

Bi-decadal Changes in Pre-monsoon Precipitation over Northwest Himalayas and its Large-scale Teleconnections

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Supplementary Information

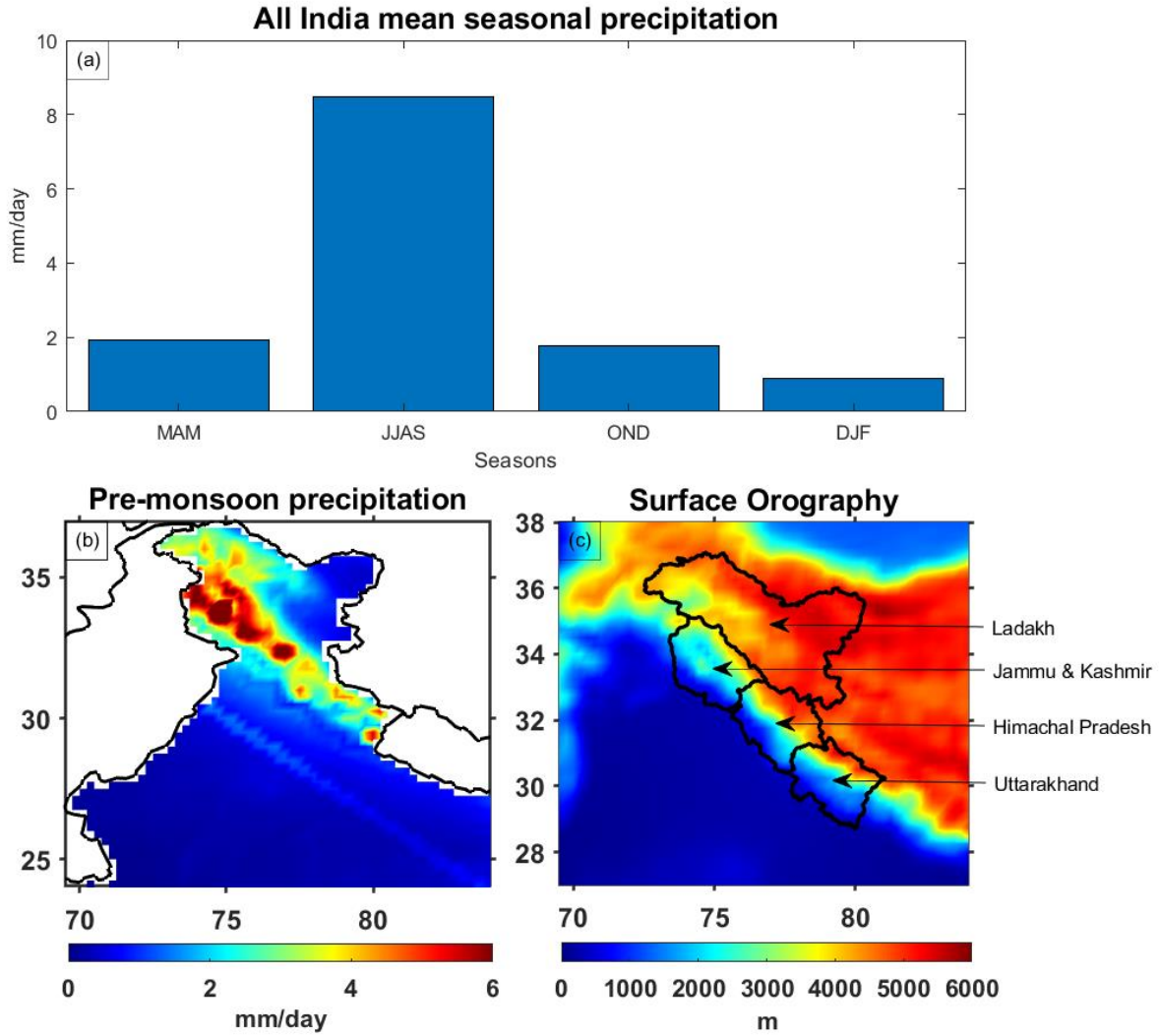


Fig. S1: (a) Mean All India seasonal precipitation during various seasons from ERA5: pre-monsoon (MAM), summer monsoon (JJAS), northeast monsoon (OND) and winter monsoon (DJF). (b) Pre-monsoon precipitation climatology over Northern India from ERA5. (c) Orography of Northwest Himalayas and the surrounding regions (ERA5).

