Orbit comparison : ESOC-2011 (v7) versus CNES GDR-C

Study variable	**ESOC Orbit (v7)**
Reference variable	**CNES orbit (GDR-C))**
Missions	Jason-1 *(j1)*, Envisat *(en)*
Period	[19007, 22300]

Version 0: 2011/07/18
Version 1: 2011/08/26

Contents

Study overview

In this study, the orbit solution derived from ESOC center has been compared to the CNES orbit provided in level-2 GDR products to calculate the Jason-1 and ENVISAT sea-level height (SSH).

The impact of using these orbits on the SSH calculation have been analyzed for ENVISAT and Jason-1 :

- for Jason-1 : from January 2002 (cycle 1) to January 2009 (Cycle 259)
- for Envisat: from September 2002 (cycle 9) to December 2010 (Cycle 95)

The ESOC orbits have been uploaded from the following ftp site where their standards are described:

- for Jason-1 `ftp://dgn6.esoc.esa.int/jason1/`.
- for Envisat `ftp://dgn6.esoc.esa.int/envisat/sol7/`.

The CNES orbit used in Jason-1 and Envisat products corresponds to the GDR-C standards for both missions.
All the validation diagnostics displayed in this report has been performed in agreement with the Sea-Level CCI Product Validation Plan (PVP).

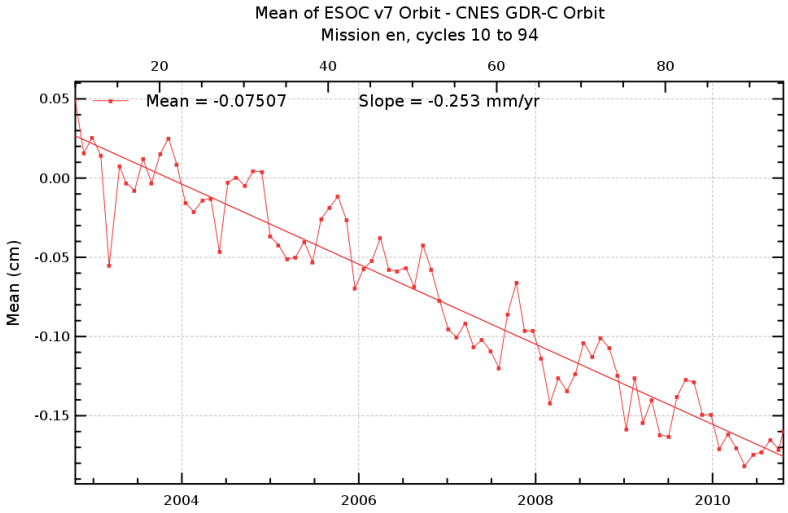
Diagnostic type : Global internal analyses

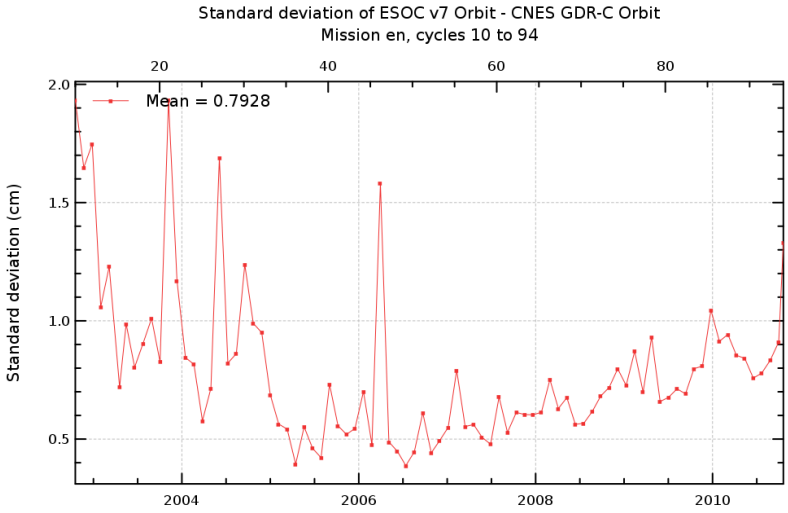
Diagnostic A001 (mission en)

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.





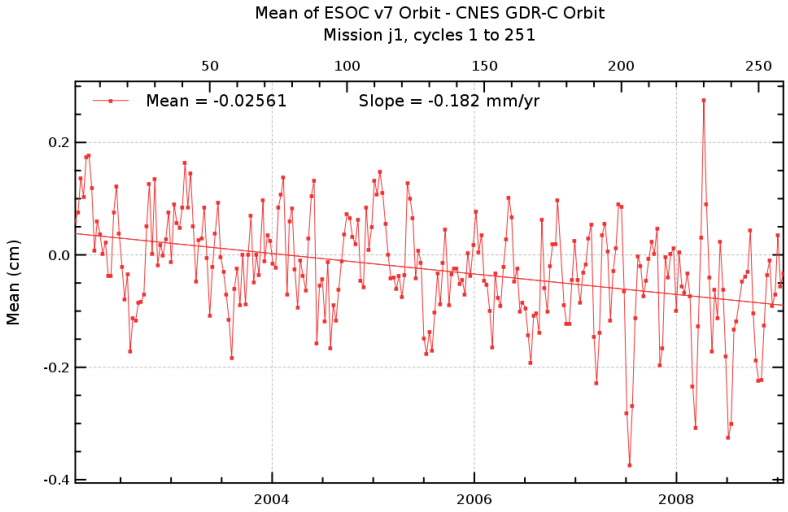
Diagnostic type : Global internal analyses

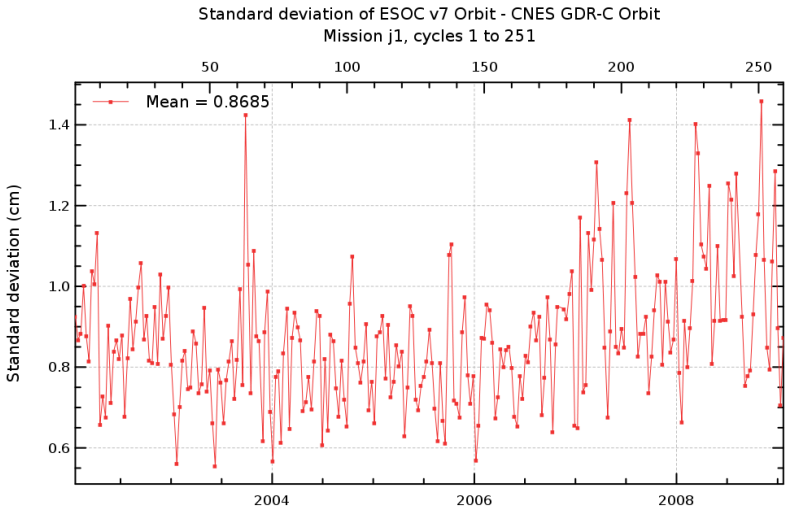
Diagnostic A001 (mission j1)

Name : Temporal evolution of differences between both altimetric components

Input data : Along-track altimetric components

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





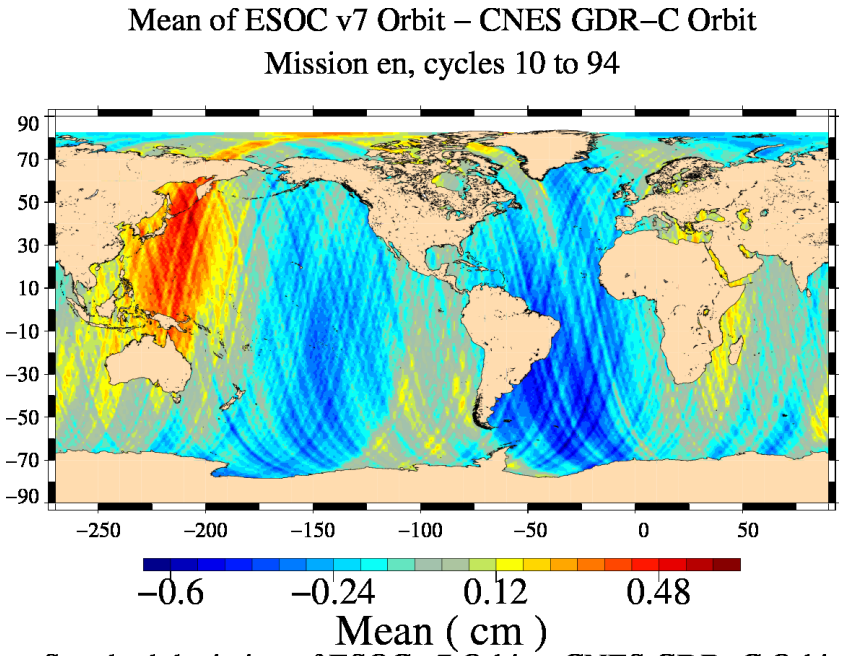
Diagnostic type : Global internal analyses

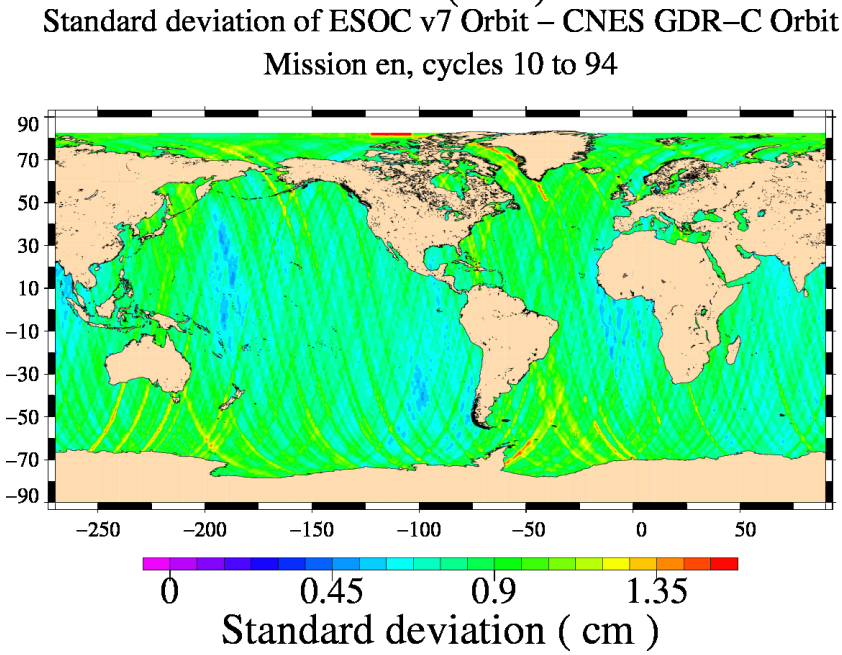
Diagnostic A002 (mission en)

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.





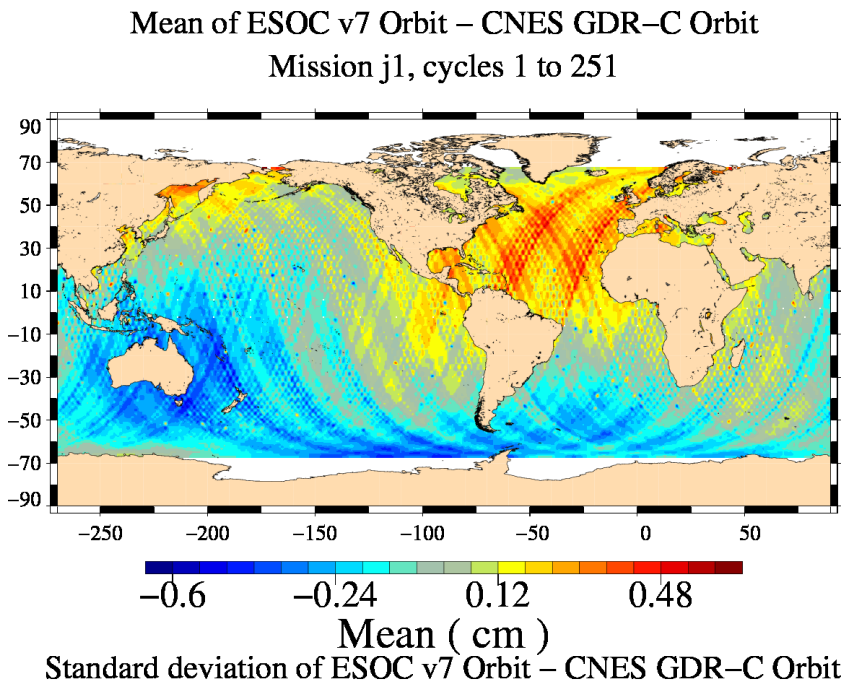
Diagnostic type : Global internal analyses

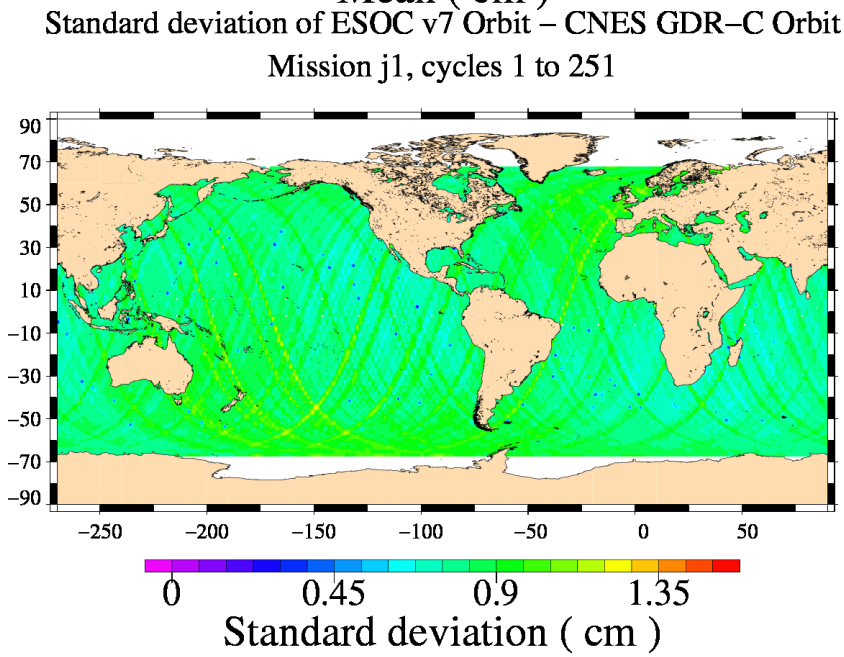
Diagnostic A002 (mission j1)

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

Input data : Along-track altimetric components

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





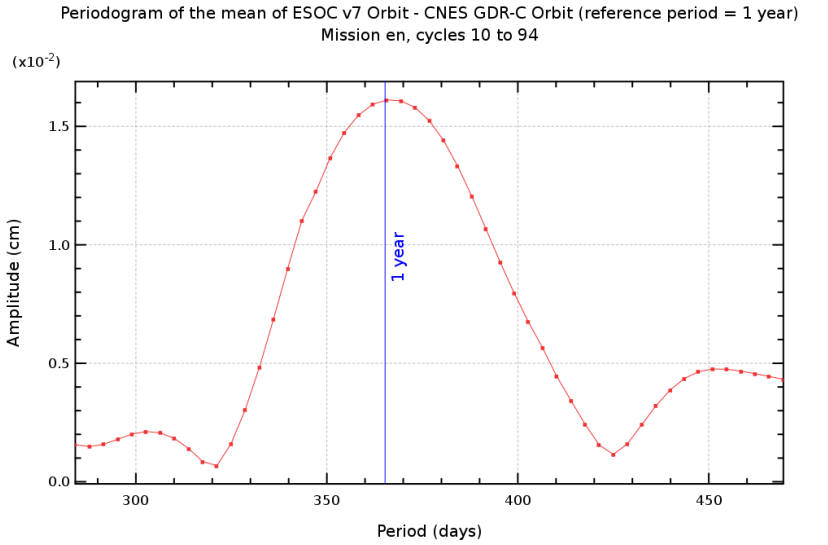
Diagnostic type : Global internal analyses

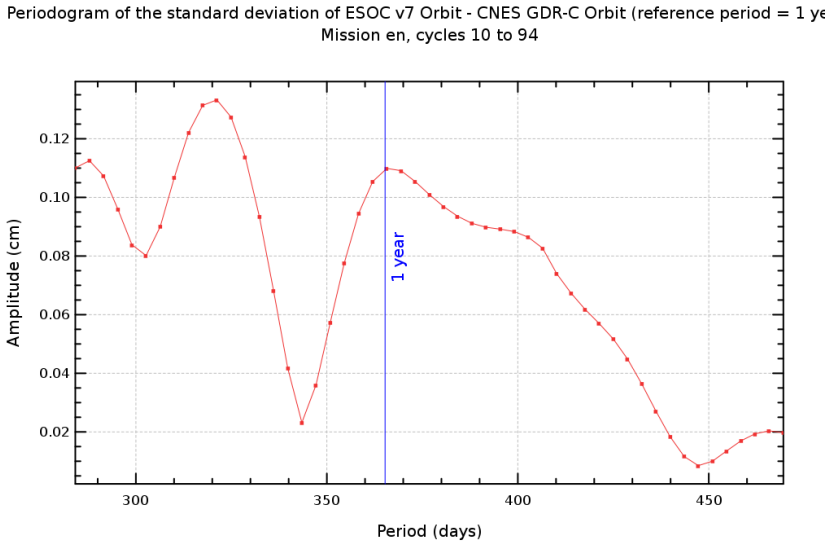
Diagnostic A003_a (mission en)

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.





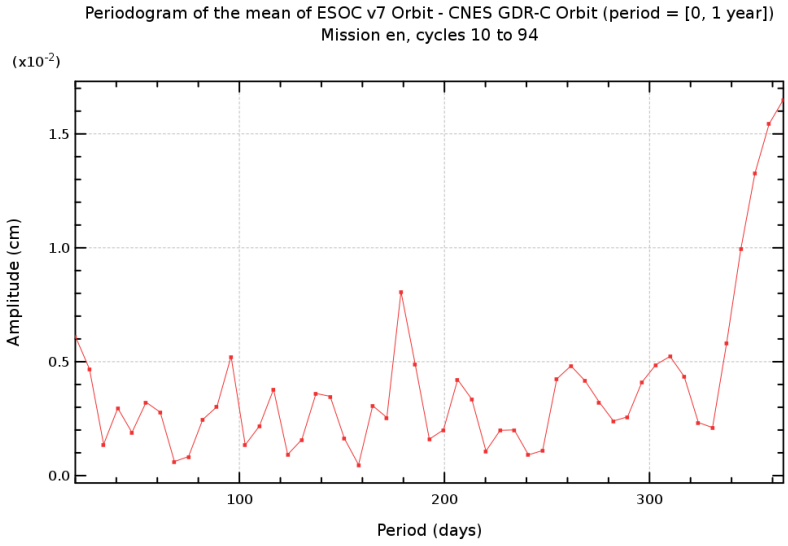
Diagnostic type : Global internal analyses

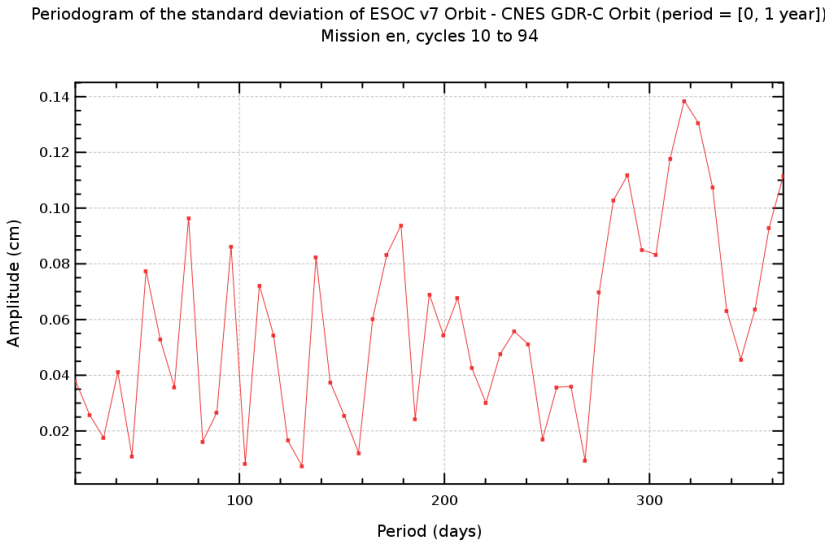
Diagnostic A003_b (mission en)

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.





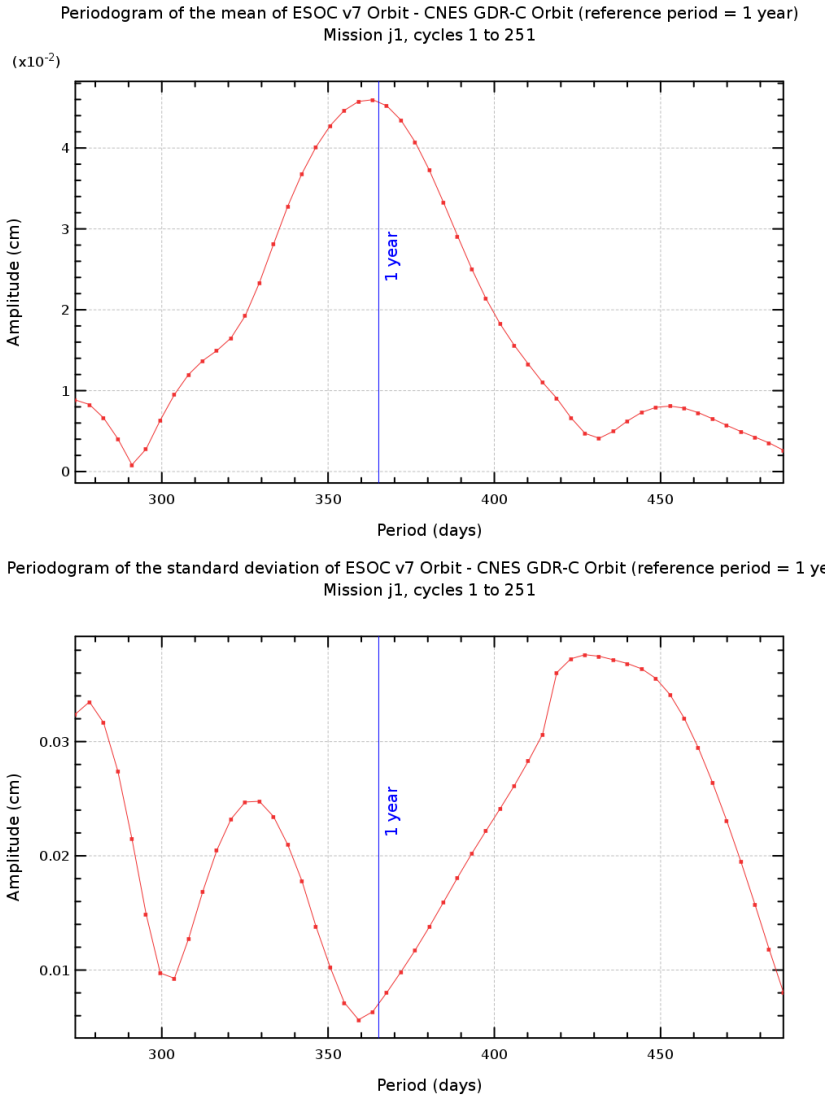
Diagnostic type : Global internal analyses

Diagnostic 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.



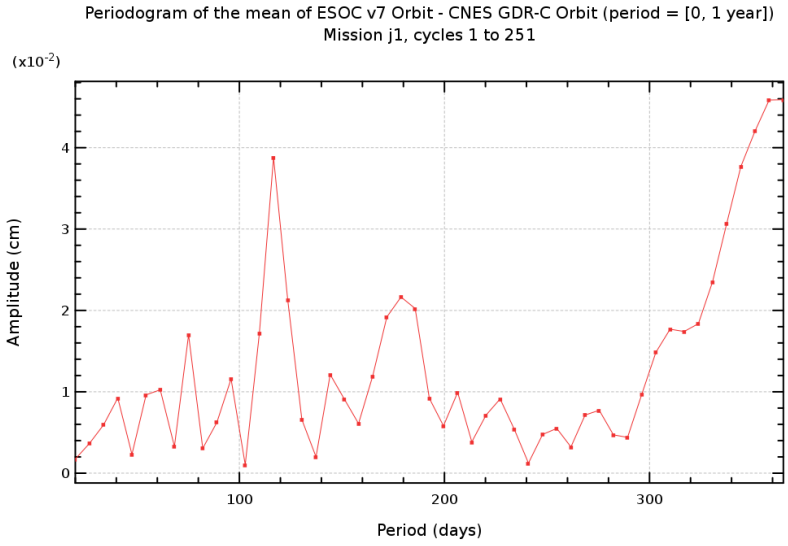
Diagnostic type : Global internal analyses

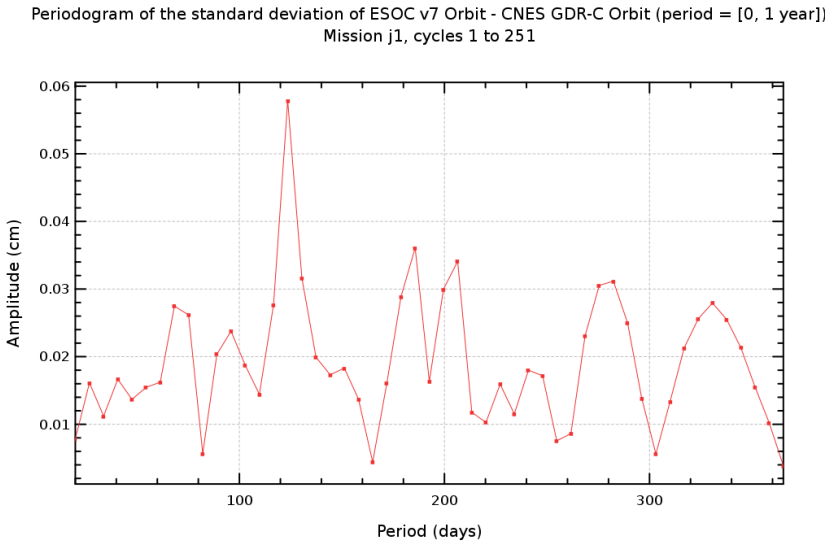
Diagnostic A003_b (mission j1)

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.





