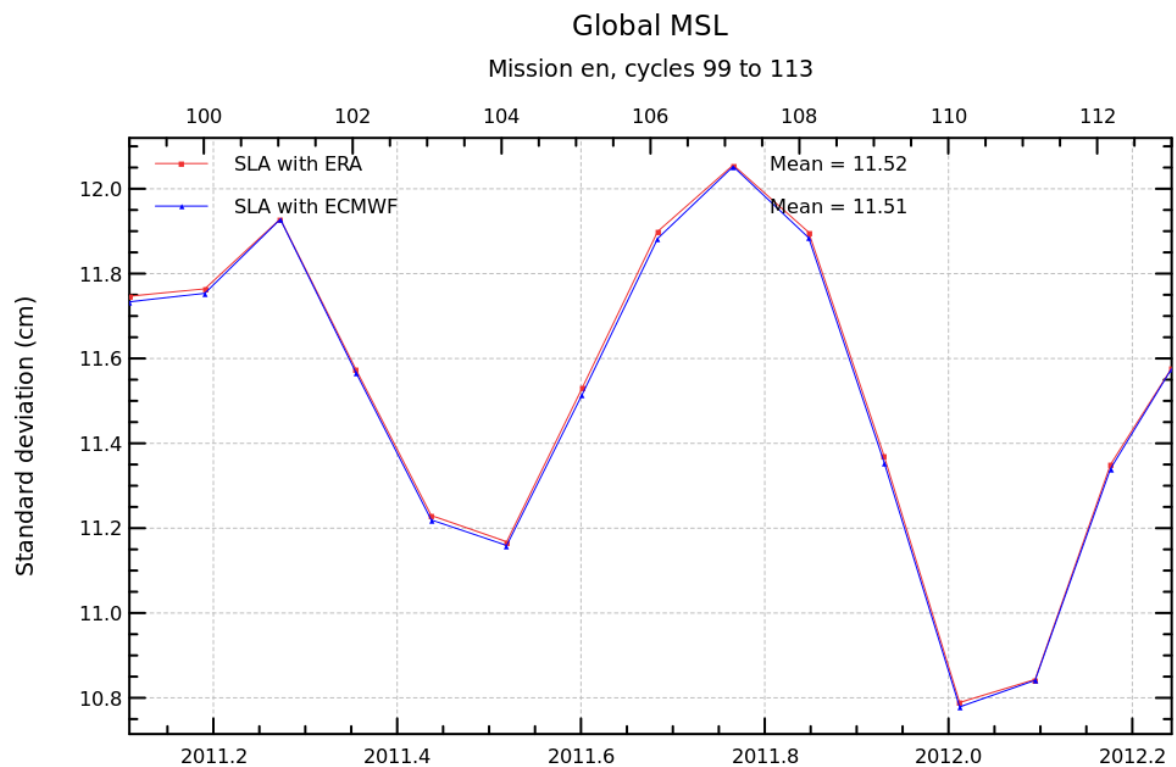
## Diagnostic A201\_e (mission en)

**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 : Mono-mission analyses



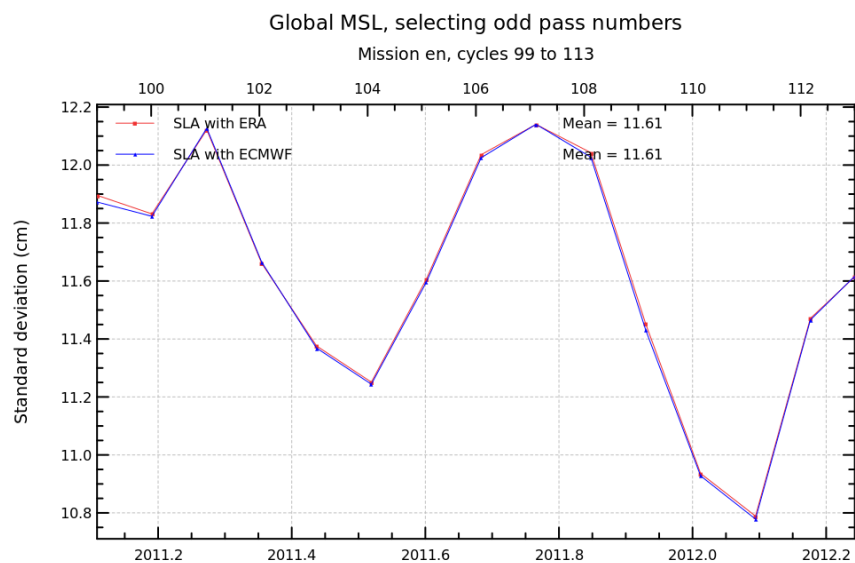
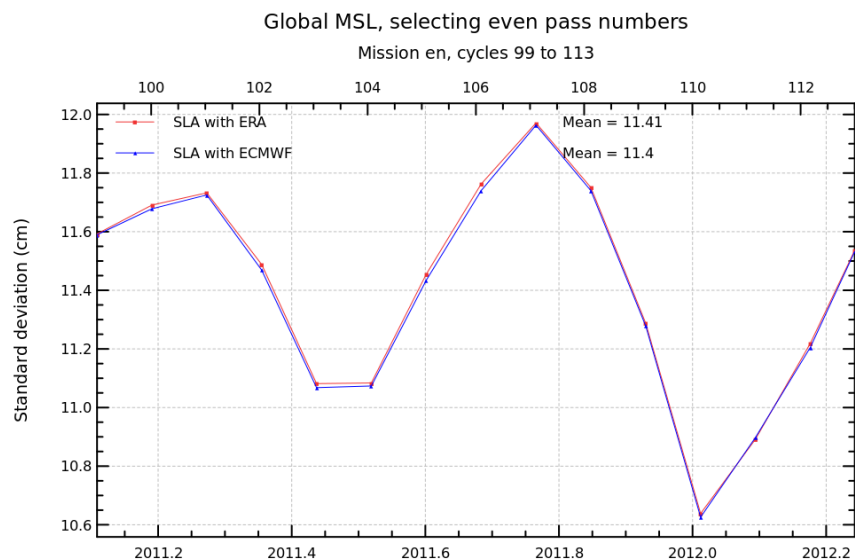
## Diagnostic A201\_f (mission en)

**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 : Mono-mission analyses



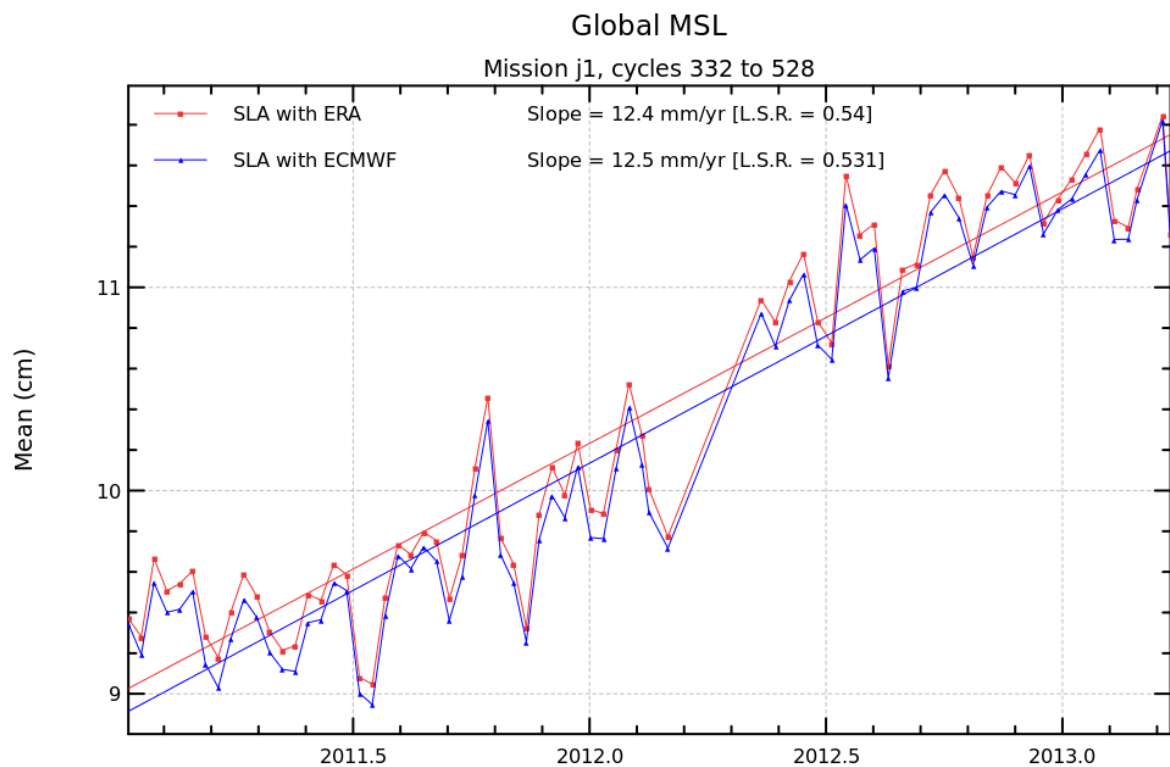
## Diagnostic A201\_a (mission j1)

**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 : Mono-mission analyses



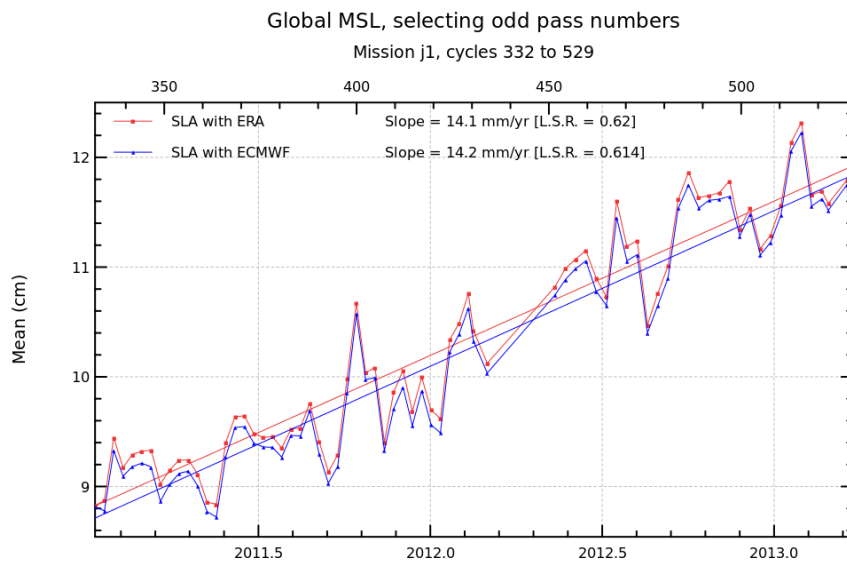
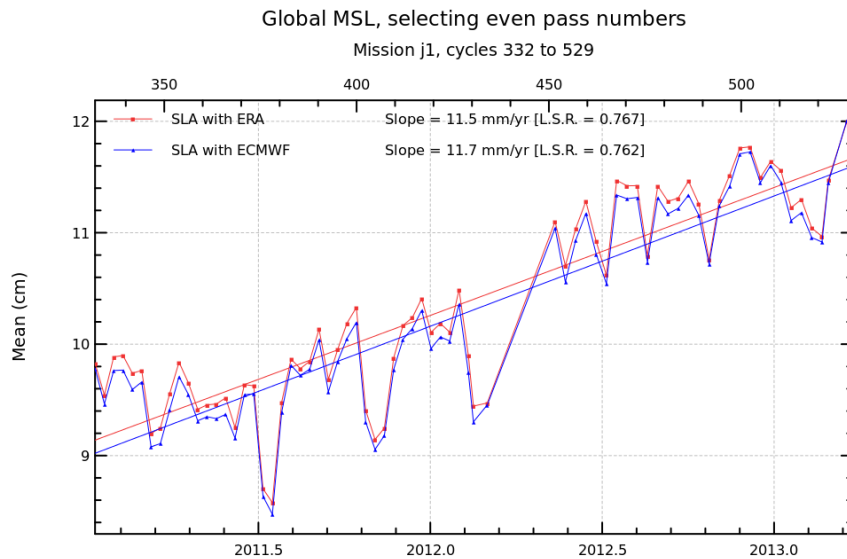
## Diagnostic A201\_b (mission j1)

**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 : Mono-mission analyses



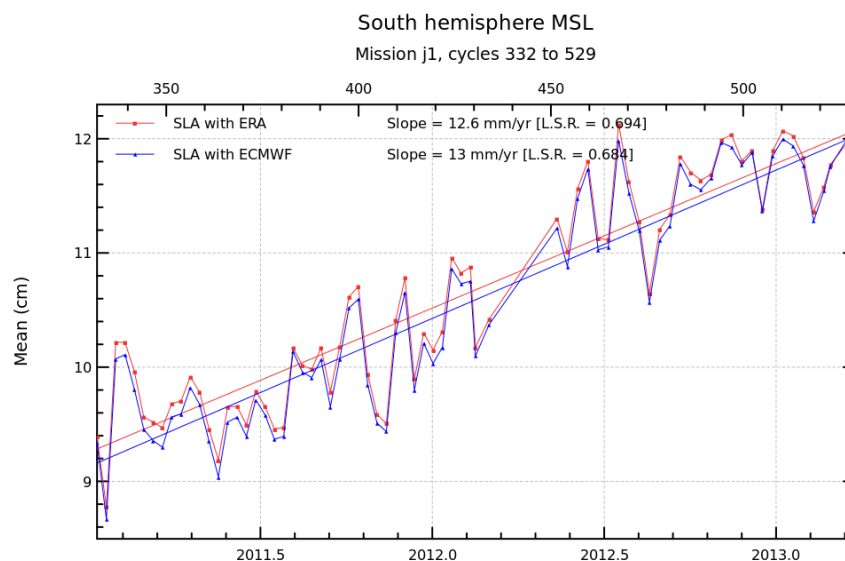
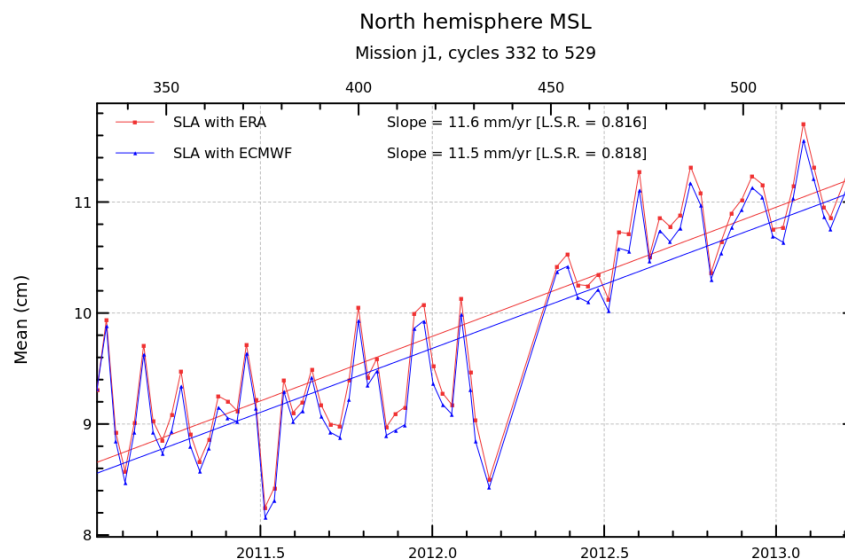
## Diagnostic A201\_c (mission j1)

**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 : Mono-mission analyses





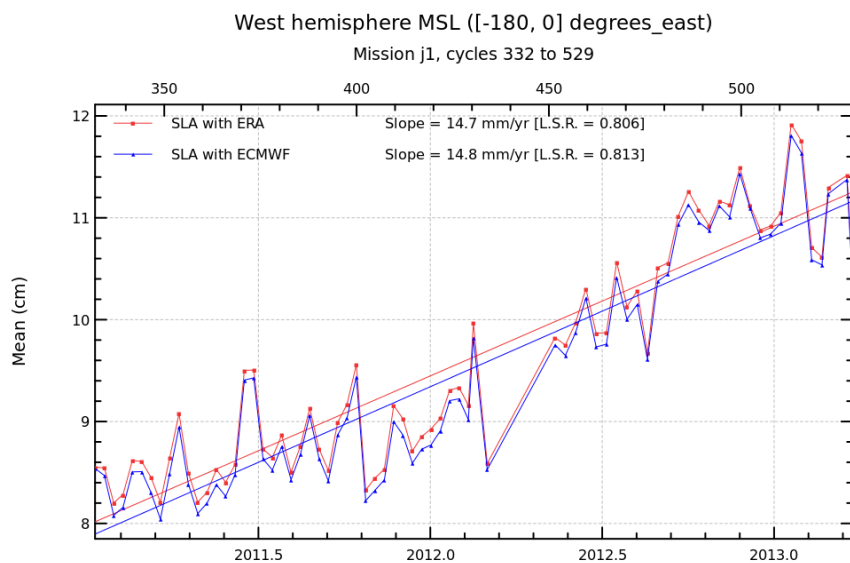
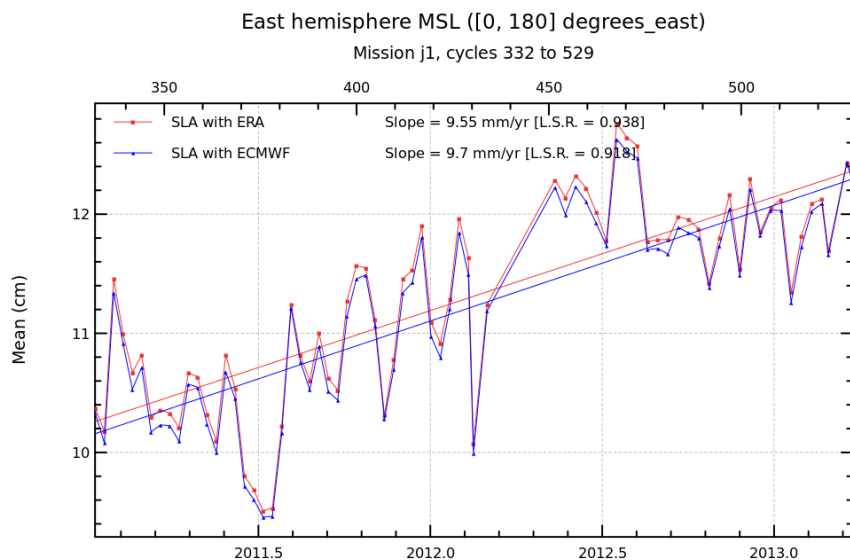
## Diagnostic A201\_d (mission j1)

**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 : Mono-mission analyses



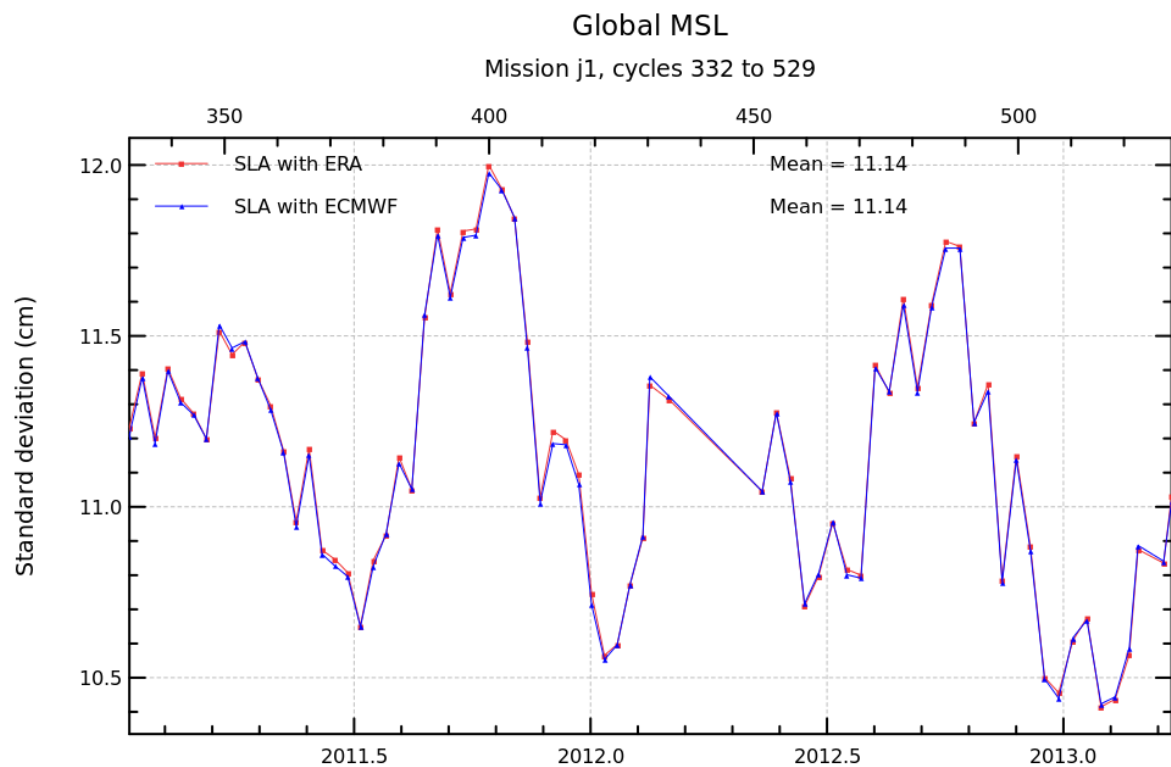
## Diagnostic A201\_e (mission j1)

**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 : Mono-mission analyses



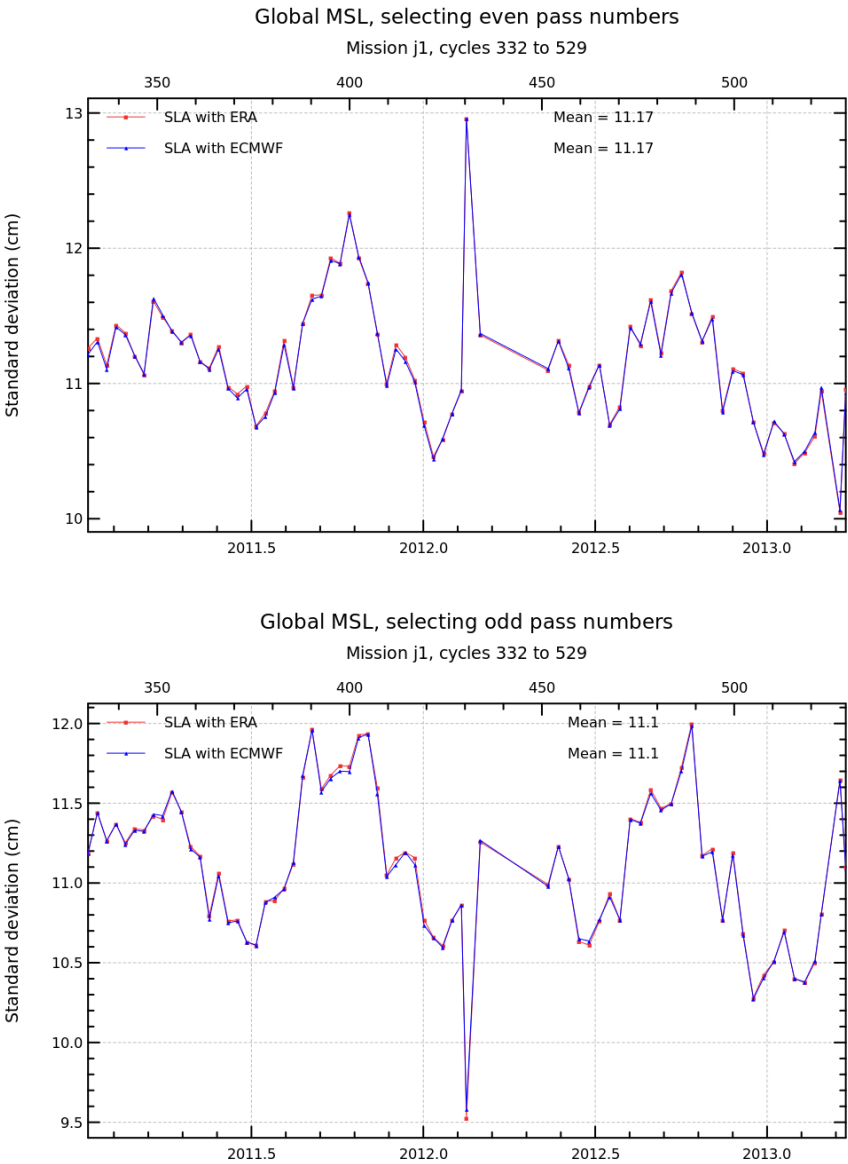
## Diagnostic A201\_f (mission j1)