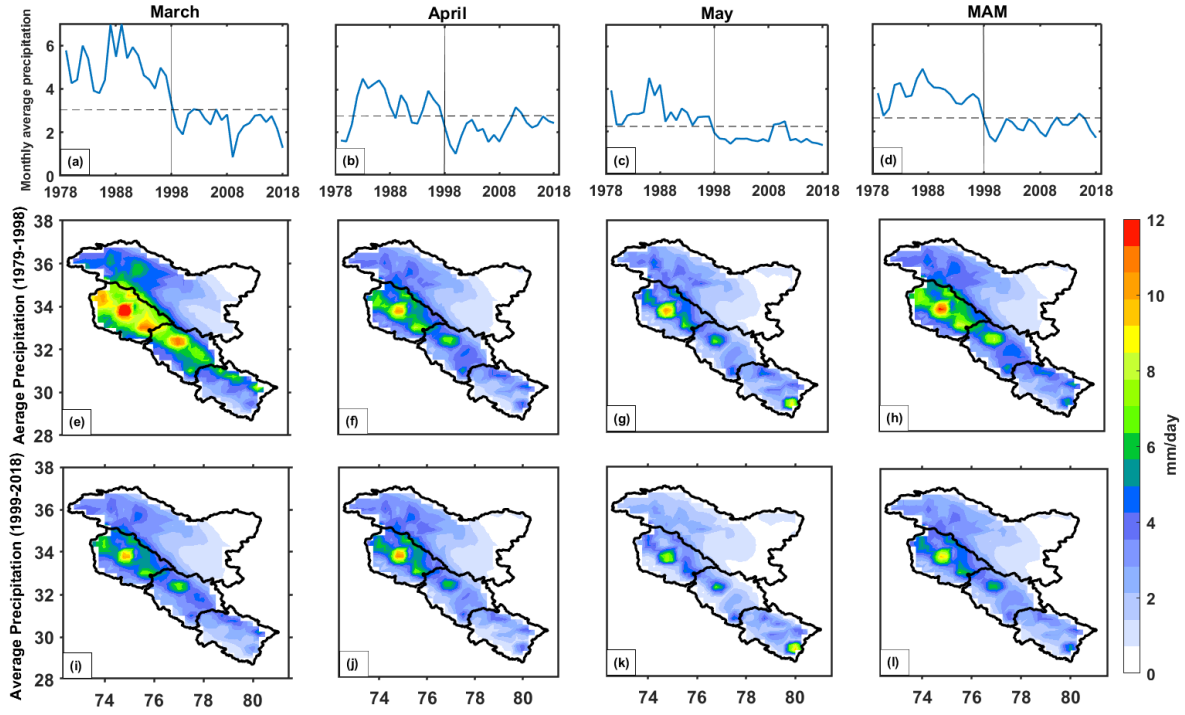


Fig. S2: (a-d) Average precipitation over Northwest Himalayas during pre-monsoon months and season. (e-h) Precipitation climatology during 1979 to 1998 for each pre-monsoon month and season. (i-l) Precipitation climatology during 1999 to 2018 for each pre-monsoon month and season.

