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The Dynamical Background to the 2022 Asian Summer Monsoon Chemical and Climate Impacts Project (ACCLIP)

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The Asian summer monsoon Chemical and Climate Impact Project (ACCLIP) used the NSF/NCAR Gulfstream V (GV) research aircraft, the NASA WB-57f research aircraft, the Korean NARA King Air, and a broad set of balloon launches to investigate atmospheric processes that influence ozone depletion and climate in the Korea/Japan region. The WB-57 and NSF GV part of the field campaign was flown from Osan Air Base, Republic of Korea during the July-August 2022 period.

This presentation will show some of the dynamical and transport aspects of the Asian summer monsoon anti-cyclone (ASMA) during the summer of 2022. In particular, the strength and flow aspects of the ASMA will be illustrated and shown in the context of an ASMA MERRA-2 climatology. Flight overviews against this flow field will be compared against detrainment events from the ASMA from Asia into the Pacific Ocean. Flight profiles will also show how ACCLIP made extensive sampling of the ASMA's eastern flank – mapping of the vertical and horizontal structure in the upper troposphere and lower stratosphere.