**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 : Mono-mission analyses



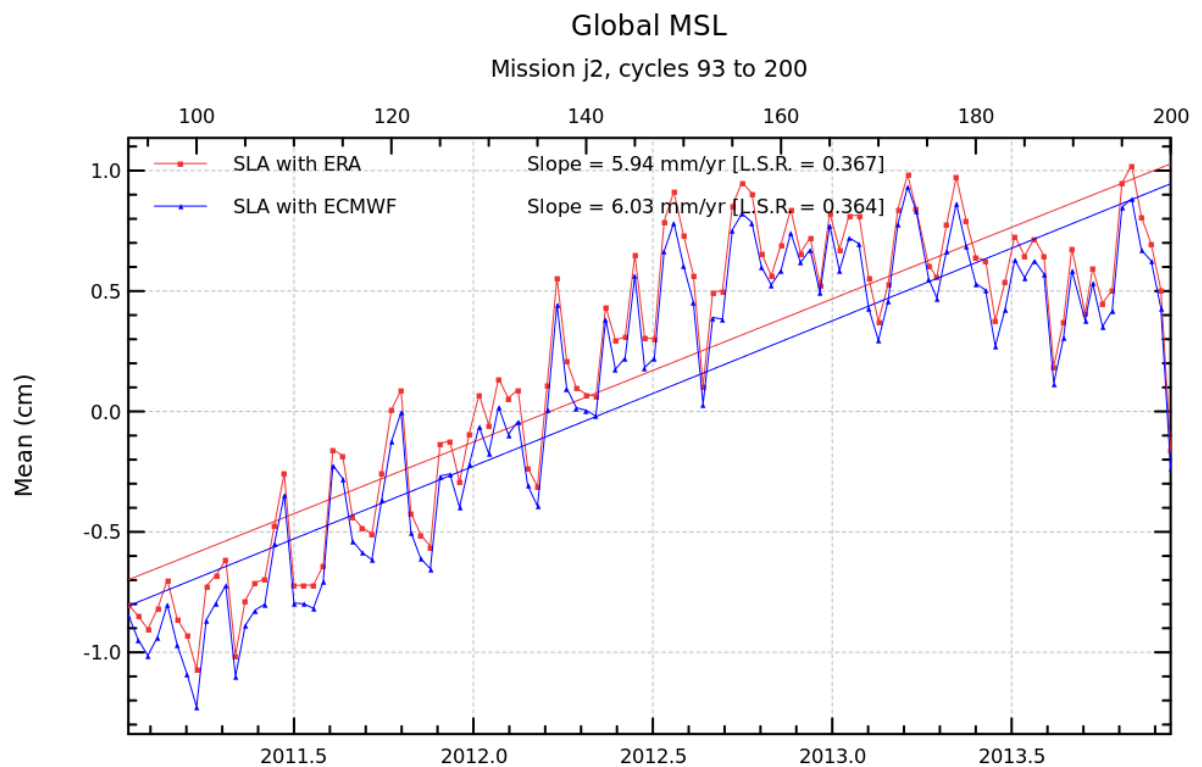
## Diagnostic A201\_a (mission j2)

**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 : Mono-mission analyses



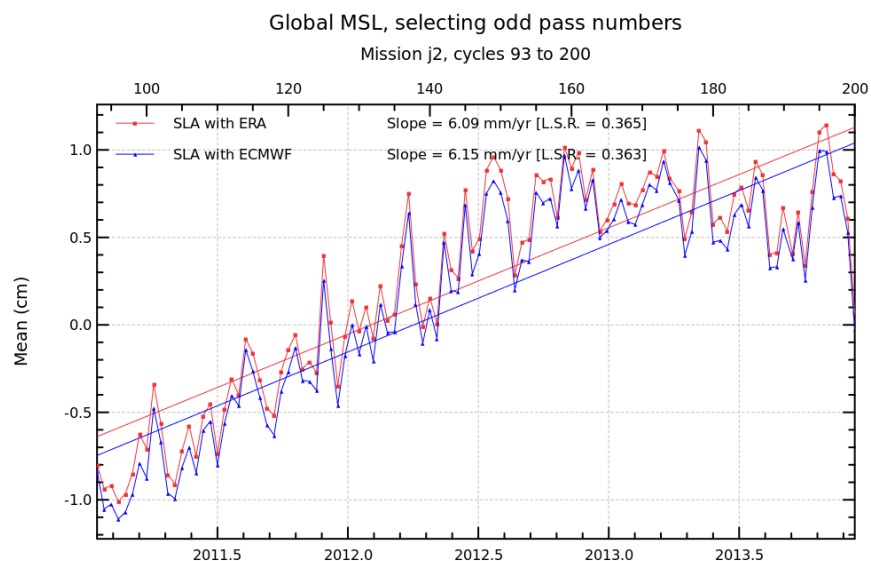
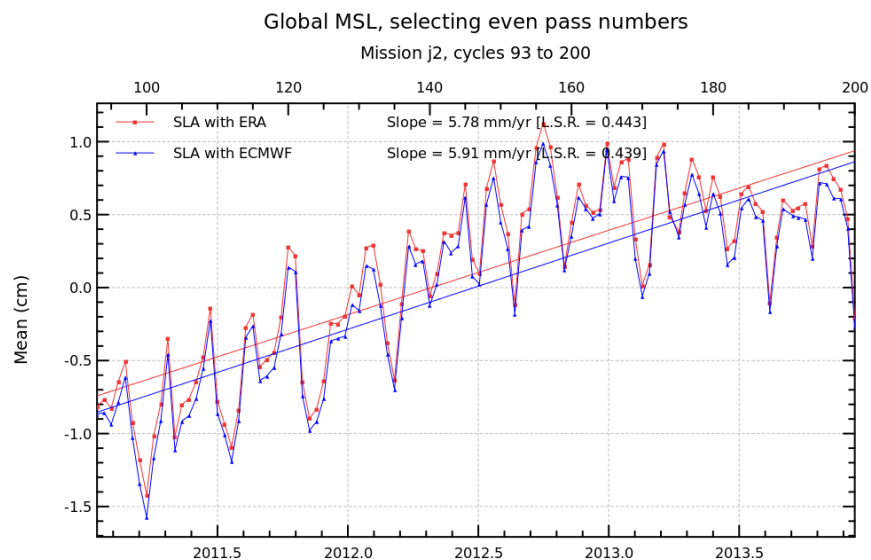
## Diagnostic A201\_b (mission j2)

**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 : Mono-mission analyses



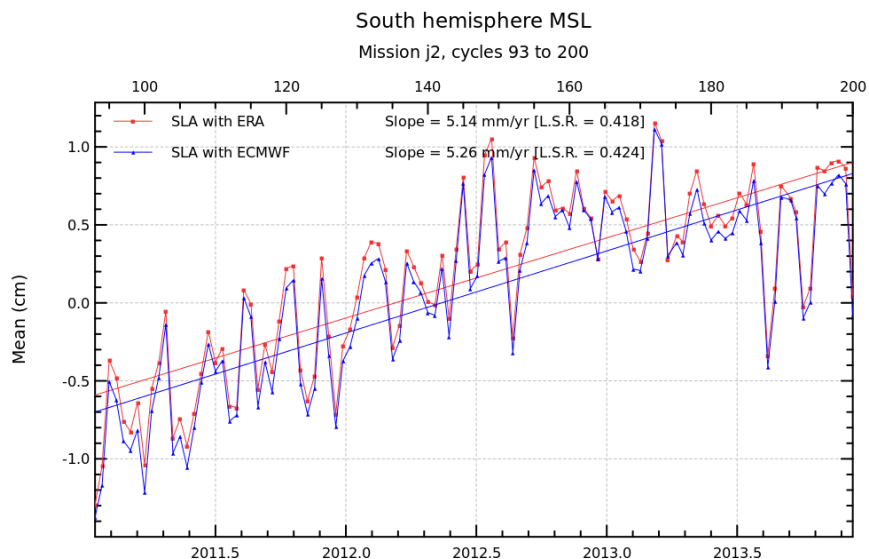
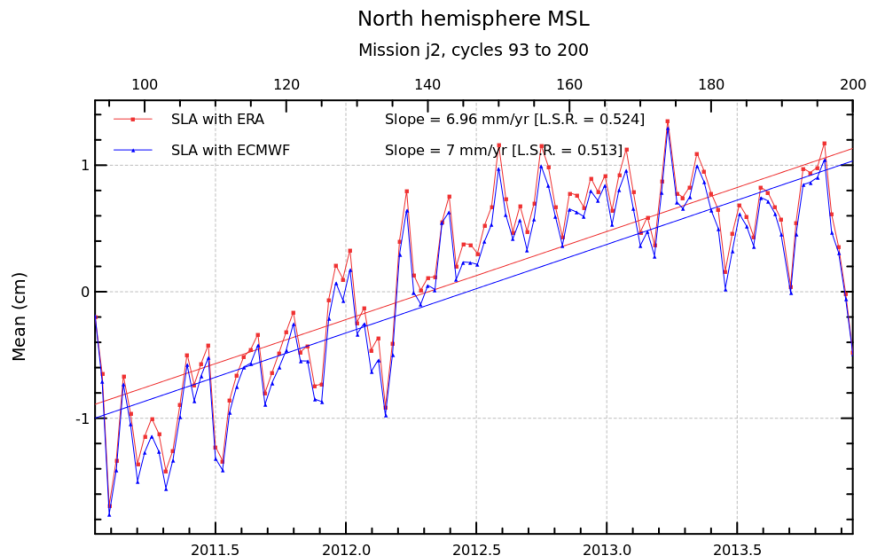
## Diagnostic A201\_c (mission j2)

**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 : Mono-mission analyses



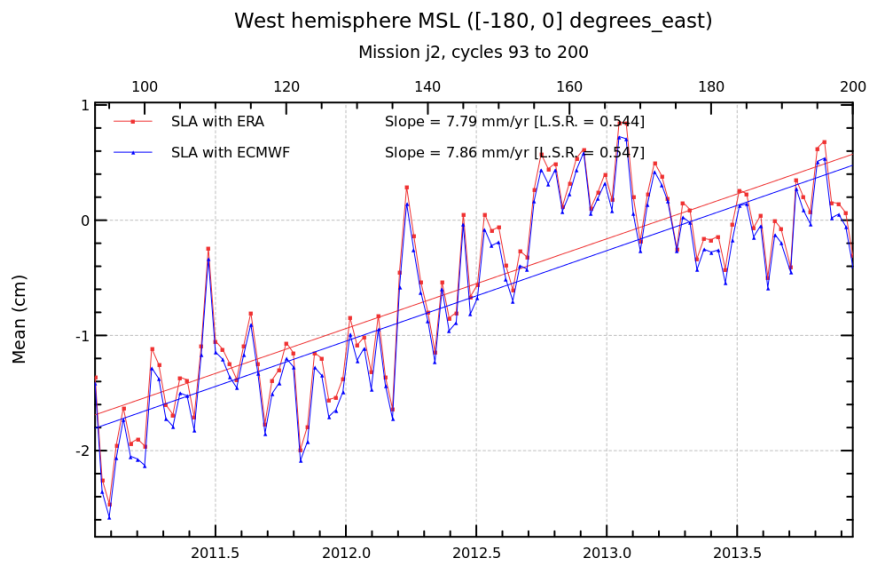
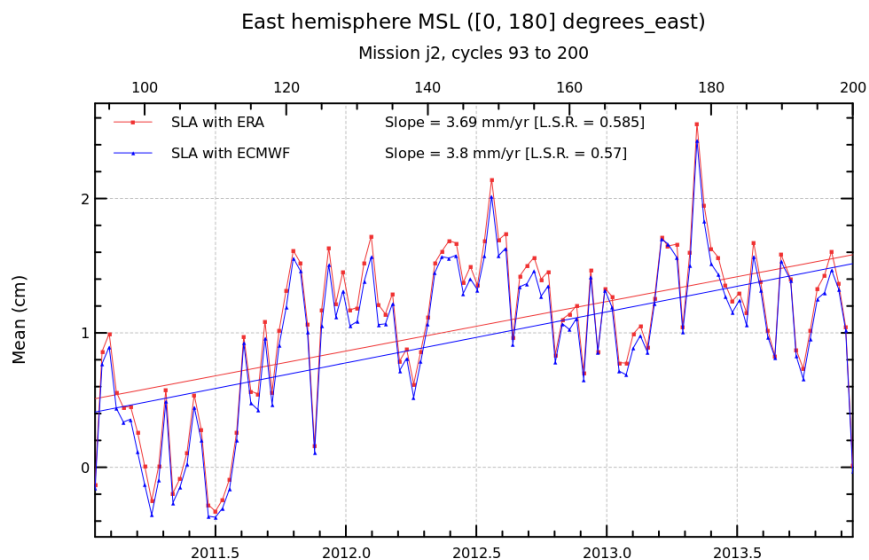
## Diagnostic A201\_d (mission j2)

**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 : Mono-mission analyses



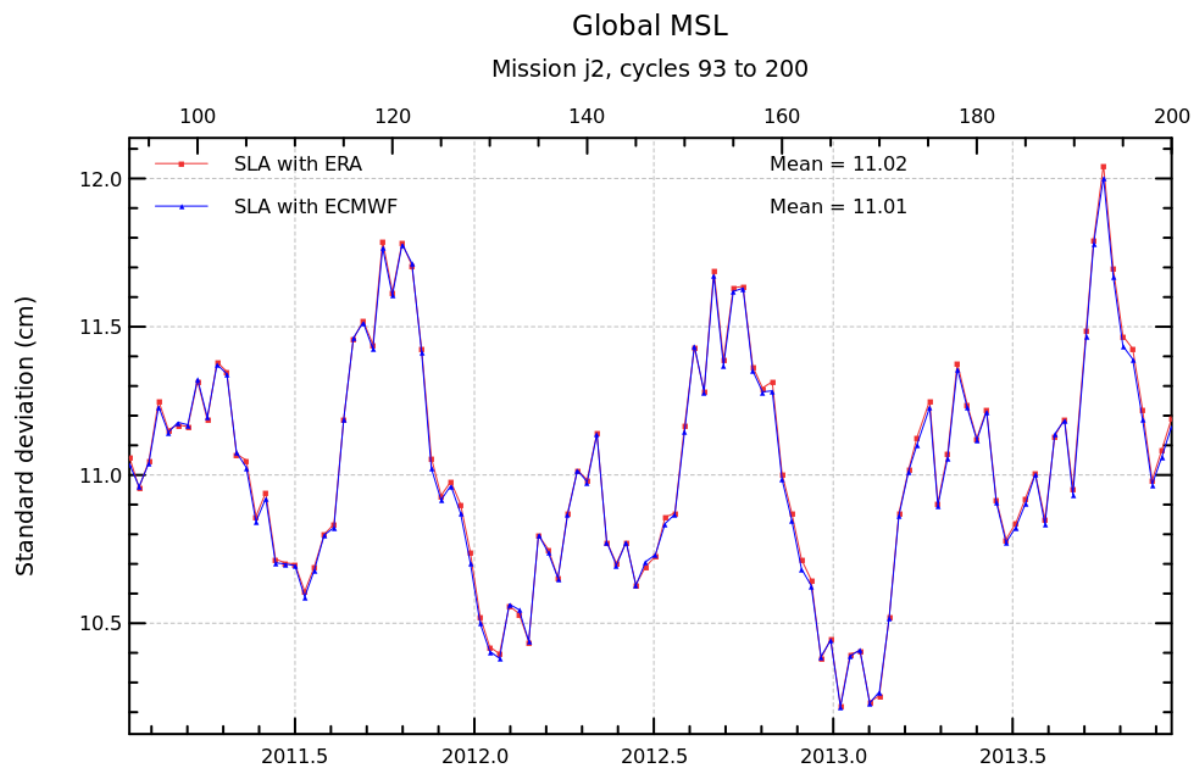
## Diagnostic A201\_e (mission j2)

**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 : Mono-mission analyses





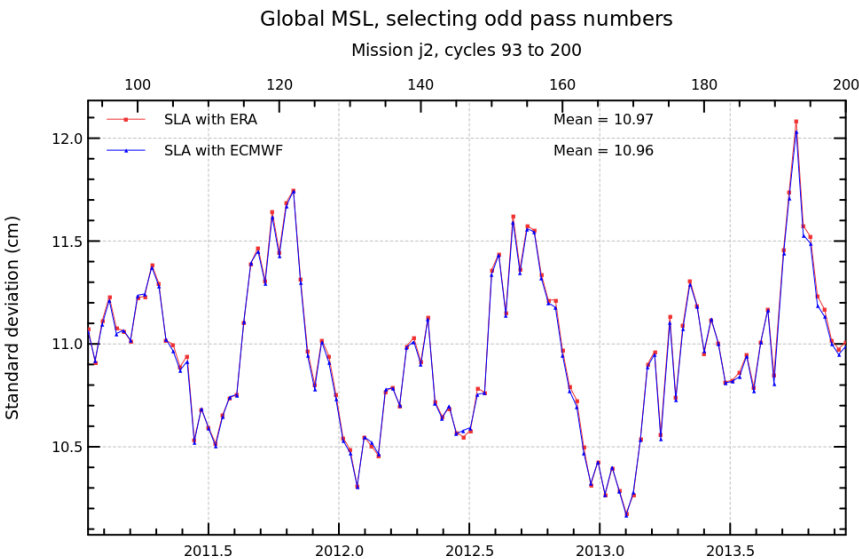
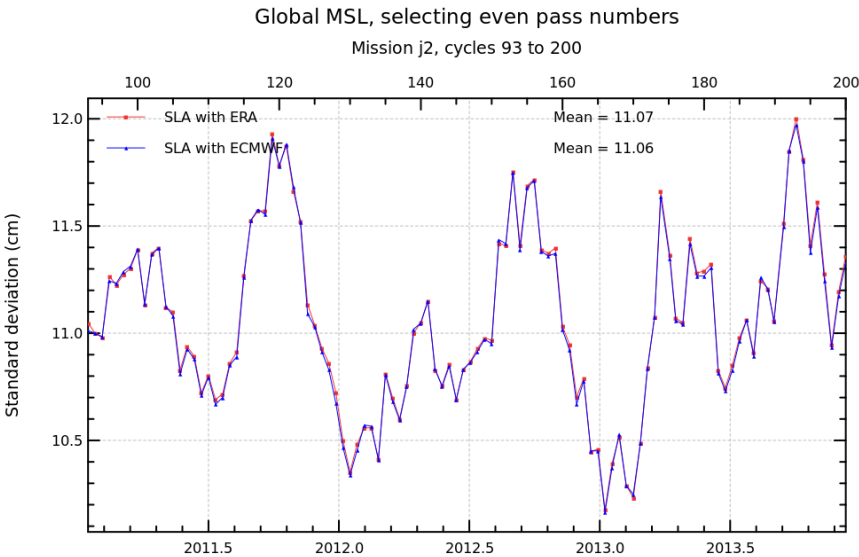
## Diagnostic A201\_f (mission j2)

**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 : Mono-mission analyses



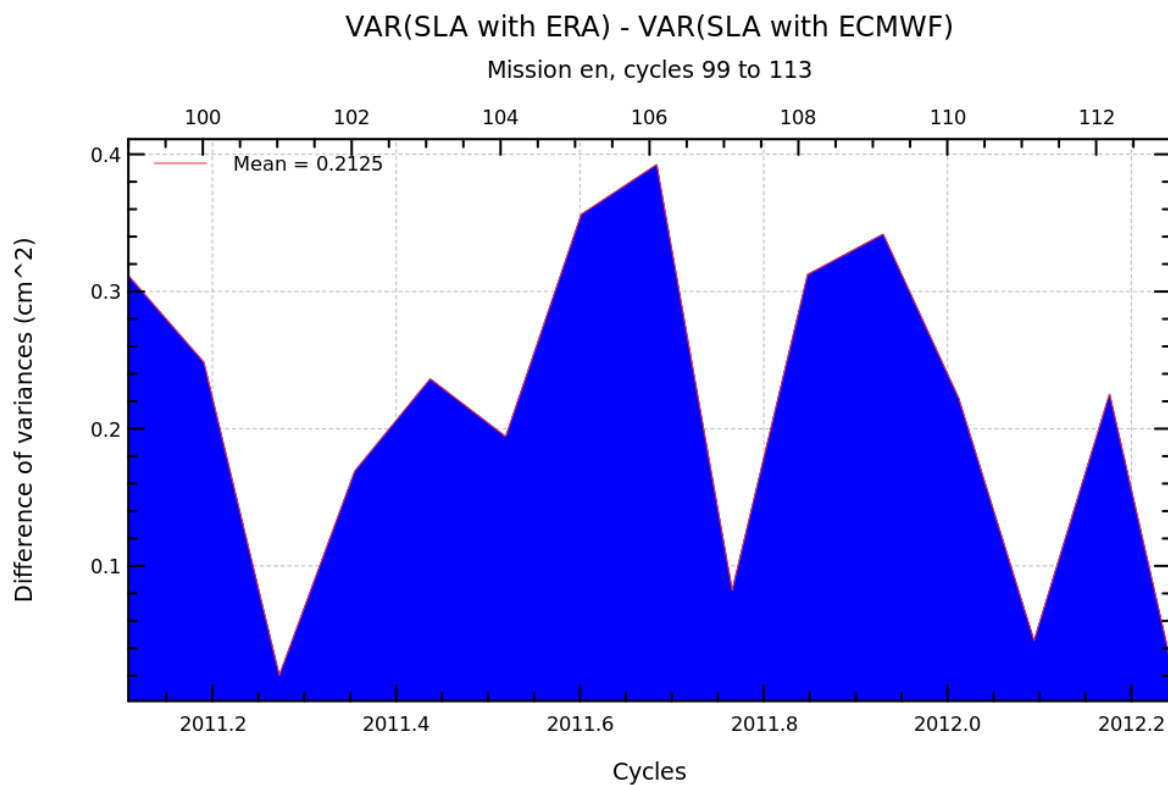
## Diagnostic A202\_a (mission en)

