

HDR Global Ocean Bottom Pressure - mean atmospheric load

HDR used to convert Global Mean OBP -> Global Mean Ocean Mass

HDR

HDR Data below is from AOD1B, RL0603

HDR This calculation uses AOD1B 'GAD' fields, and integrates over the ocean-area only; due to the definition of 'GAD' (see AOD1B handbook

HDR for further details), the resulting mean value effectively represents 'mean atmospheric mass over the global ocean' for each time

HDR step.

HDR

HDR USAGE:

HDR To compute 'ocean mass' from 'ocean bottom pressure' GRACE fields, the provided values below need to be subtracted from each grid

HDR point at each time step. The resulting values are then consistent with IB-corrected sea surface height measurements from altimetry.

HDR This adjustment is also necessary for global sea level budget analyses.

HDR

HDR NOTES (1): the small (negligible at 0.09mm RMS) differences between the two atm ocean-mean estimates provided below arise from small

HDR differences in the land-sea-masks and are provided for completeness; in practice, it should make no difference to ocean

HDR mass estimates which atm ocean-mass correction is used;

HDR NOTES (2): The AOD1B definition of the reference period is NOT changed, thus anomalies here are relative to the 2003 - 2014 period;

HDR this epoch may differ from the GRACE data products epochs, but is trivial to adjust;

HDR

HDR Created/Updated: Nov-20, 2025, F.W.Landerer (JPL)

HDR

HDR column description

HDR 1 TIME (year.decimal)

HDR 2 mean atm mass over global ocean (mmH₂O) [Note: the underlying land-sea mask is taken from NCL (NCAR)]

HDR 3 mean atm mass over global ocean (mmH2O) [Note: the underlying land-sea mask is the JPL-CRI-Mascon mask SEA_MASK.CRIv01.nc]

HDR

HDR Header_End-----

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2002.3548 -1.42 -1.46

2002.6233 7.78 7.59

2002.7068 1.85 1.73

2002.7904 -4.69 -4.77

2002.8740 -3.63 -3.71

2002.9575 -5.97 -5.98

2003.0425 -7.59 -7.56

2003.1233 -3.70 -3.74

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2003.6233 5.77 5.66

2003.7068 1.71 1.66

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