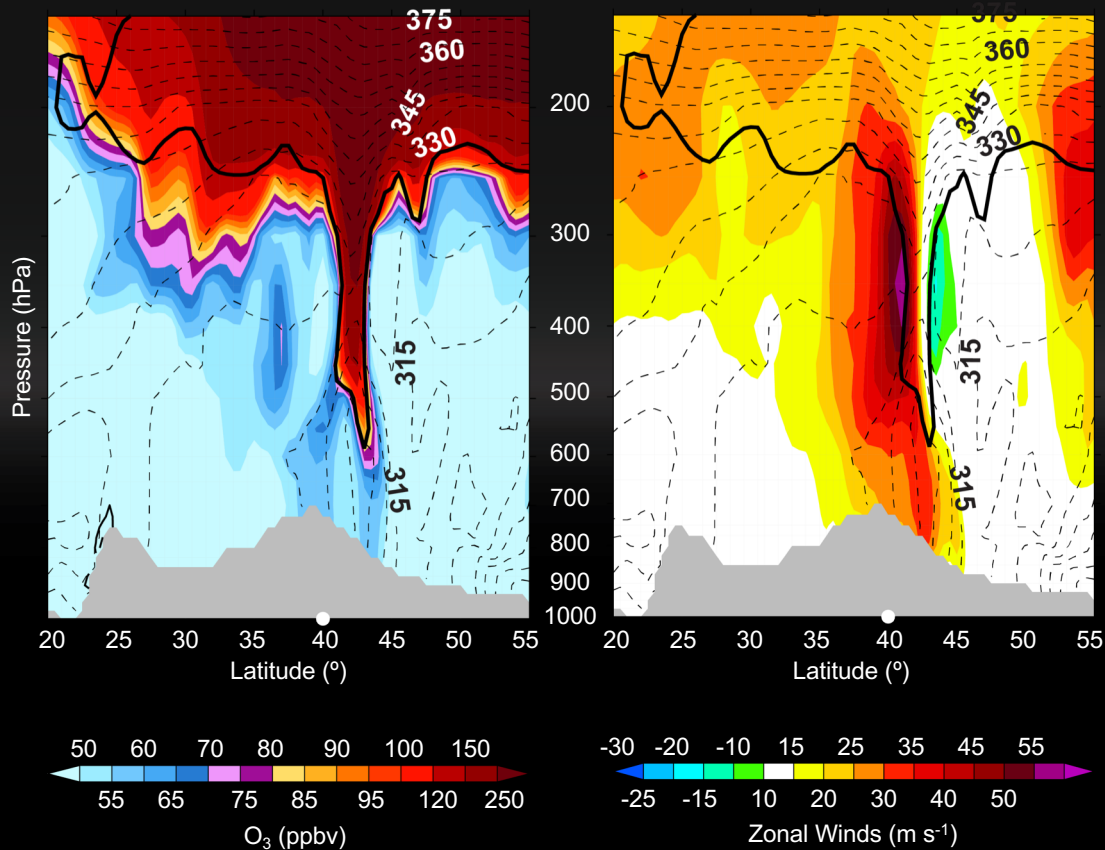


Stratospheric Intrusion-Influenced Ozone Exceedances in MERRA-2



Stratospheric intrusions form as a result of the tropopause being drawn down below the jet stream (right panel). They lead to the mixing of stratospheric air with high ozone (O₃) concentrations into the troposphere (left panel), causing ground-level O₃ to exceed air quality standards, especially for communities at high elevations. With a 50-km horizontal resolution and its use of ozone profile information from the EOS-Aura MLS instrument, NASA's MERRA-2 Reanalysis is able to capture the fine-scale features of an intrusion. This is a substantial advance on prior reanalyses.