**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 : Mono-mission analyses



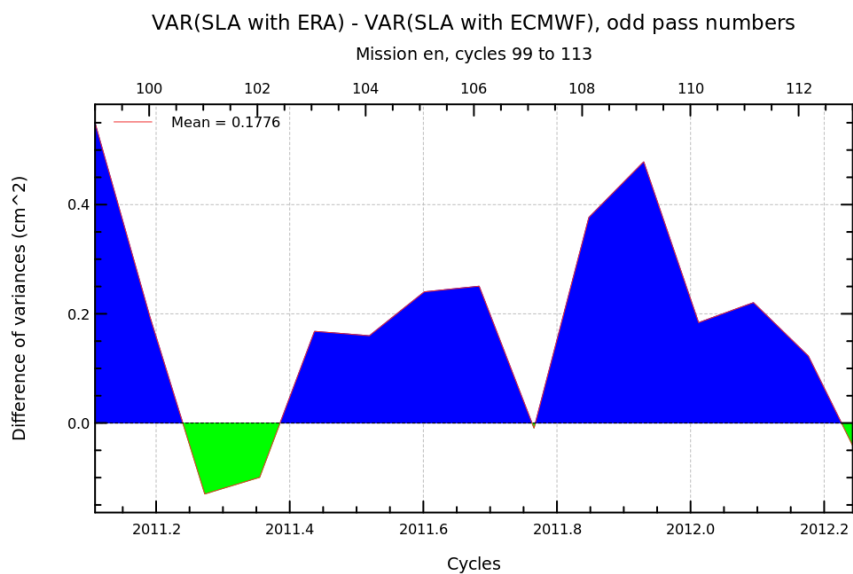
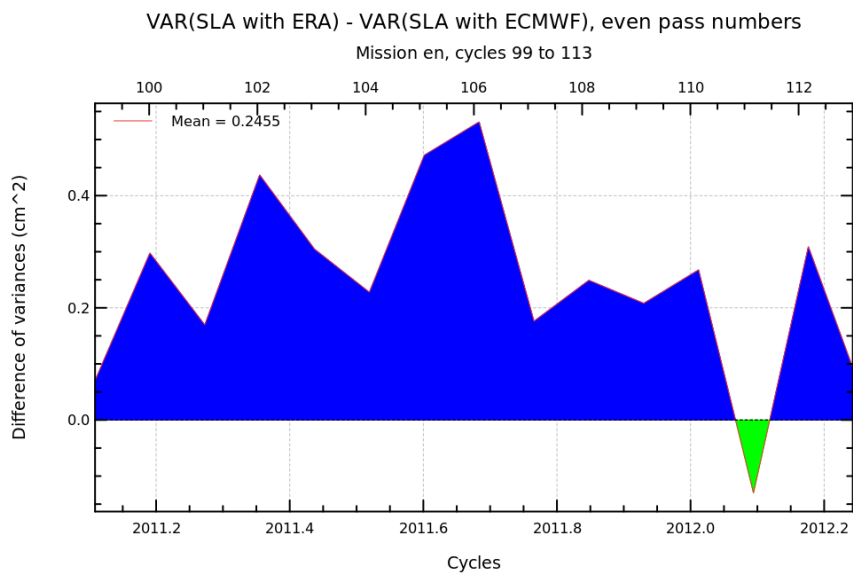
## Diagnostic A202\_b (mission en)

**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 : Mono-mission analyses



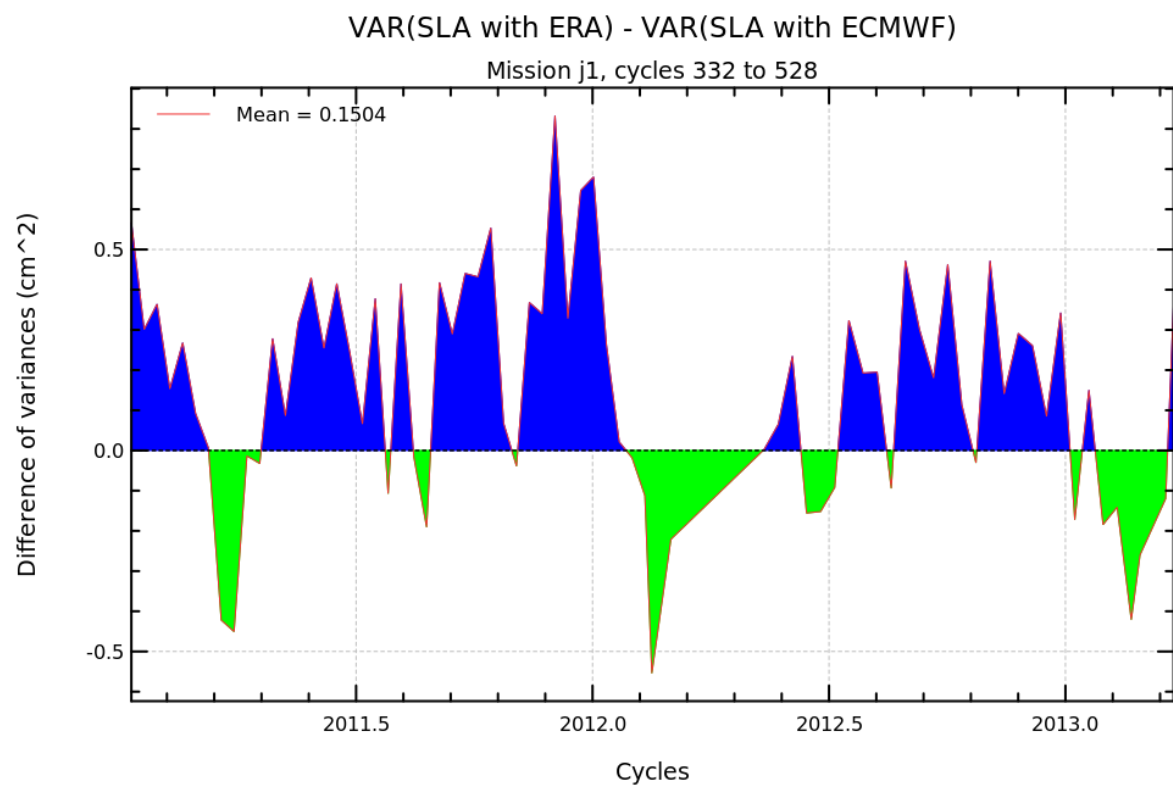
## Diagnostic A202\_a (mission j1)

**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.

Diagnostic type : Mono-mission analyses



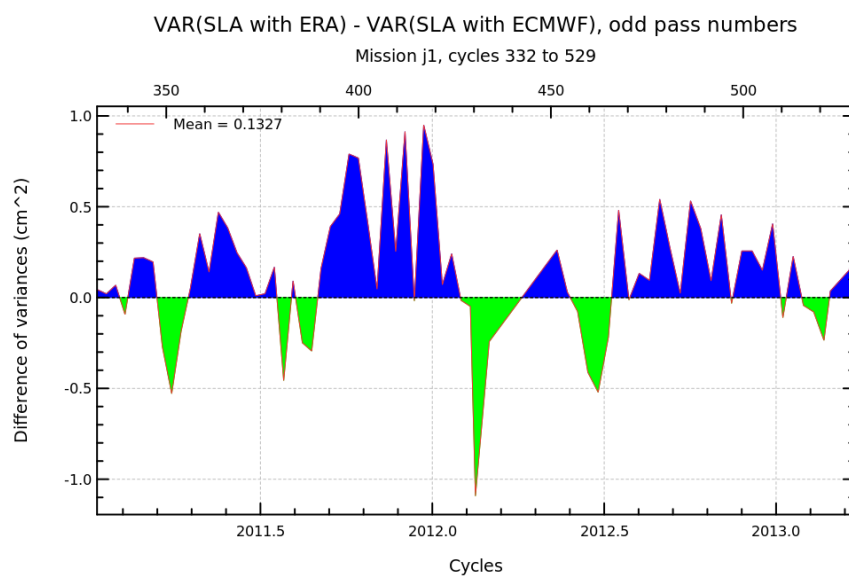
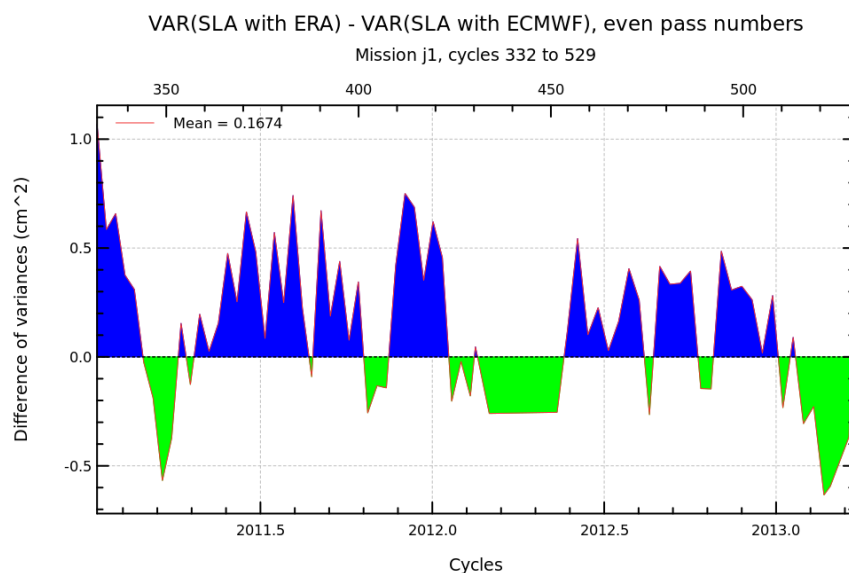
## Diagnostic A202\_b (mission j1)

**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 : Mono-mission analyses



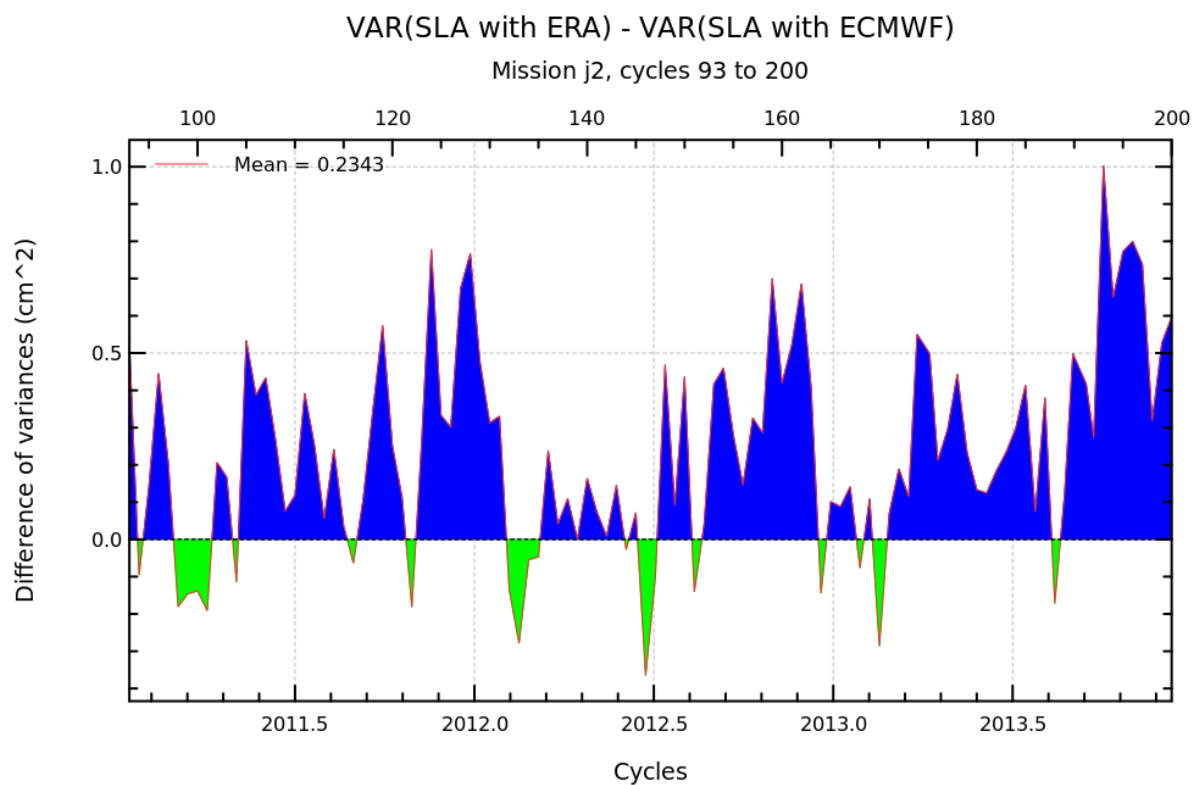
## Diagnostic A202\_a (mission j2)

**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 : Mono-mission analyses



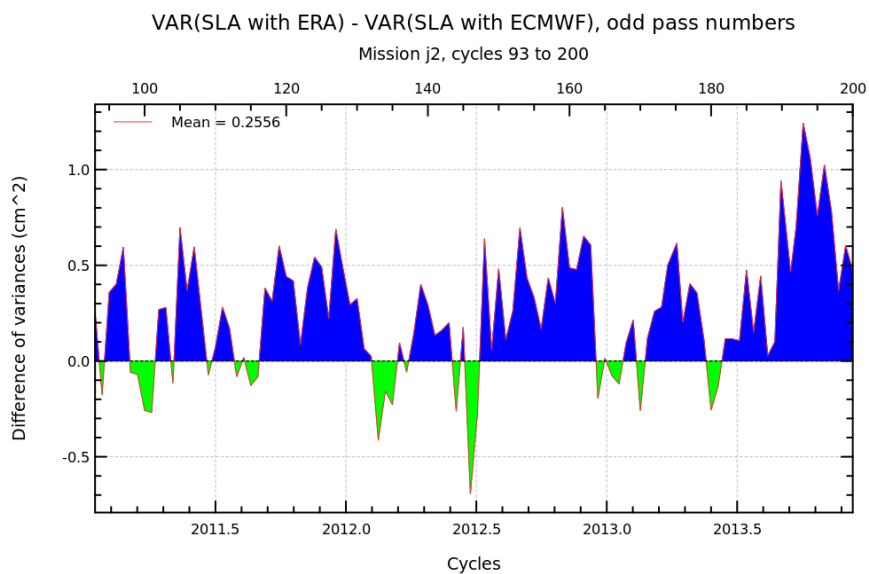
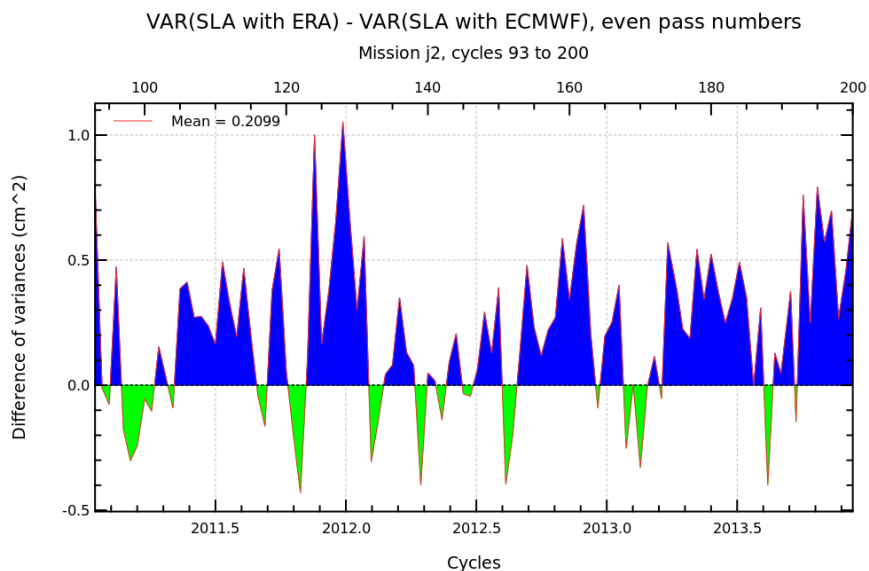
## Diagnostic A202\_b (mission j2)

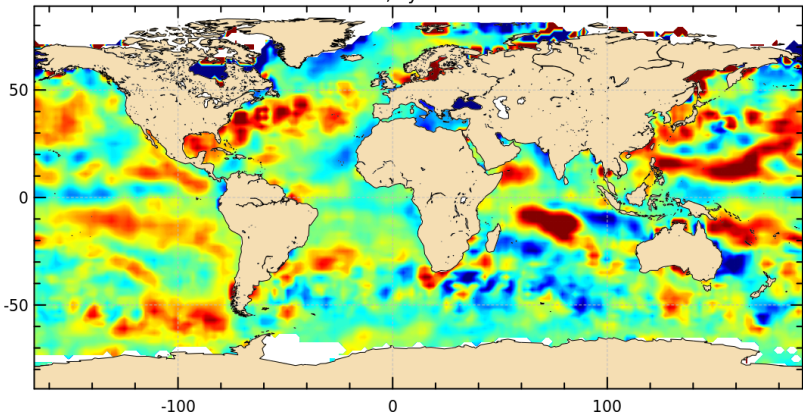
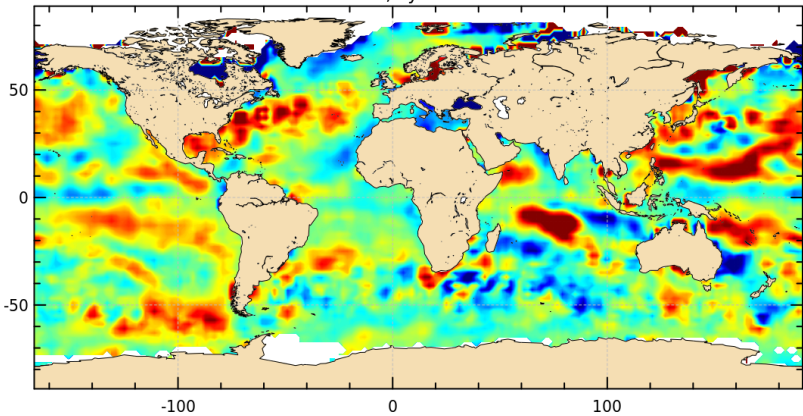
**Name :** Differences between temporal evolution of Sea Level Anomaly (SLA)

**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 : Mono-mission analyses



Diagnostic type : Mono-mission 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 ERA trends Mission en, cycles 99 to 113</div>  <div>Trends (mm/yr)</div> <div>-100-50050100</div> <div>SLA with ECMWF trends Mission en, cycles 99 to 113</div>  <div>Trends (mm/yr)</div> <div>-100-50050100</div>	



## Diagnostic A203\_b (mission en)

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

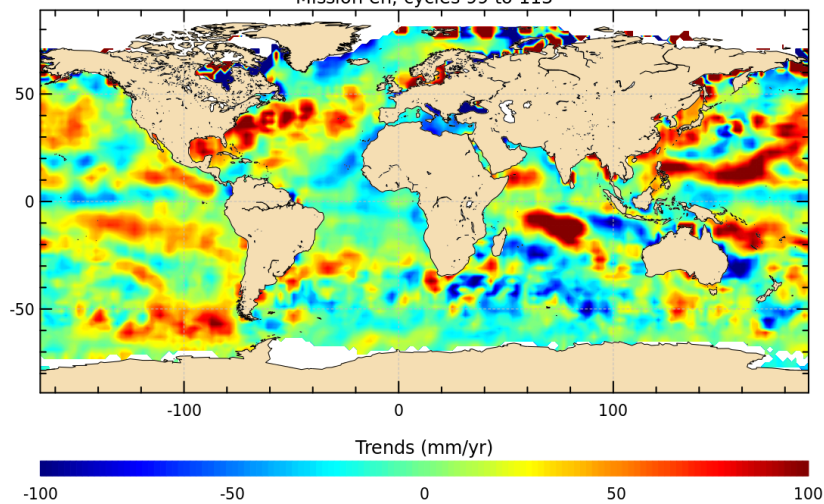
**Input data :** Along track SLA

**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 : Mono-mission analyses

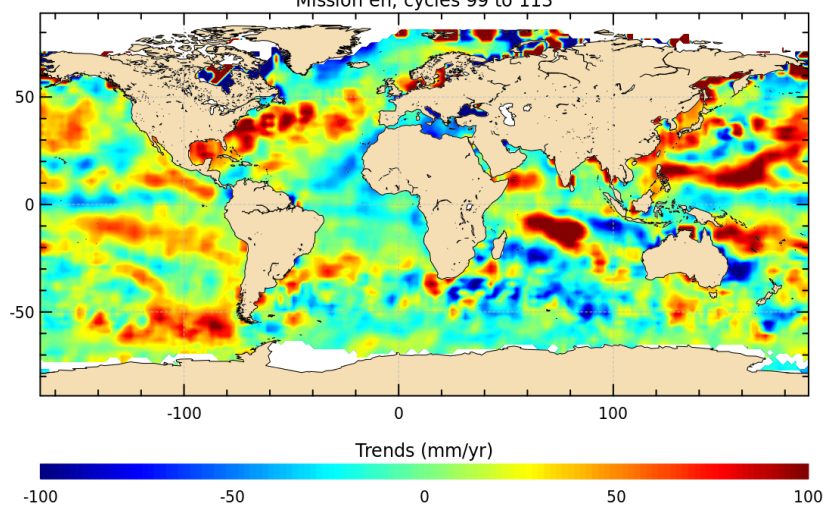
SLA with ERA trends : even pass numbers

Mission en, cycles 99 to 113



SLA with ECMWF trends : even pass numbers

Mission en, cycles 99 to 113



## Diagnostic A203\_c (mission en)

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

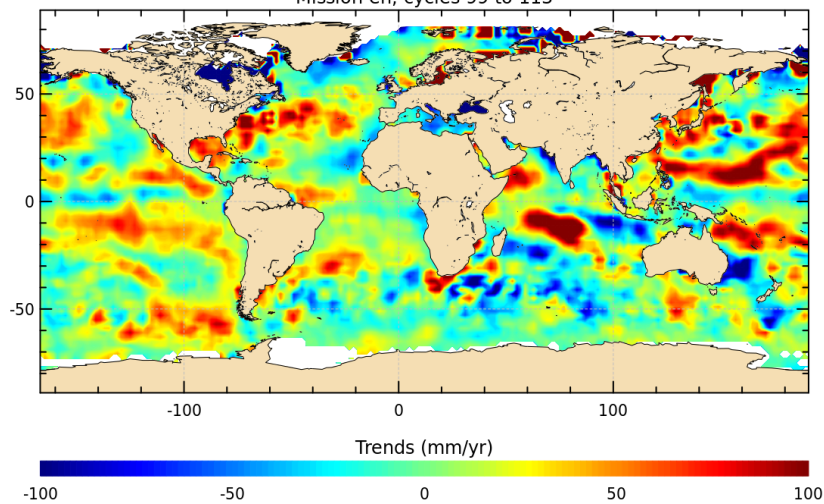
**Input data :** Along track SLA

**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 : Mono-mission analyses

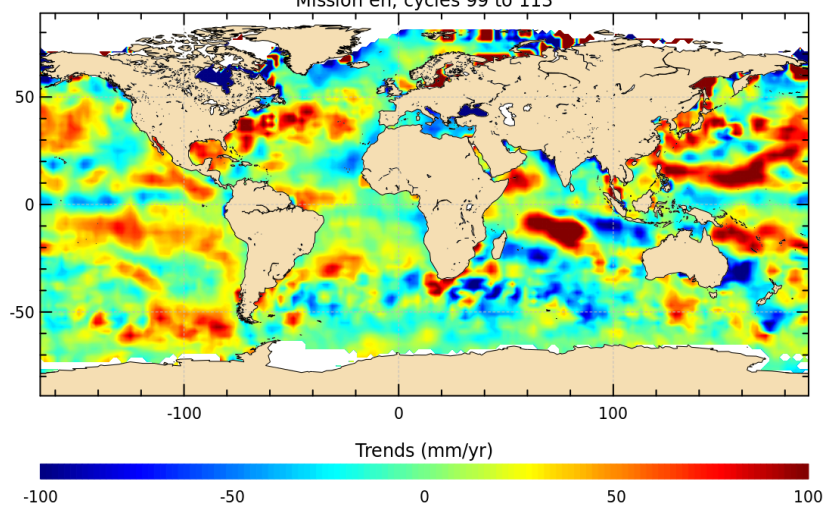
SLA with ERA trends : odd pass numbers

Mission en, cycles 99 to 113



SLA with ECMWF trends : odd pass numbers

Mission en, cycles 99 to 113



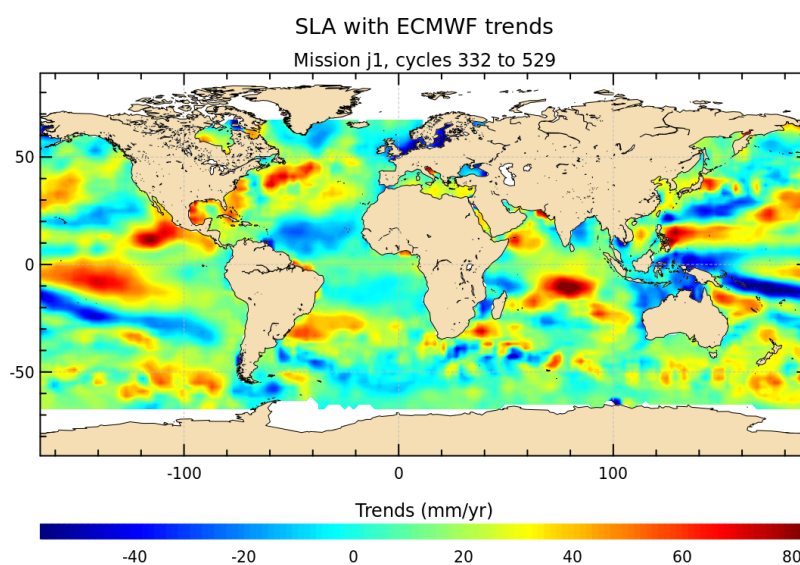
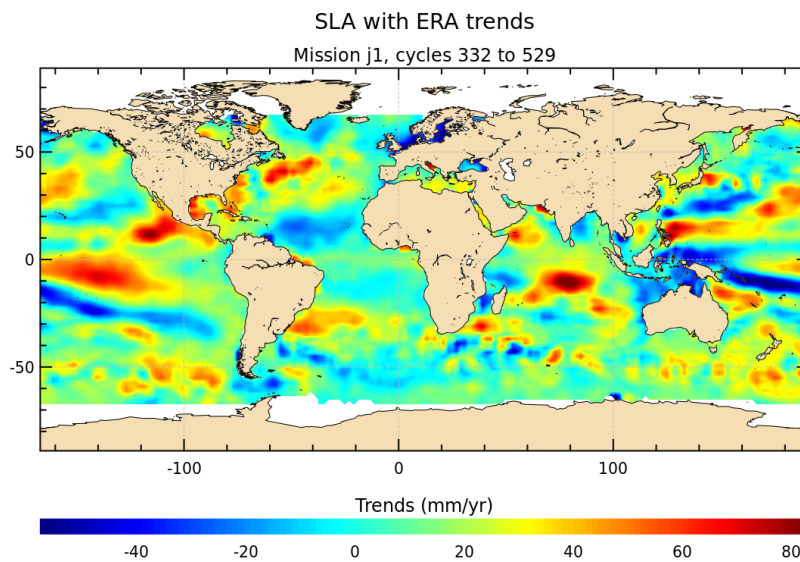
## Diagnostic A203\_a (mission j1)

