

Differences for mean sea-level pressure

EMOSLIB does not apply any land sea-mask processing when interpolating the mean sea-level pressure so differences arise only from the different interpolation method and selection of nearest points used by MIR

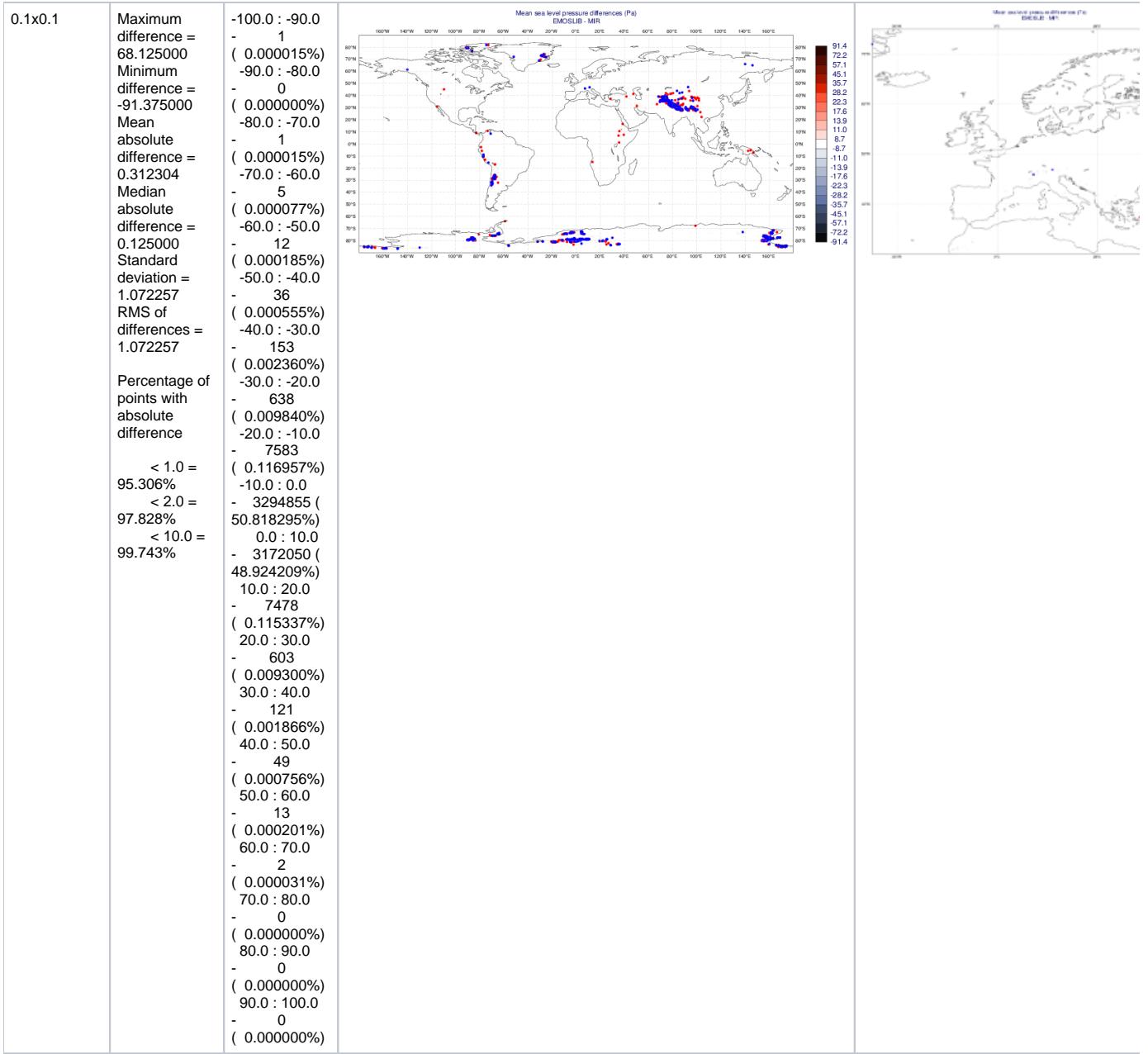
HRES O1280

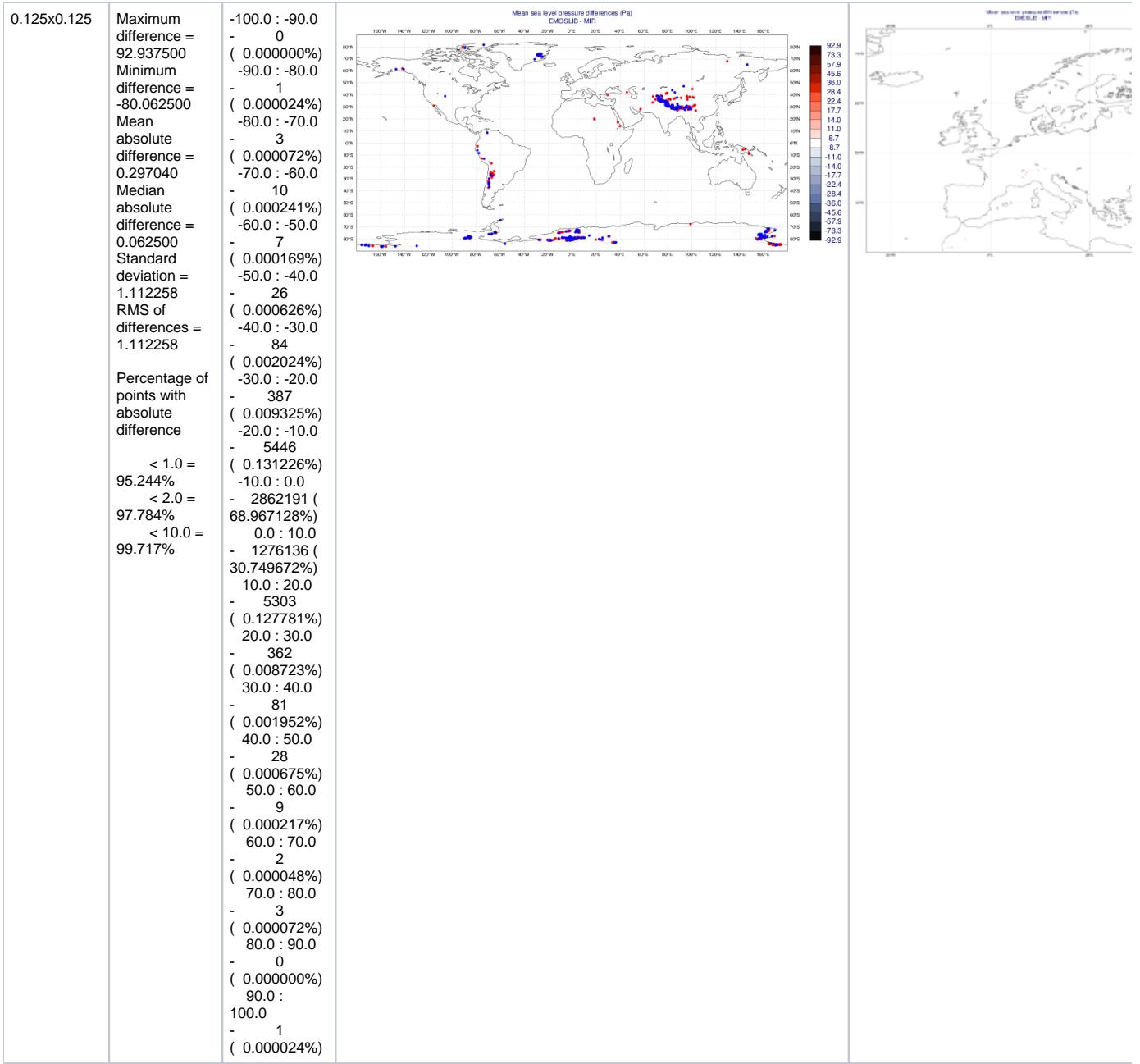
Mean sea-level pressure has been interpolated from the O1280 octahedral reduced Gaussian grid to regular lat-lon grids at different target resolutions using EMOSLIB and MIR.