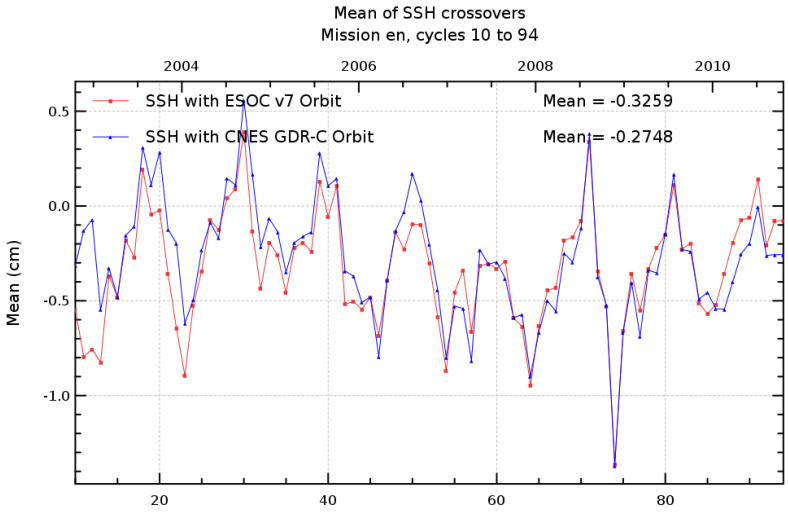
Diagnostic type : Global internal analyses

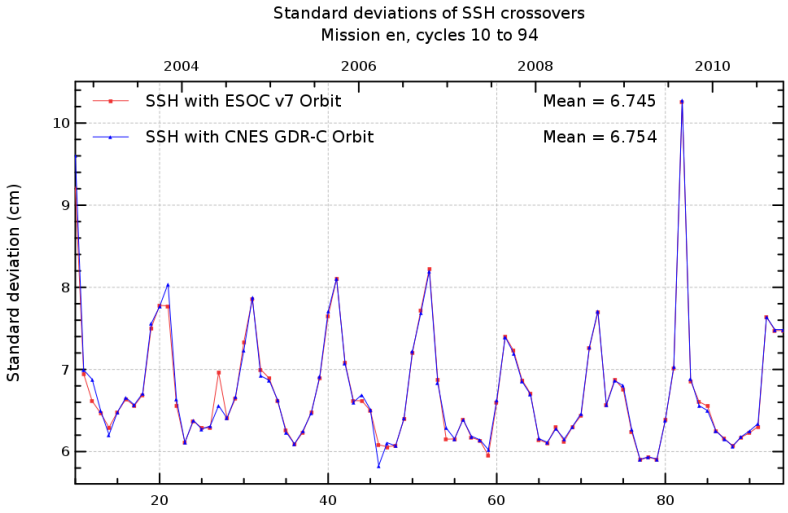
Diagnostic A101 (mission en)

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).





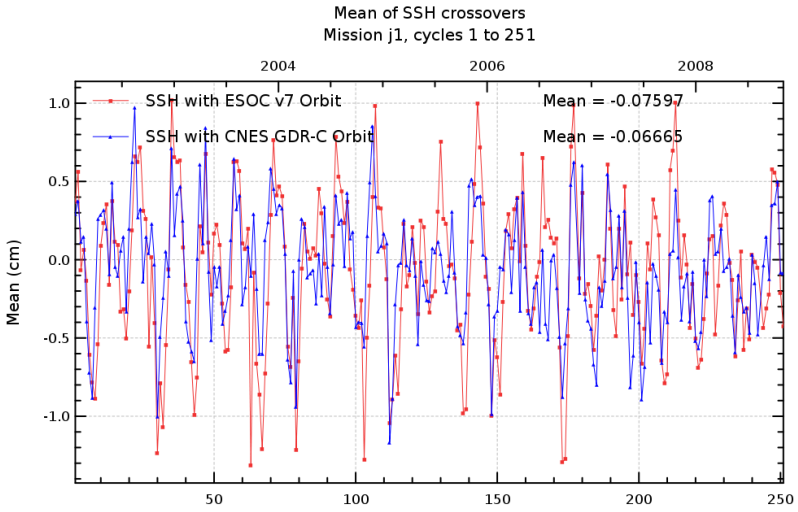
Diagnostic type : Global internal analyses

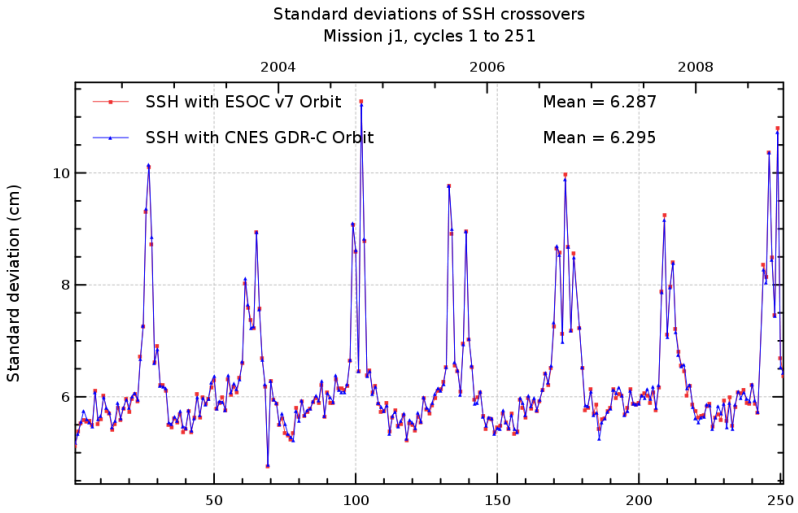
Diagnostic A101 (mission j1)

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).





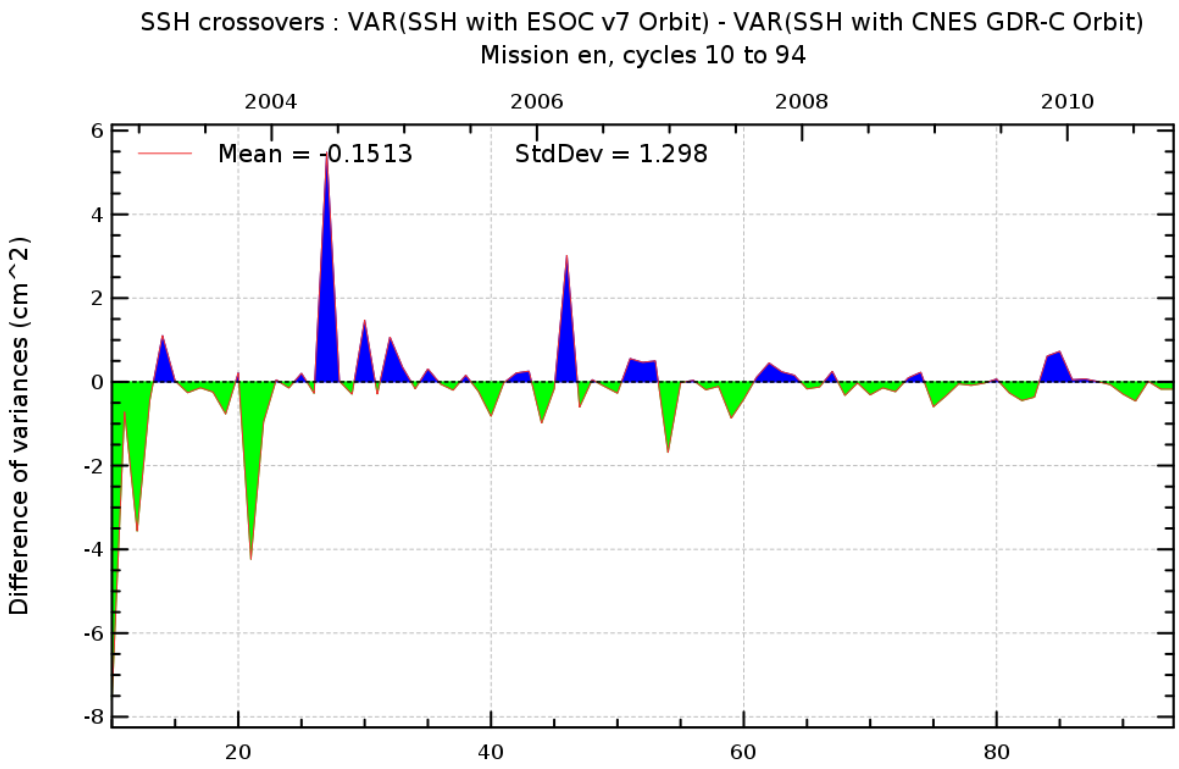
Diagnostic type : Global internal analyses

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).



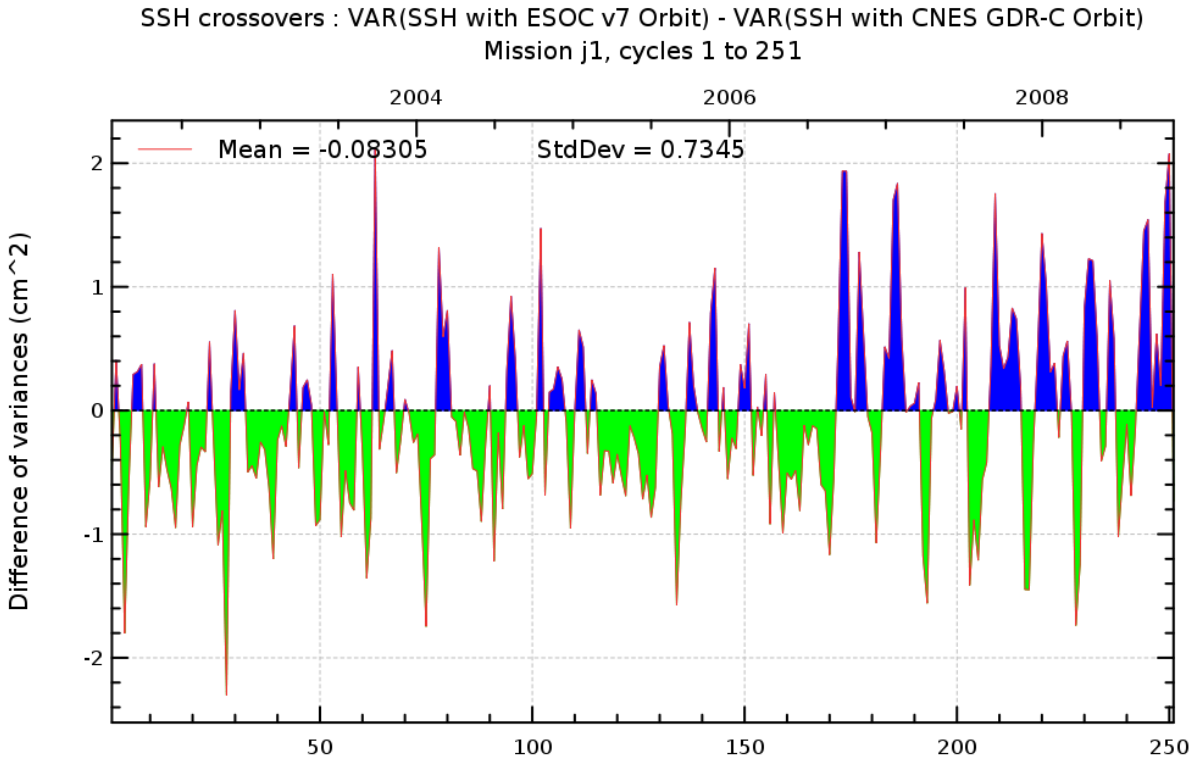
Diagnostic type : Global internal analyses

Diagnostic A102 (mission 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).



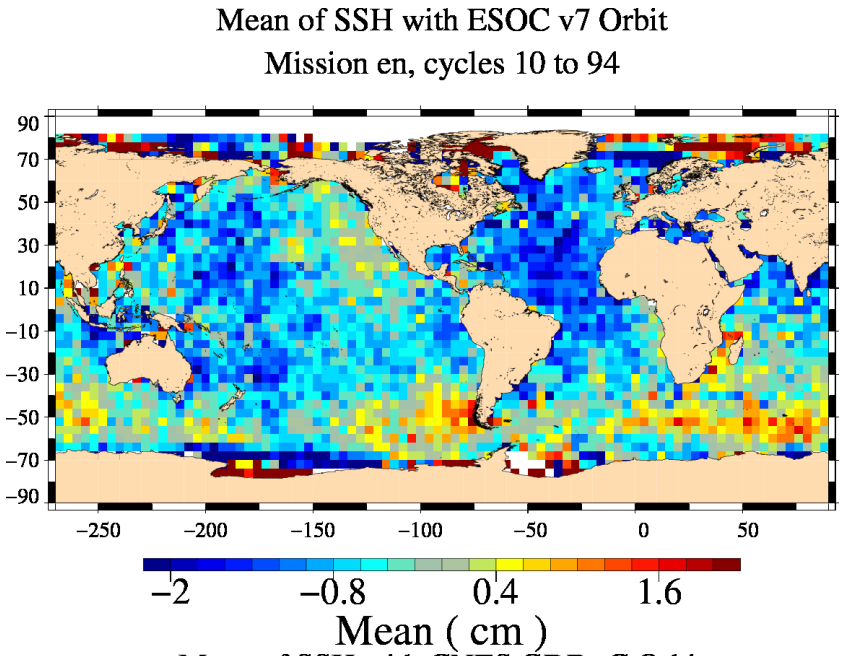
Diagnostic type : Global internal analyses

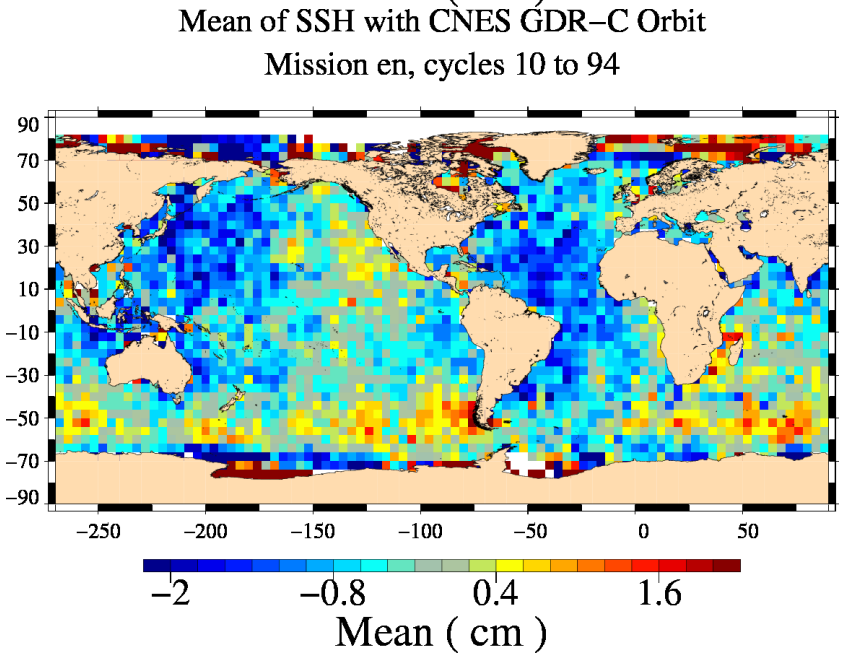
Diagnostic A103 (mission en)

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).





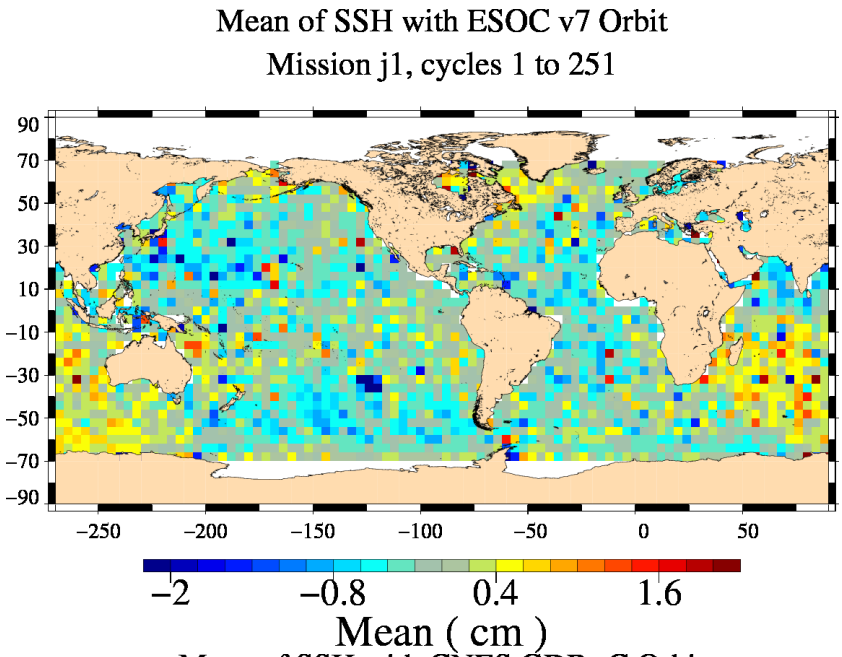
Diagnostic type : Global internal analyses

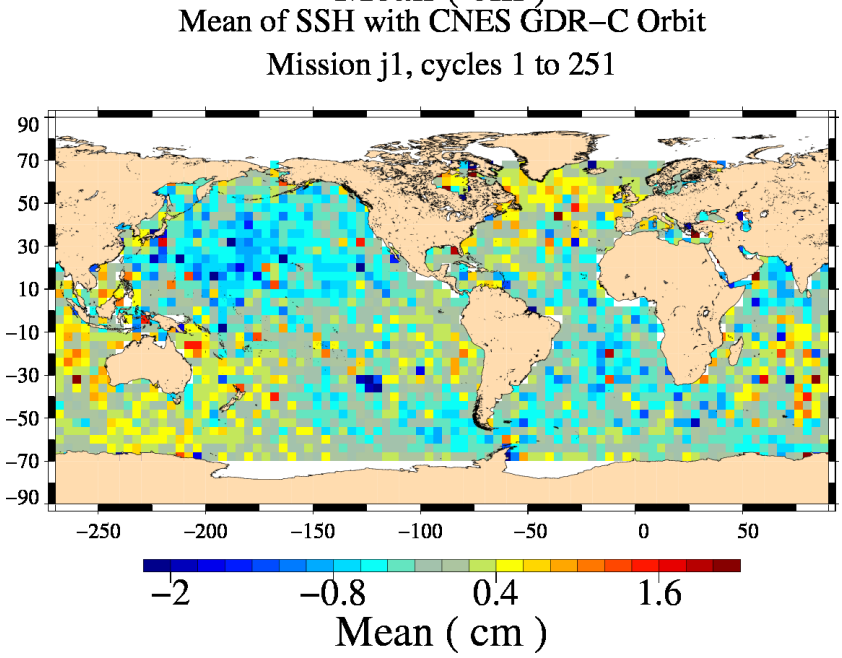
Diagnostic A103 (mission j1)

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).





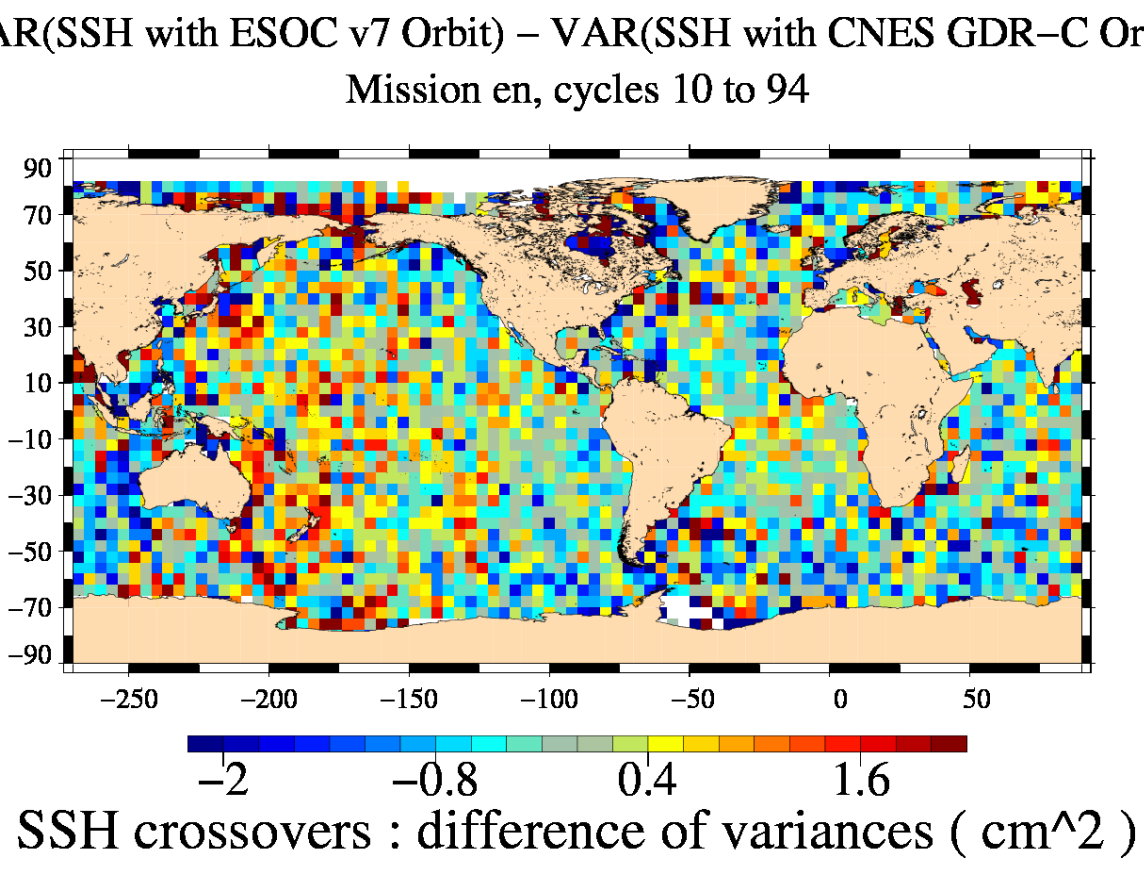
Diagnostic type : Global internal analyses

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).



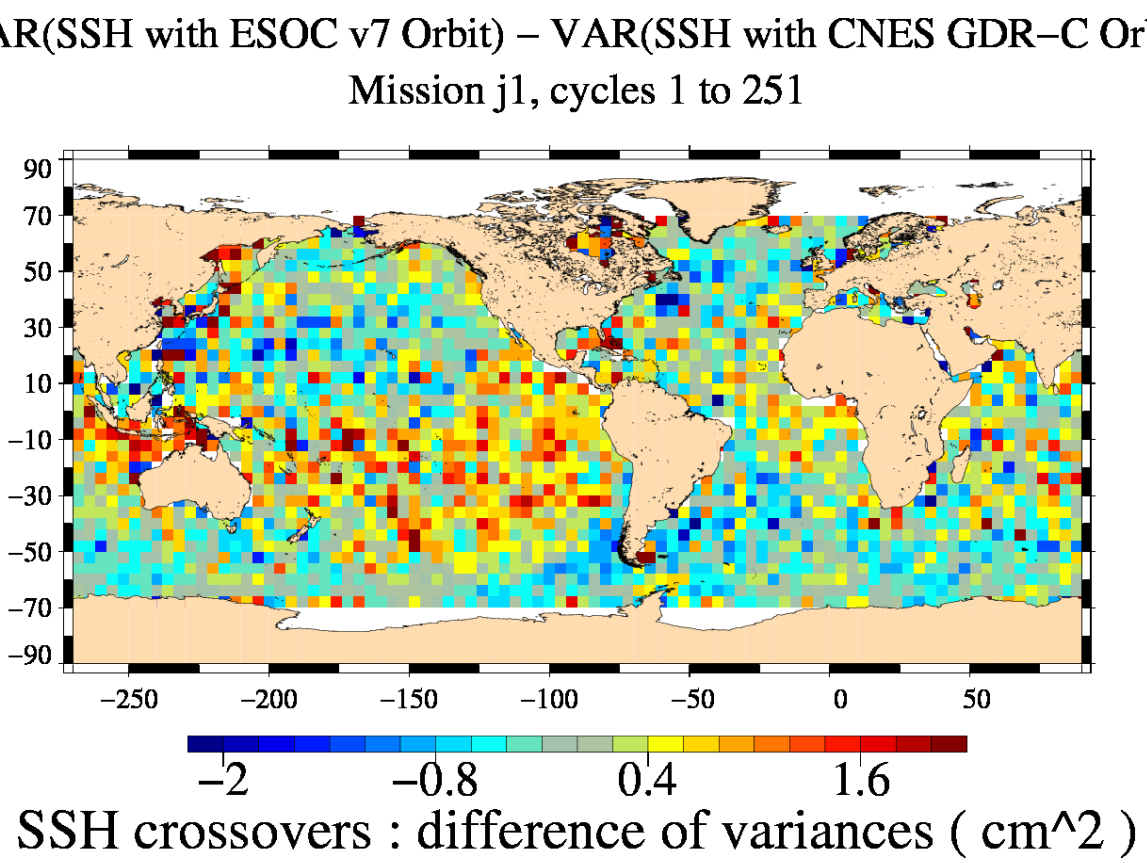
Diagnostic type : Global internal analyses

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).