**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.

Diagnostic type : Mono-mission analyses



## Diagnostic A203\_b (mission j1)

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

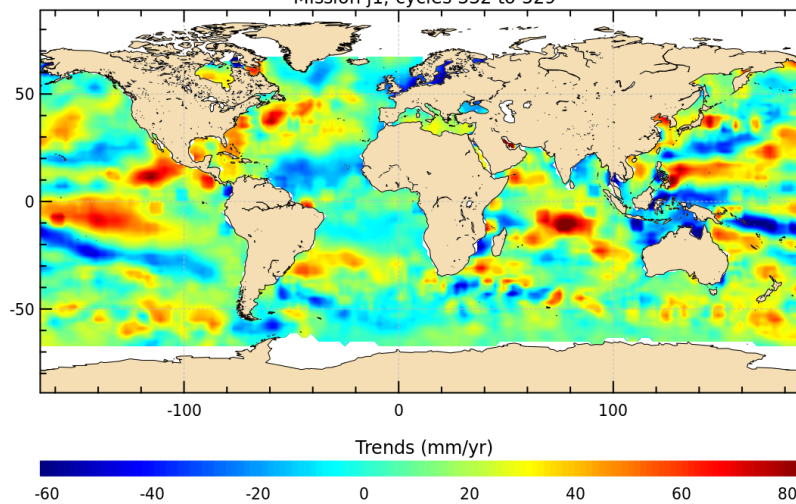
**Input data :** Along track SLA

**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.

Diagnostic type : Mono-mission analyses

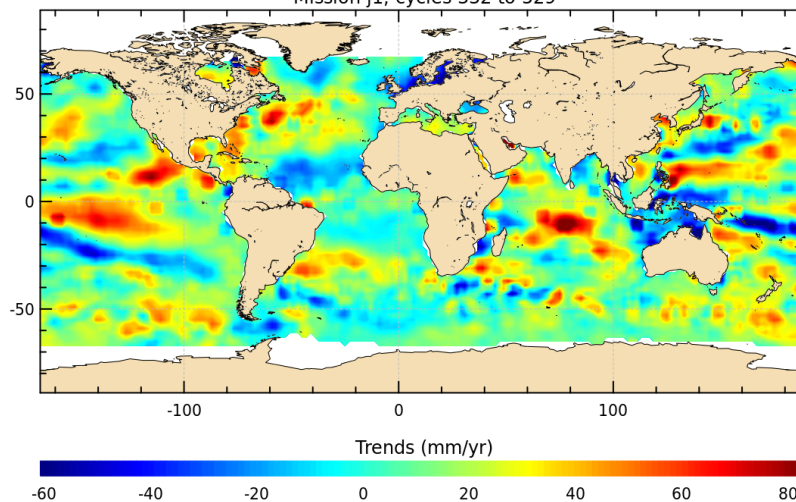
SLA with ERA trends : even pass numbers

Mission j1, cycles 332 to 529



SLA with ECMWF trends : even pass numbers

Mission j1, cycles 332 to 529





## Diagnostic A203\_c (mission j1)

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

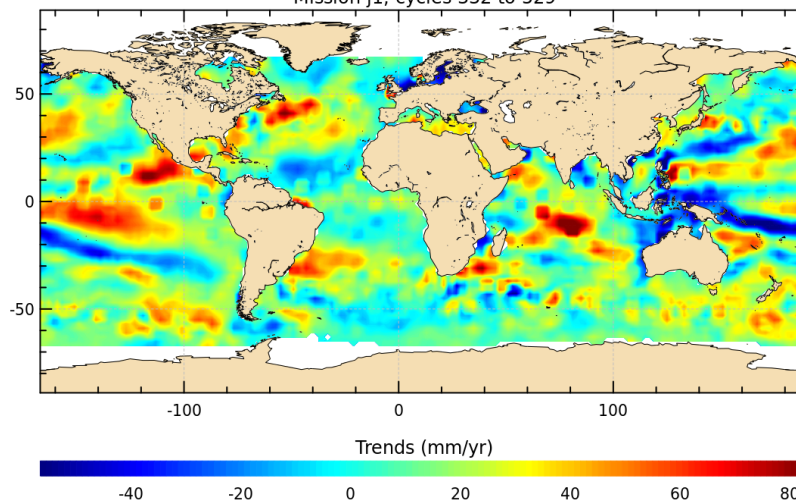
**Input data :** Along track SLA

**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 : Mono-mission analyses

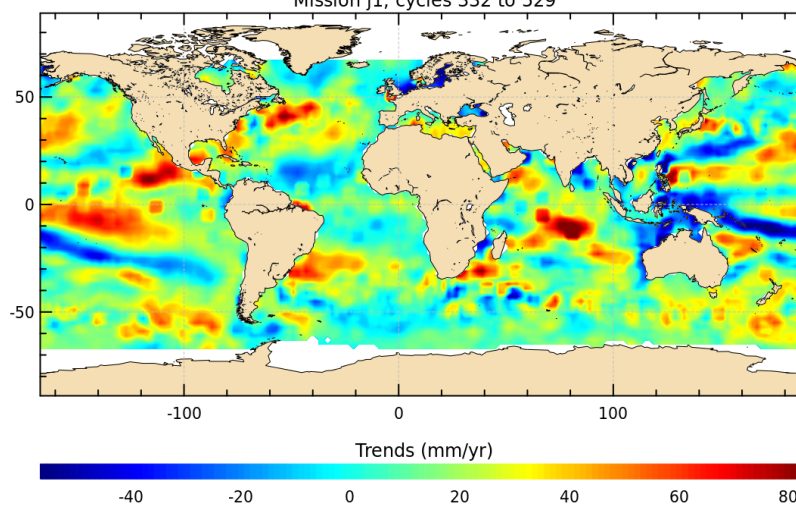
SLA with ERA trends : odd pass numbers

Mission j1, cycles 332 to 529



SLA with ECMWF trends : odd pass numbers

Mission j1, cycles 332 to 529



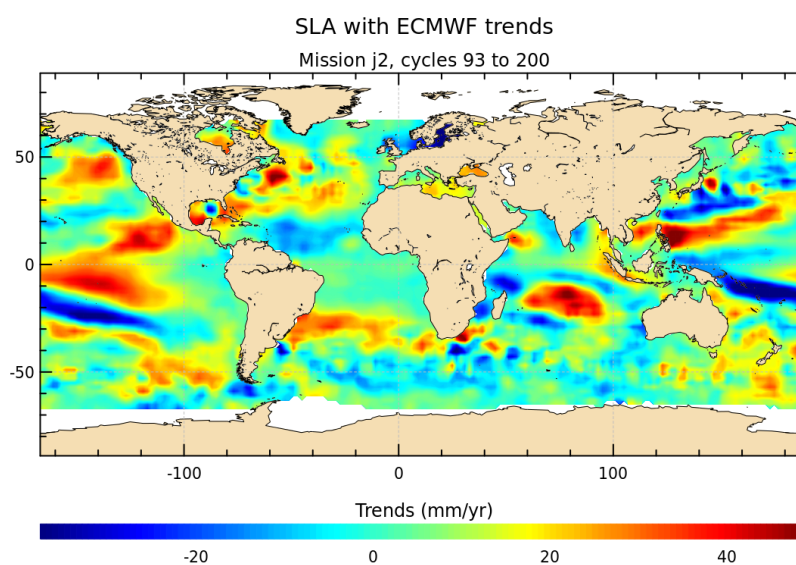
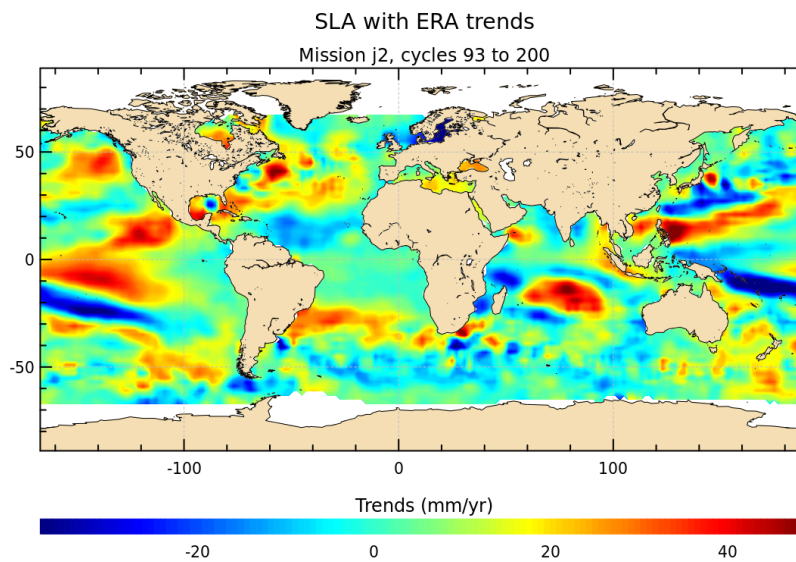
## Diagnostic A203\_a (mission j2)

**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 : Mono-mission analyses



## Diagnostic A203\_b (mission j2)

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

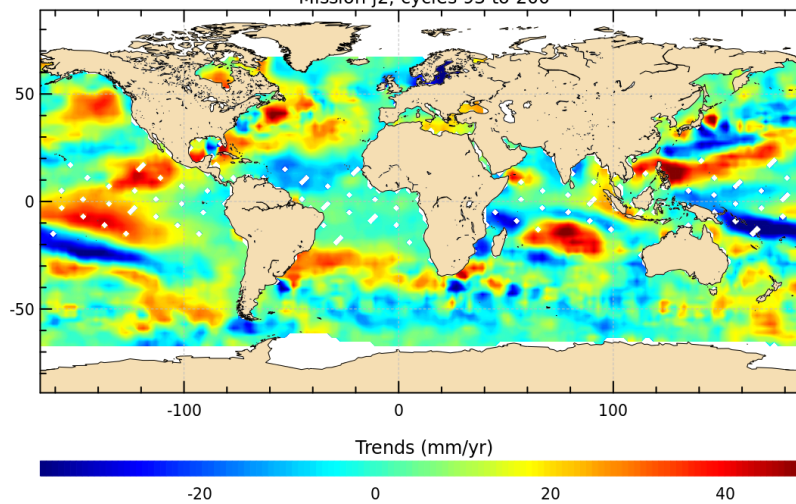
**Input data :** Along track SLA

**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 : Mono-mission analyses

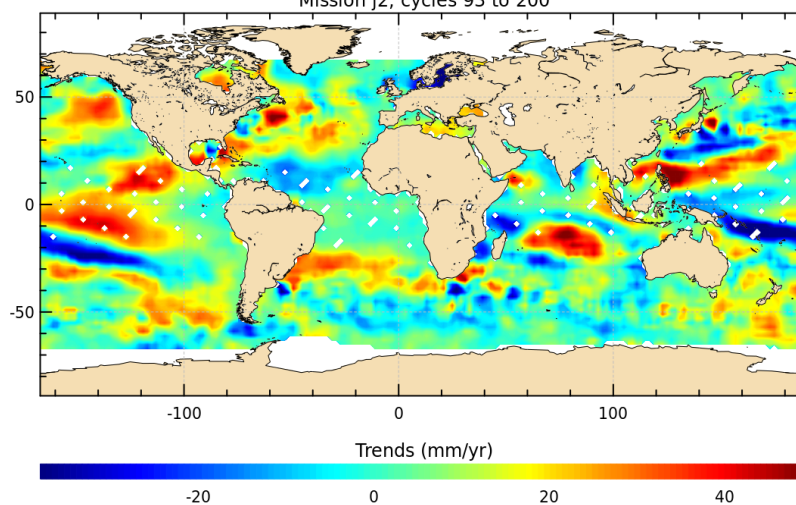
SLA with ERA trends : even pass numbers

Mission j2, cycles 93 to 200



SLA with ECMWF trends : even pass numbers

Mission j2, cycles 93 to 200



## Diagnostic A203\_c (mission j2)

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

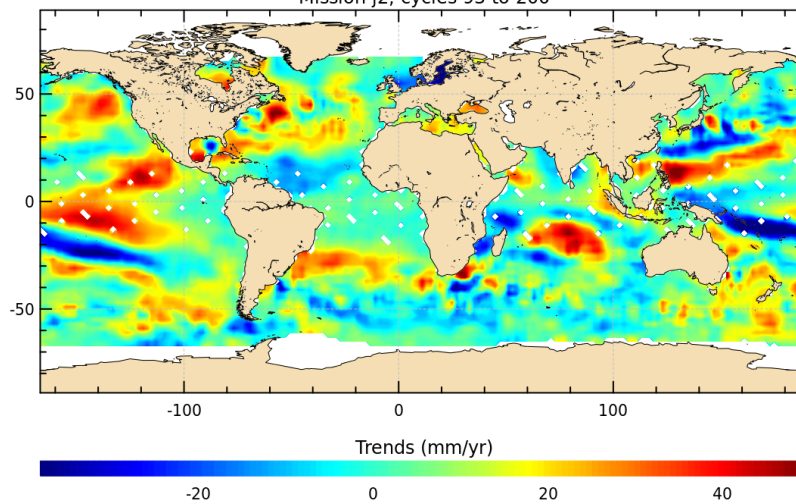
**Input data :** Along track SLA

**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 : Mono-mission analyses

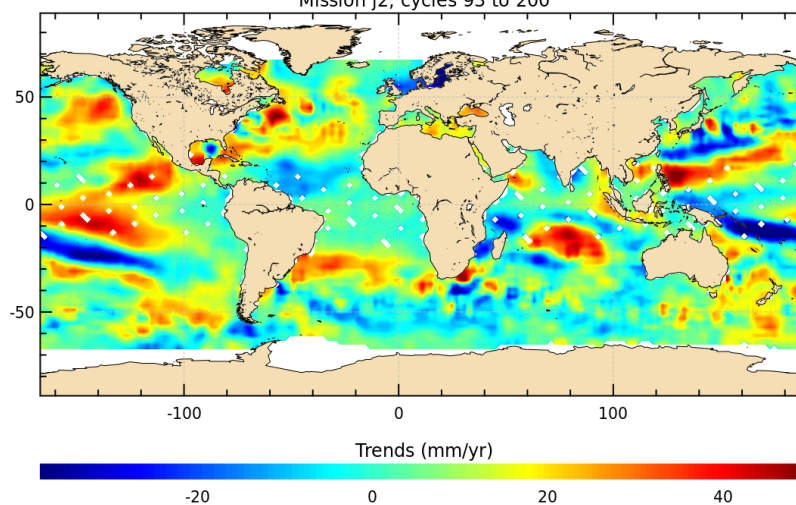
SLA with ERA trends : odd pass numbers

Mission j2, cycles 93 to 200



SLA with ECMWF trends : odd pass numbers

Mission j2, cycles 93 to 200





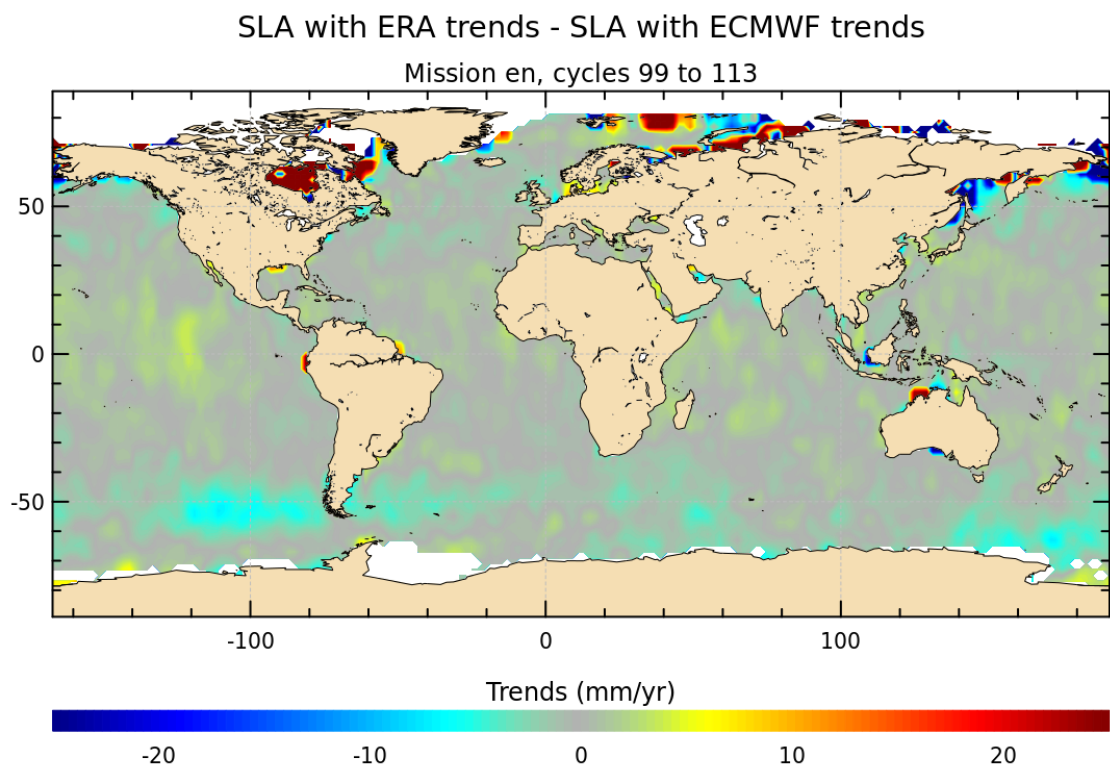
**Diagnostic A204 a (mission en)**

**Name :** Differences between maps of SLA trends

**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 : Mono-mission analyses



## Diagnostic A204\_b (mission en)

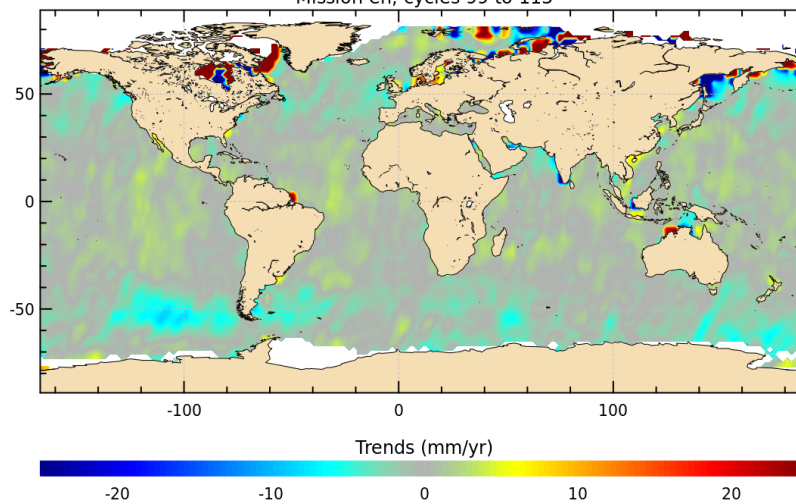
**Name :** Differences between maps of SLA trends

**Input data :** Along track SLA

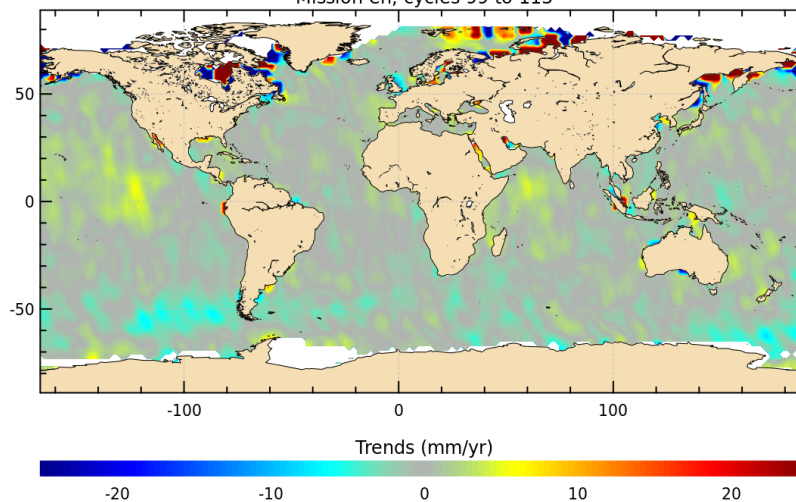
**Description :** The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