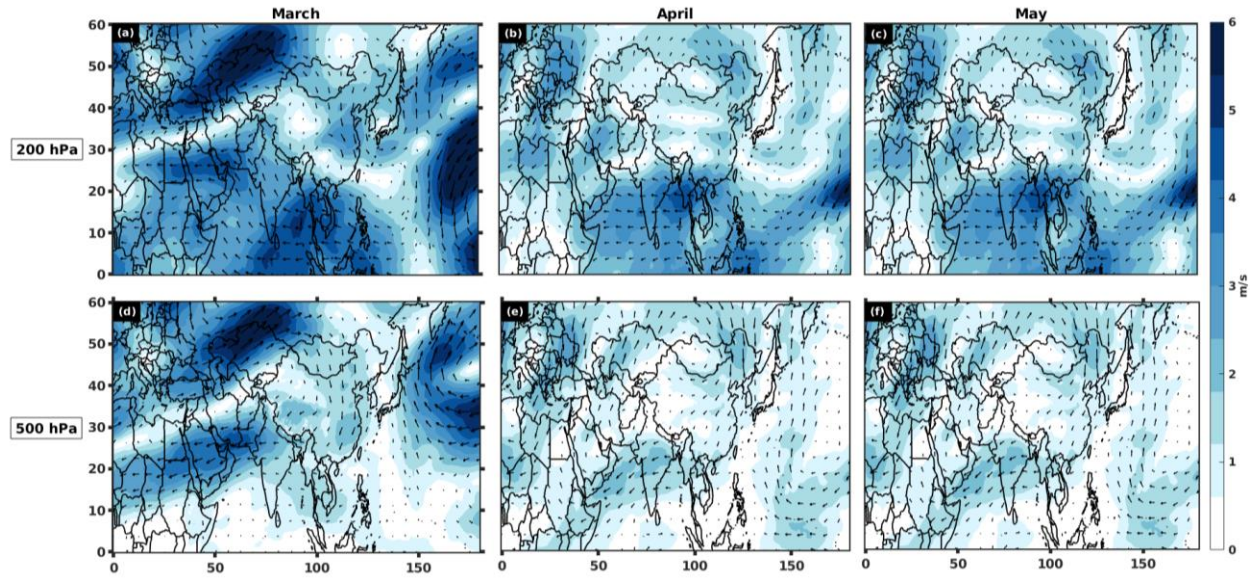


Fig. S3: Difference between pre and post 1998 wind climatology during months of March, April and May at 200 (a, b and c) and 500 hPa (d, e and f).

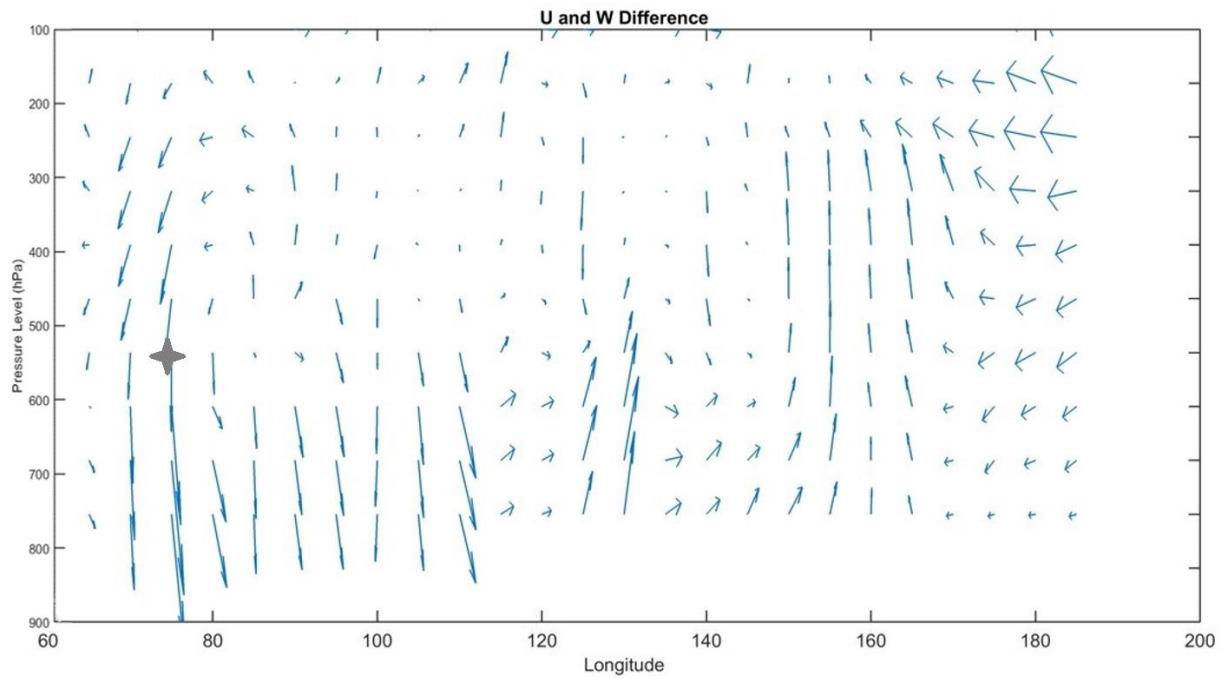


Fig. S4: Longitude– height cross-sectional view of difference between pre and post 1998 pre-monsoon climatology of u and w components of wind. The grey star indicates the location of study region.