

What triggers tropical cyclogenesis off the West African coast?

Qinghua Ding & Bin Wang

Abstract

New evidence provided here reveals that enhanced convection over Northwest India and Pakistan can induce deep convection over North Africa and activate African easterly waves after about 20 days, which can further trigger the cyclogenesis off the West African coast after an additional 20 days. Activation of deep convection on an intra-seasonal time scale over North Africa is a key link in the lagged relationship between the active northern Indian monsoon and cyclogenesis in the eastern Atlantic. A potential medium-range prediction of tropical cyclogenesis off the West African coast may be possible by monitoring the intra-seasonal convective variation over India and North Africa.