

## Warm-Season Convection Initiation in South China

\*Lanqiang Bai<sup>1</sup>, Guixing Chen<sup>1</sup>, Ling Huang<sup>2</sup>

1. Sun Yat-sen University, 2. ITMM, CMA

A large fraction of global rainfall occurs in the coastal areas of summer monsoon where are highly populated. Characterizing convective activity along monsoon coasts has been an important issue in regional/global climate and hydrological studies. In this study, we present a long-term radar climatology of convection initiation (CI) on the monsoon coasts of South China where has dense observational networks. Results show that CI becomes highly active after the summer monsoon onset. Most CI occurrences are concentrated within 100 km of the coastline, and the local maxima are strongly affected by topography and land–sea contrast. The triggering of coastal convection shows offshore propagation after midnight prior to rainfall, probably due to the convergence of land breezes or downslope winds with diurnally enhanced onshore monsoon flows. The findings provide key information to improve our understanding of how convective activity emerges in monsoon coastal areas.

Keywords: Convection initiation, Monsoon, Coast, South China