Christian Sutter

5. It appears that higher relative humidities are found in generally weaker flow. Weaker flow allows for greater vertical mixing and helps to keep the relative humidity higher and prevents advection from bringing in dryer air or advecting out moist air.

6. Areas of rising motion (negative omega) have higher relative humidities since air becomes cooler when it rises increasing the relative humidity since the moisture remains the same as a parcel rises. These same areas have a lower sensible heat flux but higher latent heat flux. This is because in these regions water vapor is condensing out (releasing latent heat) as it becomes cooler when rising and reaches its lifting condensation level. The sensible heat flux in these regions are lower because the cloud cover reduces the overall surface heating compared to that in regions of sinking air where there are generally fewer clouds.