RAL SEMINAR SERIES

Connecting Extremes: Downstream Weather Catalyzed by the Extratropical Transition of Tropical Cyclones

JACOB STUIVENVOLT-ALLEN

National Security Applications Program (NSAP)
NSF National Center for Atmospheric Research

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Strong winds that accentuated a fire outbreak in the western United States in early September of 2020 resulted from an atmospheric wave train that spanned the Pacific Ocean. Days before the atmospheric waves developed over the United States, three western Pacific tropical cyclones (typhoons) underwent an extratropical transition over Korea within an unprecedentedly short span of 12 days. Our analysis shows that the “waviness” of the jet-stream was predicated upon the impact of the three typhoons. Much remains to be understood about how often extreme weather in North America may be associated with the upstream perturbation of typhoons, but preliminary work suggests up-stream disturbances may lead to consistent changes in the likelihood of extreme temperature and precipitation events.