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Low pressure and rainfall around Mongolia in summer

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Around 45N latitude of the Eurasian continent in summer, low pressure moves from west to east by westerlies, and rainfall is brought by a low pressure. However, as for low pressures, the rainfall amount decreases towards the east. In addition, much rainfall has near the boundary among three countries: Mongolia, Russia, and Kazakhstan. The wet southeastern wind from the Sea of Japan flows into the eastern Mongolia and rainfall increases when a low pressure reaches there. Low pressures are traced from the central part of Eurasian continent along 45N. Then the relationship between low pressure activity and rainfall amount in this area is clarified.
The analyzed data are rainfall, pressure, temperature, wind, and specific humidity of ECMWF-Interim 0.5 degree grid data. Study period is from June to September of between 1979 and 2014.
At the first analysis the movement of a low pressure and analysis about the rainfall distribution are performed. The distribution of rainfall in this area is statistically found by longitude and topography as low pressures moving eastward. Because there is little supply of the water vapor above the central part of the Eurasian continent, low pressures have less water vapor. For an example specific humidity tends to be high locally in the neighborhood of Altai Mountains of the neighborhood of Caucasus Range of the neighborhood of 40E & 82E, but this is related with orographic rainfall with the forced rise of the air mass.
As a result, rainfall is less in the western and central Mongolia. In addition, low pressures are clarified the vertical structure change after water vapor supply from the Sea of Japan as they move to 110E.