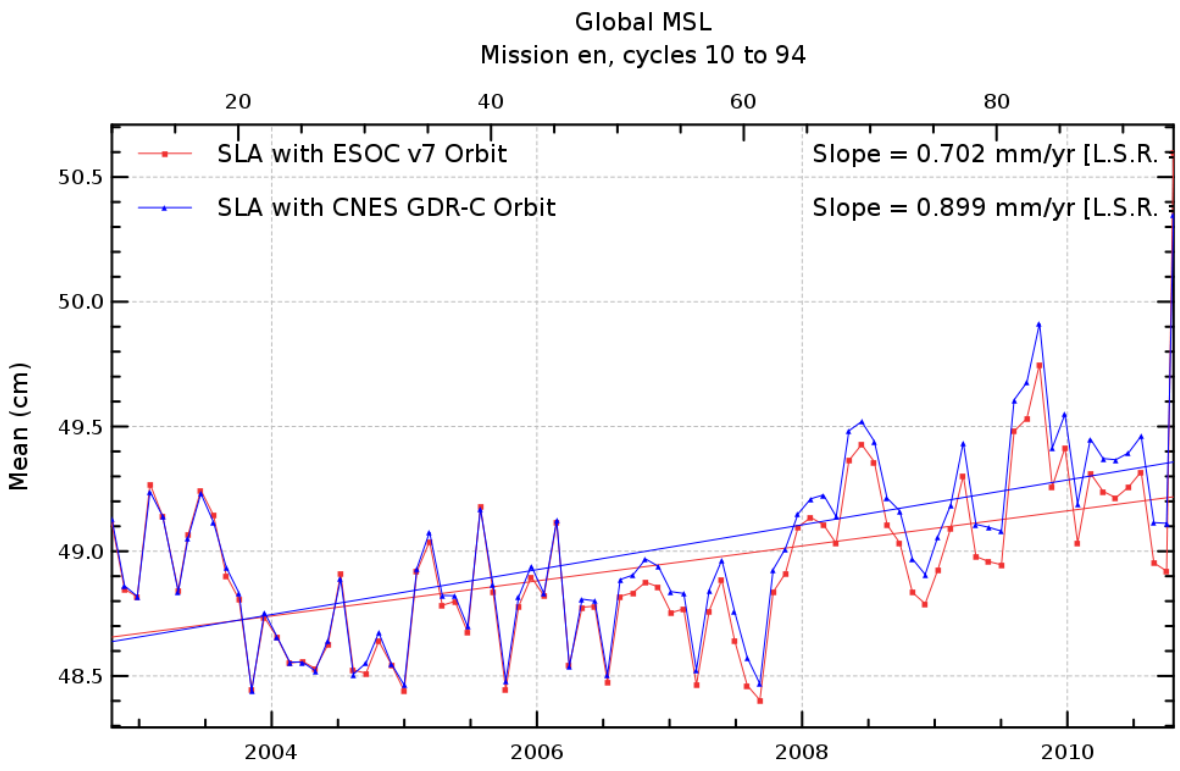
Diagnostic type : Global internal analyses

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.



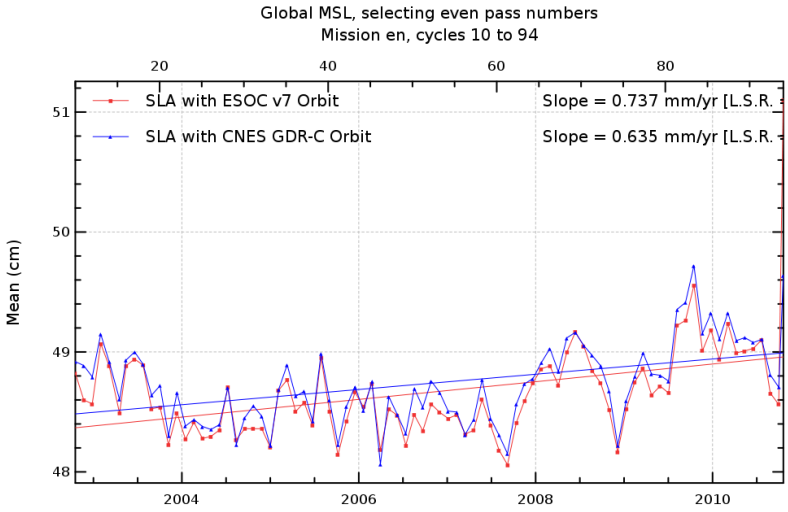
Diagnostic type : Global internal analyses

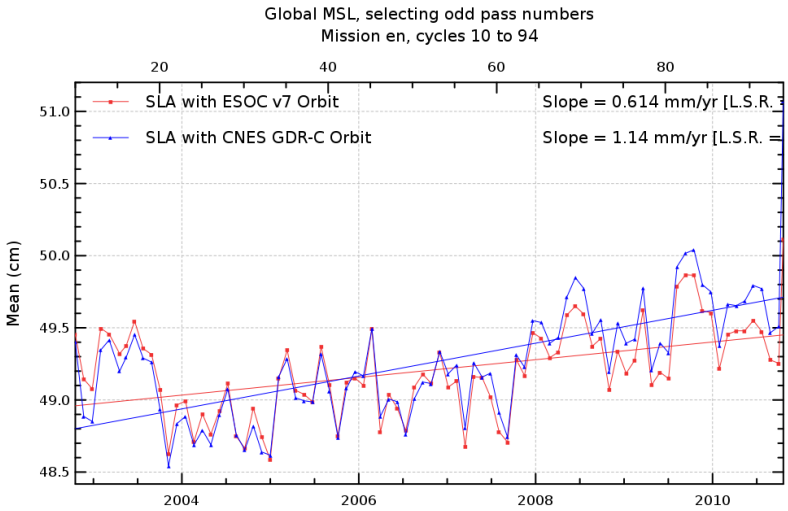
Diagnostic A201_b (mission en)

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.





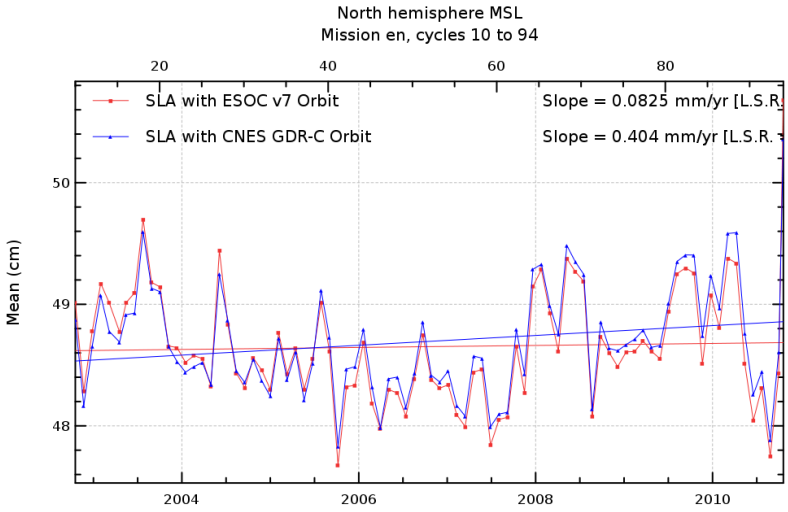
Diagnostic type : Global internal analyses

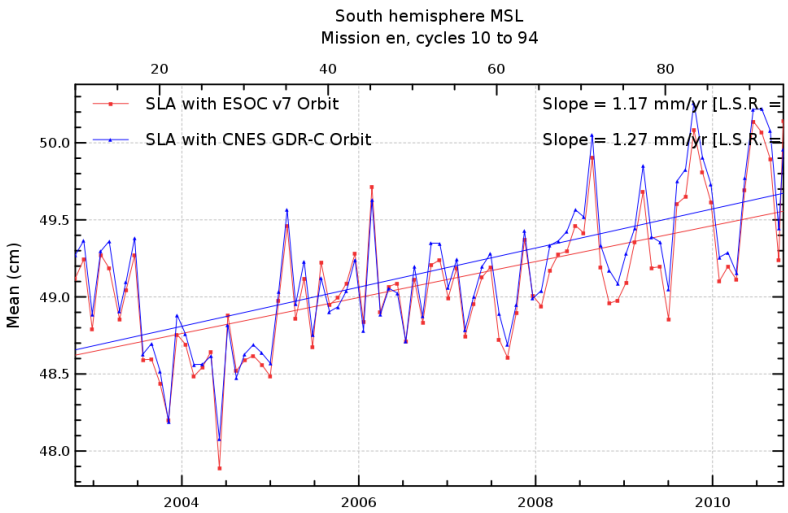
Diagnostic A201_c (mission en)

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.





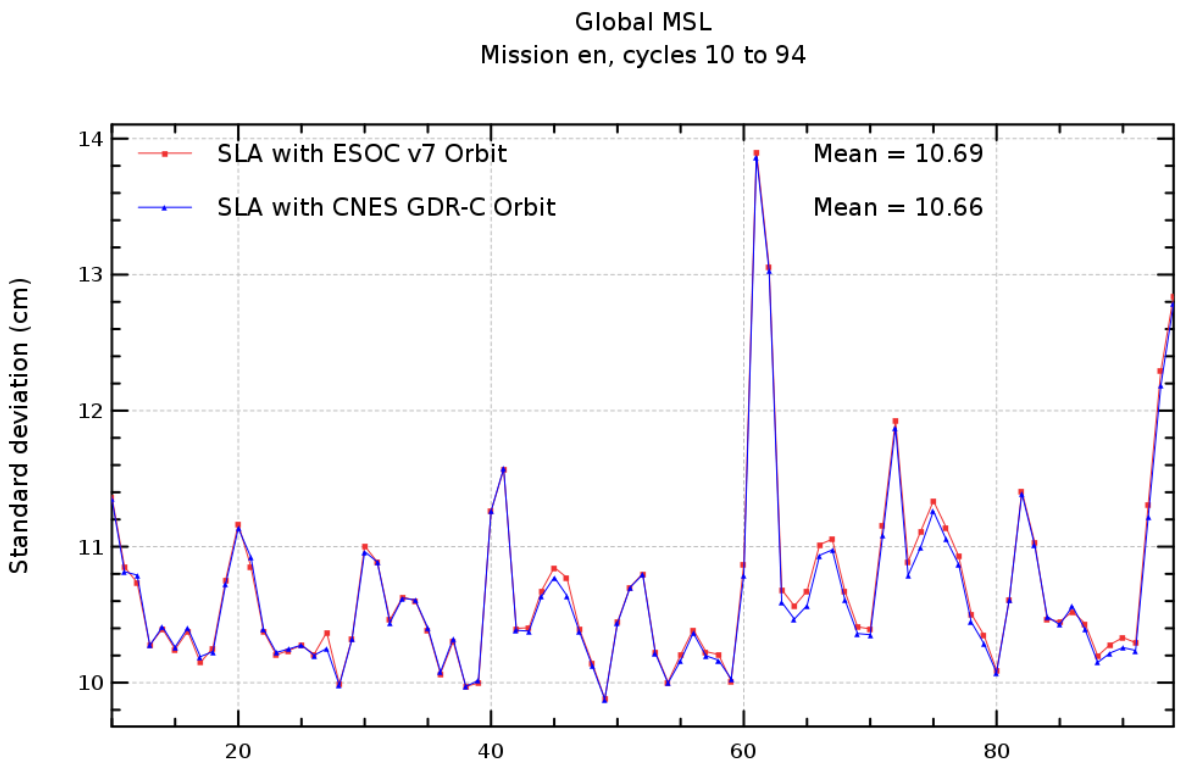
Diagnostic type : Global internal analyses

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.



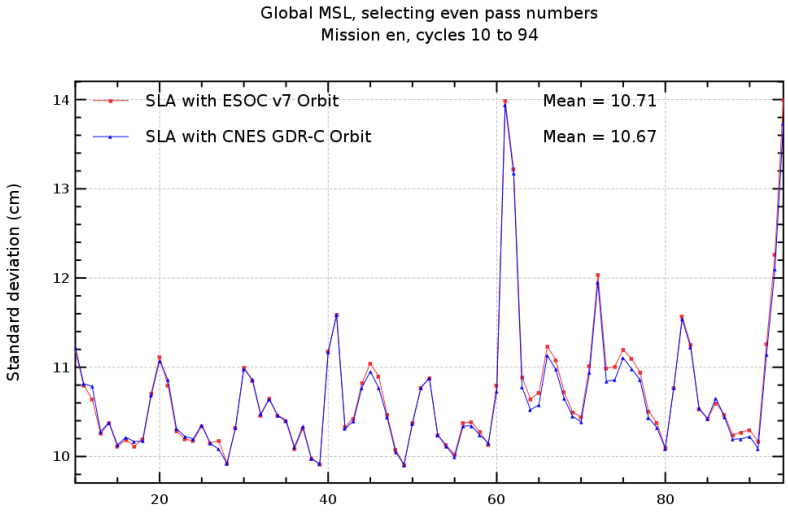
Diagnostic type : Global internal analyses

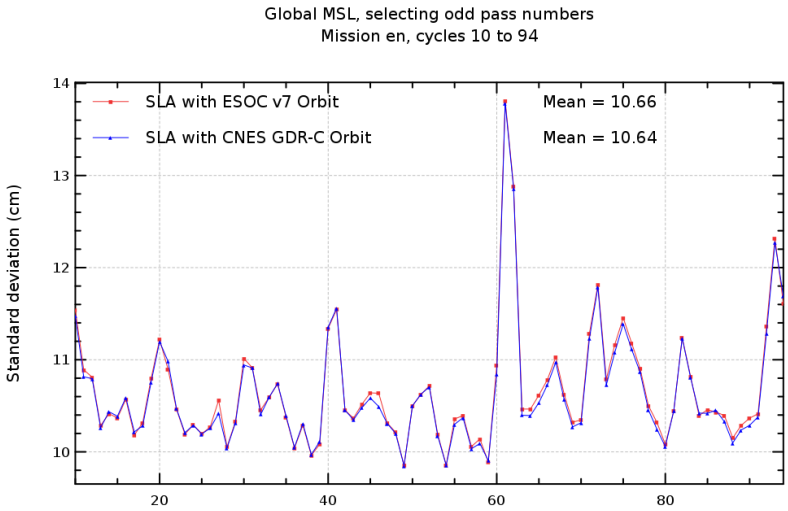
Diagnostic A201_e (mission en)

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.





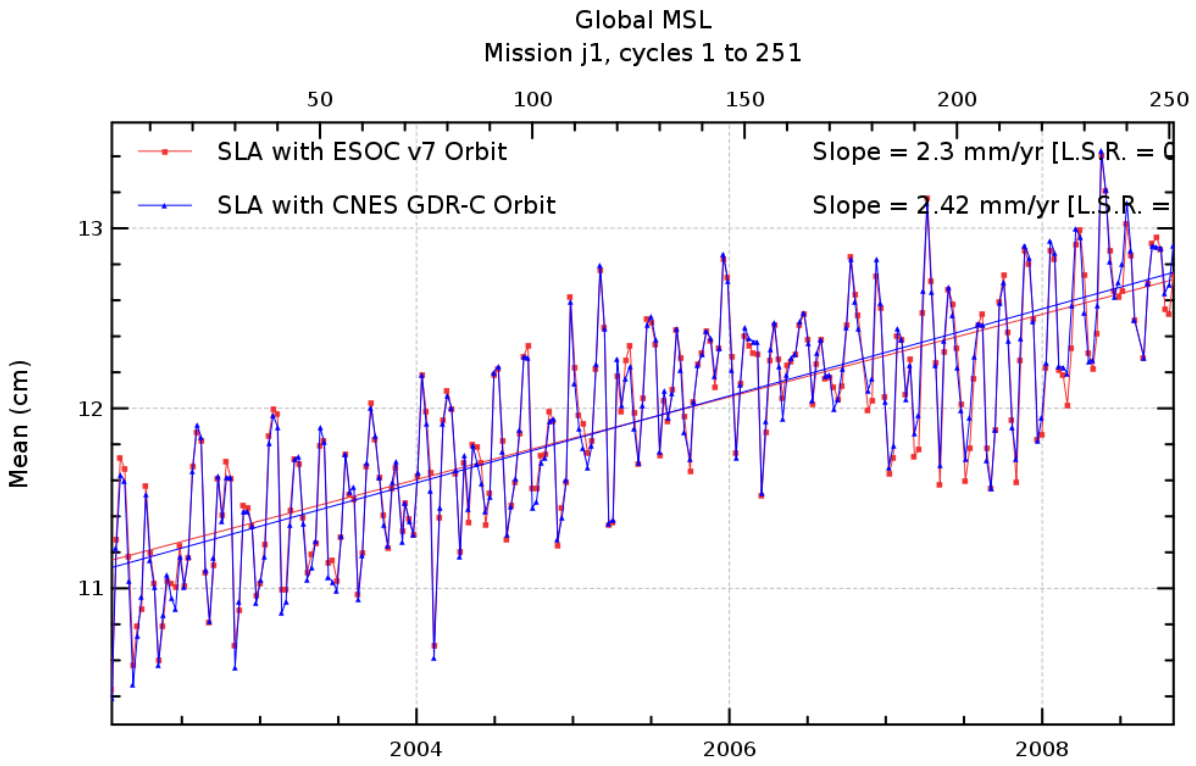
Diagnostic type : Global internal analyses

Diagnostic A201_a (mission j1)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

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



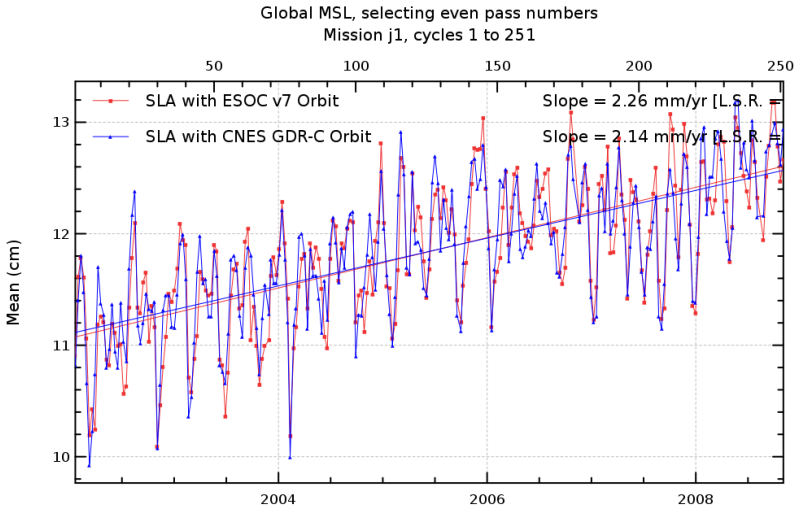
Diagnostic type : Global internal analyses

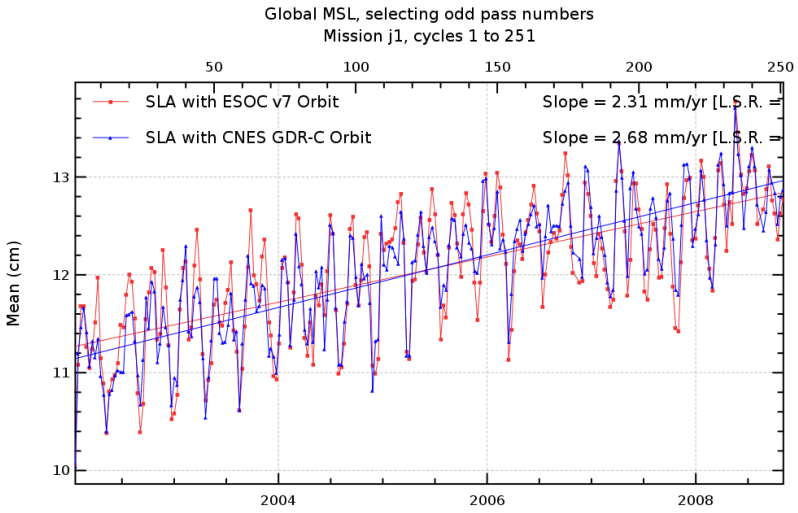
Diagnostic A201_b (mission j1)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

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





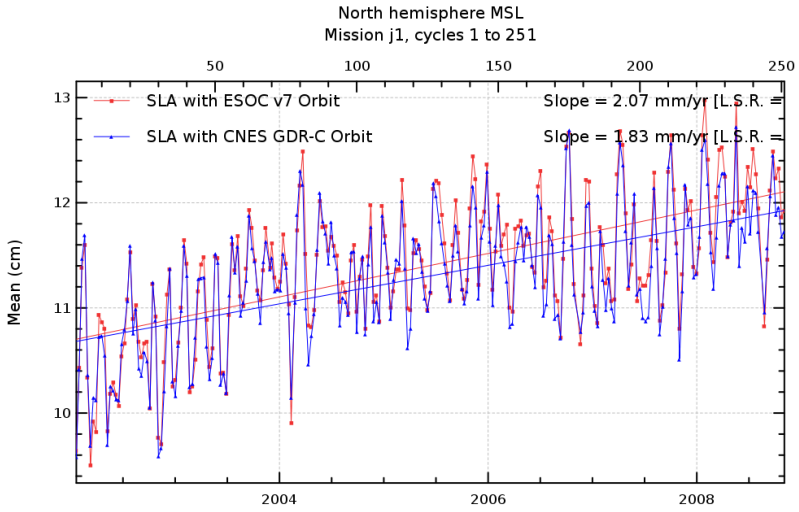
Diagnostic type : Global internal analyses

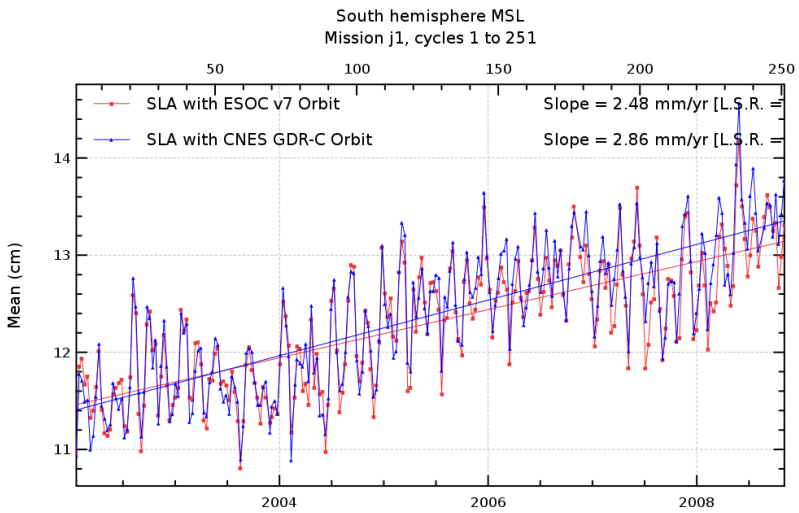
Diagnostic A201_c (mission j1)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

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





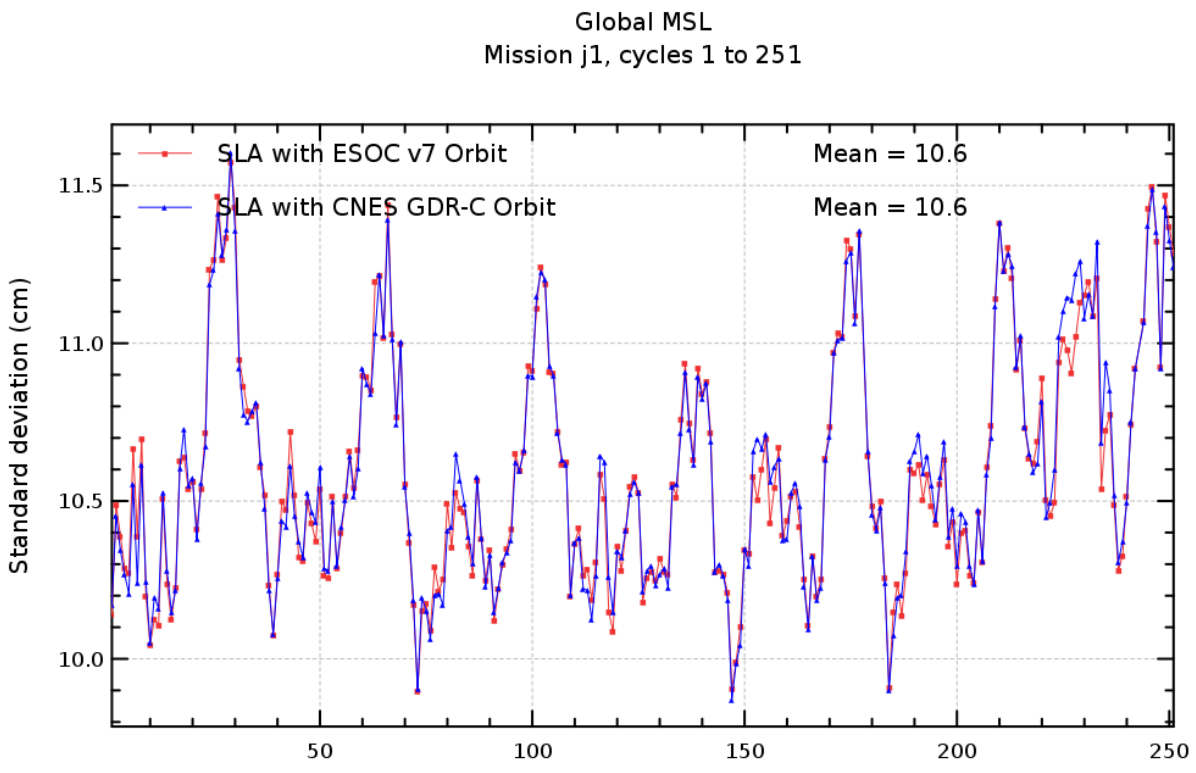
Diagnostic type : Global internal analyses

