Geng, Y., H.-L. Ren, and J. Li, 2023: Roles of August Kuroshio SST Anomaly in Precipitation Variation during September over Central China. *J. Meteor. Soc. Japan*, **102**, http://doi.org/10.2151/jmsj.2024-005.

Plain Language Summary: This study has found that sea surface temperature anomaly (SSTA) in the Kuroshio region near the East China Sea (K-ECS) is a causal factor leading to the precipitation anomaly over Central China (CC) in September. The negative SSTA in K-ECS during August accompanies the weakened local convection, which favors the formation of anomalous anticyclonic circulation below 600 hPa above K-ECS and the southeast of China. There are more water vapors transported into CC by the southerly in the west of this anomalous circulation. Finally, the convergence of moisture provides favorable conditions for the generation of precipitation here.

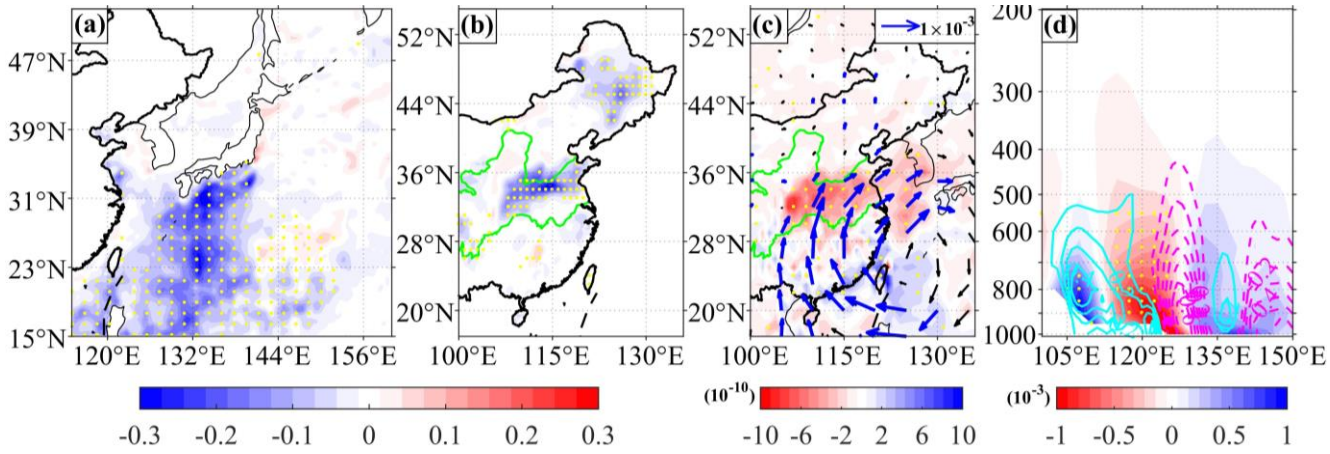

Figure 1. (a) Information flow from August SSTA in Northwest Pacific Ocean to the time series of accumulative precipitation anomaly averaged in CC during September (units: nats/month). (b) Same as (a), but from the time series of August SSTA averaged in K-ECS to the September accumulative precipitation anomaly in China. (c) Regression of anomalous water vapor flux (WVF; vectors; units: 10^{-3} g s^{-1}) and its divergence (shaded; units: 10^{-10} g m^{-1} s^{-1}) integrated from 1000 hPa to 200 hPa onto the standardized time series of accumulative precipitation anomaly averaged in CC during September. (d) Anomalous meridional WVF (shaded; units: 10^{-3} g s^{-1}) of the averaged results of AGCM experiments over the last 20 years caused by the negative SST perturbations in K-ECS and the reanalysis results regressed onto the standardized time series of August SSTA averaged in K-ECS (contours; cyan contours: positive values; magenta contours: negative values).

- Precipitation over Central China in September is attributed to the anomalous anticyclonic circulation to its south side.
- August sea surface temperature anomaly in the Kuroshio region near the East China Sea is responsible for the anomalous circulation over it.
- August sea surface temperature anomaly in the Kuroshio region near the East China Sea could be a useful predictor for September precipitation over Central China.