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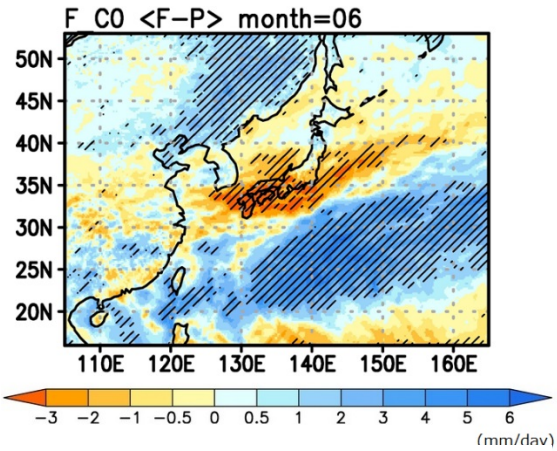
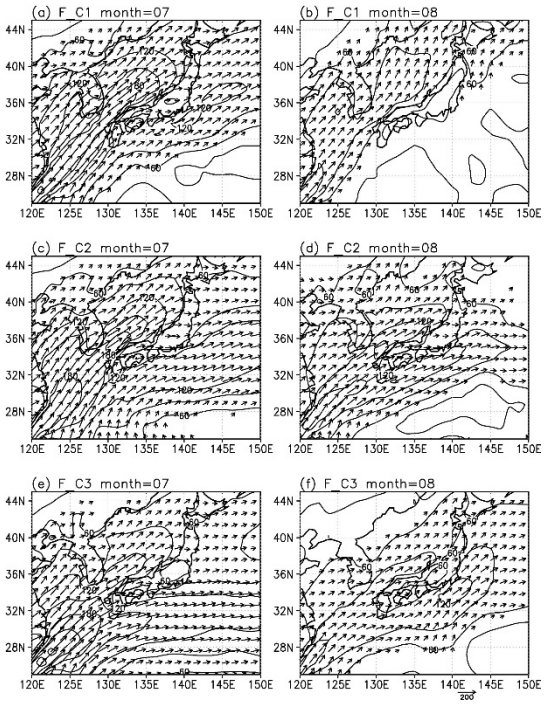


↑

Figure 1. Future change of precipitation in the ensemble-mean SST (F_C0) in June. The hatched areas show the 95% confidence level.



↑Figure 2. Future changes in July and August of moisture flux (arrows; more than 50 kg m^{-1} day^{-1}) and absolute value of moisture flux (contour) integrated between the 1000-hPa and the 200-hPa level. The three SST patterns are referred to as F_C1, F_C2, and F_C3, respectively.

- Future changes in atmospheric circulation during the Baiu in Japan are investigated using 20-km-mesh atmospheric general circulation model (AGCM) simulations.
- All four SST patterns in the future climate under the RCP8.5 scenario show that the Baiu frontal zone is projected to stay to the south of Japan in June. Thus, precipitation is the projected to increase over this region, while decreasing in the western part of Japan (Fig.1).
- Precipitation and atmospheric circulation in July and August in the future climate simulation depend on the SST patterns (Fig.2). The difference in the SST pattern leads to a variation in sea-level pressure in the western North Pacific and affects the transport of water vapor to the surroundings of the Japanese islands during these periods.