Diagnostic A201_d (mission j1)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

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



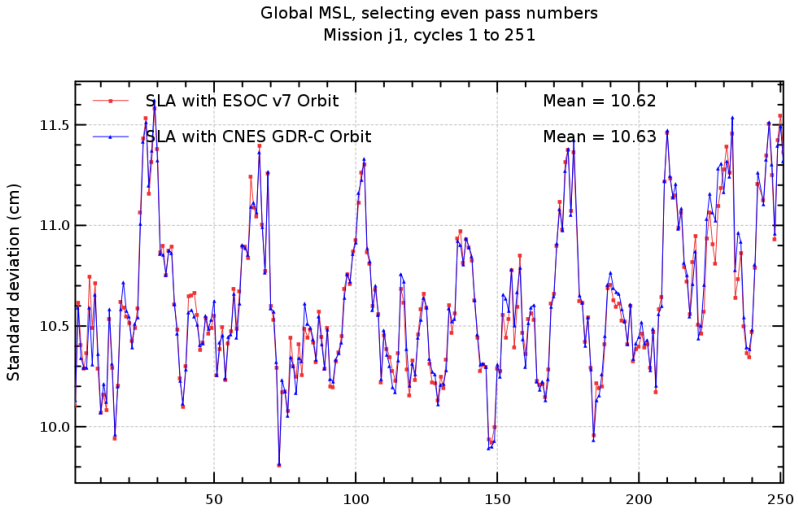
Diagnostic type : Global internal analyses

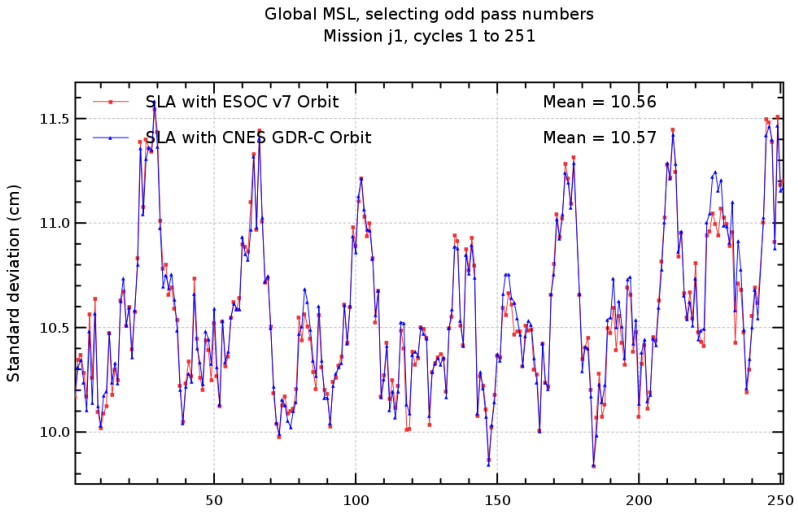
Diagnostic A201_e (mission j1)

Name : Temporal evolution of Sea Level Anomaly (SLA)

Input data : Along track SLA

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





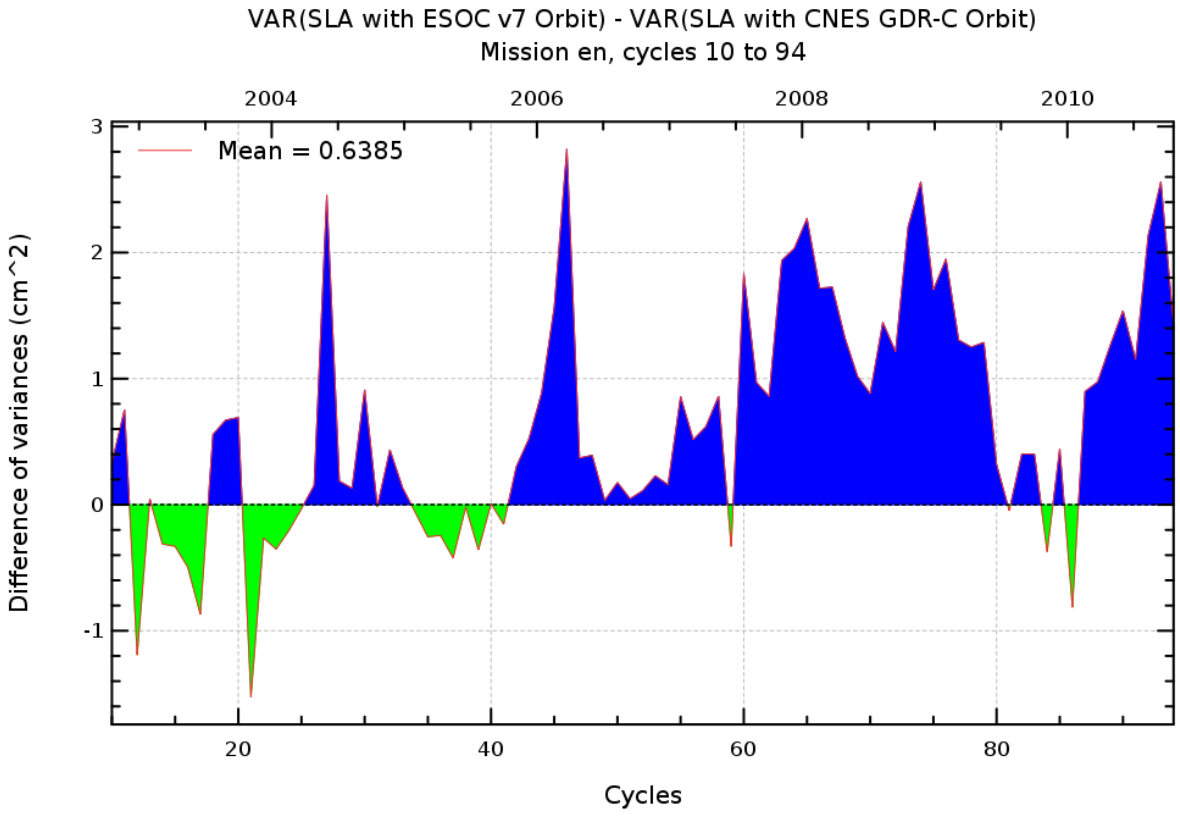
Diagnostic type : Global internal analyses

Diagnostic 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.



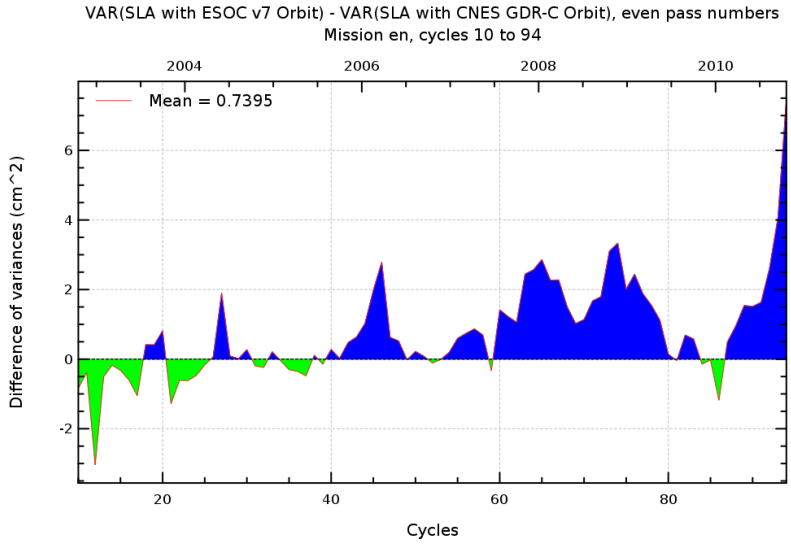
Diagnostic type : Global internal analyses

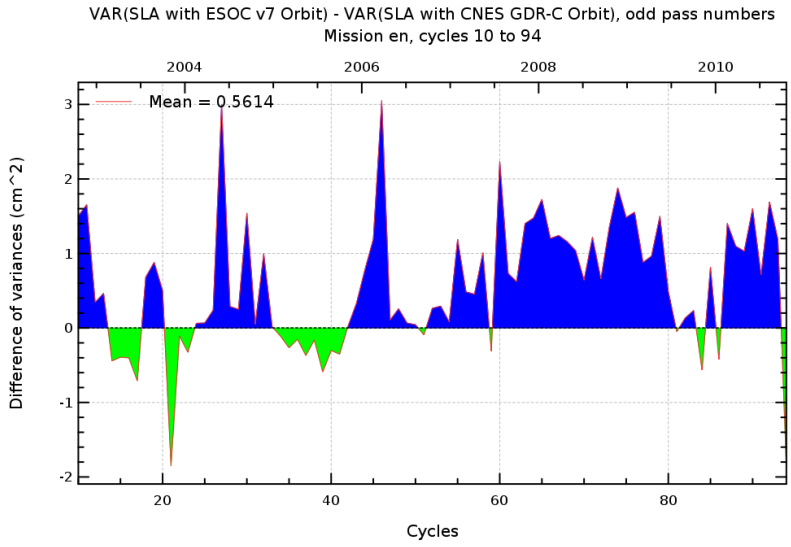
Diagnostic A202_b (mission en)

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.





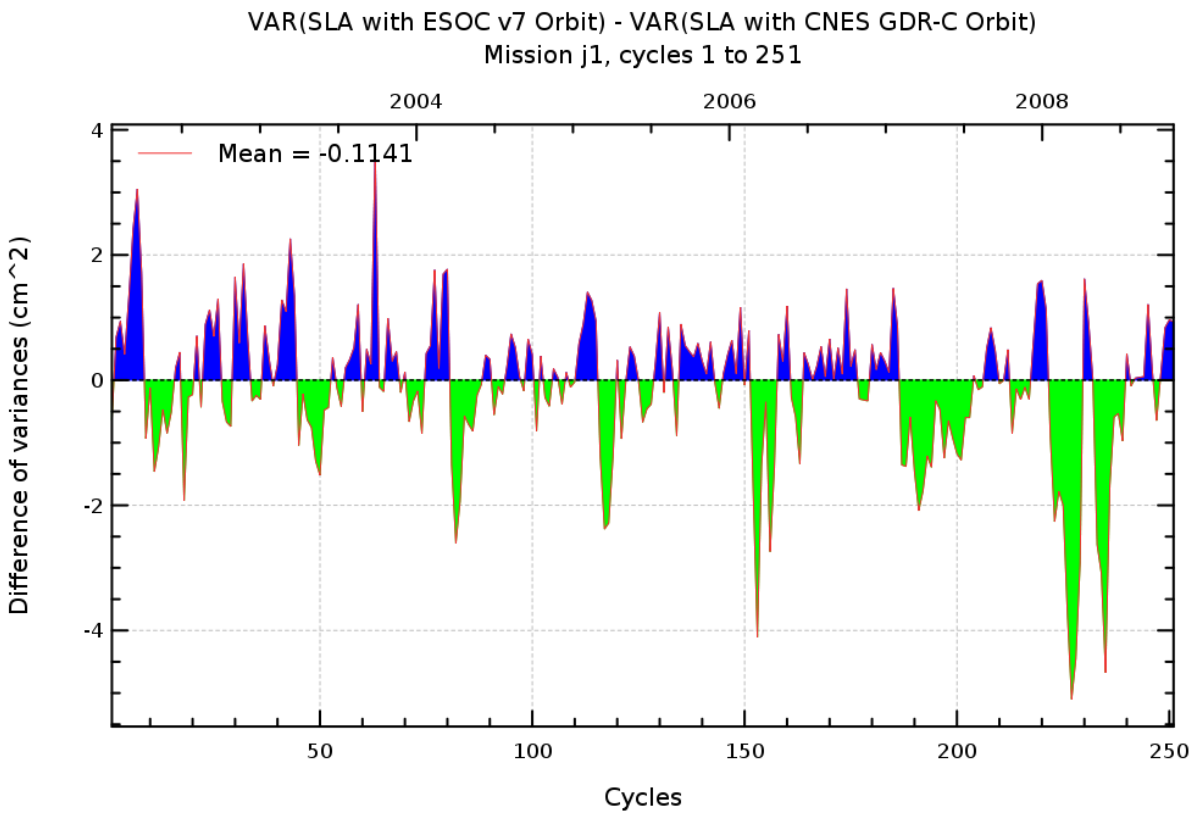
Diagnostic type : Global internal analyses

Diagnostic 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.



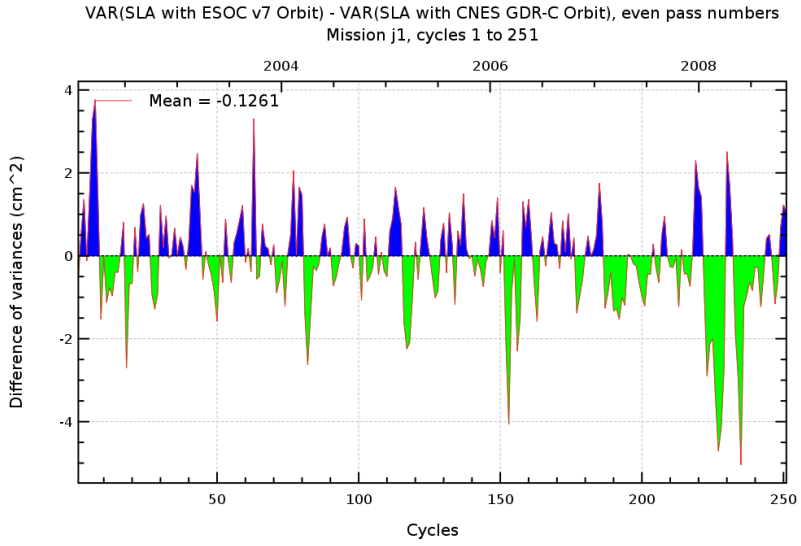
Diagnostic type : Global internal analyses

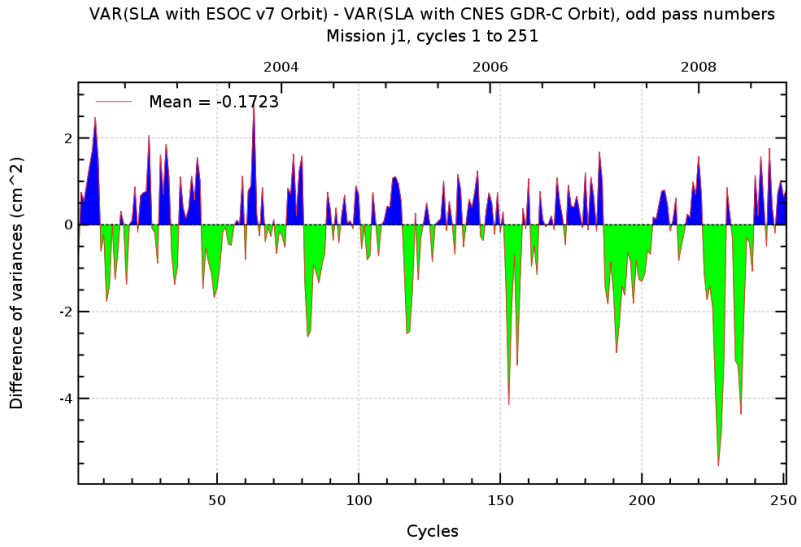
Diagnostic A202_b (mission j1)

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.





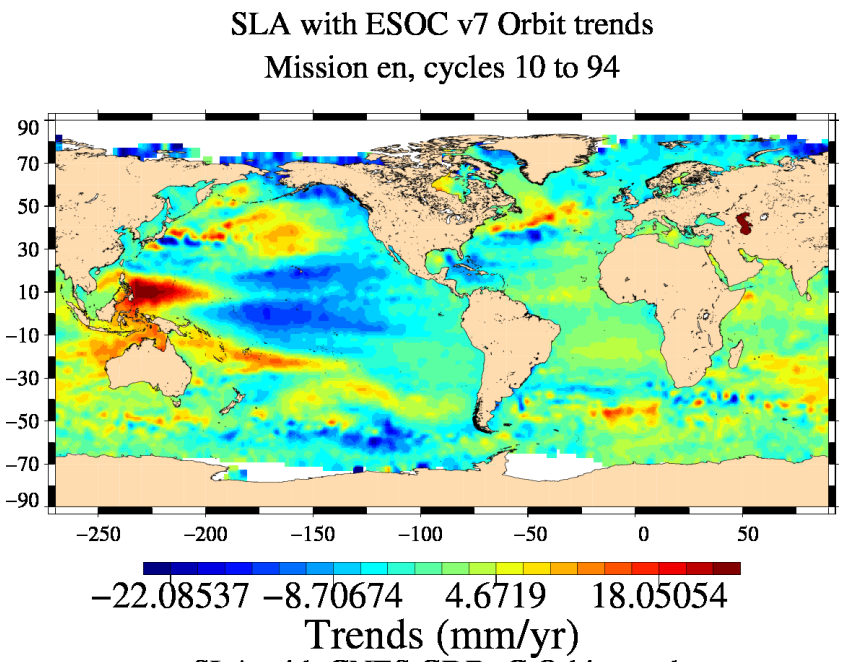
Diagnostic type : Global internal analyses

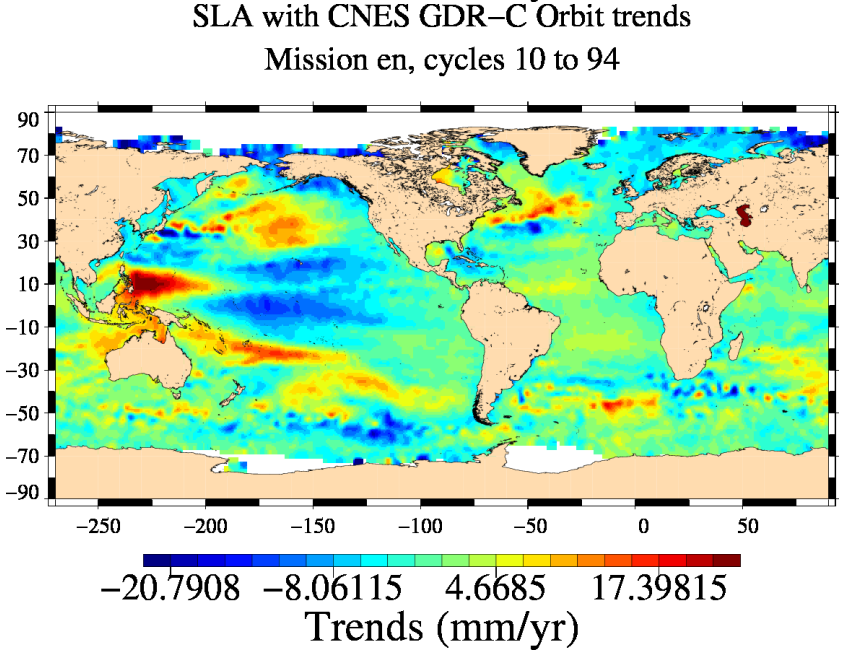
Diagnostic A203_a (mission en)

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.





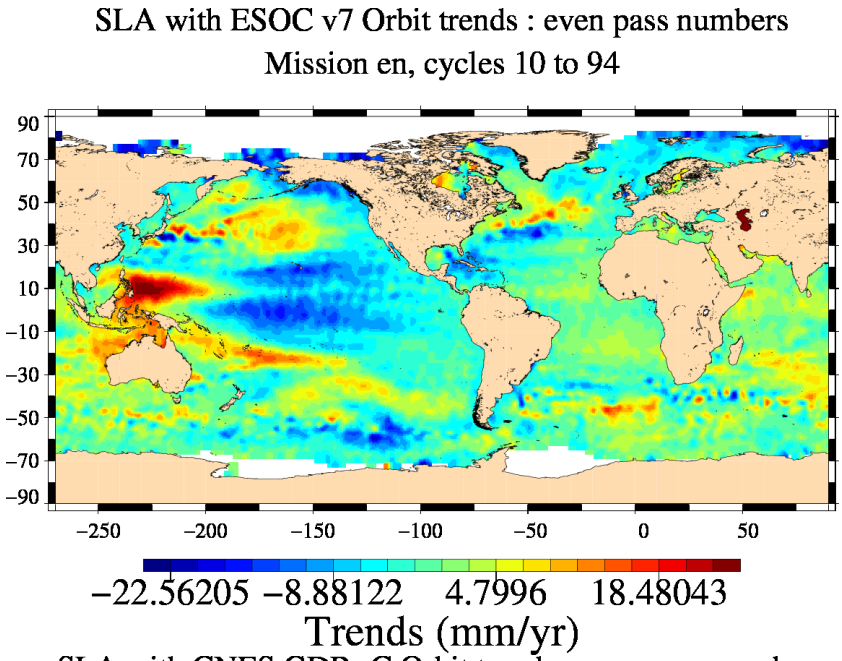
Diagnostic type : Global internal analyses

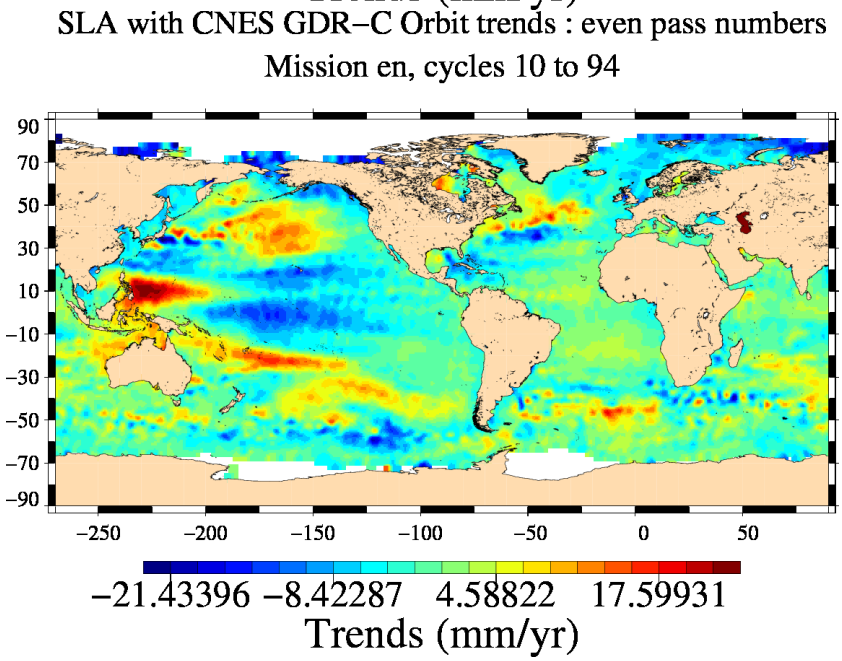
Diagnostic A203_b (mission en)

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.





