



Comparison of the Level 3 0.5×0.5 degree monthly mean SAO OMI Total Column Water Vapor (TCWV) product and GlobVapour combined SSM/I(over ocean)+MERIS(over land) TCWV product for (left) January and (right) July 2006. The top row shows the results derived from OMI using SAO's two-step retrieval algorithm where the vertical column is derived from the ratio of the slant column and the Air Mass Factor (AMF). The slant column retrieval uses the blue spectral range (430 – 480 nm), and considers water vapor, ozone, nitrogen dioxide, oxygen collision complex, liquid water, glyoxal, Ring, water Ring, wavelength shift, third order polynomial, spectral undersampling and common mode. The AMF is derived using the radiative transfer model VLIDORT with a priori information on surface albedo, water vapor vertical profile, cloud fraction and cloud top pressure. The middle row shows the GlobVapour SSM/I+MERIS product downloaded from www.globvapour.info. SSM/I measures TCWV using microwave over the ocean. MERIS measures TCWV in the near IR over land. The third row shows the difference of OMI – GlobVapour. On the global scale, the mean difference is -0.40 cm in January and -0.30 cm in July. Over the land, the mean difference is 0.02 cm in January and -0.05 cm in July. Over the ocean, the mean difference is -0.58 cm in January and -0.41 cm in July (Wang et al., 2014). Courtesy: Huiqun Wang and Kelly Chance (SAO).