In this paper, we present the climatology of the size and strength of the tropical cyclones (TCs) occurring over the western North Pacific (WNP) and the North Atlantic between 1999 and 2009 as constructed using QuikSCAT data. The size and strength of a TC are defined respectively as the azimuthally-averaged radius of 17 m/s of ocean-surface winds (R17) and the azimuthally-averaged tangential wind within 1 to 2.5 degree latitude radius from the TC center. This is the first-ever attempt to study TC strength using satellite-derived winds.

The mean TC size and strength are found to be 2.13 degree lat and 19.6 m/s respectively in the WNP, and 1.83 degree lat and 18.7 m/s in the North Atlantic. While the correlation between size and strength is strong ($r \approx 0.9$), that between maximum sustained wind (MSW) and either size or strength, is weak. The mean TC size and strength in both basins are found to vary seasonally. Midsummer (July) and late-season (October) TCs are significantly larger in the WNP while the mean size and strength have largest values in September in the North Atlantic. The percentage frequency of TCs having large size or high strength is also found to vary spatially and seasonally. In addition, the interannual variation of TC size and strength in the WNP strongly and significantly correlate with the effect of El Niño over the WNP, but only a weak relation is found for the North Atlantic. Physical explanations of these results will be presented at the conference.