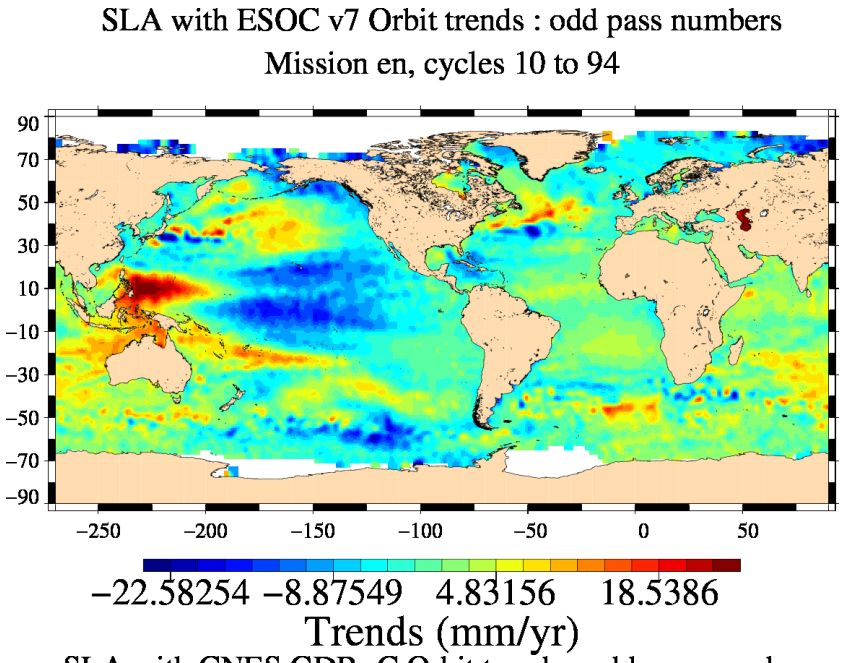
Diagnostic type : Global internal analyses

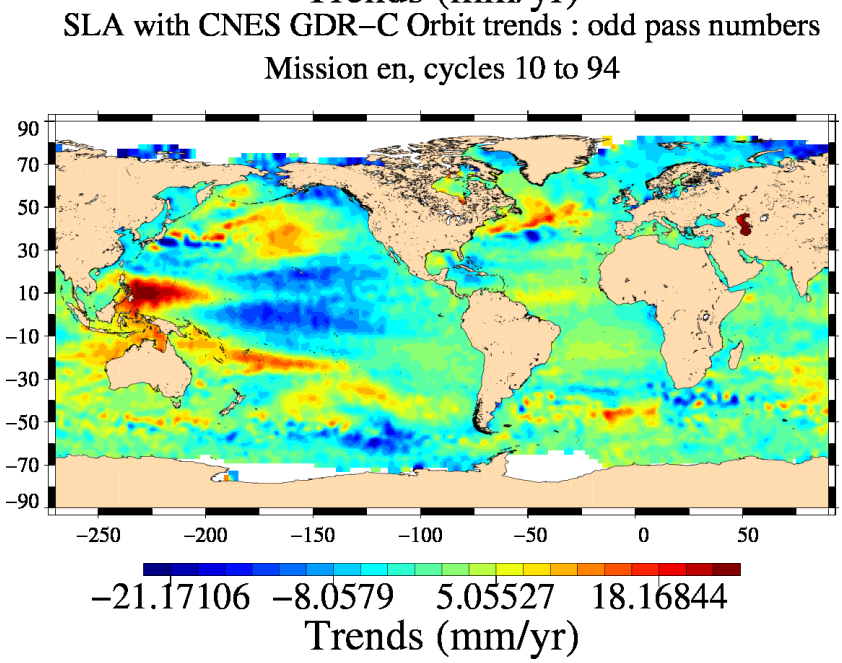
Diagnostic A203_c (mission en)

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.





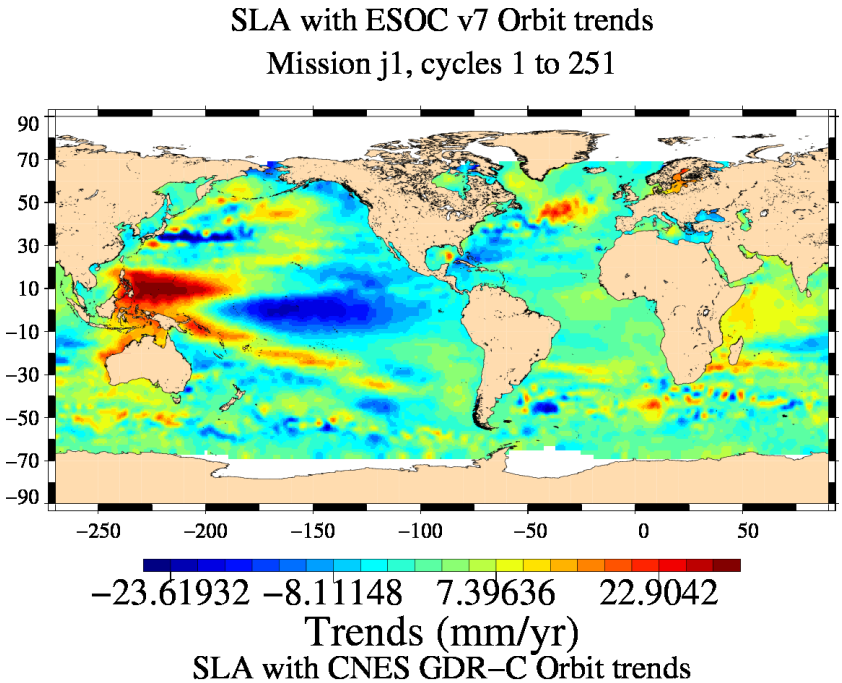
Diagnostic type : Global internal analyses

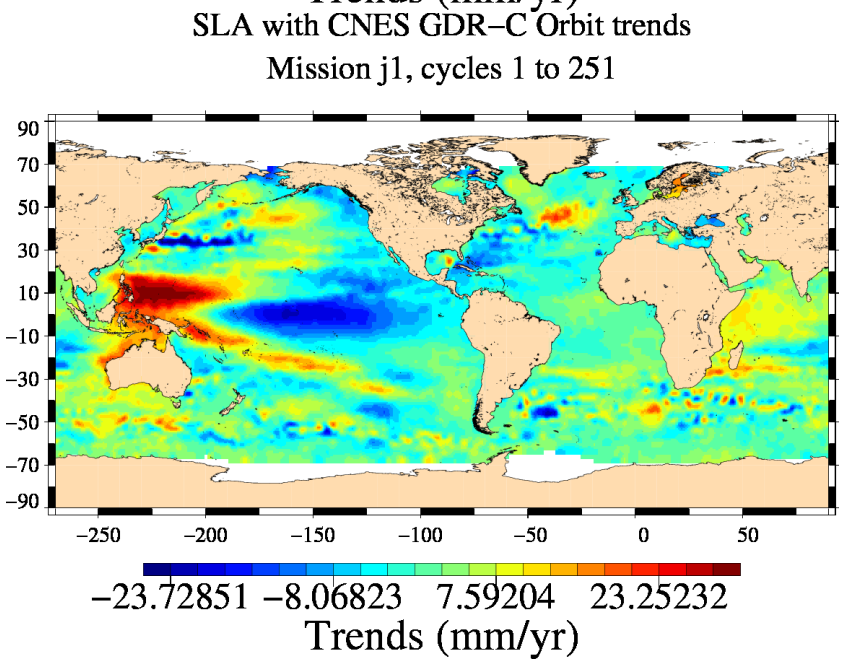
Diagnostic A203_a (mission j1)

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.





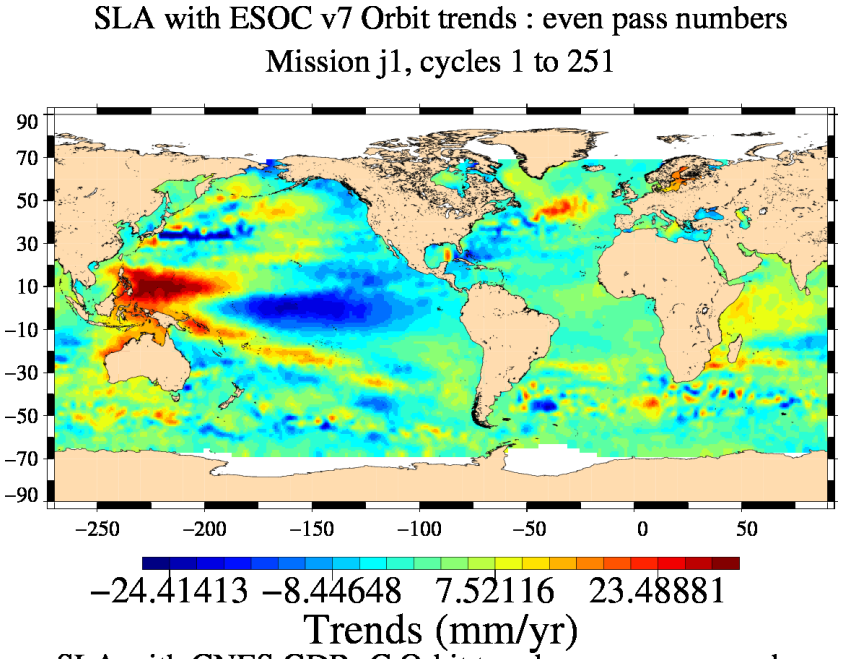
Diagnostic type : Global internal analyses

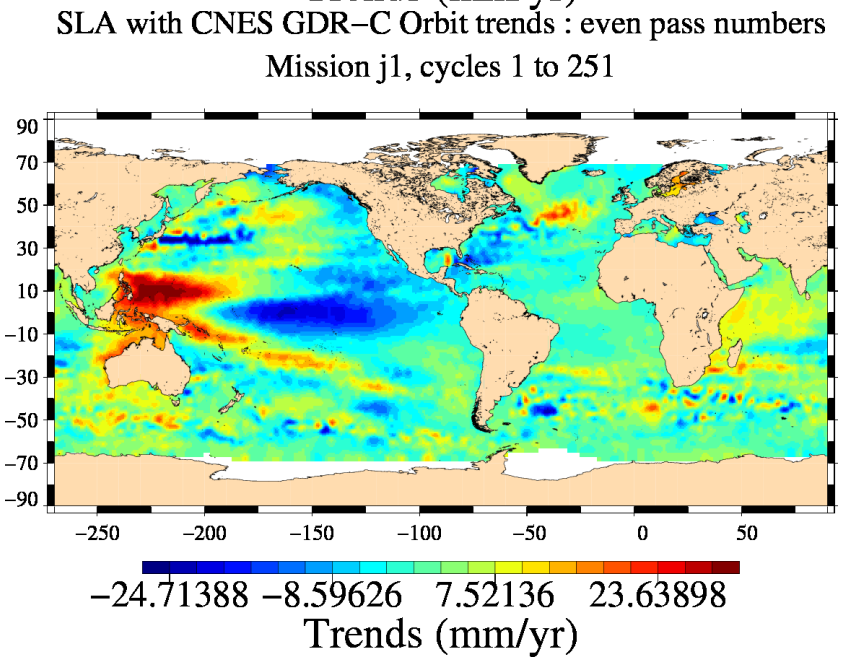
Diagnostic A203_b (mission j1)

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.





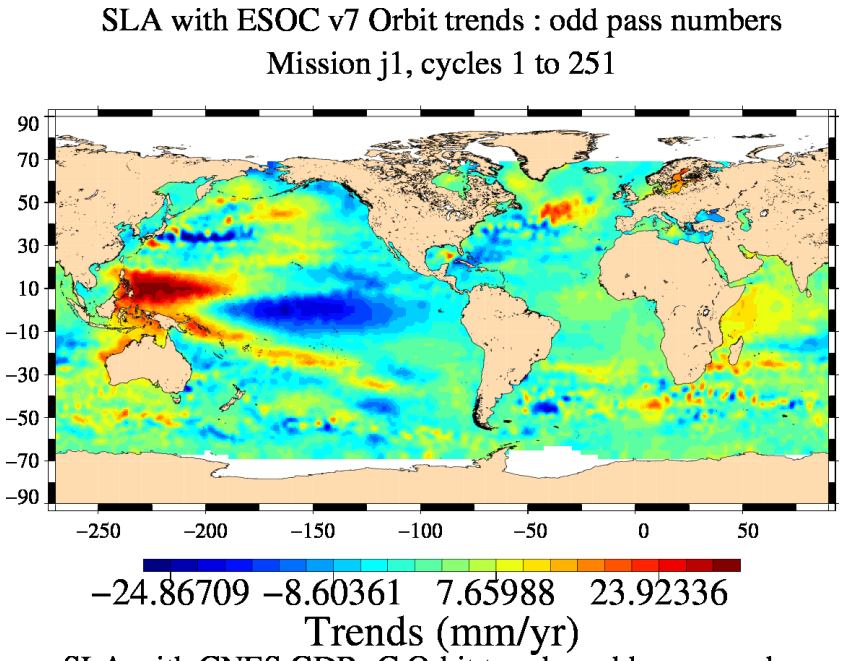
Diagnostic type : Global internal analyses

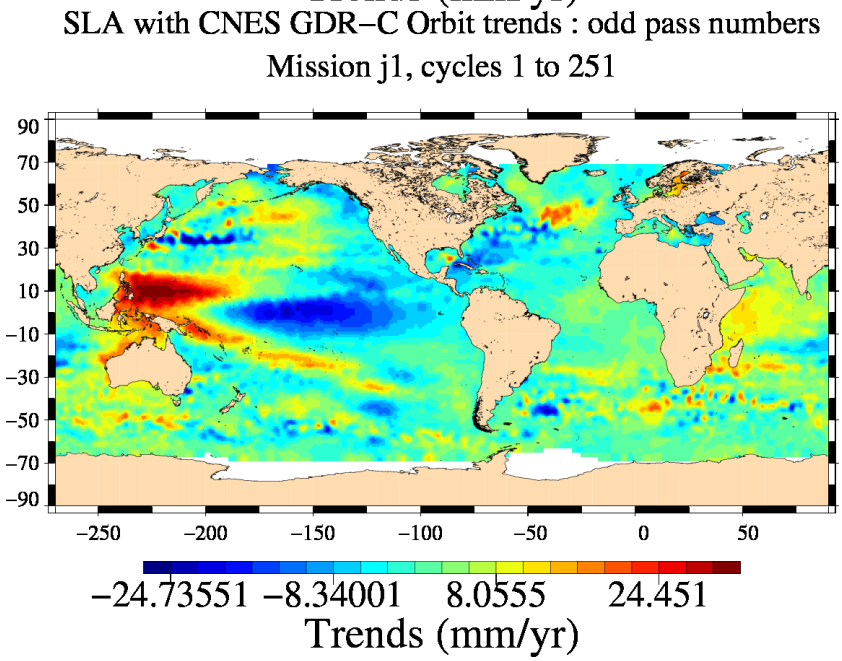
Diagnostic A203_c (mission j1)

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

Input data : Along track SLA

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





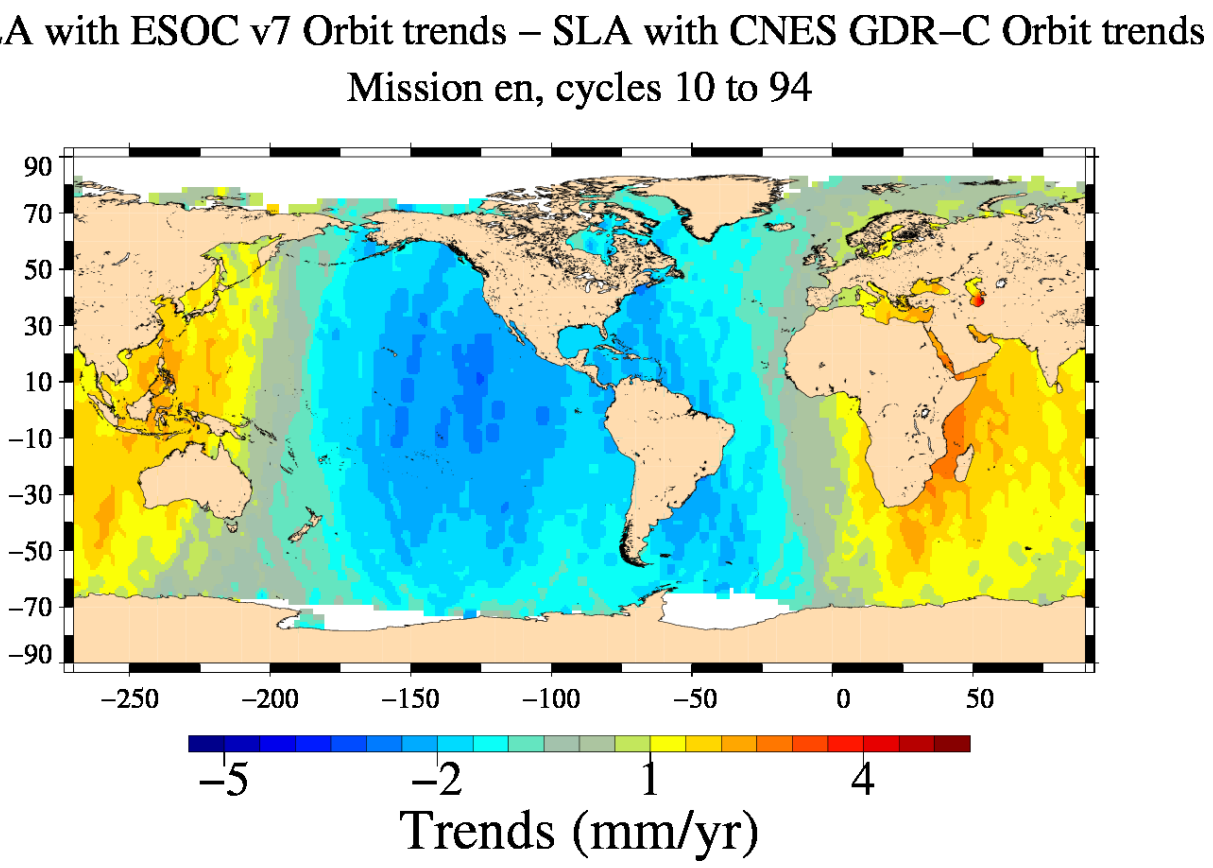
Diagnostic type : Global internal analyses

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).



Diagnostic type : Global internal analyses

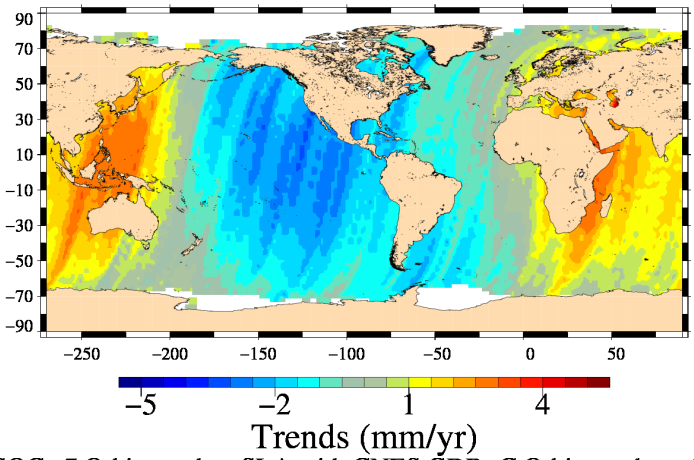
Diagnostic A204_b (mission en)

Name : Differences between maps of SLA

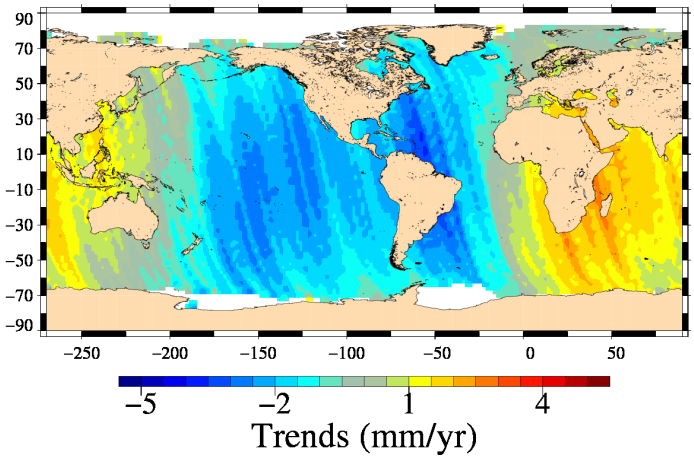
Input data : Along track SLA

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).

th ESOC v7 Orbit trends – SLA with CNES GDR–C Orbit trends : even pass r
Mission en, cycles 10 to 94



th ESOC v7 Orbit trends – SLA with CNES GDR–C Orbit trends : odd pass r
Mission en, cycles 10 to 94



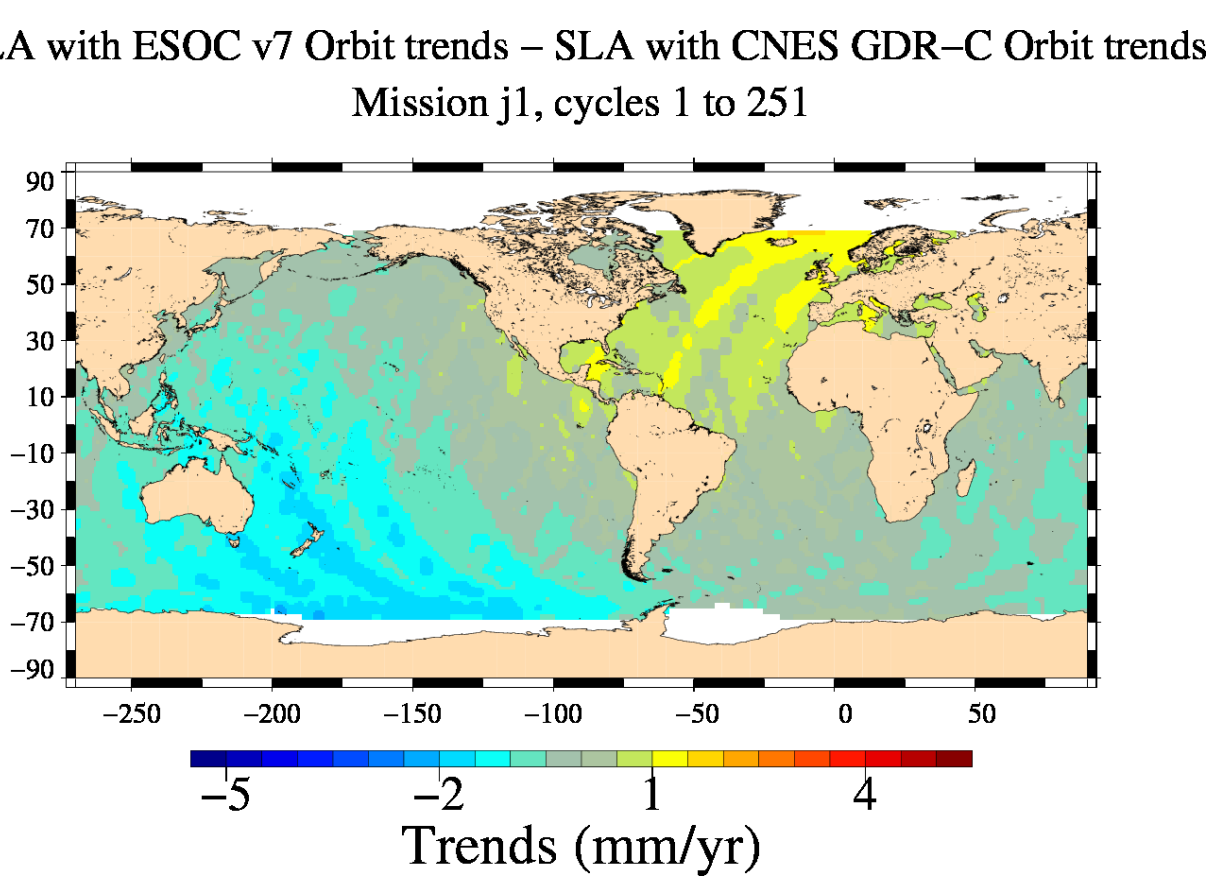
Diagnostic type : Global internal analyses

Diagnostic A204_a (mission j1)

Name : Differences between maps of SLA

Input data : Along track SLA

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



Diagnostic type : Global internal analyses

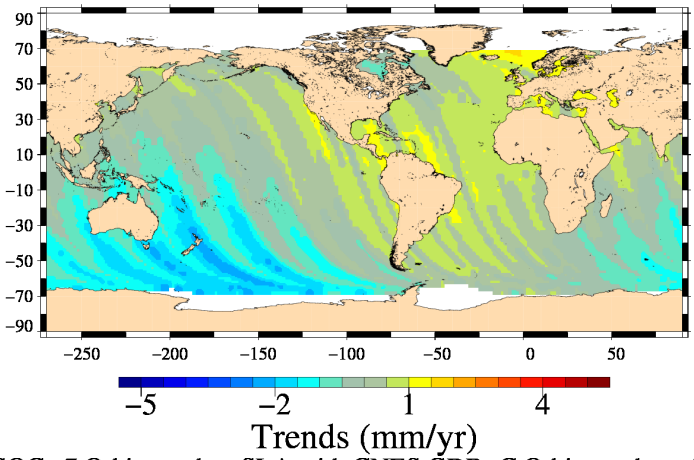
Diagnostic A204_b (mission j1)

Name : Differences between maps of SLA

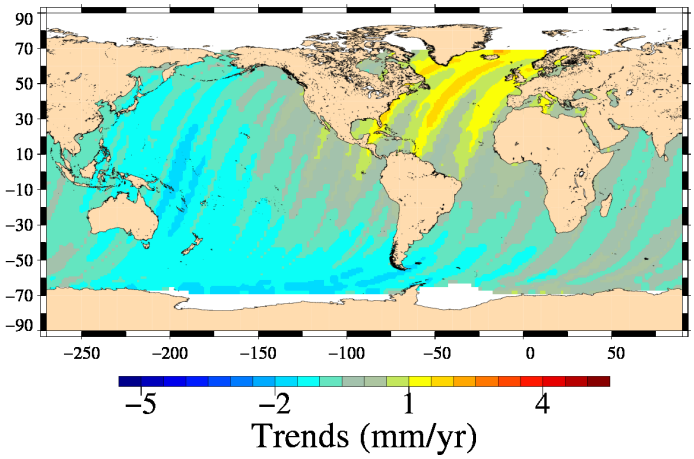
Input data : Along track SLA

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

th ESOC v7 Orbit trends – SLA with CNES GDR–C Orbit trends : even pass
Mission j1, cycles 1 to 251



th ESOC v7 Orbit trends – SLA with CNES GDR–C Orbit trends : odd pass r
Mission j1, cycles 1 to 251



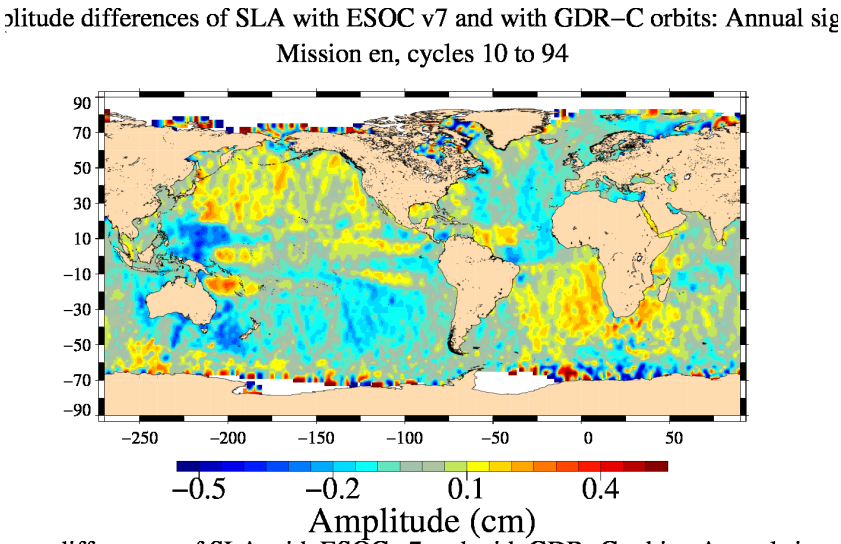
Diagnostic type : Global internal analyses

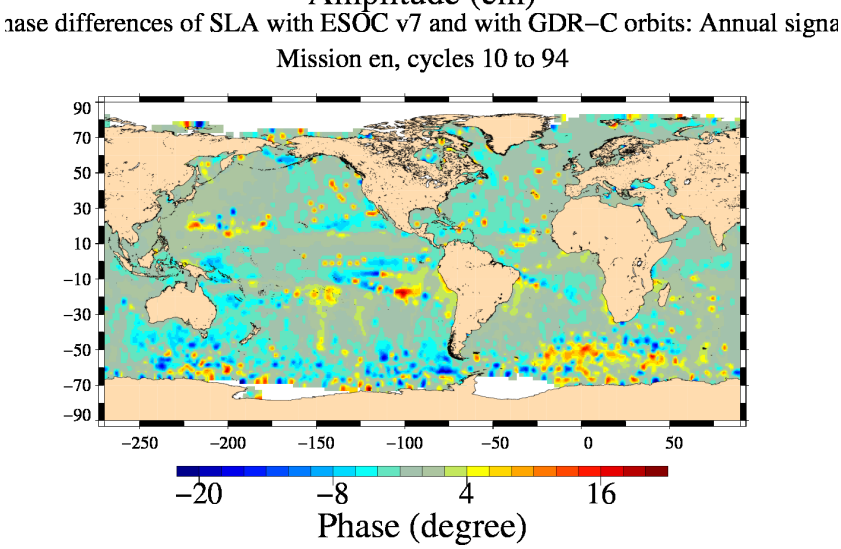
Diagnostic A205_a (mission en)

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).