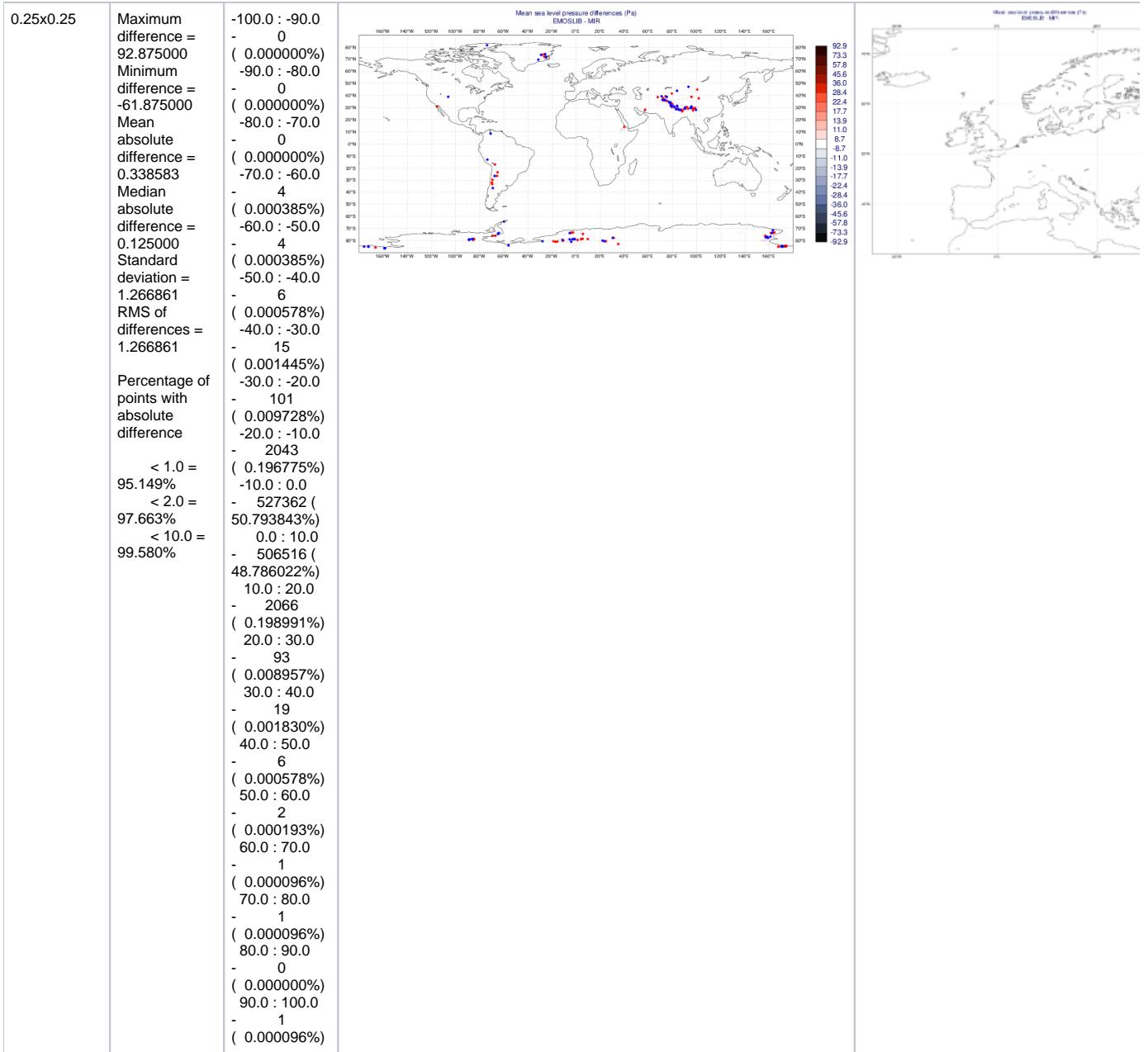
- The differences for more than 99% of grid points are less than 20Pa and in the cases presented here all differences are less than 1 hPa.
- The largest differences occur in regions of high orography with the field gradient changes most rapidly.
- Larger differences are also seen in the lower resolution target grids ($0.5^\circ \times 0.5^\circ$ and $1.0^\circ \times 1.0^\circ$) at the polar latitudes (90°N and 90°S) which arise from the different handling of the interpolation at the poles.

