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Decadal Change in Summer Climatological IntraSeasonal Oscillation in North-East Asia

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As noted in the opening of the "Climate and Environmental changes in East Asia region" session, the climate in East Asia is "one of most complex" system not only in its spatial coherency but also in the timescale it spans. Although there had been a numerous works on each timescale, e.g., synoptic, sub-seasonal, annual, decadal, and so on, a quantitative analysis on the decal (long-term) change in sub-seasonal (short-term) variability is relatively insufficient despite its scientific and socioeconomic impact.
Studies on Chukwookee, an ancient rainfall data in Seoul, Korea, revealed the existence of the long-term variability in summer precipitation structure spanning from decadal to multi-centennial time scales. Number of studies on East Asian climate system also documented the abrupt regime shift in summer mean state during mid-1990s and showed the change in relationship between eat Asian summer monsoon (EASM) and el Niño-Southern Oscillation (ENSO)/western North Pacific summer Monsoon (WNPSM).
It is a known fact that the East Asian summer monsoon system, including that affecting the summer precipitation structure over Korean peninsula, exhibits a significant intraseasonal oscillation. Recently, however, the climatological intraseasonal oscillation (CISO) that used to occur in summer monsoon season over this region seems to have undergone a significant decadal change.
In this study, the detailed structure of the decadal change in CISO over the north East Asian summer monsoon is documented and the relationship with those in other circulation field is reported. Also, the possible linkage and mechanism of such regime shift is discussed.