Diagnostic type : Global internal analyses

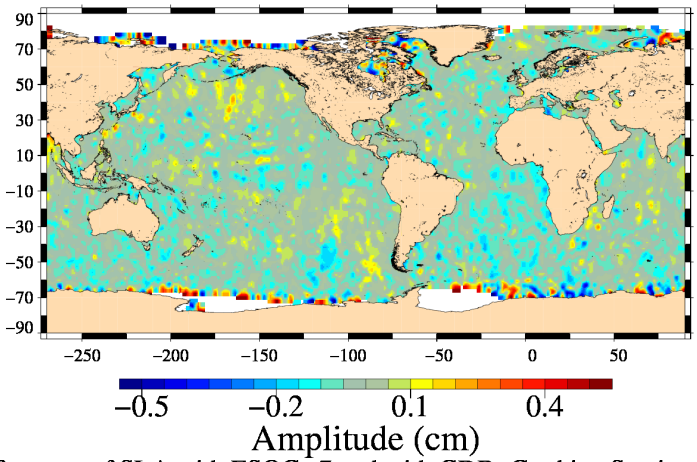
Diagnostic A205_b (mission en)

Name : Differences between maps of SLA (2)

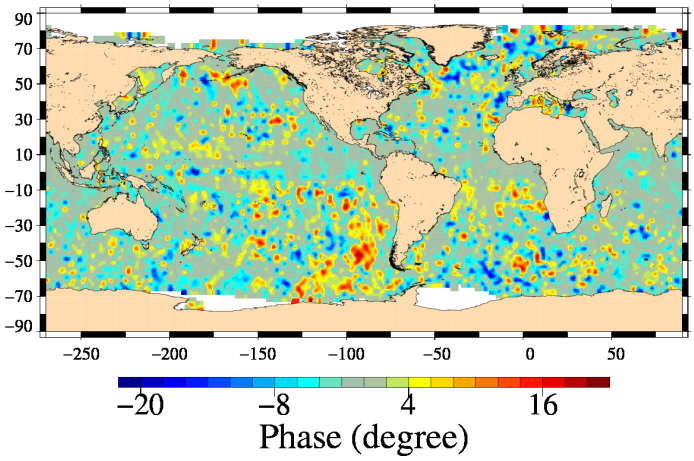
Input data : Along track SLA

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).

ude differences of SLA with ESOC v7 and with GDR−C orbits: Semi−annual
Mission en, cycles 10 to 94



e differences of SLA with ESOC v7 and with GDR−C orbits: Semi−annual si
Mission en, cycles 10 to 94



Diagnostic type : Global internal analyses

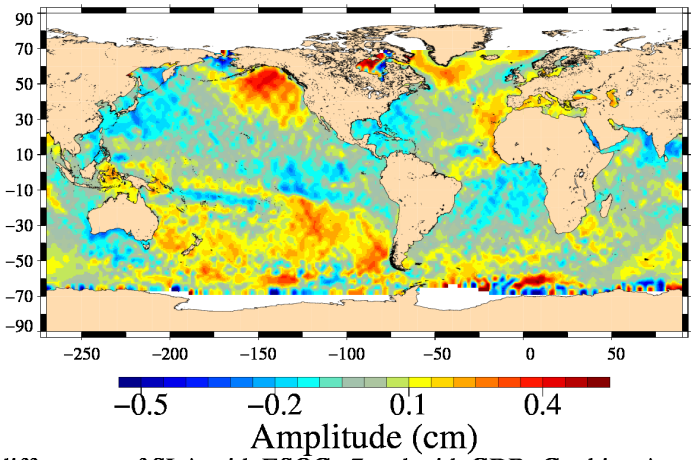
Diagnostic A205_a (mission j1)

Name : Differences between maps of SLA (2)

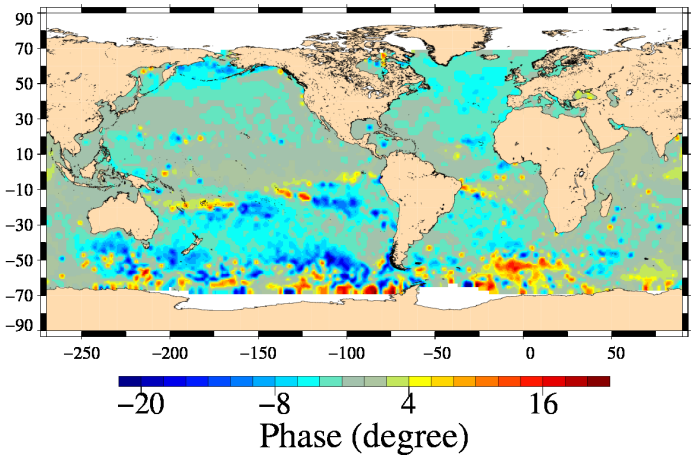
Input data : Along track SLA

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

plitude differences of SLA with ESOC v7 and with GDR−C orbits: Annual sig
Mission j1, cycles 1 to 251



ıase differences of SLA with ESOC v7 and with GDR−C orbits: Annual signa
Mission j1, cycles 1 to 251



Diagnostic type : Global internal analyses

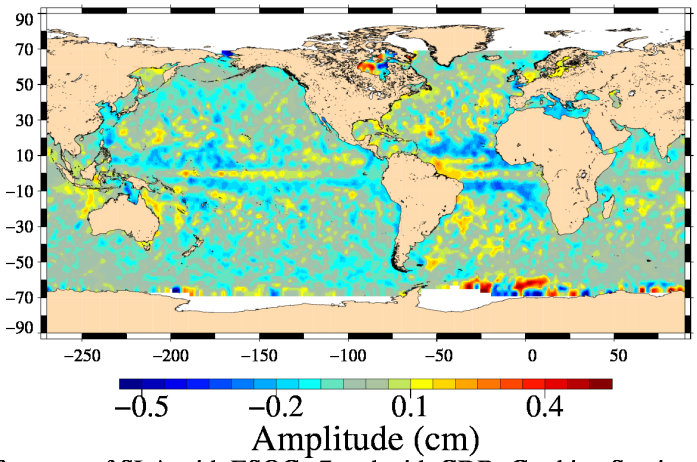
Diagnostic A205_b (mission j1)

Name : Differences between maps of SLA (2)

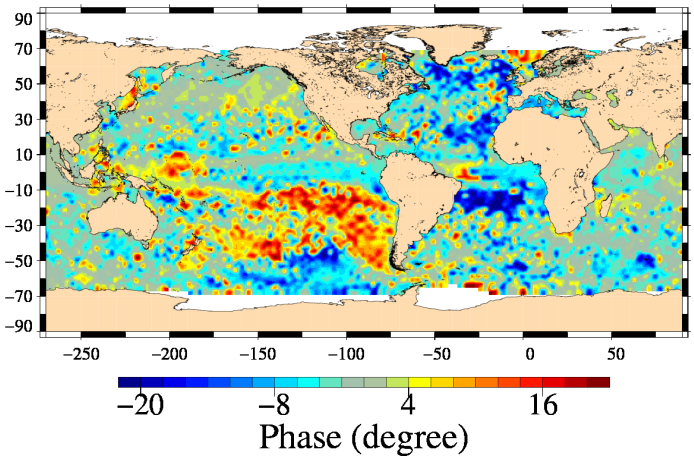
Input data : Along track SLA

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

ude differences of SLA with ESOC v7 and with GDR−C orbits: Semi−annual
Mission j1, cycles 1 to 251



e differences of SLA with ESOC v7 and with GDR−C orbits: Semi−annual si
Mission j1, cycles 1 to 251



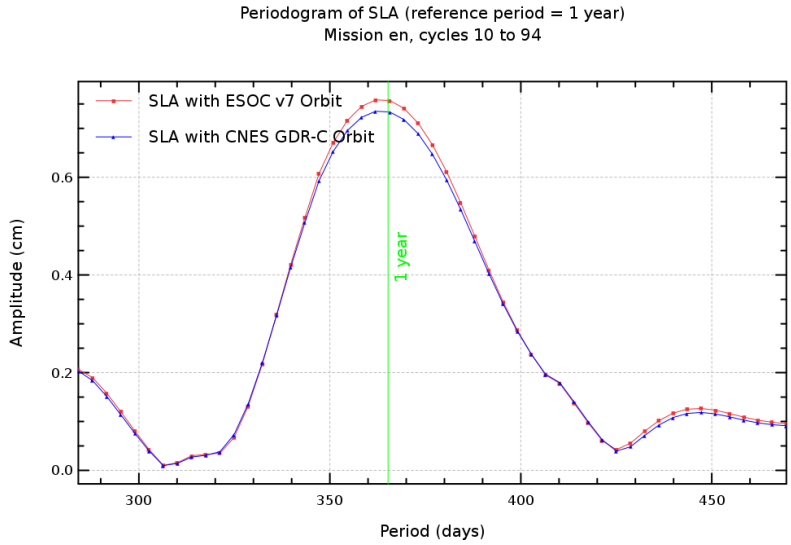
Diagnostic type : Global internal analyses

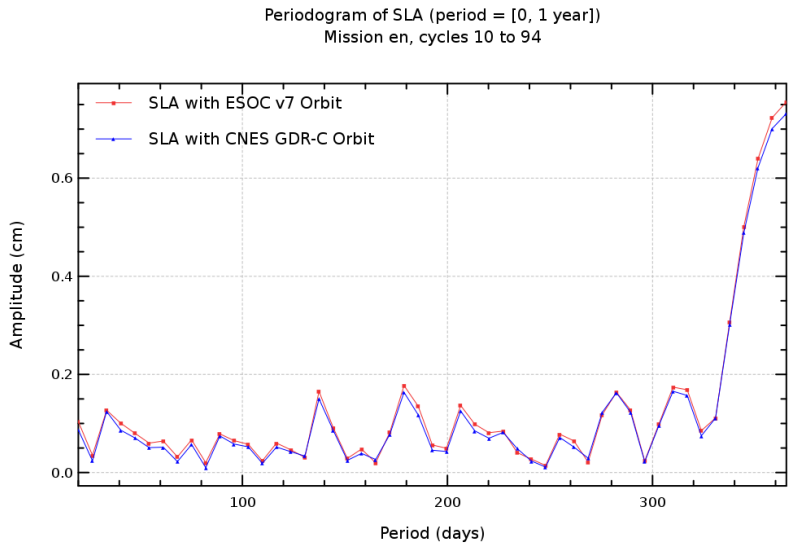
Diagnostic A206_a (mission en)

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.





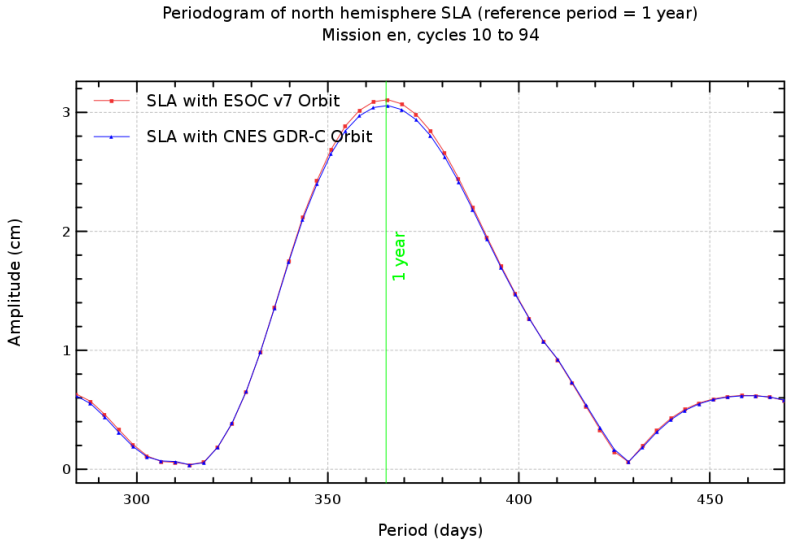
Diagnostic type : Global internal analyses

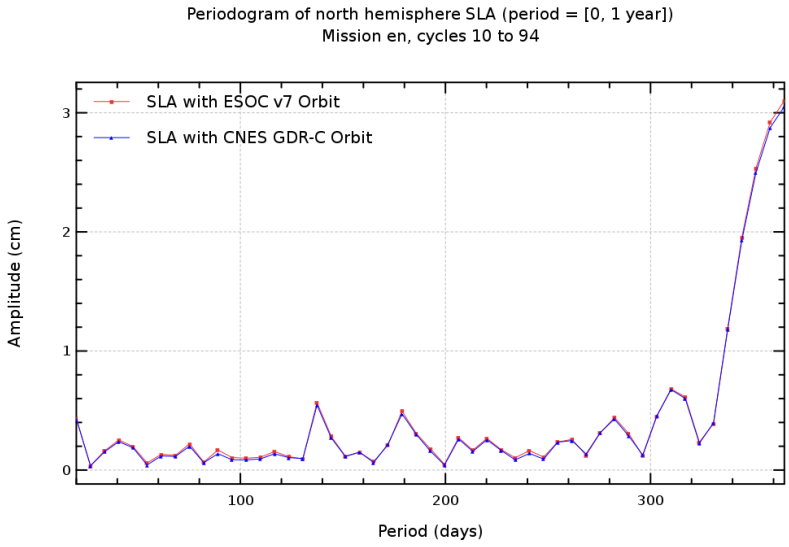
Diagnostic A206_b (mission en)

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.





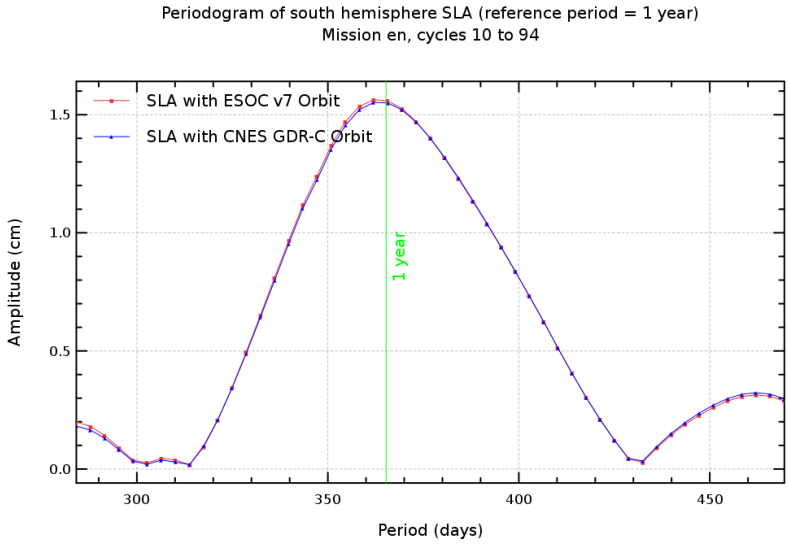
Diagnostic type : Global internal analyses

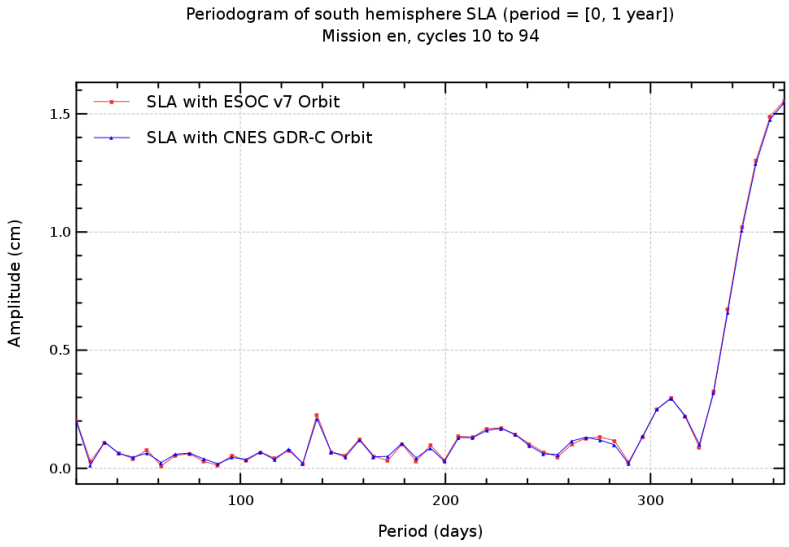
Diagnostic A206_c (mission en)

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.





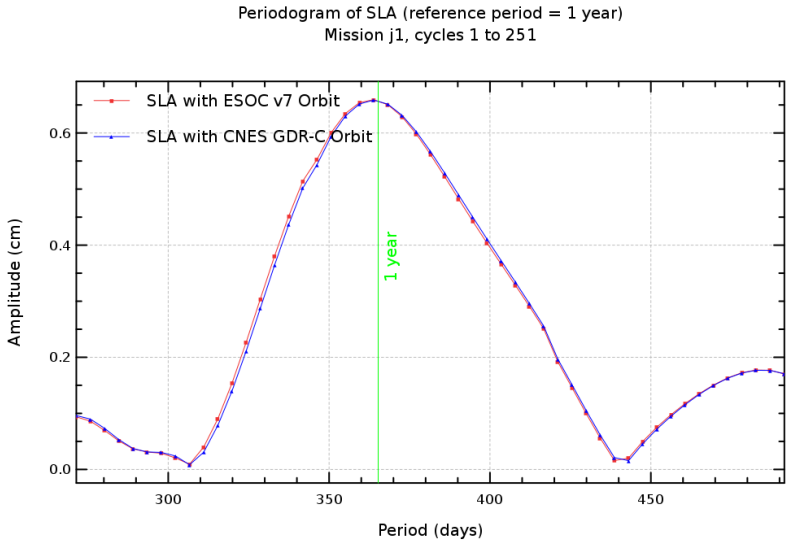
Diagnostic type : Global internal analyses

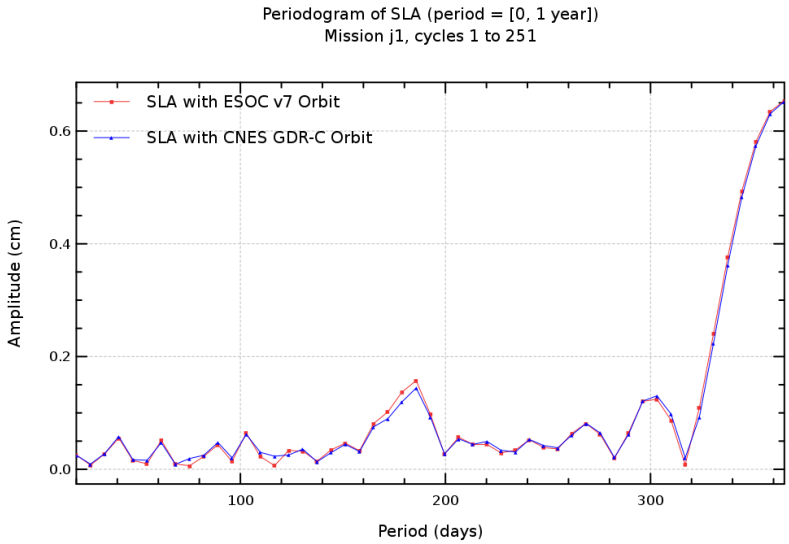
Diagnostic A206_a (mission j1)

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.





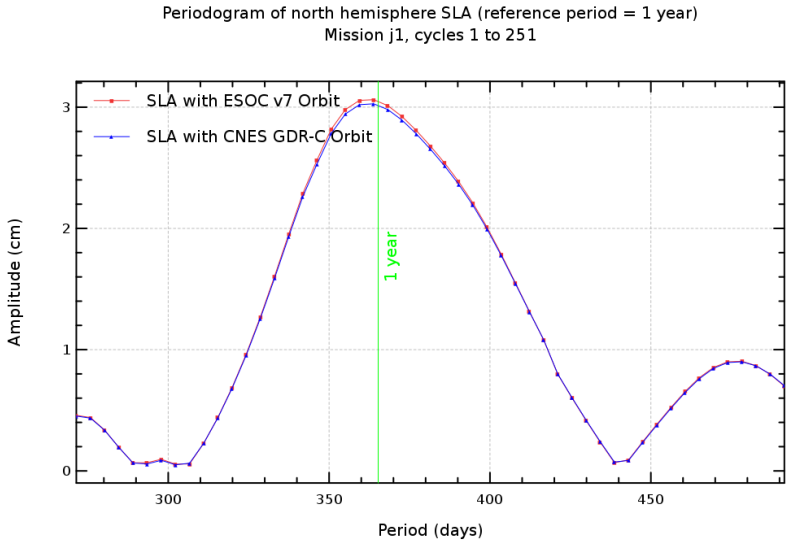
Diagnostic type : Global internal analyses

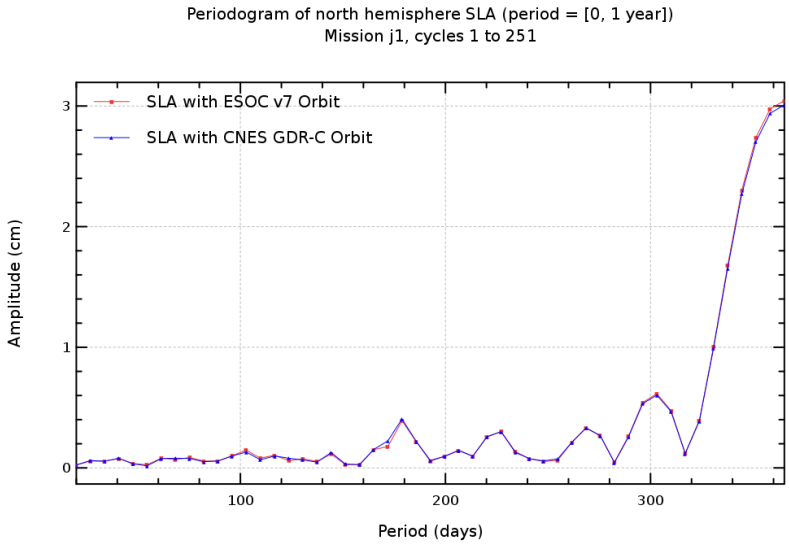
Diagnostic A206_b (mission j1)

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.