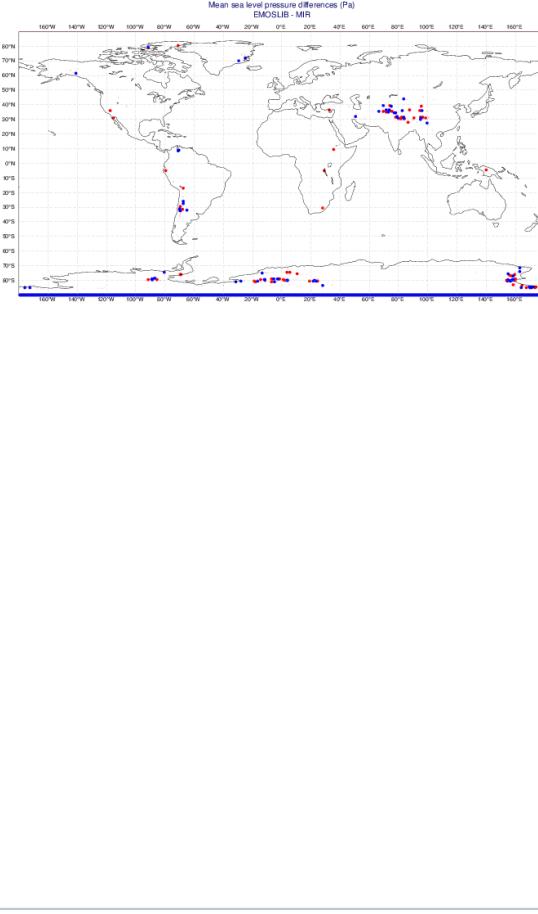
The plots show the differences with the contours chosen on a logarithmic scale to enhance the smaller differences. Differences smaller than 0.1% of the field range are not shown. Grid points where the absolute difference is greater than 50% of the maximum absolute difference are indicated with red (EMOSLIB greater than MIR) and blue (EMOSLIB less than MIR) filled circles.

Target resolution	Statistics of differences	Histogram of differences	Global	Europe







0.5x0.5	<p>Maximum difference = -70.0 : -60.0 51.000000 - 2 (0.000769%)</p> <p>Minimum difference = -60.0 : -50.0 - 1 (0.000385%)</p> <p>Mean absolute difference = -50.0 : -40.0 - 1 (0.000385%)</p> <p>0.309541 - 40.0 : -30.0</p> <p>Median absolute difference = -30.0 : -20.0 0.000000 - 21 (0.001154%)</p> <p>Standard deviation = -20.0 : -10.0 1.523147 - 855 (0.328947%)</p> <p>RMS of differences = -10.0 : 0.0 1.523153 - 41886 (16.114958%)</p> <p>Percentage of points with absolute difference 0.0 : 10.0 - 216238 (83.194060%)</p> <p>10.0 : 20.0 - 871</p> <p>< 1.0 = 94.304% < 2.0 = 97.268% < 10.0 = 99.306%</p> <p>(0.335103%) 20.0 : 30.0 - 33 (0.012696%) 30.0 : 40.0 - 6 (0.002308%)</p> <p>40.0 : 50.0 - 2 (0.000769%) 50.0 : 60.0 - 1 (0.000385%) 60.0 : 70.0 - 0 (0.000000%)</p>		
1.0x1.0	<p>Maximum difference = -70.0 : -60.0 - 1 (0.001535%)</p> <p>Minimum difference = -60.0 : -50.0 - 0 (0.000000%)</p> <p>Mean absolute difference = -50.0 : -40.0 - 0 (0.000000%)</p> <p>0.437874 - 40.0 : -30.0</p> <p>Median absolute difference = -30.0 : -20.0 0.062500 - 2 (0.003069%)</p> <p>Standard deviation = -20.0 : -10.0 1.932739 - 389 (0.596992%)</p> <p>RMS of differences = -10.0 : 0.0 1.932777 - 44619 (68.476059%)</p> <p>Percentage of points with absolute difference 0.0 : 10.0 - 19737 (30.290055%)</p> <p>10.0 : 20.0 - 401</p> <p>< 1.0 = 94.672% < 2.0 = 96.980% < 10.0 = 98.766%</p> <p>(0.615408%) 20.0 : 30.0 - 9 (0.013812%) 30.0 : 40.0 - 1 (0.001535%) 40.0 : 50.0 - 0 (0.000000%) 50.0 : 60.0 - 1 (0.001535%) 60.0 : 70.0 - 0 (0.000000%)</p>	