Diagnostic type : Mono-mission analyses

SLA with ERA trends - SLA with ECMWF trends : even pass numbers  
Mission en, cycles 99 to 113



SLA with ERA trends - SLA with ECMWF trends : odd pass numbers  
Mission en, cycles 99 to 113



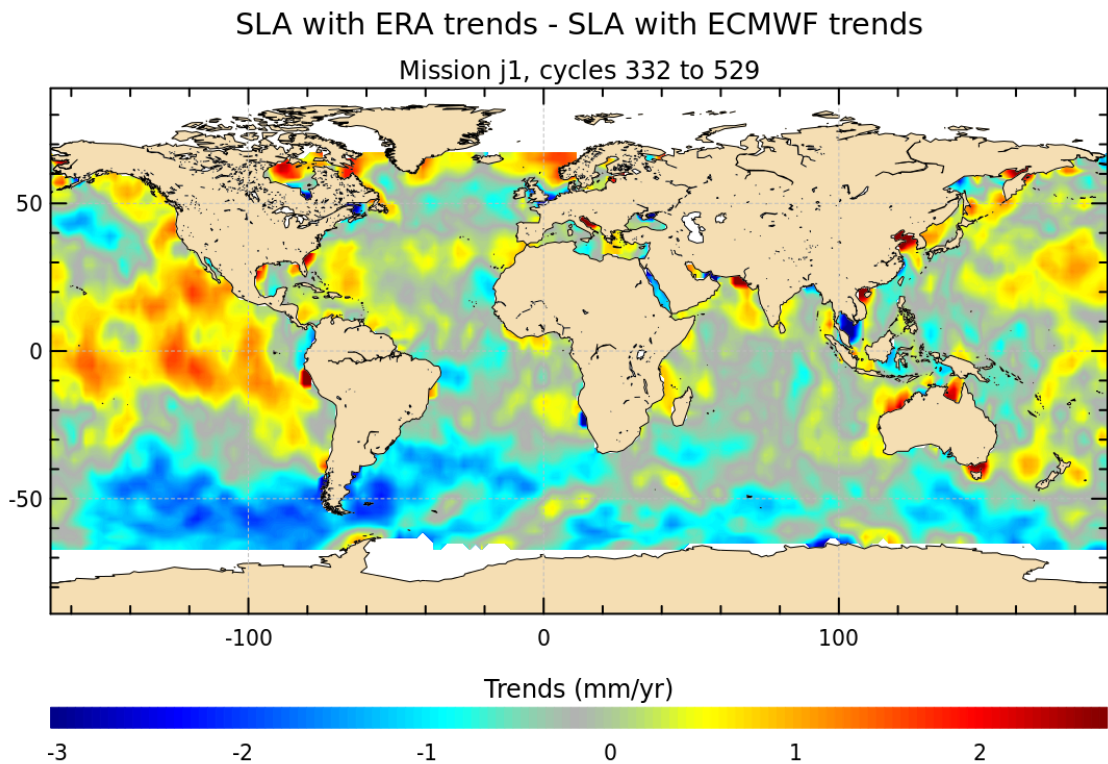
## Diagnostic A204\_a (mission j1)

**Name :** Differences between maps of SLA trends

**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 : Mono-mission analyses



## Diagnostic A204\_b (mission j1)

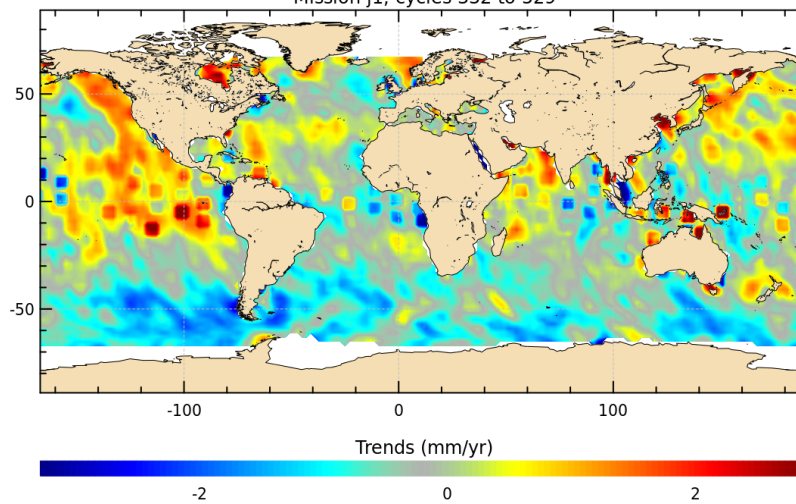
**Name :** Differences between maps of SLA trends

**Input data :** Along track SLA

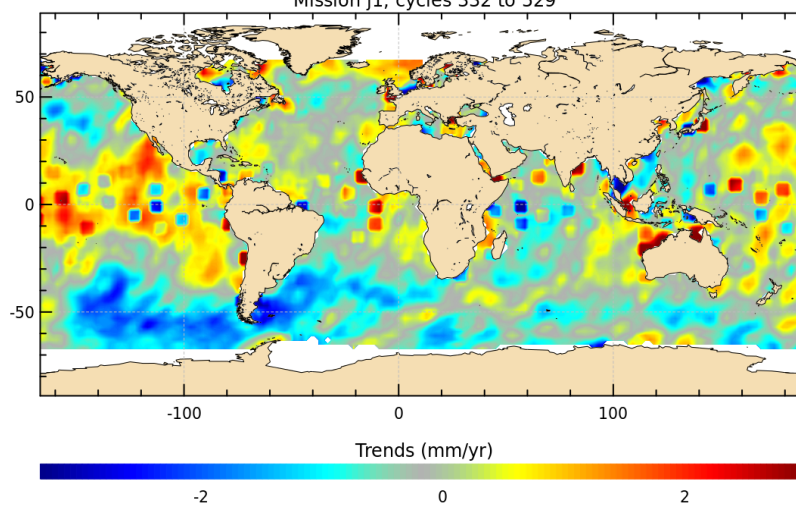
**Description :** The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

Diagnostic type : Mono-mission analyses

SLA with ERA trends - SLA with ECMWF trends : even pass numbers  
Mission j1, cycles 332 to 529



SLA with ERA trends - SLA with ECMWF trends : odd pass numbers  
Mission j1, cycles 332 to 529



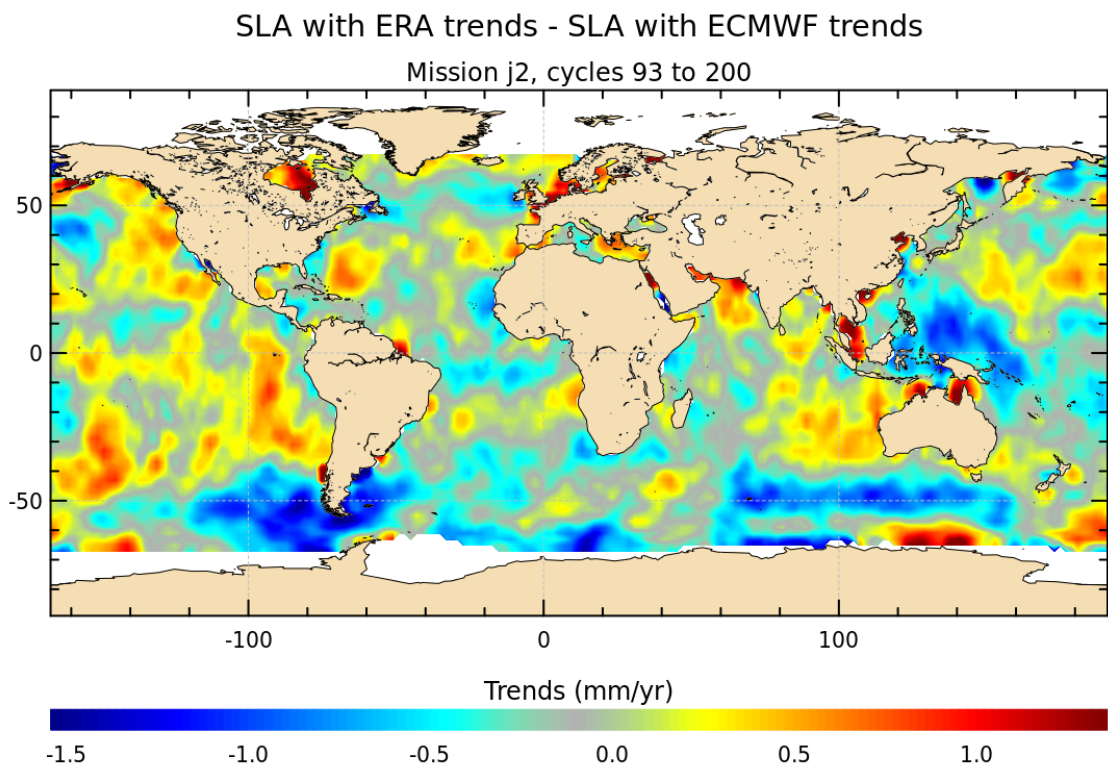
## Diagnostic A204\_a (mission j2)

**Name :** Differences between maps of SLA trends

**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 : Mono-mission analyses





## Diagnostic A204\_b (mission j2)

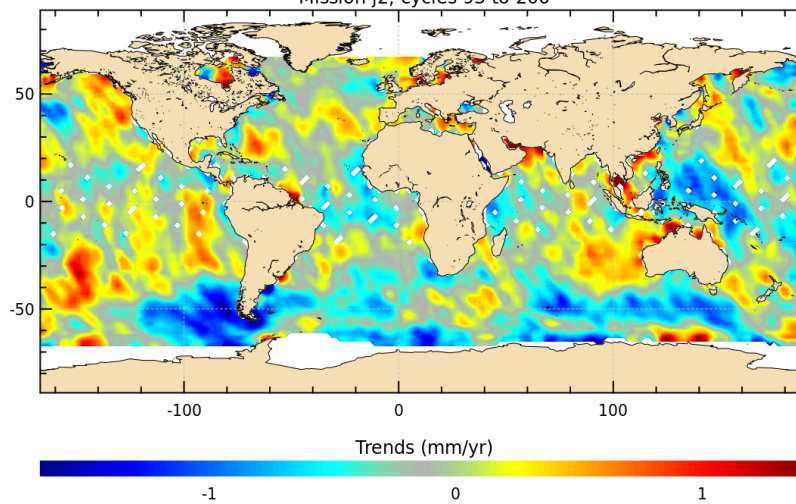
**Name :** Differences between maps of SLA trends

**Input data :** Along track SLA

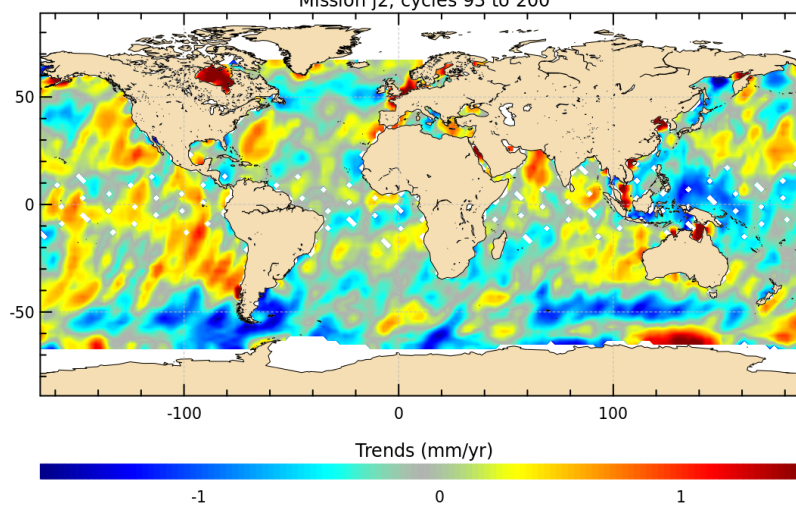
**Description :** The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

Diagnostic type : Mono-mission analyses

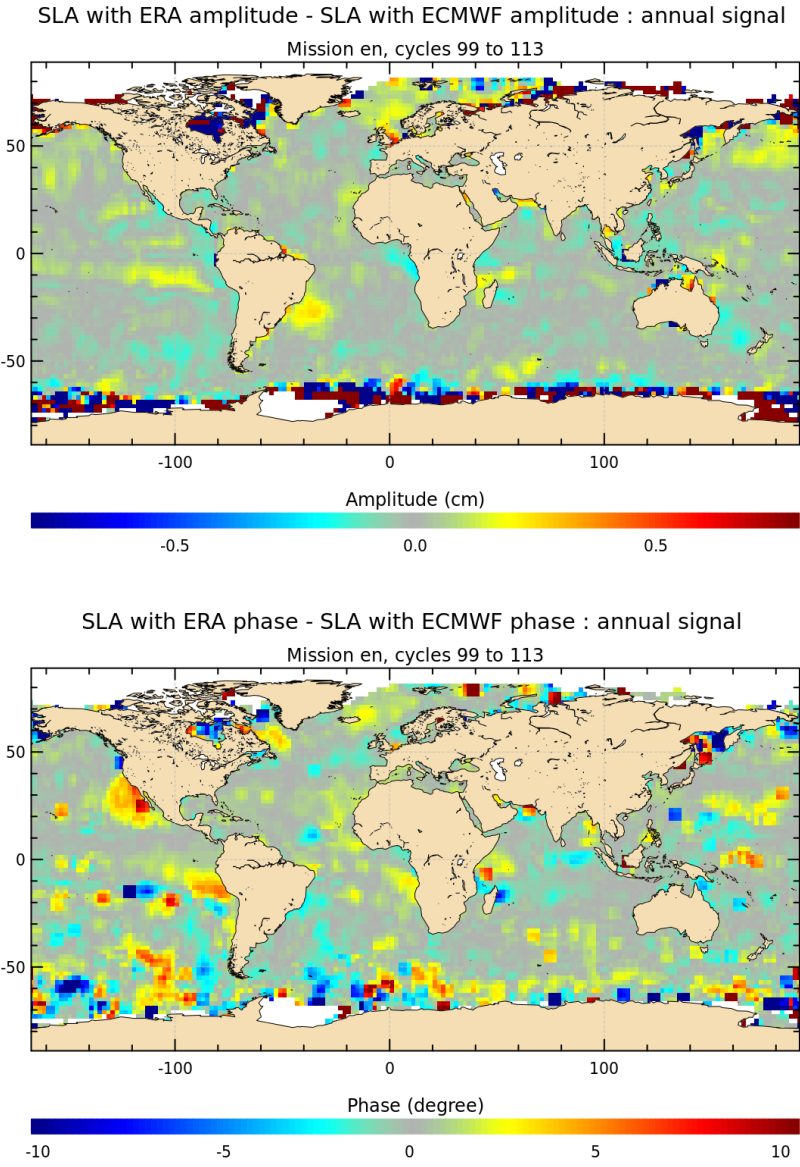
SLA with ERA trends - SLA with ECMWF trends : even pass numbers  
Mission j2, cycles 93 to 200



SLA with ERA trends - SLA with ECMWF trends : odd pass numbers  
Mission j2, cycles 93 to 200



Diagnostic A205_a (mission en)	
Name : Differences between maps of SLA amplitude and phase	
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 A205\_b (mission en)

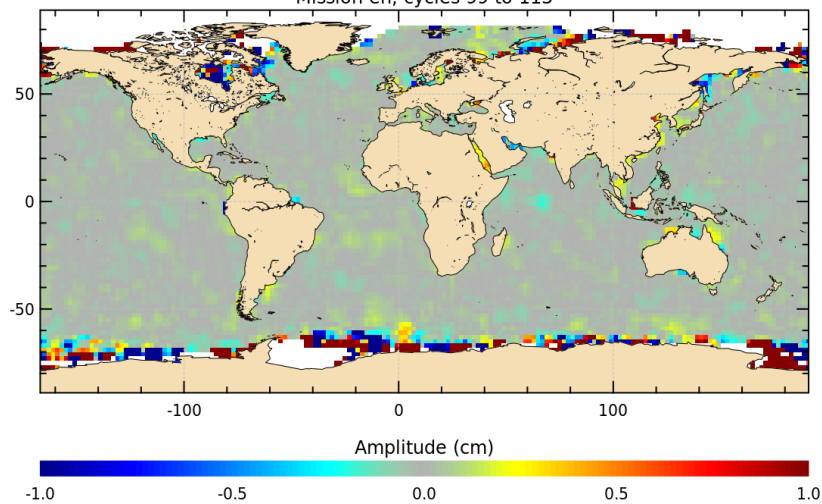
**Name :** Differences between maps of SLA amplitude and phase

**Input data :** Along track SLA

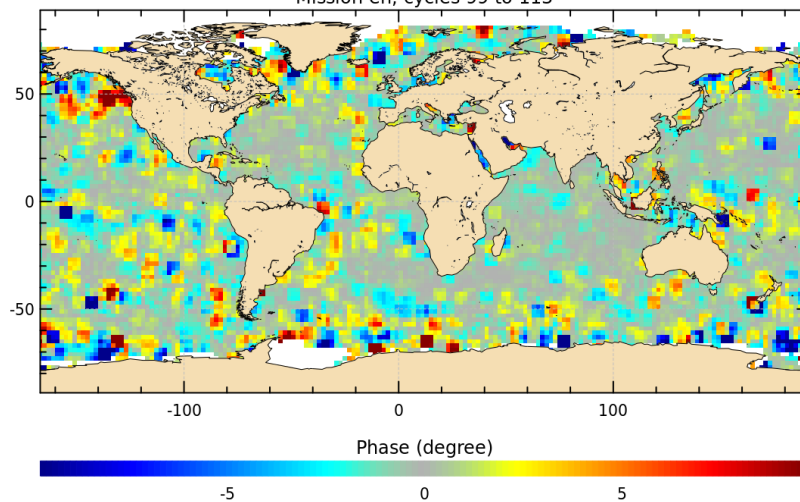
**Description :** The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

Diagnostic type : Mono-mission analyses

.A with ERA amplitude - SLA with ECMWF amplitude : semi-annual signal  
Mission en, cycles 99 to 113



SLA with ERA phase - SLA with ECMWF phase : semi-annual signal  
Mission en, cycles 99 to 113





## Diagnostic A205\_a (mission j1)

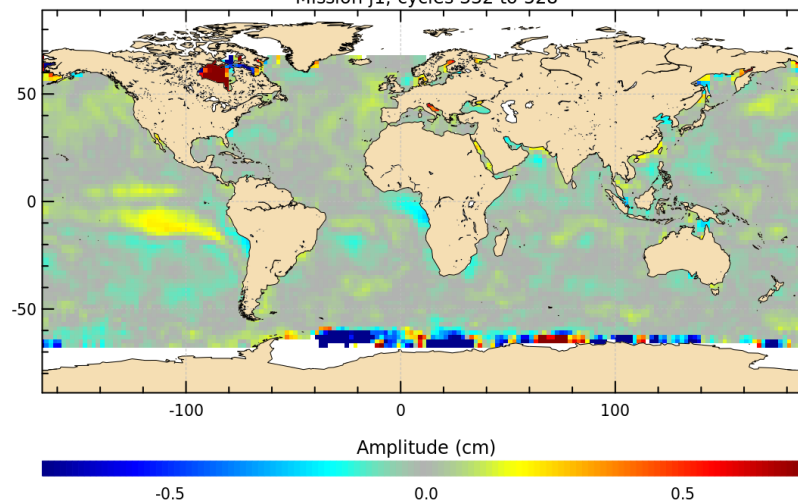
**Name :** Differences between maps of SLA amplitude and phase

**Input data :** Along track SLA

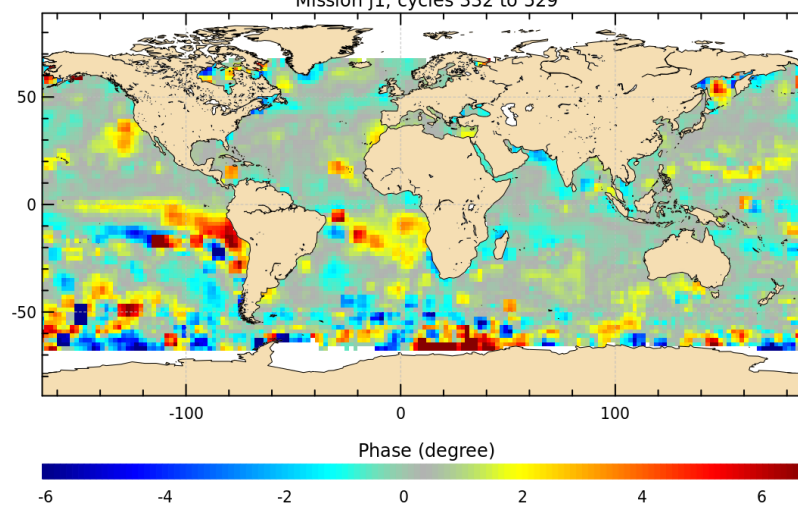
**Description :** The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

Diagnostic type : Mono-mission analyses

SLA with ERA amplitude - SLA with ECMWF amplitude : annual signal  
Mission j1, cycles 332 to 528



SLA with ERA phase - SLA with ECMWF phase : annual signal  
Mission j1, cycles 332 to 529



## Diagnostic A205\_b (mission j1)

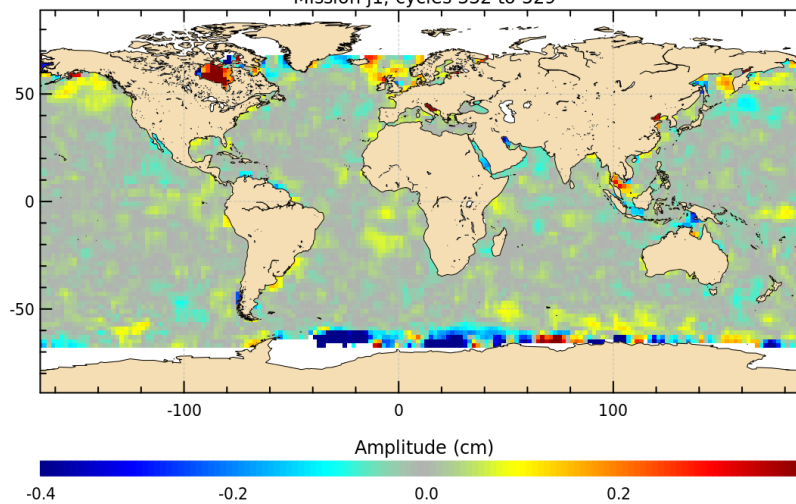
**Name :** Differences between maps of SLA amplitude and phase

**Input data :** Along track SLA

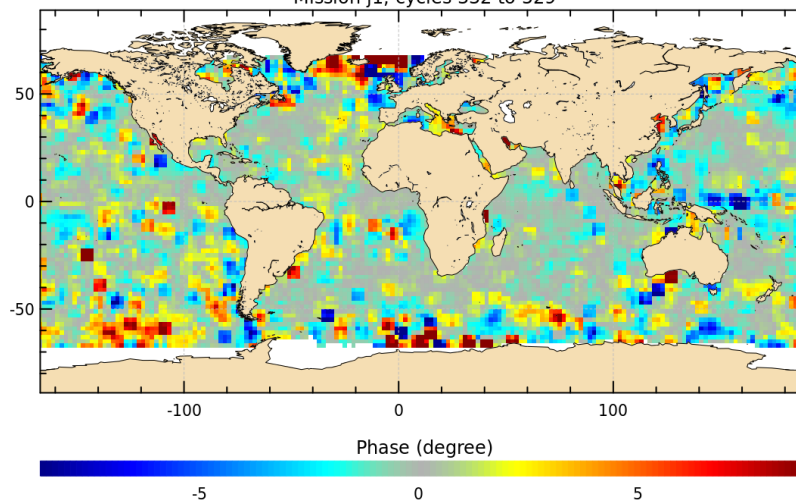
**Description :** The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