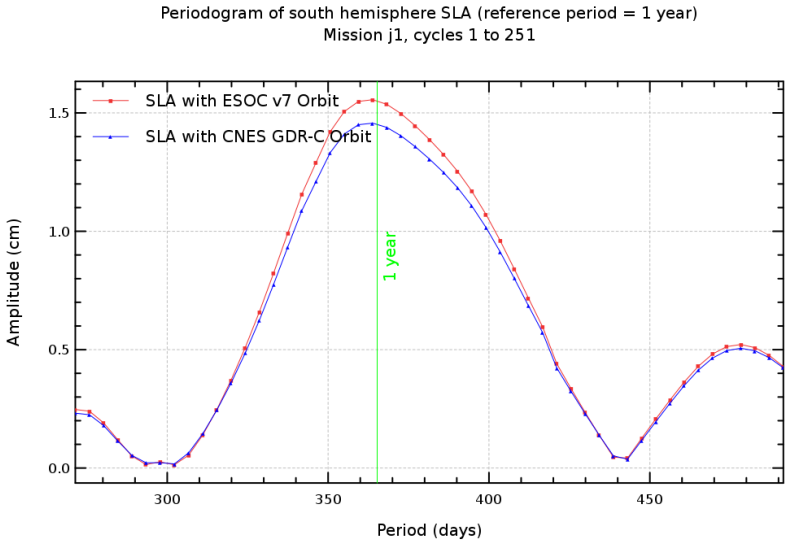
Diagnostic type : Global internal analyses

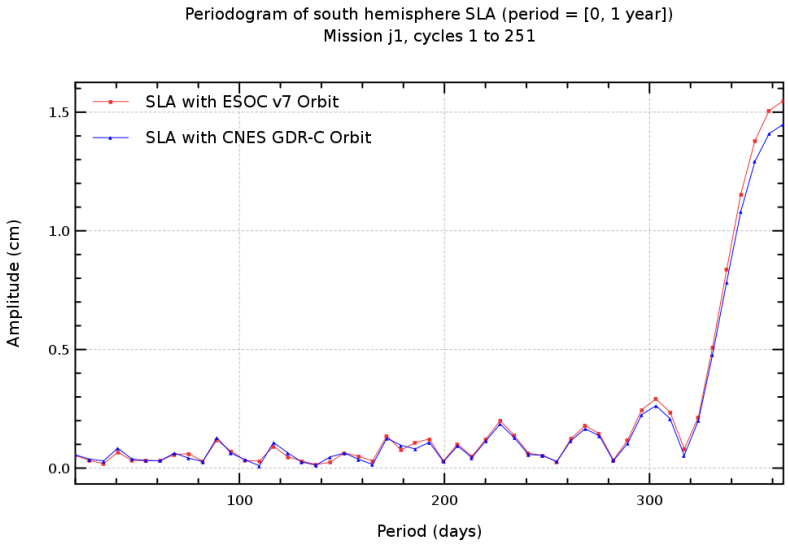
Diagnostic A206_c (mission j1)

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.





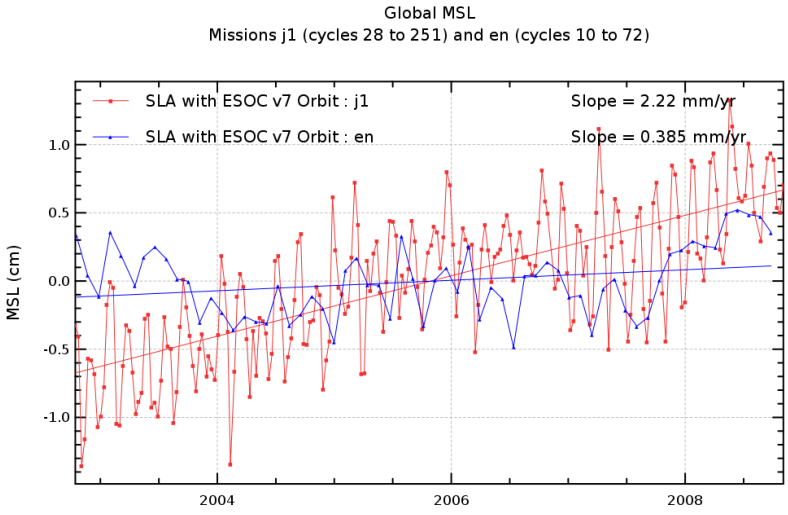
Diagnostic type : Global multi-mission comparaisons

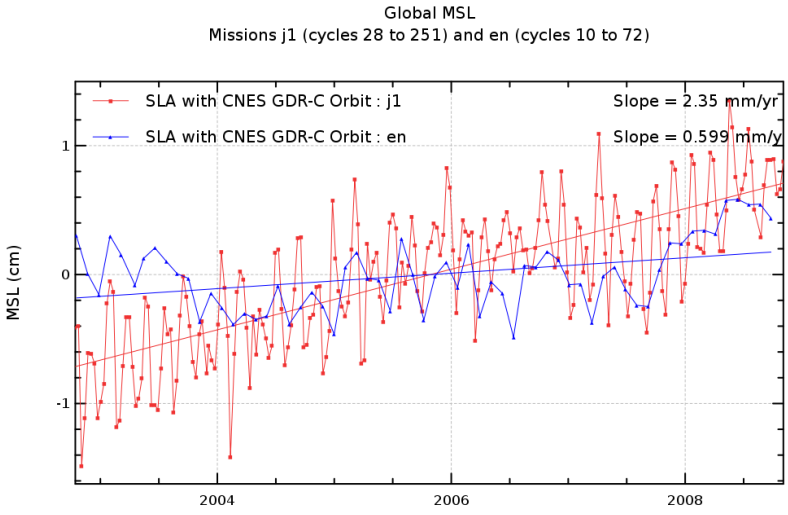
Diagnostic B201_a

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

Input data : Along track SLA

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





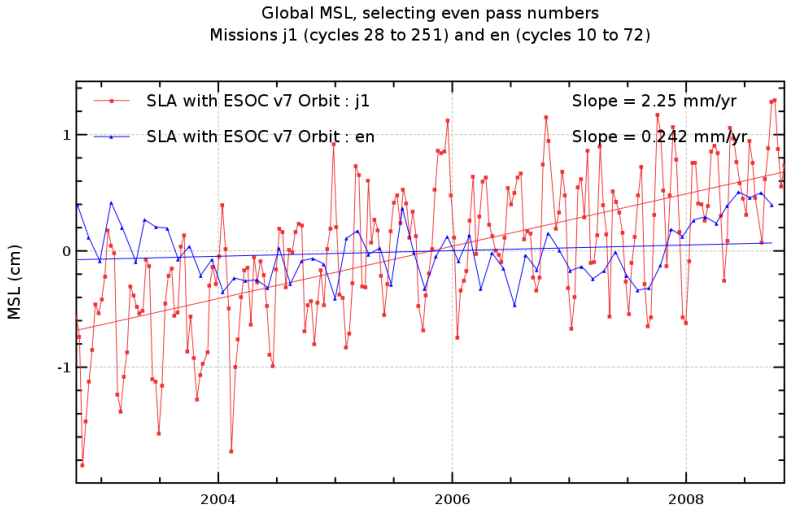
Diagnostic type : Global multi-mission comparaisons

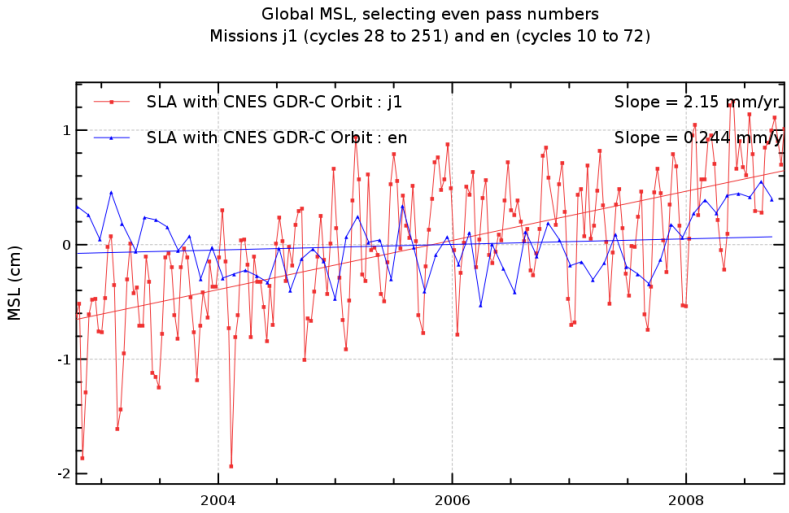
Diagnostic B201_b

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

Input data : Along track SLA

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





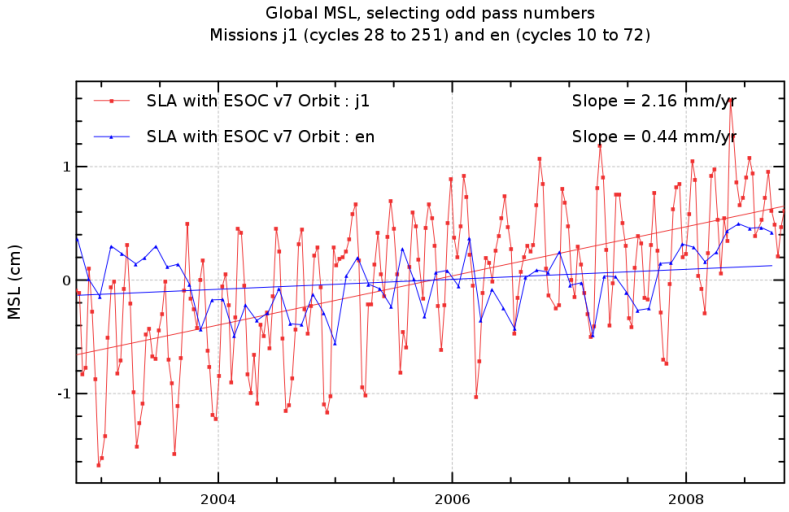
Diagnostic type : Global multi-mission comparaisons

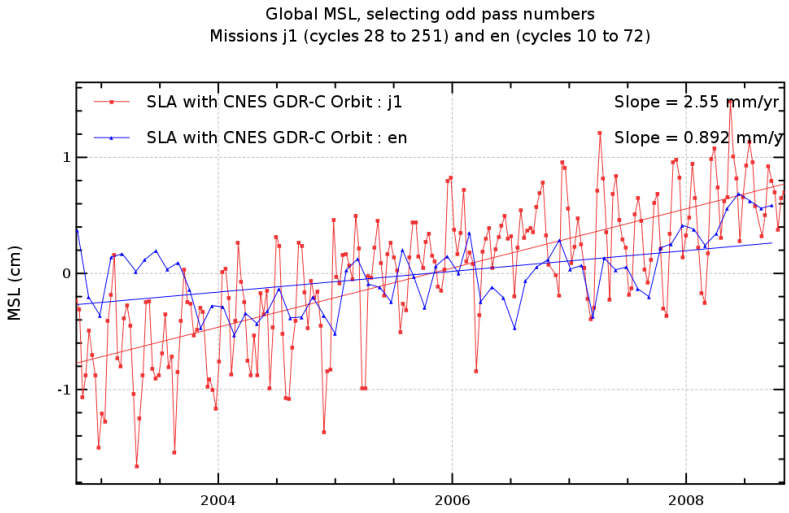
Diagnostic B201_c

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

Input data : Along track SLA

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





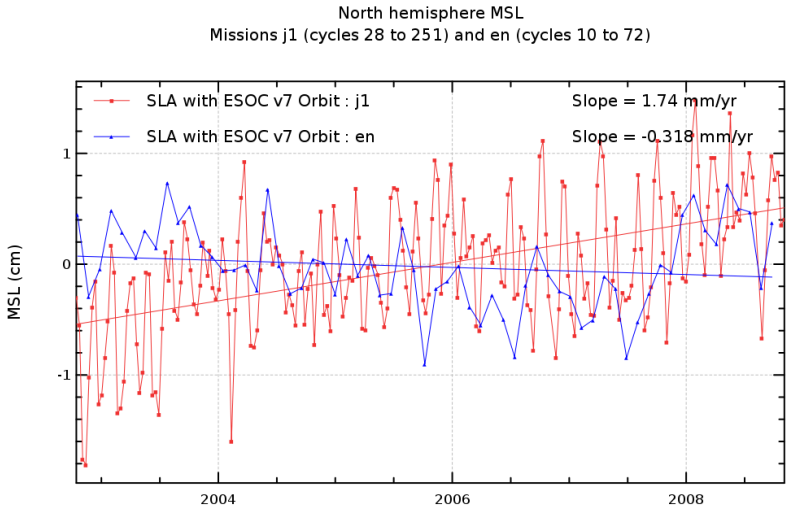
Diagnostic type : Global multi-mission comparaisons

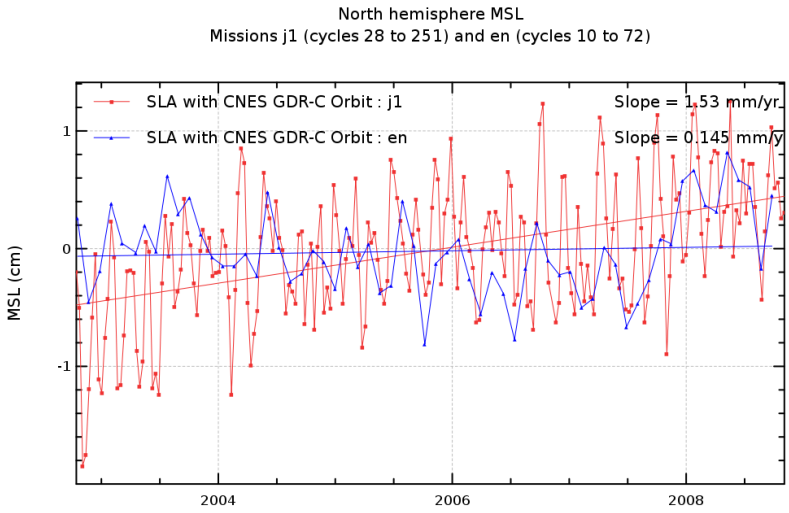
Diagnostic B201_d

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

Input data : Along track SLA

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





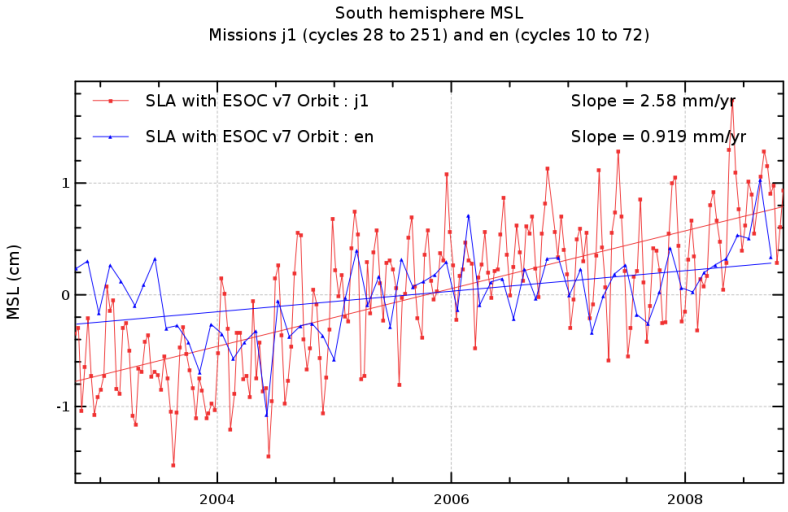
Diagnostic type : Global multi-mission comparaisons

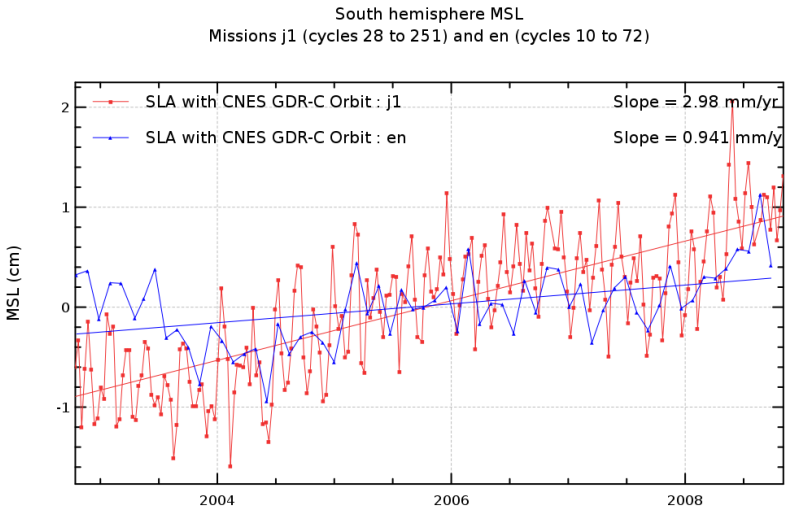
Diagnostic B201_e

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

Input data : Along track SLA

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





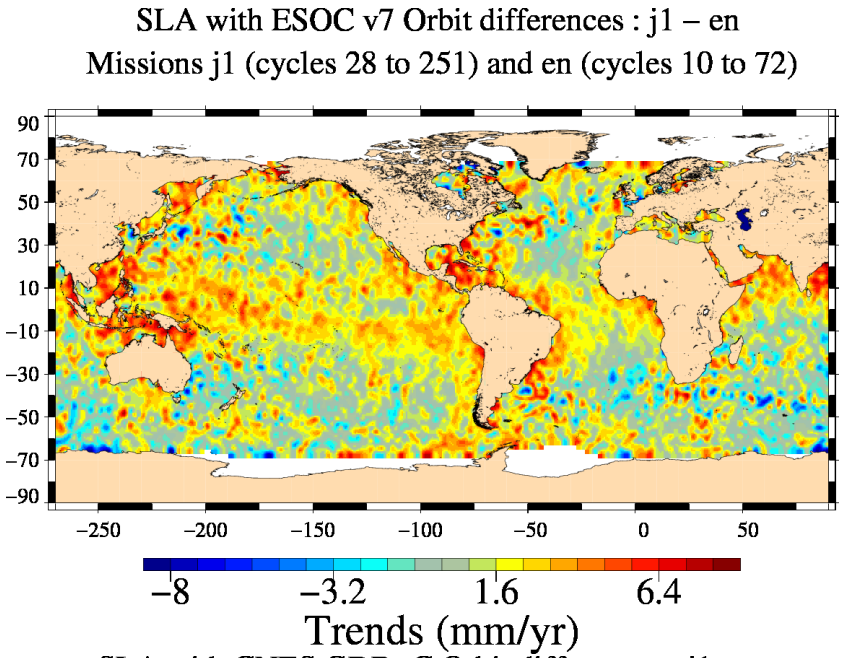
Diagnostic type : Global multi-mission comparaisons

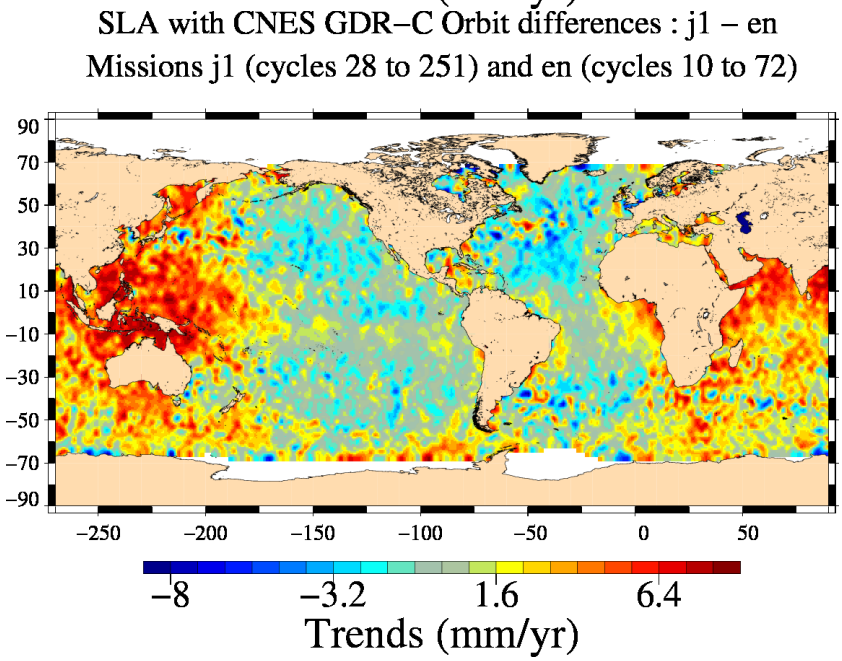
Diagnostic B202_a

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

Input data : Along track SLA

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





Diagnostic type : Global multi-mission comparaisons

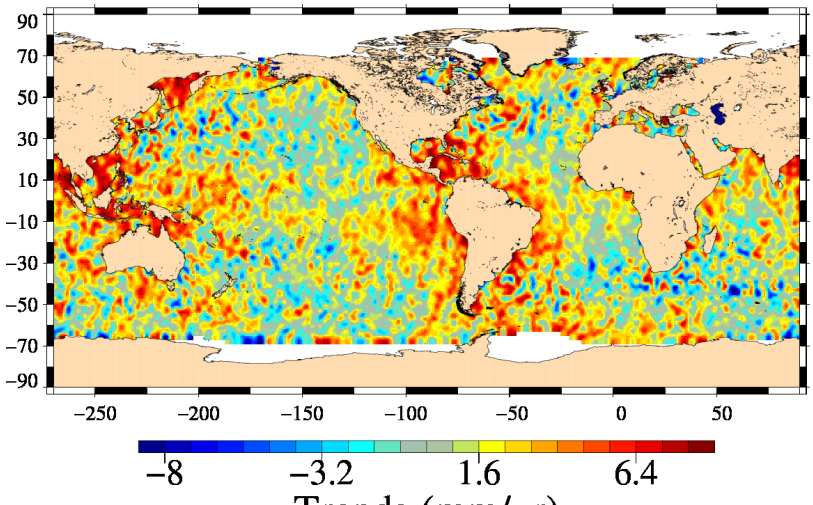
Diagnostic B202_b

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

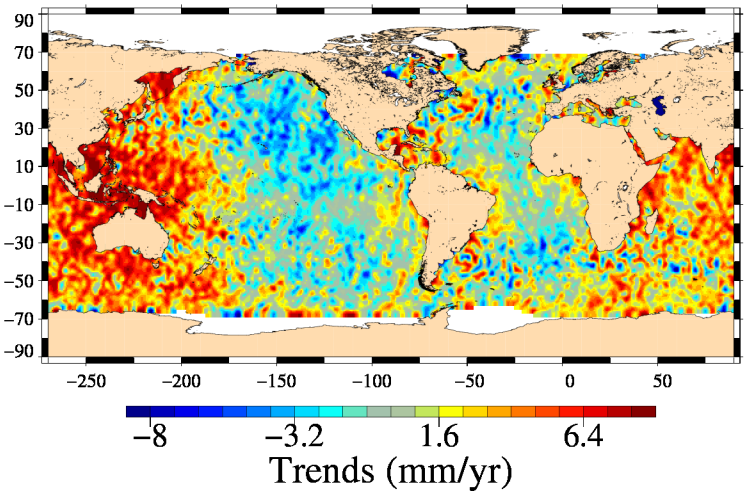
Input data : Along track SLA

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

SLA with ESOC v7 Orbit differences : j1 – en, even pass numbers
Missions j1 (cycles 28 to 251) and en (cycles 10 to 72)



SLA with CNES GDR–C Orbit differences : j1 – en, even pass numbers
Missions j1 (cycles 28 to 251) and en (cycles 10 to 72)



Diagnostic type : Global multi-mission comparaisons

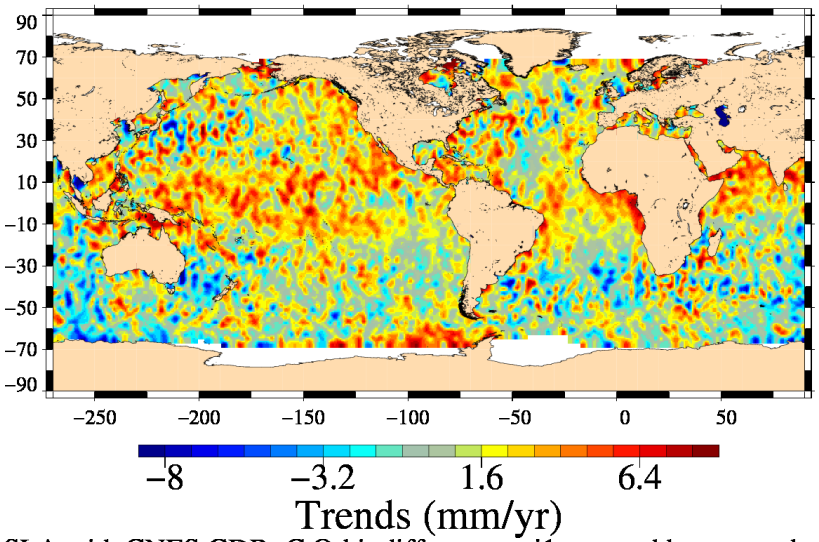
Diagnostic B202_c

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

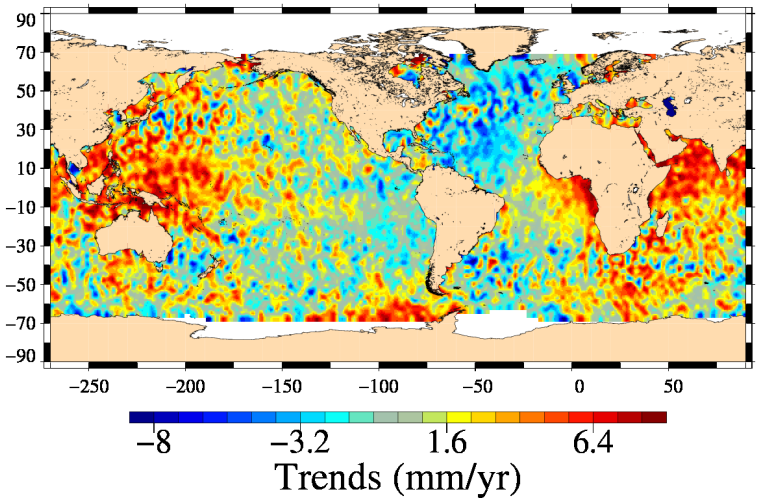
Input data : Along track SLA

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

SLA with ESOC v7 Orbit differences : j1 – en, odd pass numbers
Missions j1 (cycles 28 to 251) and en (cycles 10 to 72)



