Introduction
In each warm season (May - September), with the northward moving of the West Pacific subtropical high, rain-producing phenomenon dominates the weather over China. And this period represents the local rainfall maximum each year. South China was a rainfall center during warm season, especially the Pearl River Delta and its coast.

Characteristics of Warm Season Convection

I. Spatial Distribution

The left figure are the spatial distribution of identified convective features occurrence frequency. There are two frequency maxima over this region. One is on the windward slope of east mountain area and the other is over coastal region.

II. Monthly Variation

Diurnal cycle of convection in different month

Storms occur most frequently in early afternoon. August and July have the most prominent single peak cycle. May and June have a second peak in the early morning and September (late summer) has one in early evening.

III. Possible mechanism of coastal convection

Spatial distribution under weak synoptic force

Spatial distribution

Dramatic wind changes and strengthened wind new convection cell keep initiated on coast during this precipitation episode.

Acknowledgements
Appreciate the support from the National Basic Research Program (973) fund (2013CB430101)

References

Spatial distribution of convection during NO-SLLJ and LLJ days

Vertical profile of low-level jets’ occurrence number (VAD)

Convection moved from sea to coastline and strengthened wind new convection cell keep initiated on coast during this precipitation episode.

Average radial velocity RHI shows During this rainfall process, environmental wind on low level was onshore wind. After this flow reached coast, the wind speed decreased dramatically and obvious velocity convergence can be found along coastline.