Diagnostic type : Mono-mission analyses

.A with ERA amplitude - SLA with ECMWF amplitude : semi-annual signal  
Mission j1, cycles 332 to 529



SLA with ERA phase - SLA with ECMWF phase : semi-annual signal  
Mission j1, cycles 332 to 529



## Diagnostic A205\_a (mission j2)

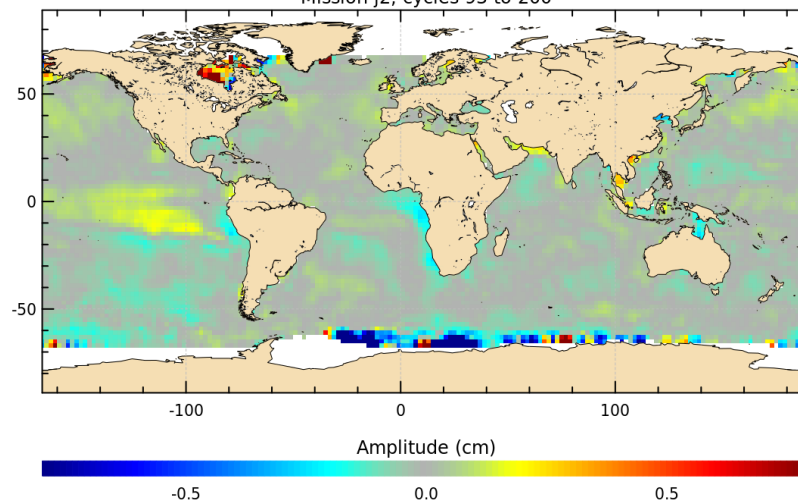
**Name :** Differences between maps of SLA amplitude and phase

**Input data :** Along track SLA

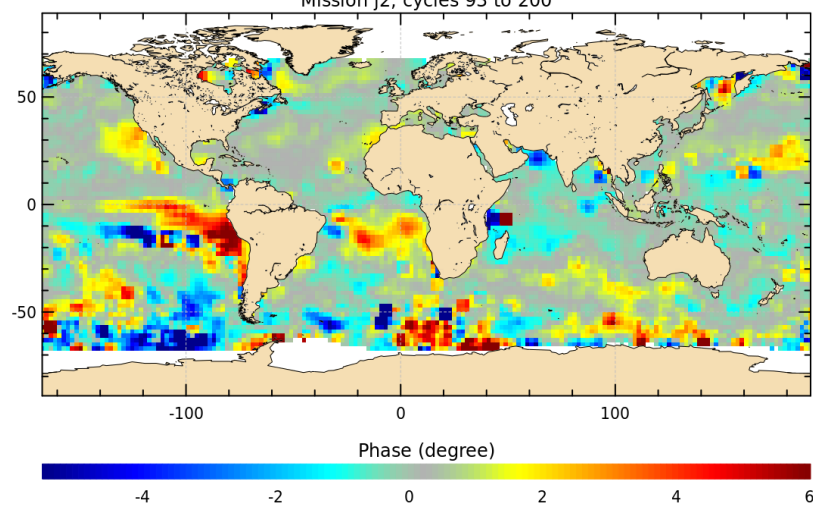
**Description :** The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

Diagnostic type : Mono-mission analyses

SLA with ERA amplitude - SLA with ECMWF amplitude : annual signal  
Mission j2, cycles 93 to 200



SLA with ERA phase - SLA with ECMWF phase : annual signal  
Mission j2, cycles 93 to 200



## Diagnostic A205\_b (mission j2)

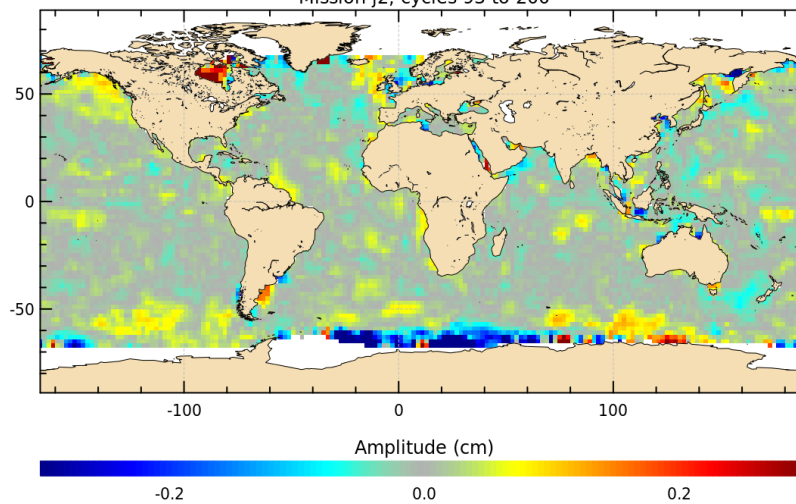
**Name :** Differences between maps of SLA amplitude and phase

**Input data :** Along track SLA

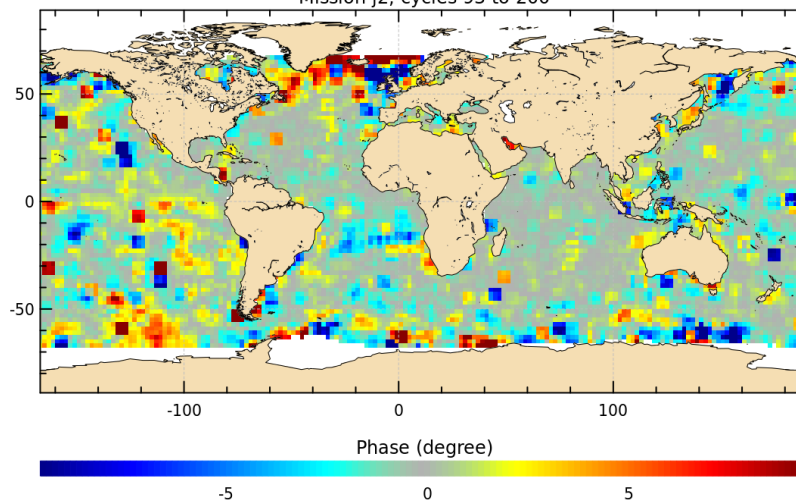
**Description :** The difference of SLA maps (mean, standard deviation, slope) is calculated from maps derived from diagnostic A203 using successively both altimetric components in the SLA calculation over a given period. This can be done globally, or separating in ascending and descending passes (except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

Diagnostic type : Mono-mission analyses

SLA with ERA amplitude - SLA with ECMWF amplitude : semi-annual signal  
Mission j2, cycles 93 to 200



SLA with ERA phase - SLA with ECMWF phase : semi-annual signal  
Mission j2, cycles 93 to 200

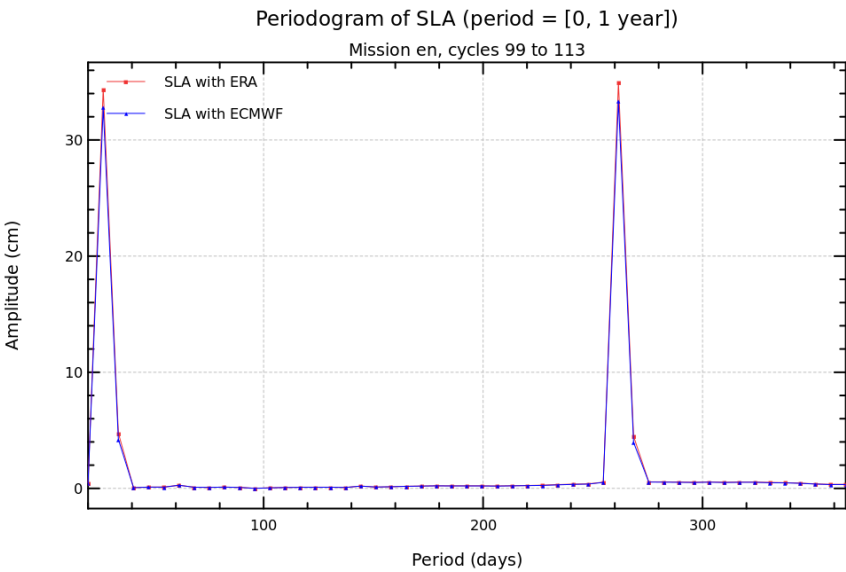
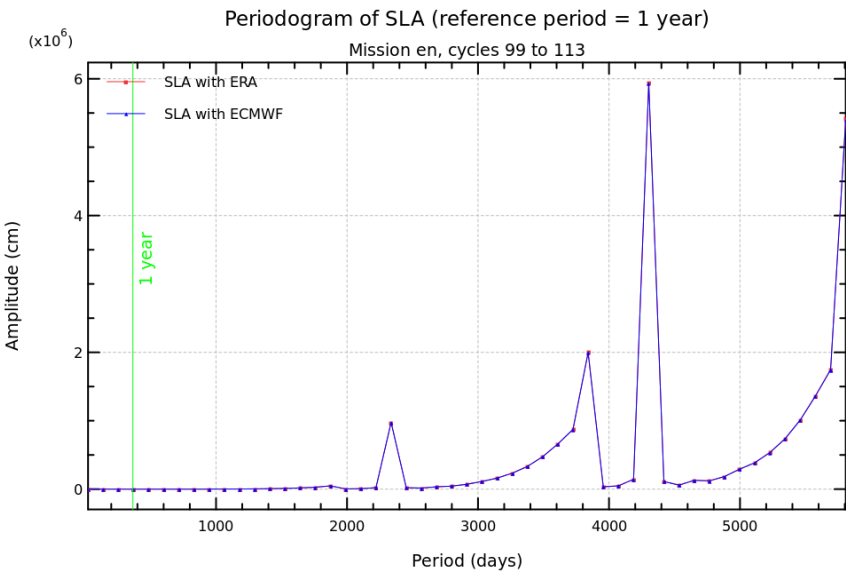


Diagnostic A206\_a (mission en)

**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.



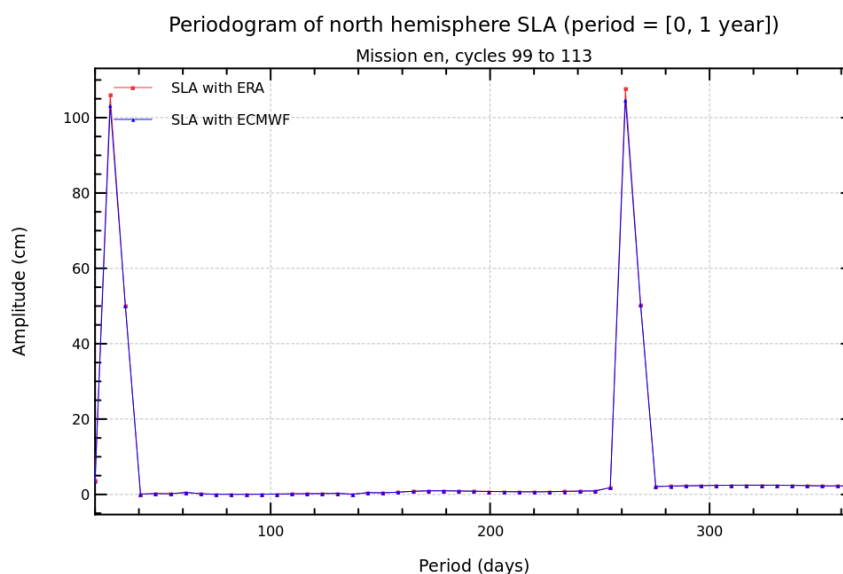
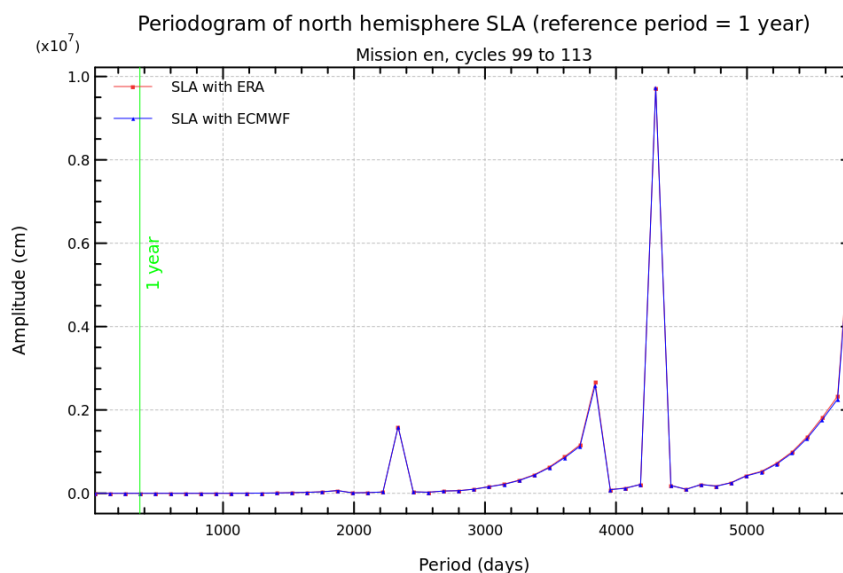
## Diagnostic A206\_b (mission en)

**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 : Mono-mission analyses



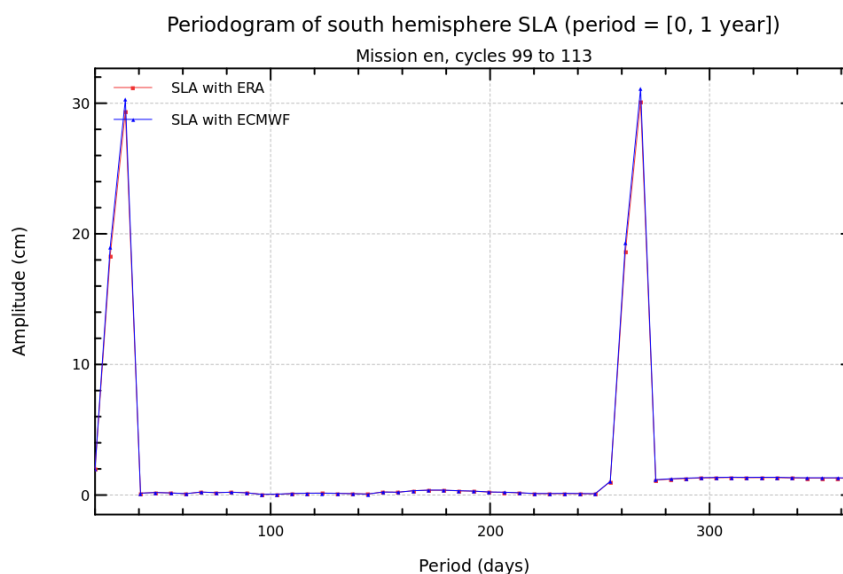
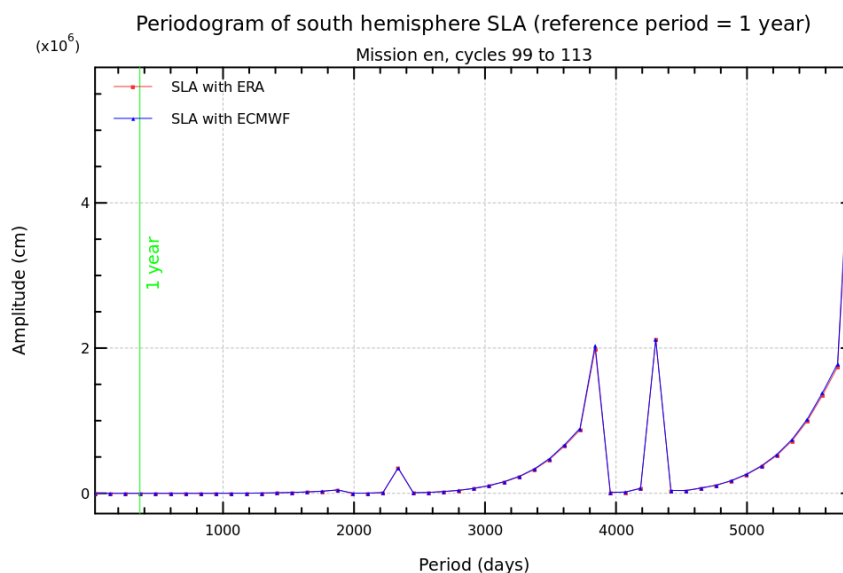
## Diagnostic A206\_c (mission en)

**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 : Mono-mission analyses



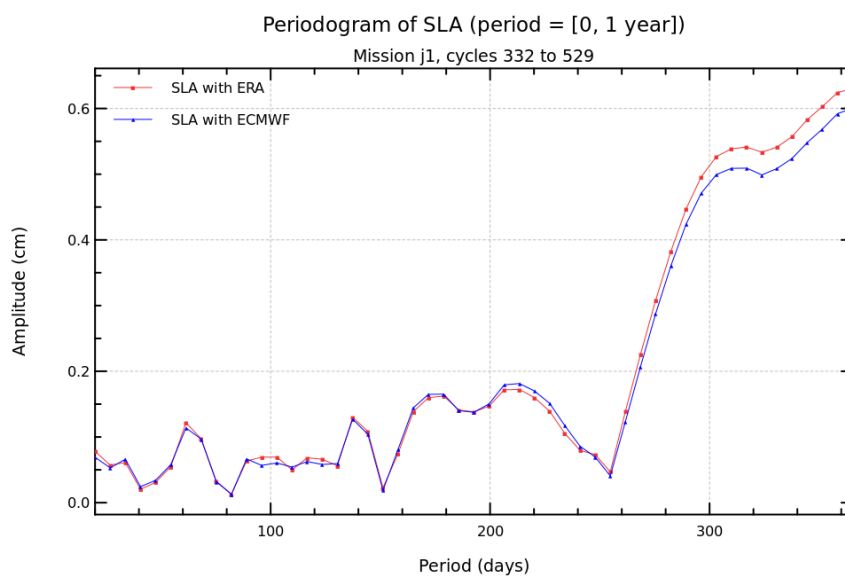
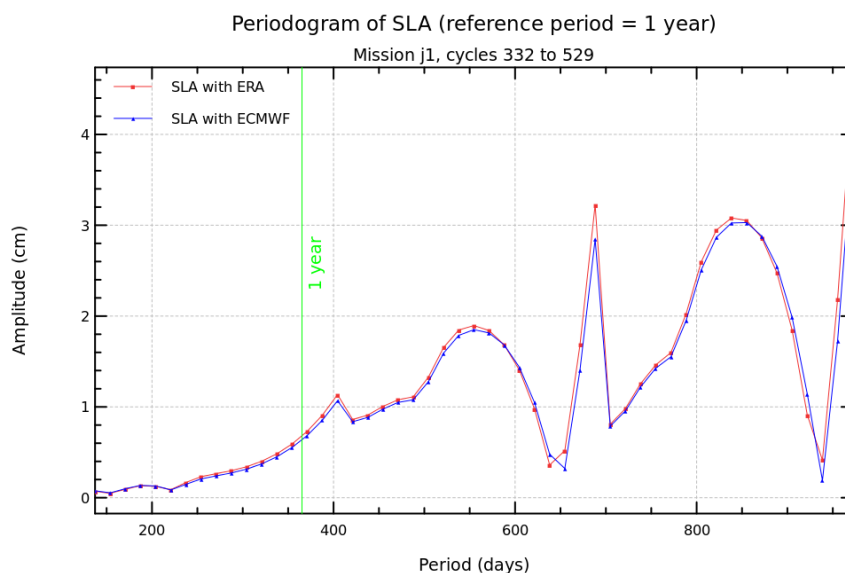
## Diagnostic A206\_a (mission j1)

**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 : Mono-mission analyses





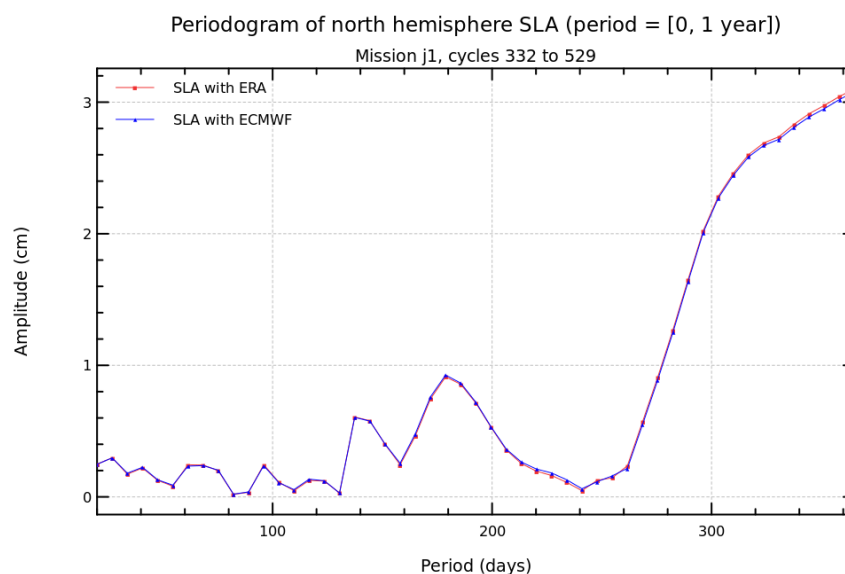
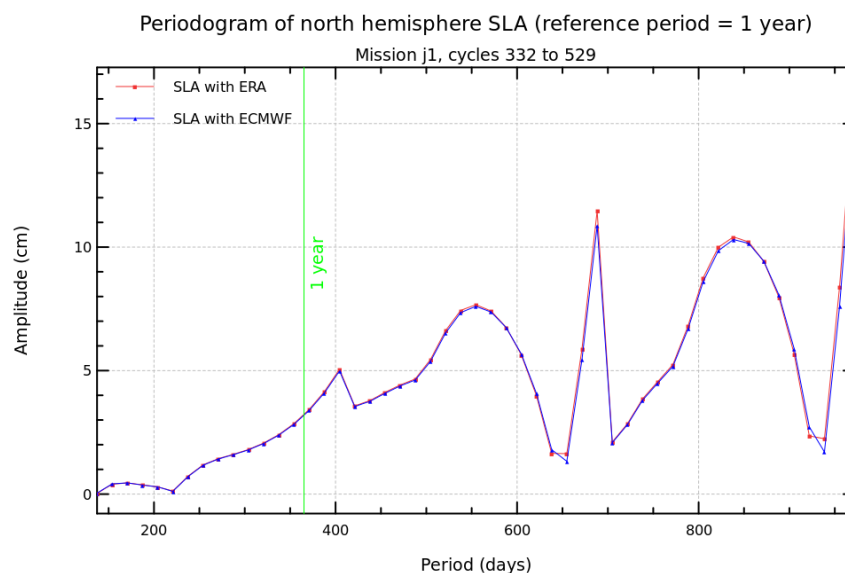
## Diagnostic A206\_b (mission j1)

