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Atmospheric loading effects to for geodetic data processing

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Atmospheric pressure loading contributes to measurable displacement of the earth's surface at frequencies in the diurnal, semi-diurnal, and tri-diurnal range, to semi-annual, annual, and potentially longer frequencies. In this paper, we consider the application of atmospheric loading corrections to VLBI data at the S1 and S2 tidal frequencies. We also investigate the effect of sub-daily non-tidal loading on VLBI data processing. In addition to the loading effects, a reference pressure field is required to correct data for the effects of altitude. We investigate the consequences of different reference pressures on the data processing, in particular, the reference frame.