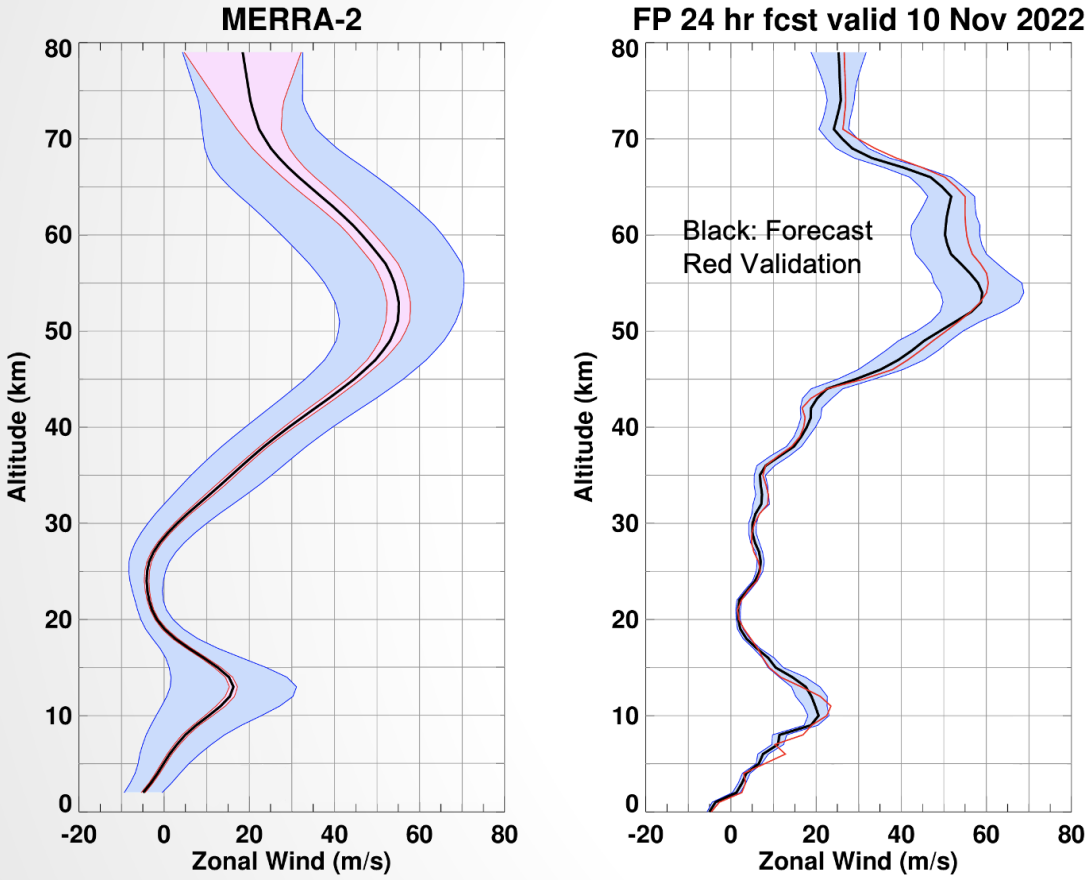
NASA GMAO Supports Successful Test of an Inflatable Decelerator (LOFTID)



The NASA GMAO provided LOFTID (Low-Earth Orbit Flight Test of an Inflatable Decelerator) with climatological winds, temperatures, densities, and forecast error estimates over the Northern Pacific test descent region. An expandible decelerator like LOFTID can provide an efficient method of slowing the re-entry of spacecraft in low density atmospheres, such as Mars.

Examples of the fields provided over the test region of interest are shown for the zonal wind. The MERRA-2 climatology (left) is contrasted with the specific 10 November 2022 24-hour forecast (right). These figures illustrate how forecasts for the actual event time provide more accurate profiles of wind, temperature, and density than the climatology. The LOFTID reentry vehicle launched Nov. 10, 2022, aboard an Atlas V rocket as a secondary payload with the Joint Polar Satellite System-2 (JPSS-2)

More information:
www.nasa.gov/mission_pages/tdm/loftid/index.html