**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 : Mono-mission analyses



## Diagnostic A206\_c (mission j1)

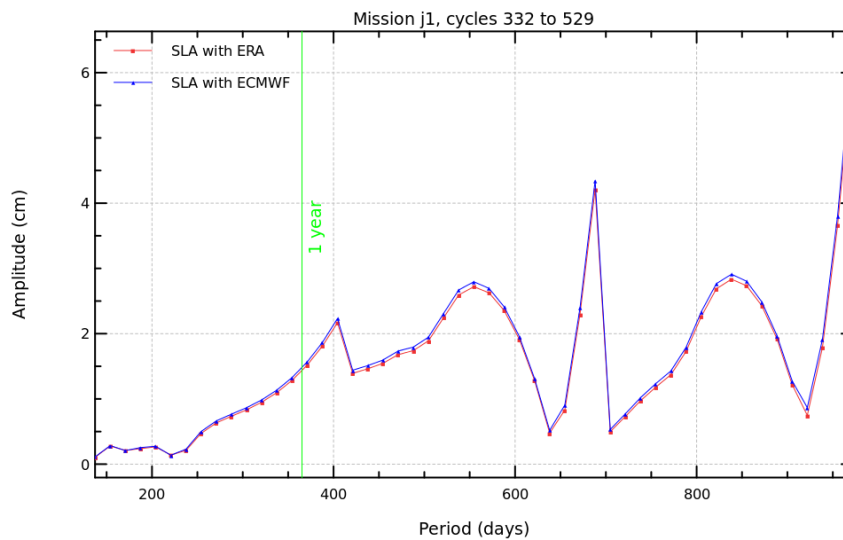
**Name :** Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

**Input data :** Along track SLA

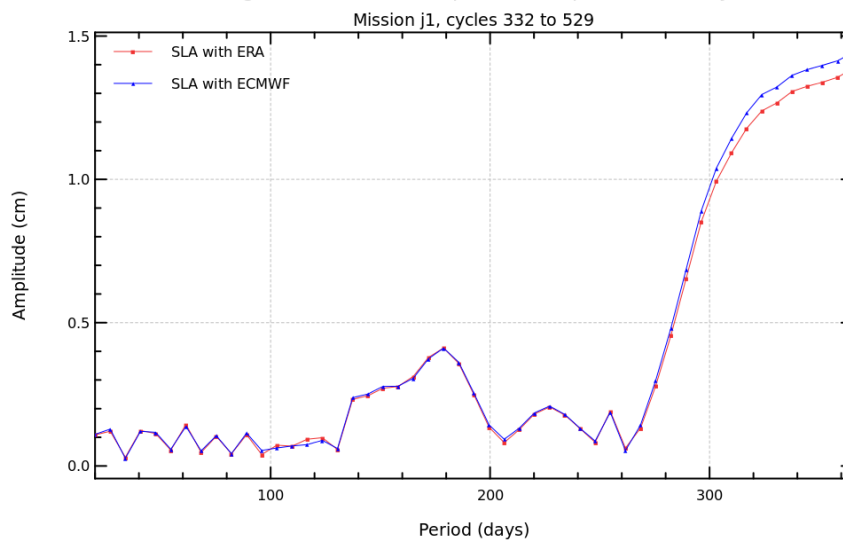
**Description :** The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time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

Diagnostic type : Mono-mission analyses

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



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



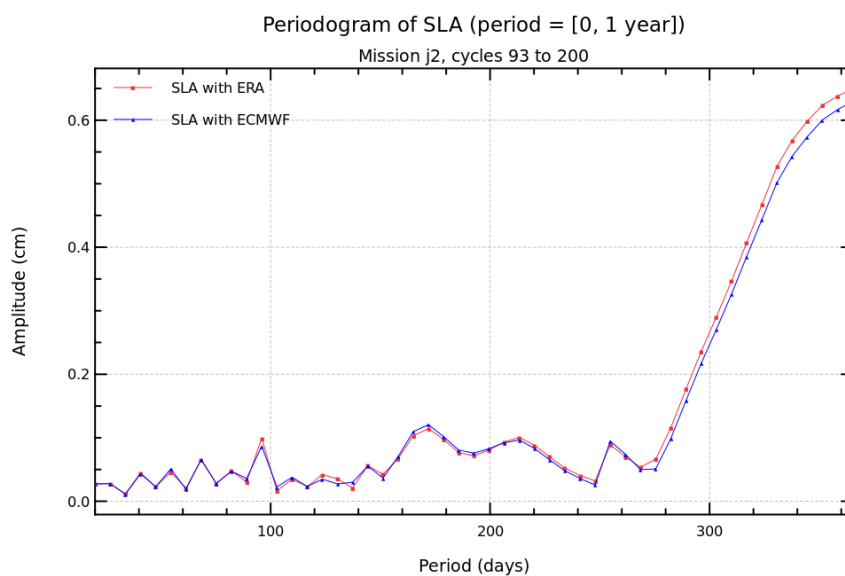
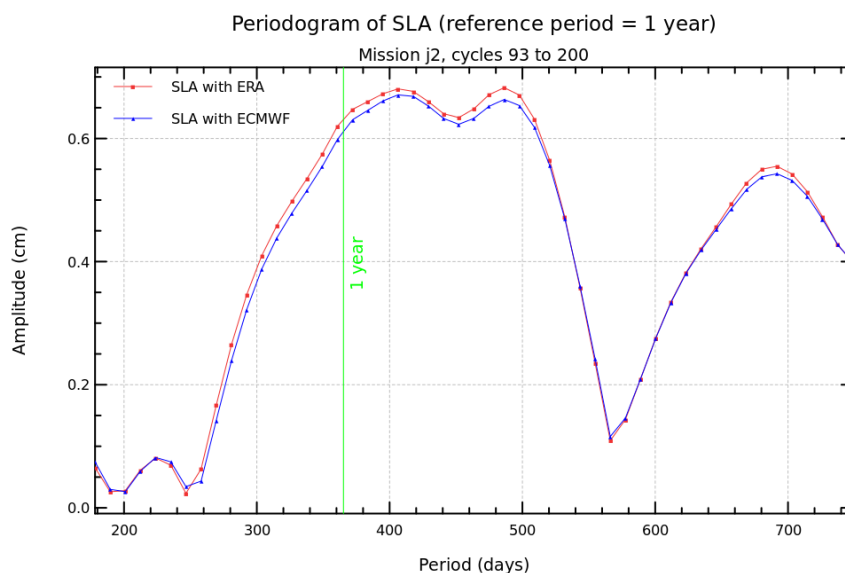
## Diagnostic A206\_a (mission j2)

**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 : Mono-mission analyses



## Diagnostic A206\_b (mission j2)

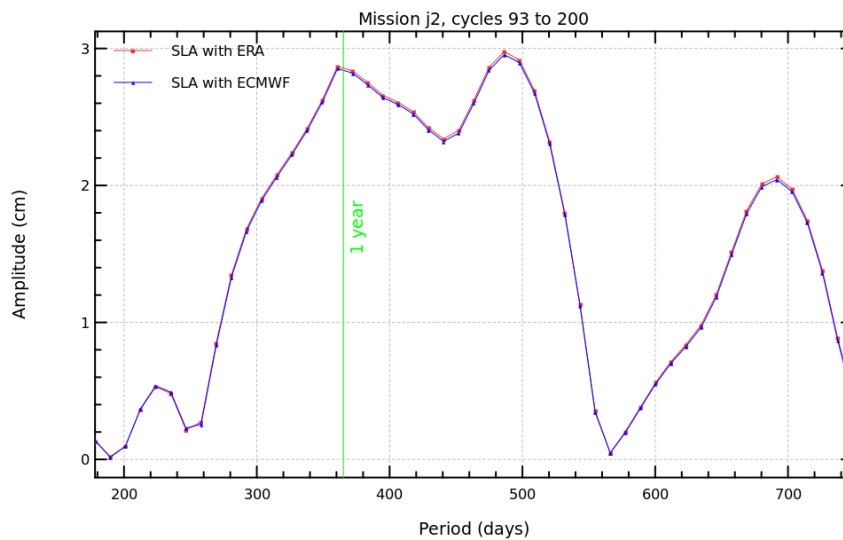
**Name :** Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

**Input data :** Along track SLA

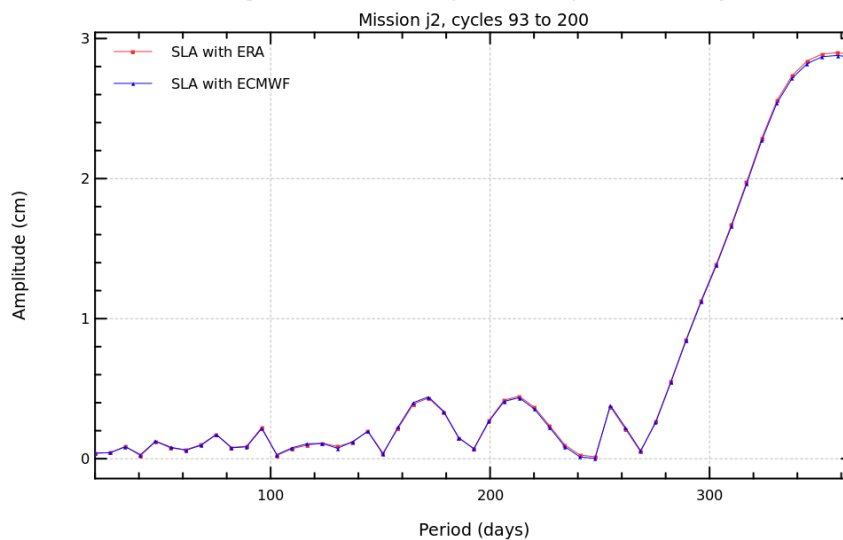
**Description :** The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time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

Diagnostic type : Mono-mission analyses

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



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



## Diagnostic A206\_c (mission j2)

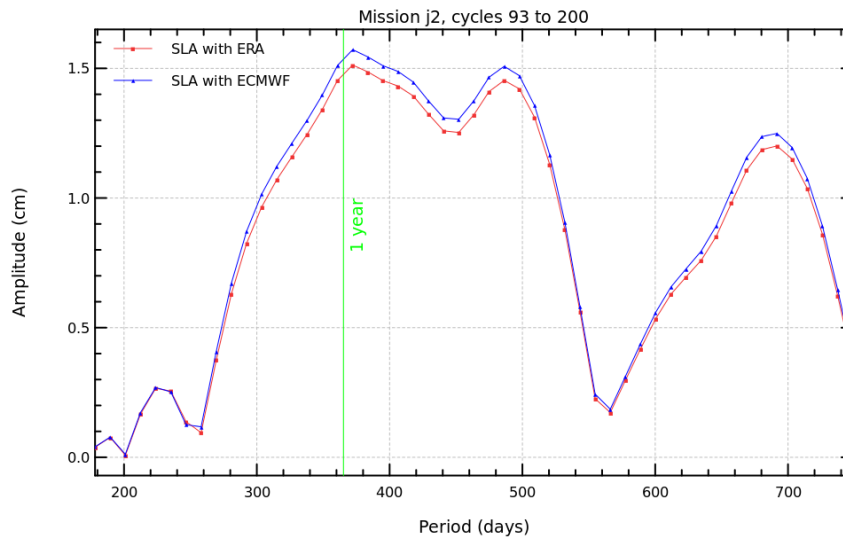
**Name :** Periodogram derived from temporal evolution of Sea Level Anomaly (SLA)

**Input data :** Along track SLA

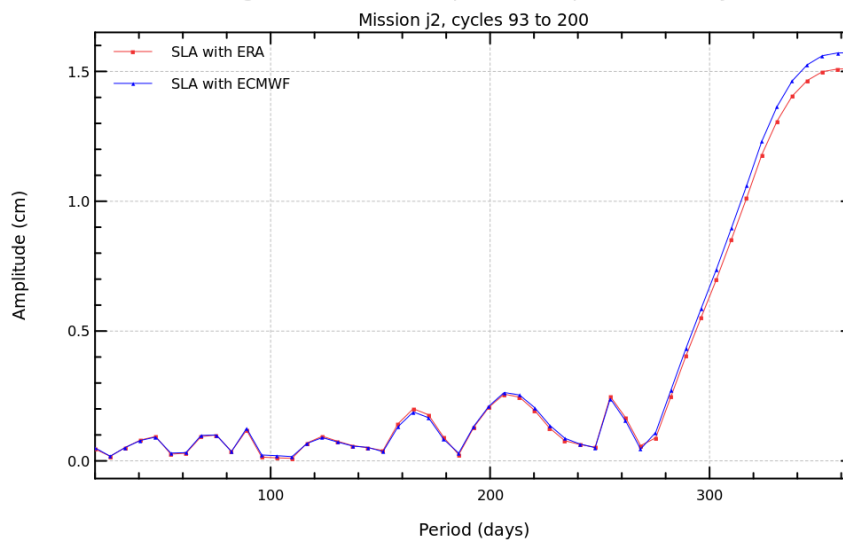
**Description :** The periodogram derived from temporal evolution of SLA (global, northern or southern hemisphere) can be done over all periods or focusing on particular periods, such as annual, semi annual or 60 day signal. Therefore mean of SLA differences are computed (every day or cycle), and time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

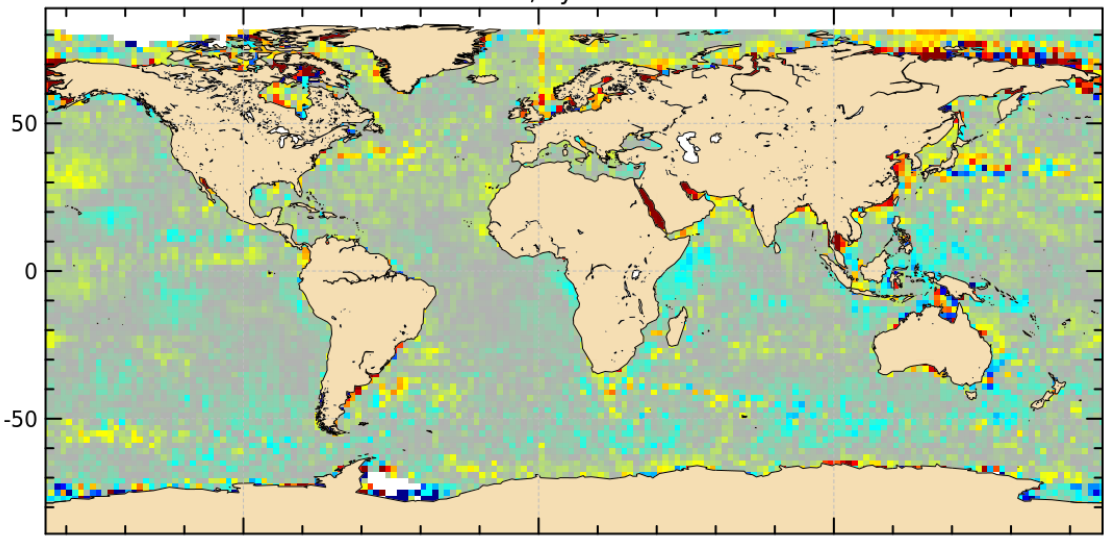
Diagnostic type : Mono-mission analyses

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



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



Diagnostic type : Mono-mission analyses	<b>Diagnostic A209 (mission en)</b>
	<b>Name :</b> Differences between maps of SLA variance
	<b>Input data :</b> Along track SLA
	<b>Description :</b> 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><p>VAR(SLA with ERA) - VAR(SLA with ECMWF)</p><p>Mission en, cycles 99 to 113</p><p>Difference of variances (cm<sup>2</sup>)</p><p>-4 -2 0 2 4</p></div>

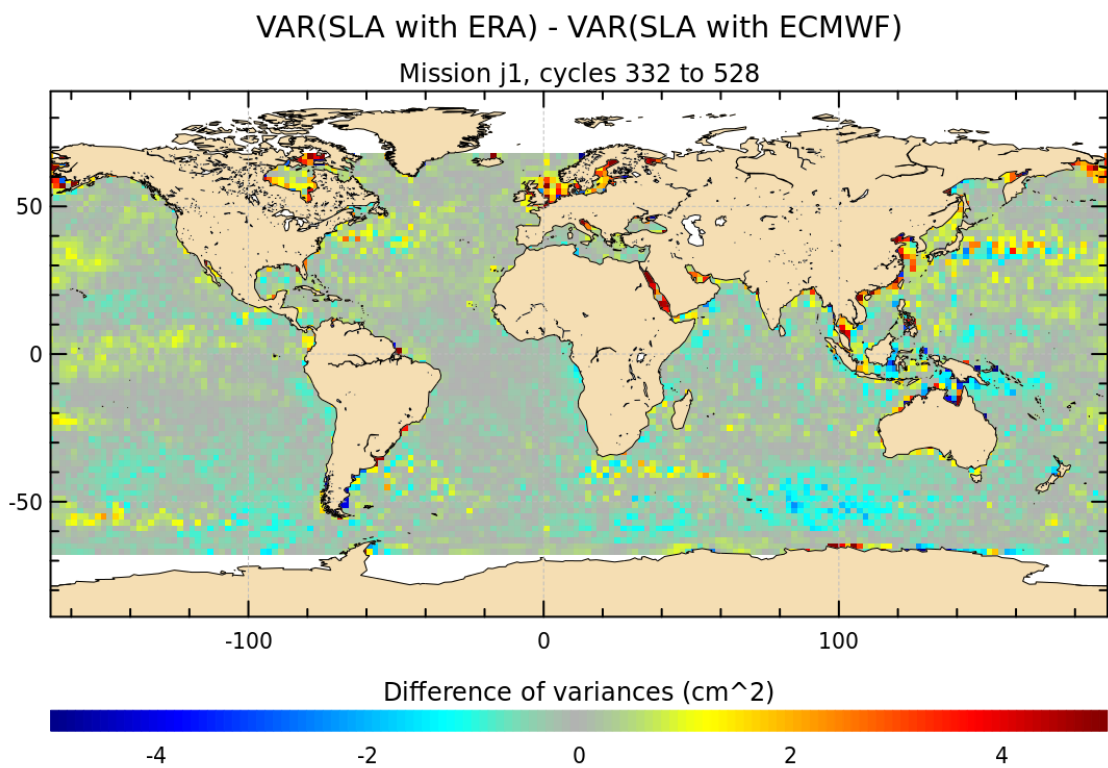
## Diagnostic A209 (mission j1)

**Name :** Differences between maps of SLA variance

**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.

Diagnostic type : Mono-mission analyses



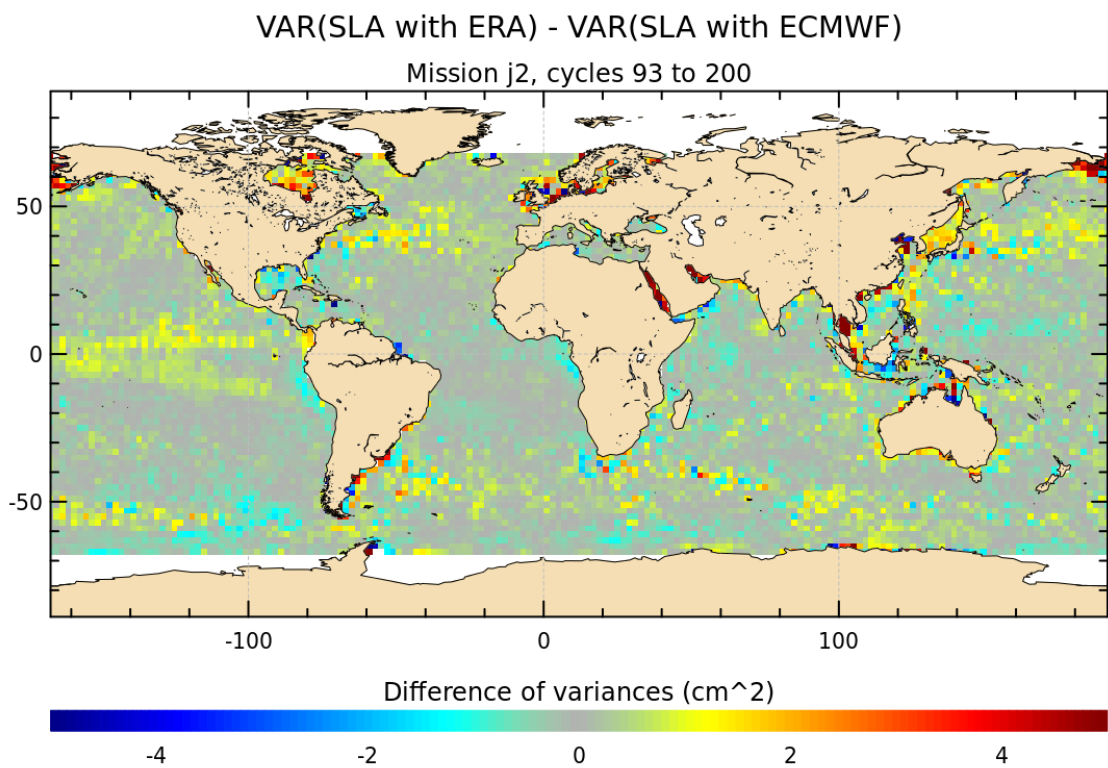
## Diagnostic A209 (mission j2)

**Name :** Differences between maps of SLA variance

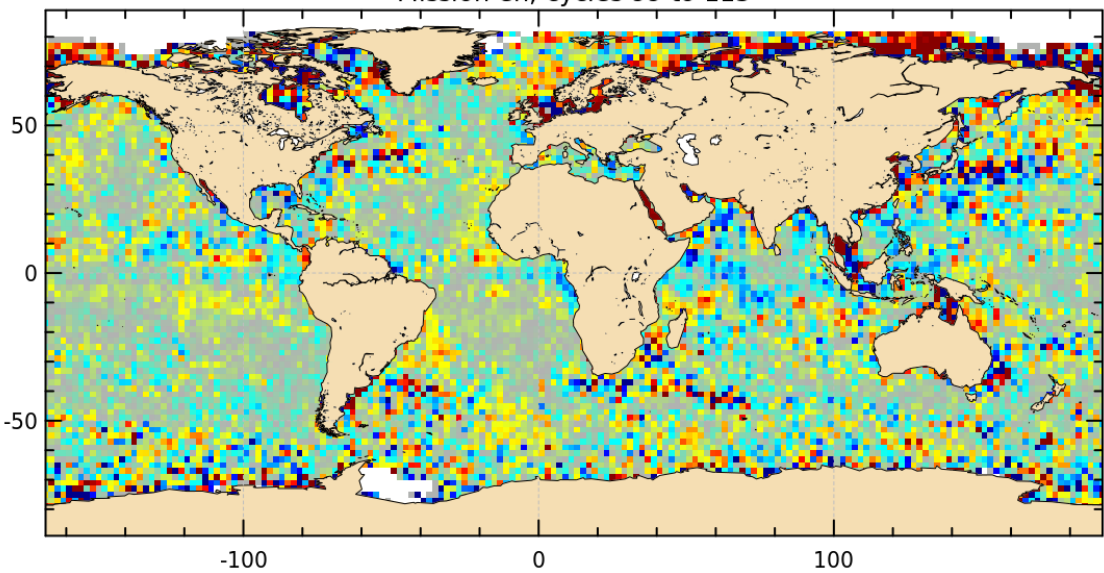
**Input data :** Along track SLA

**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.

Diagnostic type : Mono-mission analyses





Diagnostic type : Mono-mission analyses	Diagnostic A210_a (mission en)	
	Name : Differences between maps of SLA variance for different frequency bands	
	Input data : Along track SLA	
	Description : The differences between maps of SLA (variance) are calculated from the mean SLA maps using successively both altimetric components in the SLA calculation filtered to separate high-frequency ( $T < 1$ yr), mid-frequency ( $1 \text{ yr} < T < 3$ yrs) and low-frequency ( $T > 3$ yrs) signals.	
	<div>VAR(SLA with ERA) - VAR(SLA with ECMWF) for FILTER HF</div> <div>Mission en, cycles 99 to 113</div>  <div>Difference of variances HF (<math>\text{cm}^2</math>)</div> <div>-2      -1      0      1      2</div>	

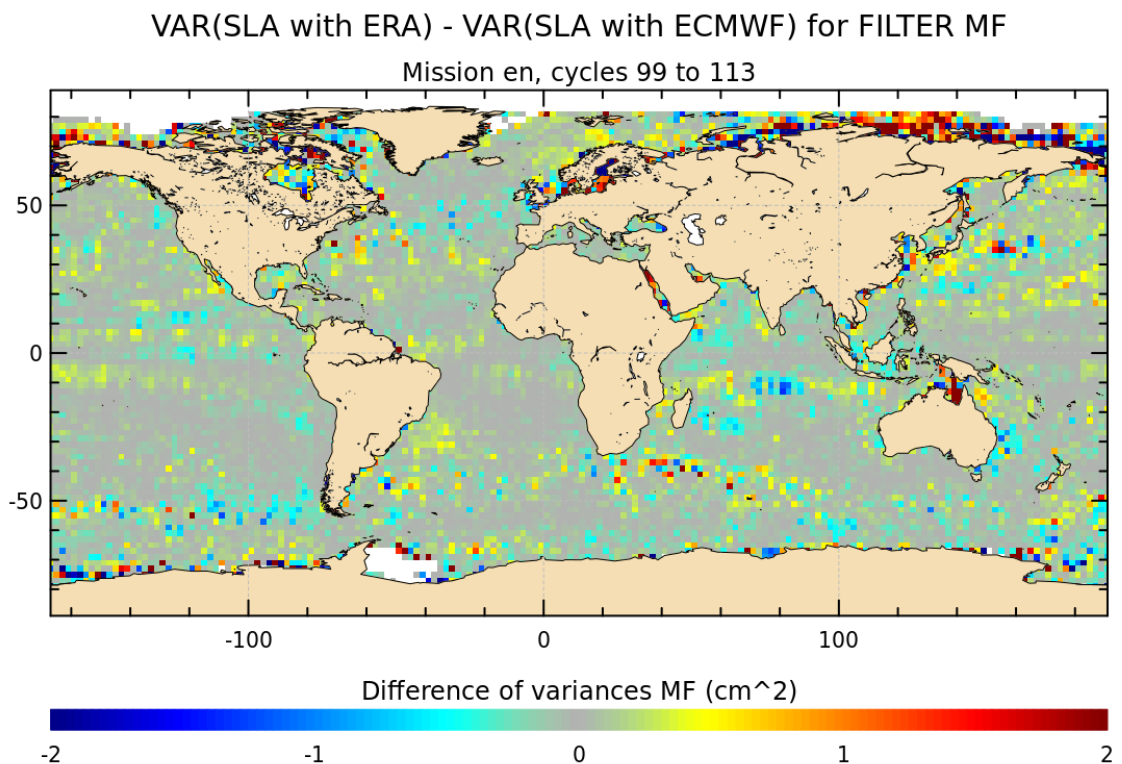
## Diagnostic A210\_b (mission en)

**Name :** Differences between maps of SLA variance for different frequency bands

**Input data :** Along track SLA

**Description :** The differences between maps of SLA (variance) are calculated from the mean SLA maps using successively both altimetric components in the SLA calculation filtered to separate high-frequency ( $T < 1$  yr), mid-frequency ( $1 \text{ yr} < T < 3$  yrs) and low-frequency ( $T > 3$  yrs) signals.

