



The Accumulation of Seasonal CO₂ on the Northern Plains and Icecap of Mars

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The MOLA altimeter acquired altimetry over the northern plains and polar cap of Mars from February 1999 until June 2001 when the instrument ceased to transmit laser pulses. These data were used to define the detailed topography of Mars and also to estimate the depth of the seasonal deposition of carbon dioxide and its distribution with longitude. In the last year the MOLA altimetry data have been further calibrated and corrected and we have re-analyzed the data to better understand where the deposition is occurring on the plains of the northern hemisphere. In this updated analysis we look at the distribution with latitude to determine if there is any obvious relationship to the underlying topography of the region. The preliminary results suggest that more accumulation occurs immediately surrounding the residual icecap than on the cap, contrary to an earlier result of ours. The new dataset is believed to be more accurate and the new result suggests that most of the accumulation is occurring in the region where the elevation/topography is lowest. This result is being investigated further.