



Transport in the Asian Anticyclone at the synoptic and intraseasonal scale

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Asian Anticyclone (AA) contains air from the troposphere that can enter directly in the lower stratosphere with observational evidence of low ozone / high water vapor and enhanced pollutants or precursors.

We focus on the dynamics and variability for transport in the AA from the Monsoon region to the lowermost stratosphere from the synoptic to the intra-seasonal scale, making use of regional scale modelling, lagrangian analysis, Cosmic GPS, the MLS (Microwave Limb Sounder) and MIPAS (Michelson Interferometer for Passive Atmospheric Sounding) and convection proxies.

This to identify the impact of processes acting at these scales (Monsoon break-up, stronger convection phases) on the injection of pollutants and water vapour in the Asian Anticyclone region. Concerning the synoptic variability, it is known that specific convection patterns and episodes as for instance those occurring at the flanks of Himalayan foothills, may generate a substantial flux of pollutants and water vapour in the AA, an estimate of their impact on the seasonal overall transport budget is still missing.

This information is also particularly important to optimize in-situ observations in terms of expected variability, target regions, expected concentrations and to develop focused diagnostics for evaluation of Climate Models such as CCMs.