SLA with CNES GDR–C Orbit differences : j1 – en, odd pass numbers
Missions j1 (cycles 28 to 251) and en (cycles 10 to 72)



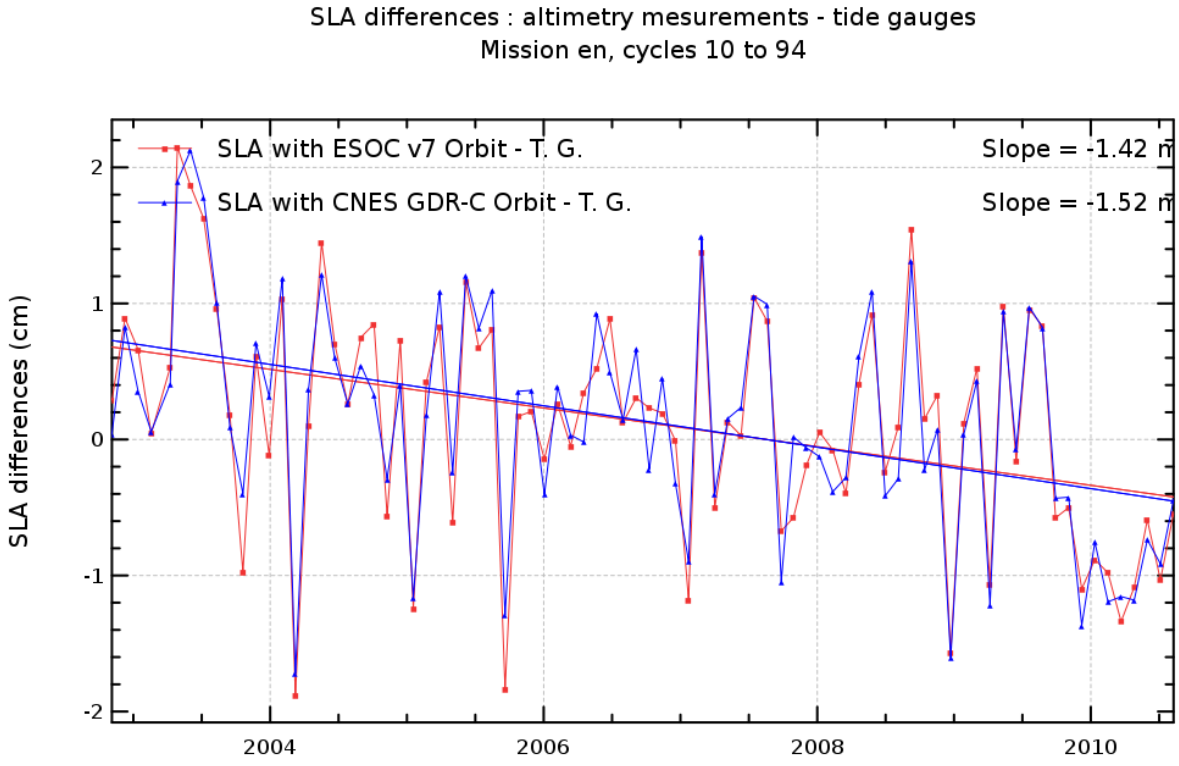
Diagnostic type : Altimetry and in-situ data comparaison

Diagnostic C001 (mission en)

Name : Temporal evolution of SSH differences between tide gauges and altimetry measurements

Input data : Tide gauges SSH measurements

Description : The temporal evolution of global statistics (mean, variance, slope) of SSH differences between tide gauges and altimeter measurements are calculated from a cyclic way (altimeter repetivity) using successively both altimetric components in SSH calculation. The altimetric and tide gauges data are colocated with criteria of maximum of correlation, and tide gauges used are derived from global networks (GLOSS/CLIVAR, REFMAR).



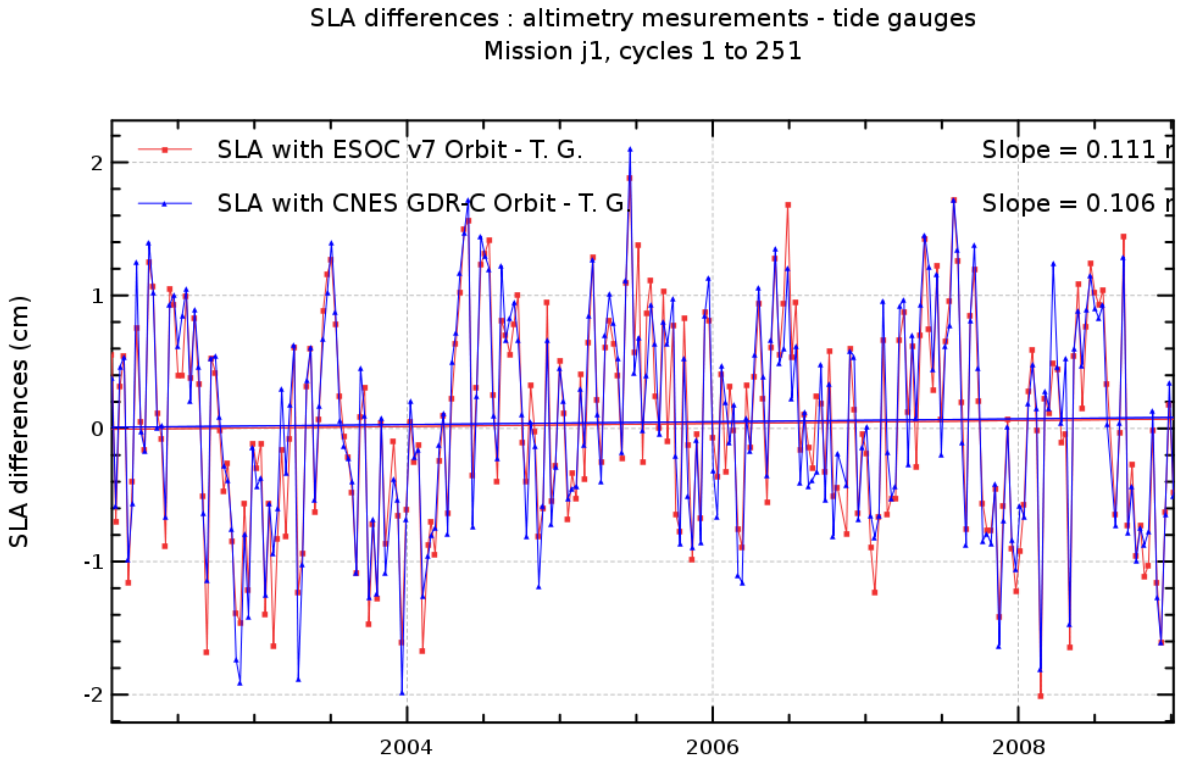
Diagnostic type : Altimetry and in-situ data comparaison

Diagnostic C001 (mission j1)

Name : Temporal evolution of SSH differences between tide gauges and altimetry measurements

Input data : Tide gauges SSH measurements

Description : The temporal evolution of global statistics (mean, variance, slope) of SSH differences between tide gauges and altimeter measurements are calculated from a cyclic way (altimeter repetivity) using successively both altimetric components in SSH calculation. The altimetric and tide gauges data are colocated with criteria of maximum of correlation, and tide gauges used are derived from global networks (GLOSS/CLIVAR, REFMAR).



C002

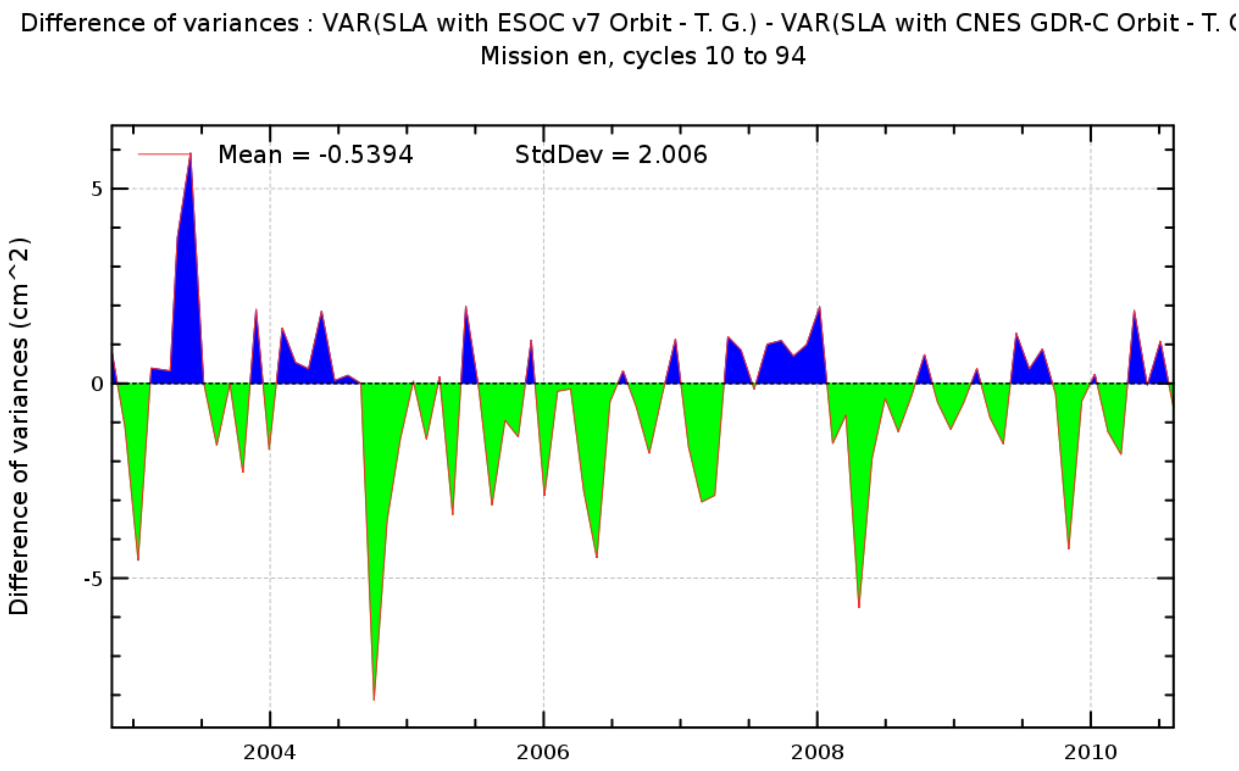
Diagnostic type : Altimetry and in-situ data comparaison

Diagnostic C002 (mission en)

Name : Differences of temporal evolution of SSH differences between tide gauges and altimetry measurements

Input data : Tide gauges SSH measurements

Description : The difference between temporal evolution of global statistics of differences between tide gauge and altimeter data differences are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in altimetric SSH calculation. The altimetric and tide gauges data are collocated with criteria of maximum of correlation, and tide gauges used are derived from global networks as GLOSS/CLIVAR.



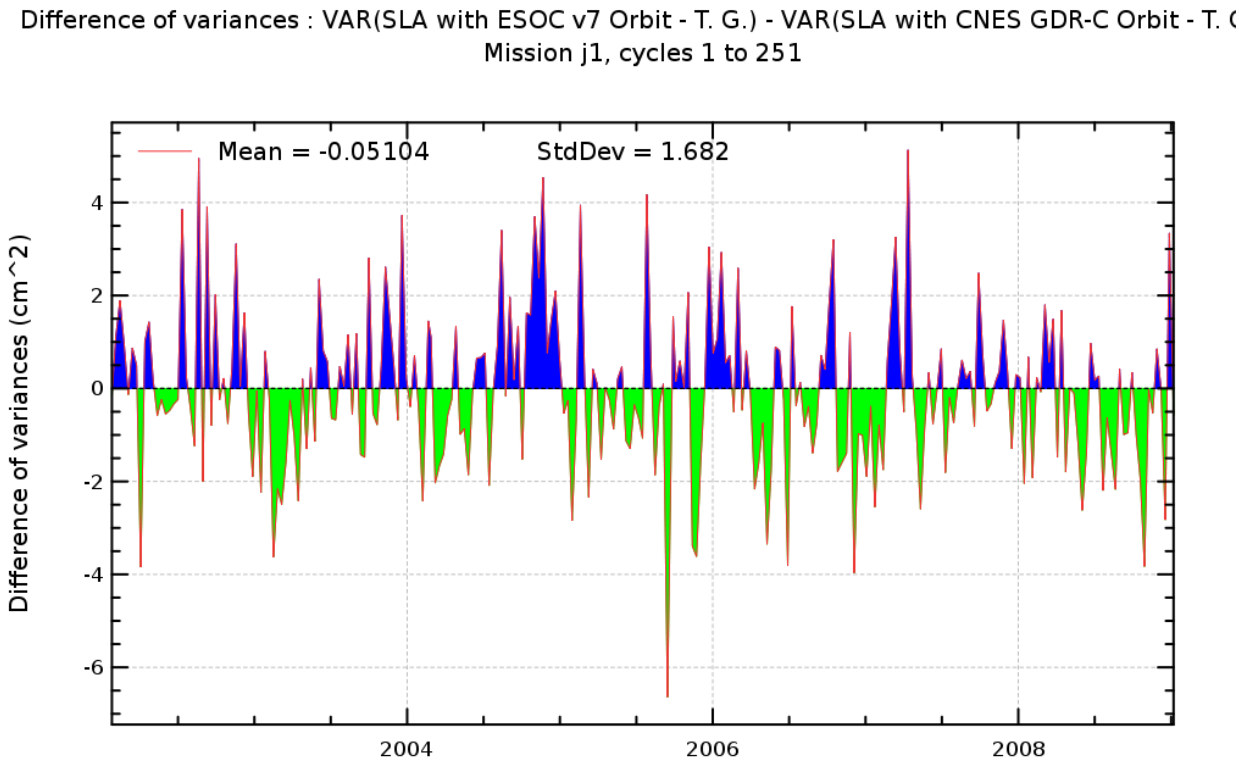
Diagnostic type : Altimetry and in-situ data comparaison

Diagnostic C002 (mission j1)

Name : Differences of temporal evolution of SSH differences between tide gauges and altimetry measurements

Input data : Tide gauges SSH measurements

Description : The difference between temporal evolution of global statistics of differences between tide gauge and altimeter data differences are calculated from a cyclic way (altimeter repetivity, daily, weekly, monthly) using successively both altimetric components in altimetric SSH calculation. The altimetric and tide gauges data are collocated with criteria of maximum of correlation, and tide gauges used are derived from global networks as GLOSS/CLIVAR.



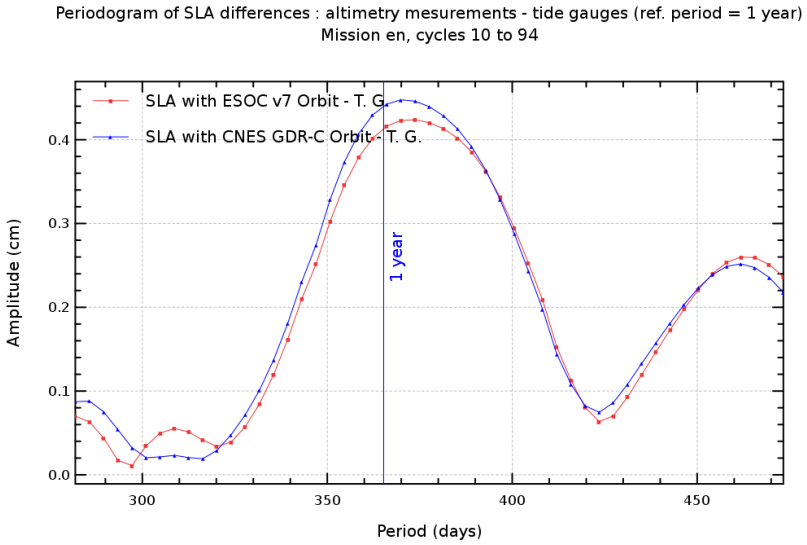
Diagnostic type : Altimetry and in-situ data comparaison

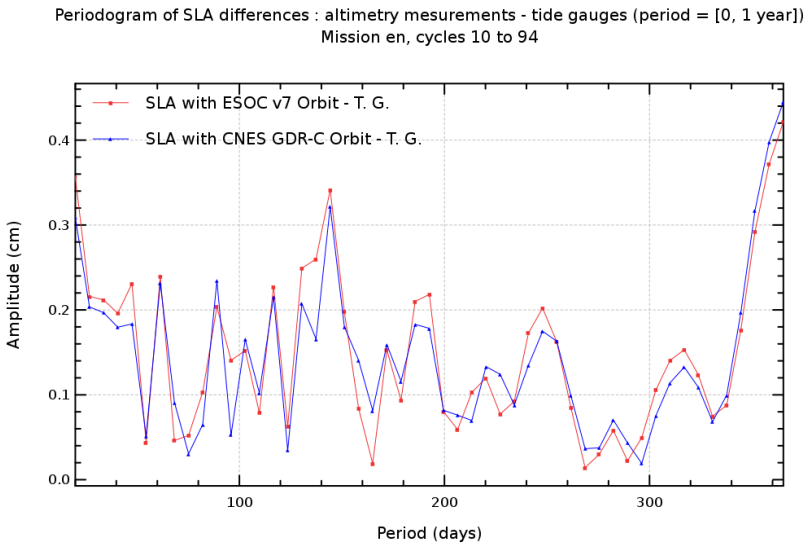
Diagnostic C003 (mission en)

Name : Periodogram derived from temporal evolution of SSH differences between tide gauges and altimetry

Input data : Tide gauges SSH measurements

Description : The periodogram derived from temporal evolution of altimetric and tide gauges SSH differences is calculated using successively both altimetric components in the altimetric SSH. The periodogram is calculated from the mean or variance statistics and it can be displayed for all the whole time period or a dedicated one





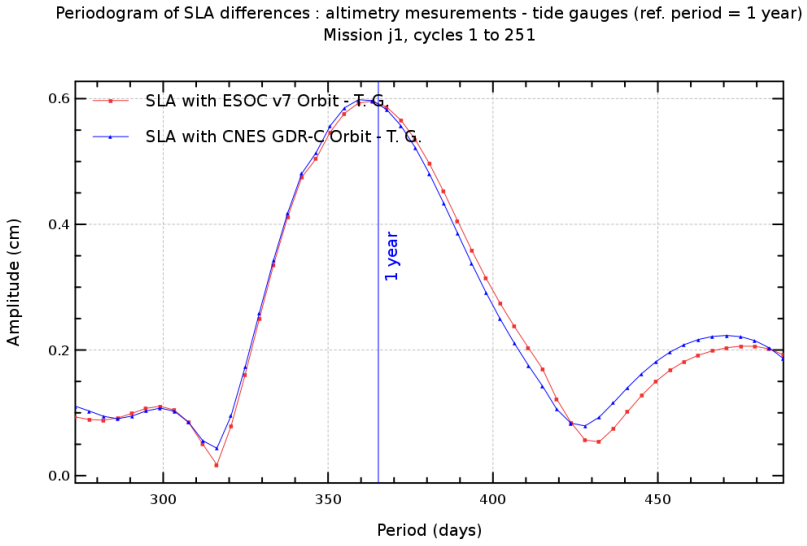
Diagnostic type : Altimetry and in-situ data comparaison

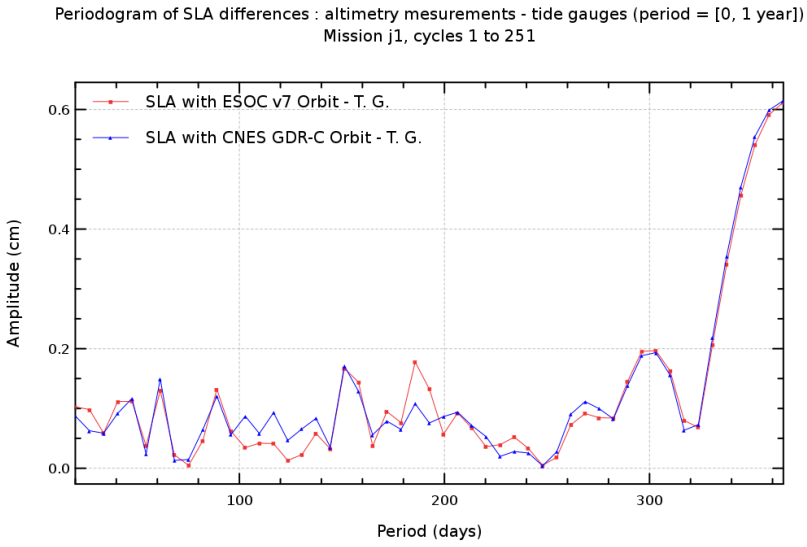
Diagnostic C003 (mission j1)

Name : Periodogram derived from temporal evolution of SSH differences between tide gauges and altimetry

Input data : Tide gauges SSH measurements

Description : The periodogram derived from temporal evolution of altimetric and tide gauges SSH differences is calculated using successively both altimetric components in the altimetric SSH. The periodogram is calculated from the mean or variance statistics and it can be displayed for all the whole time period or a dedicated one





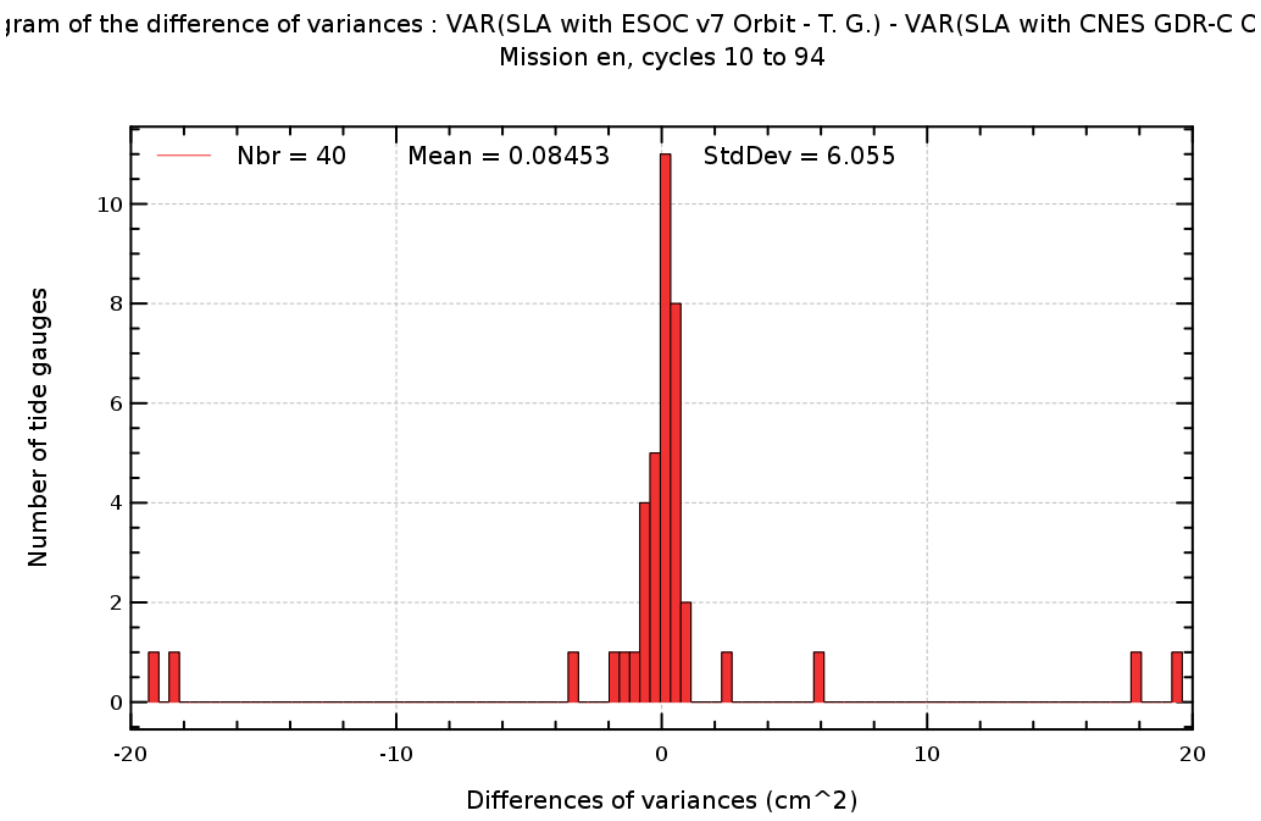
Diagnostic type : Altimetry and in-situ data comparaison

Diagnostic C004 (mission en)

Name : Histograms of differences between tide gauges and altimeter SSH differences

Input data : Tide gauges SSH measurements

Description : The difference of histograms between altimeter and tide gauge SSH differences is computed from the elementary statistics (mean, variance) at each tide gauge using successively both altimetric components in the altimetry SSH.



Diagnostic type : Altimetry and in-situ data comparaison

Diagnostic C004 (mission j1)

Name : Histograms of differences between tide gauges and altimeter SSH differences

Input data : Tide gauges SSH measurements

Description : The difference of histograms between altimeter and tide gauge SSH differences is computed from the elementary statistics (mean, variance) at each tide gauge using successively both altimetric components in the altimetry SSH.