Diagnostic type : Mono-mission analyses



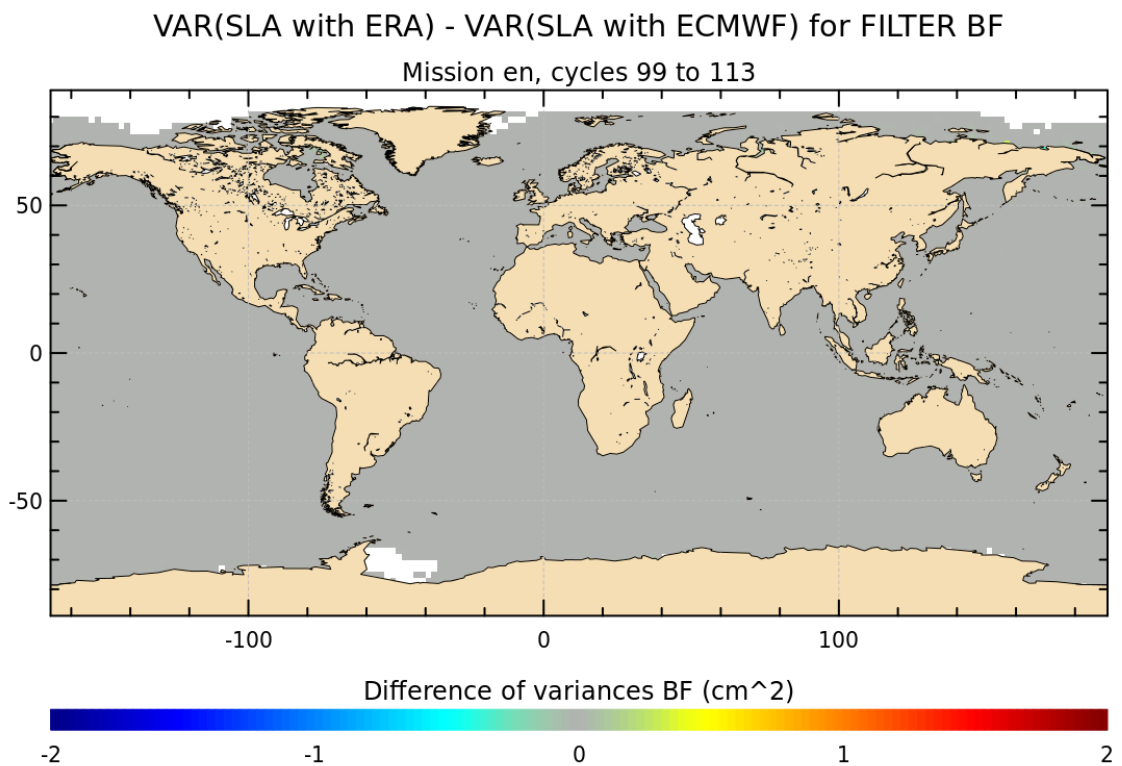
## Diagnostic A210\_c (mission en)

**Name :** Differences between maps of SLA variance for different frequency bands

**Input data :** Along track SLA

**Description :** The differences between maps of SLA (variance) are calculated from the mean SLA maps using successively both altimetric components in the SLA calculation filtered to separate high-frequency ( $T < 1$  yr), mid-frequency ( $1 \text{ yr} < T < 3 \text{ yrs}$ ) and low-frequency ( $T > 3 \text{ yrs}$ ) signals.

Diagnostic type : Mono-mission analyses



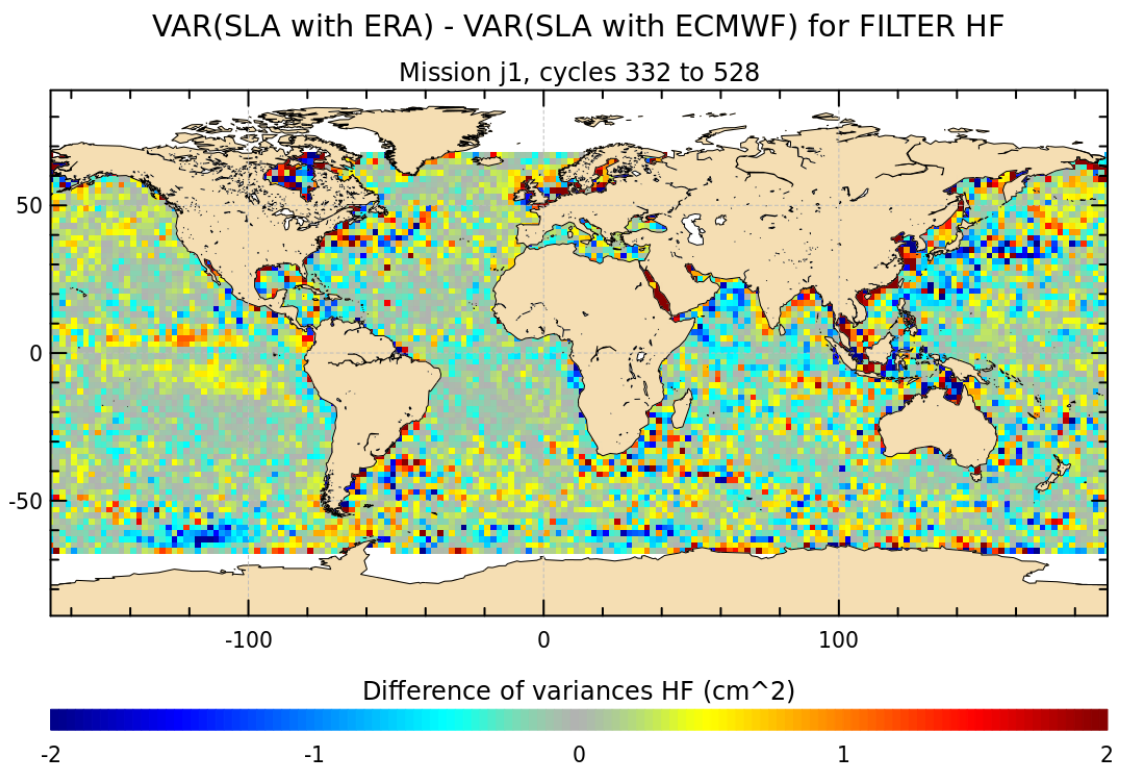
## Diagnostic A210\_a (mission j1)

**Name :** Differences between maps of SLA variance for different frequency bands

**Input data :** Along track SLA

**Description :** The differences between maps of SLA (variance) are calculated from the mean SLA maps using successively both altimetric components in the SLA calculation filtered to separate high-frequency ( $T < 1$  yr), mid-frequency ( $1 \text{ yr} < T < 3$  yrs) and low-frequency ( $T > 3$  yrs) signals.

Diagnostic type : Mono-mission analyses



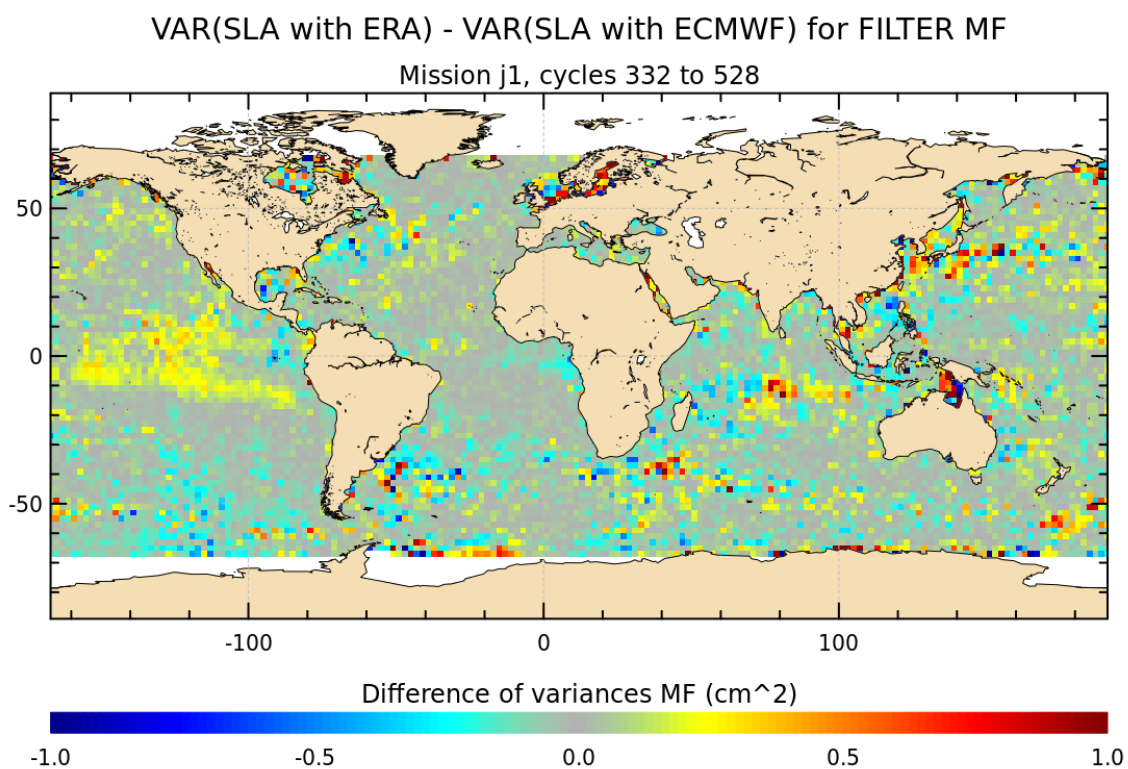
## Diagnostic A210\_b (mission j1)

**Name :** Differences between maps of SLA variance for different frequency bands

**Input data :** Along track SLA

**Description :** The differences between maps of SLA (variance) are calculated from the mean SLA maps using successively both altimetric components in the SLA calculation filtered to separate high-frequency ( $T < 1$  yr), mid-frequency ( $1 \text{ yr} < T < 3$  yrs) and low-frequency ( $T > 3$  yrs) signals.

Diagnostic type : Mono-mission analyses



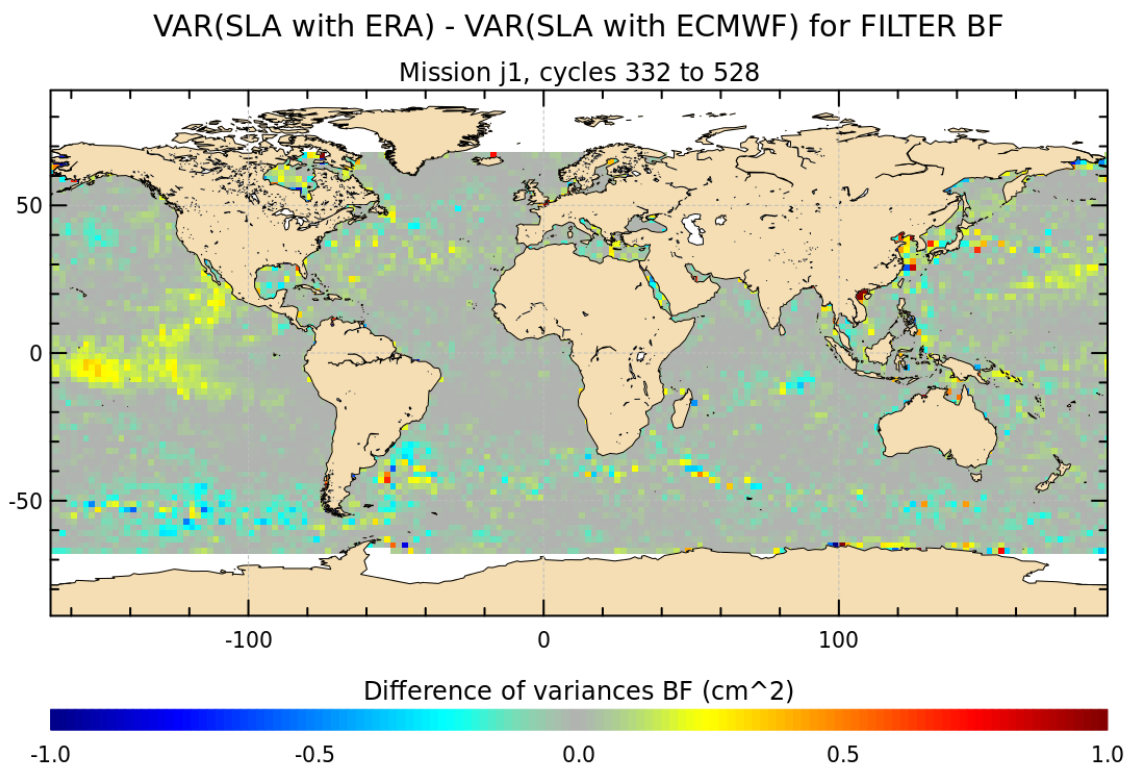
## Diagnostic A210\_c (mission j1)

**Name :** Differences between maps of SLA variance for different frequency bands

**Input data :** Along track SLA

**Description :** The differences between maps of SLA (variance) are calculated from the mean SLA maps using successively both altimetric components in the SLA calculation filtered to separate high-frequency ( $T < 1$  yr), mid-frequency ( $1 \text{ yr} < T < 3$  yrs) and low-frequency ( $T > 3$  yrs) signals.

Diagnostic type : Mono-mission analyses



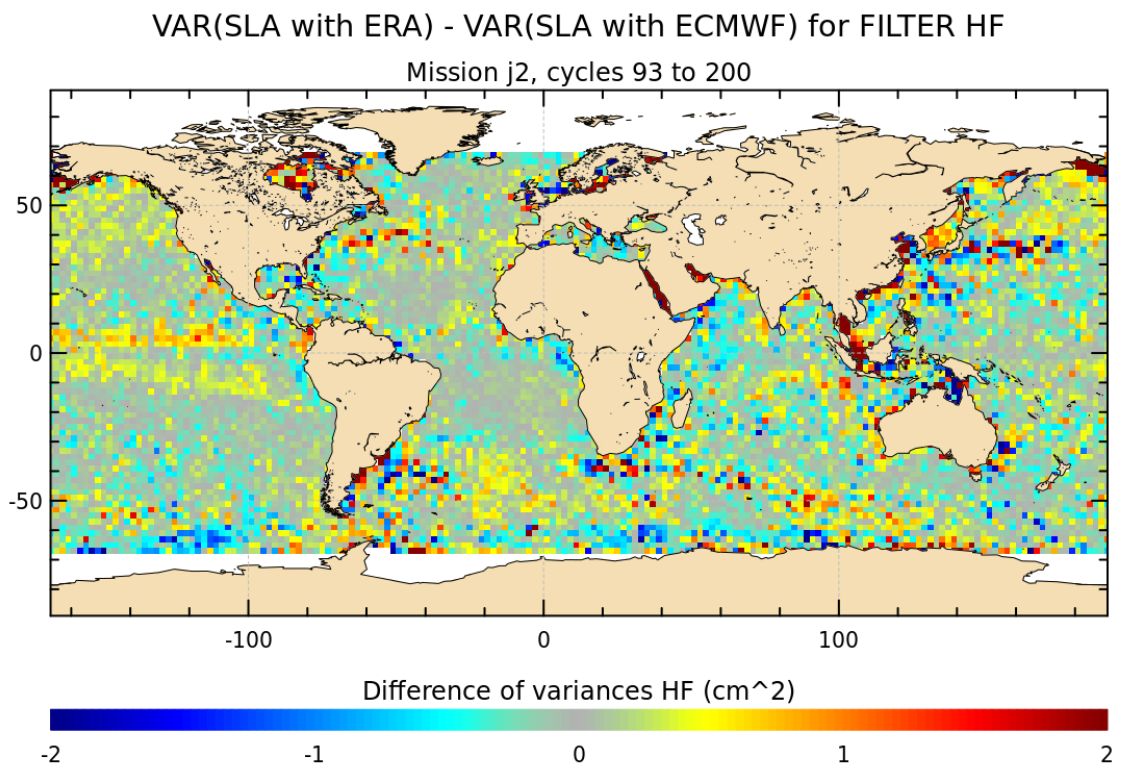
## Diagnostic A210\_a (mission j2)

**Name :** Differences between maps of SLA variance for different frequency bands

**Input data :** Along track SLA

**Description :** The differences between maps of SLA (variance) are calculated from the mean SLA maps using successively both altimetric components in the SLA calculation filtered to separate high-frequency ( $T < 1$  yr), mid-frequency ( $1 \text{ yr} < T < 3$  yrs) and low-frequency ( $T > 3$  yrs) signals.

Diagnostic type : Mono-mission analyses





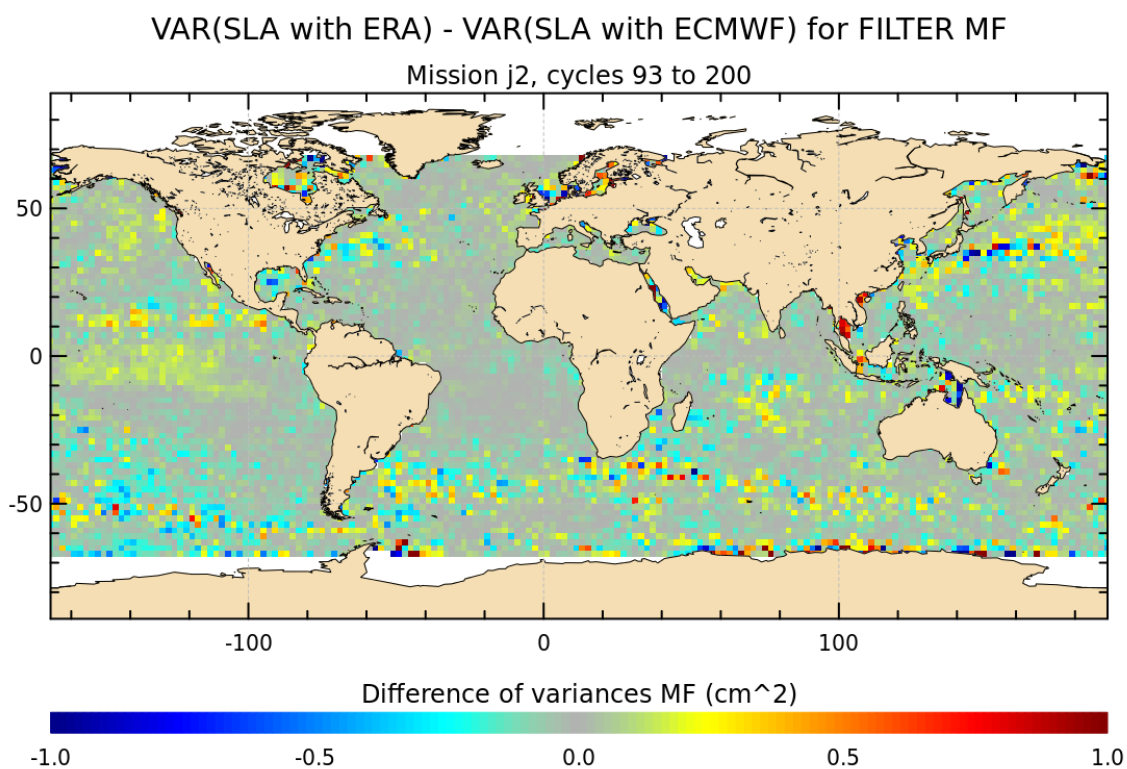
## Diagnostic A210\_b (mission j2)

**Name :** Differences between maps of SLA variance for different frequency bands

**Input data :** Along track SLA

**Description :** The differences between maps of SLA (variance) are calculated from the mean SLA maps using successively both altimetric components in the SLA calculation filtered to separate high-frequency ( $T < 1$  yr), mid-frequency ( $1 \text{ yr} < T < 3$  yrs) and low-frequency ( $T > 3$  yrs) signals.

Diagnostic type : Mono-mission analyses





Diagnostic A210\_c (mission j2)

Name : Differences between maps of SLA variance for different frequency bands

Input data : Along track SLA

Description : The differences between maps of SLA (variance) are calculated from the mean SLA maps using successively both altimetric components in the SLA calculation filtered to separate high-frequency ( $T < 1$  yr), mid-frequency ( $1 \text{ yr} < T < 3$  yrs) and low-frequency ( $T > 3$  yrs) signals.

Diagnostic type : Mono-mission analyses

