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Gravity wave distributions in August from three satellite infrared limb scanners

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We compare global distributions of gravity waves (GWs) measured in August by three different instruments, CLAES, CRISTA and SABER, and in different years (1992, 1997, 2002-2004, respectively). We will discuss common features such as convectively generated GWs above the Gulf of Mexico and the Kuro-Shio stream as well as strong GW activity on the edge of the southern hemisphere (SH) polar vortex. CRISTA and SABER data reach far into the mesosphere. This enables us to study the development of the global GW distributions with altitude. The convective regions can be clearly identified up to the lower mesosphere. The southern polar vortex maximum reaches up to 70km and stalls above. Instead we observe above 70km a maximum located in the SH subtropics. We will discuss these observations considering effects of wave visibility, wave breaking and slant wave propagation.