



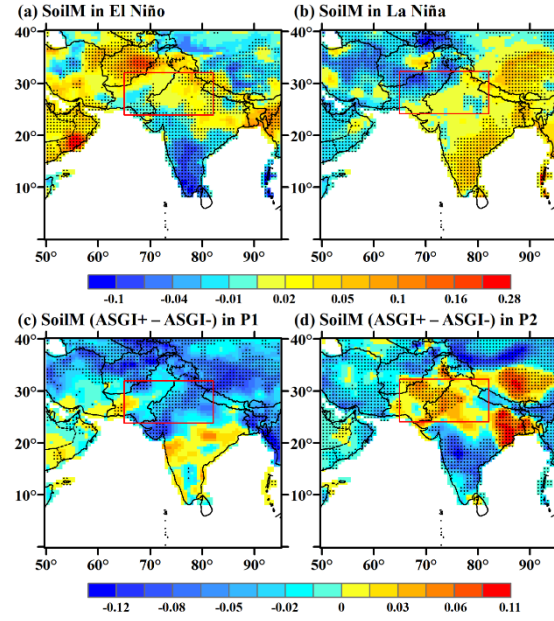
*Supplement of*

## **What caused the interdecadal shift in the El Niño–Southern Oscillation (ENSO) impact on dust mass concentration over northwestern South Asia?**

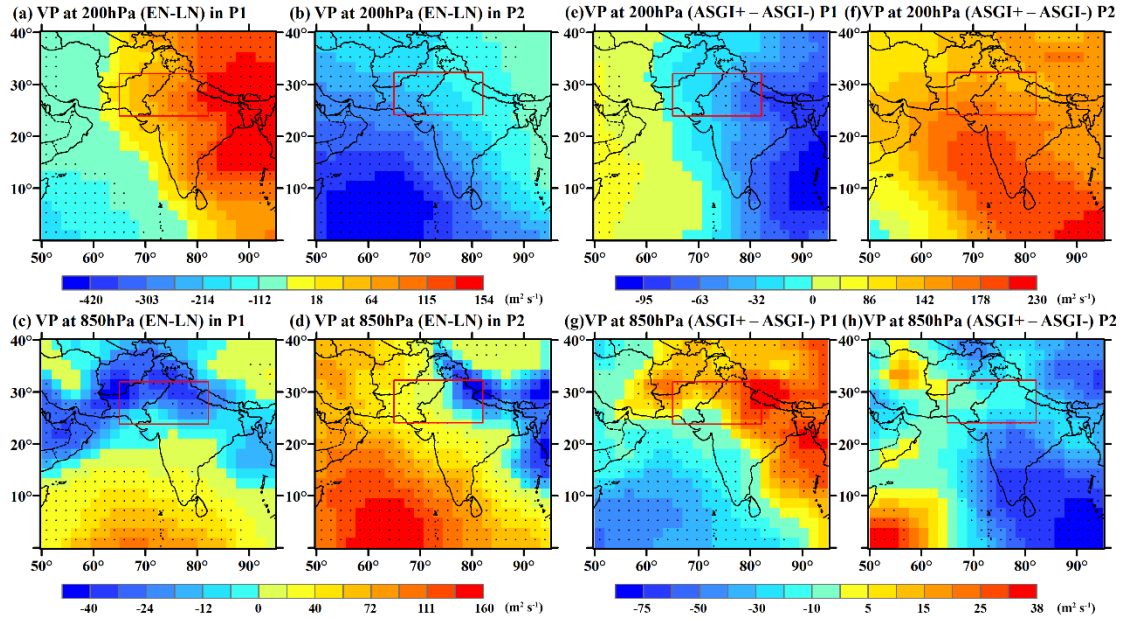
**Lamei Shi et al.**

*Correspondence to:* Jiahua Zhang (zhangjh@radi.ac.cn)

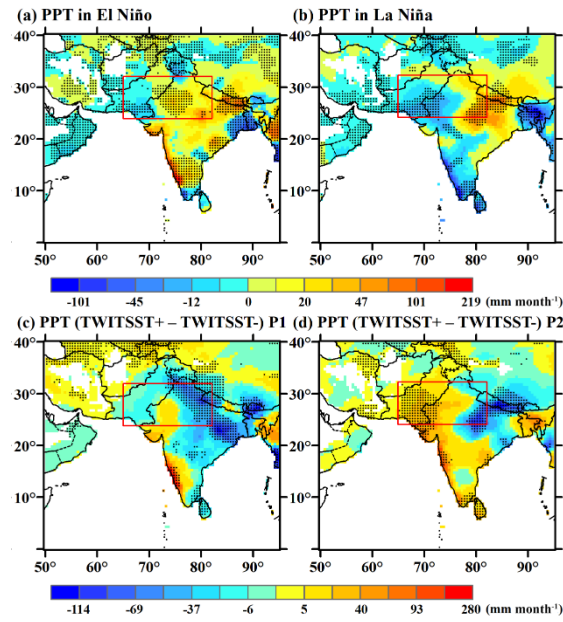
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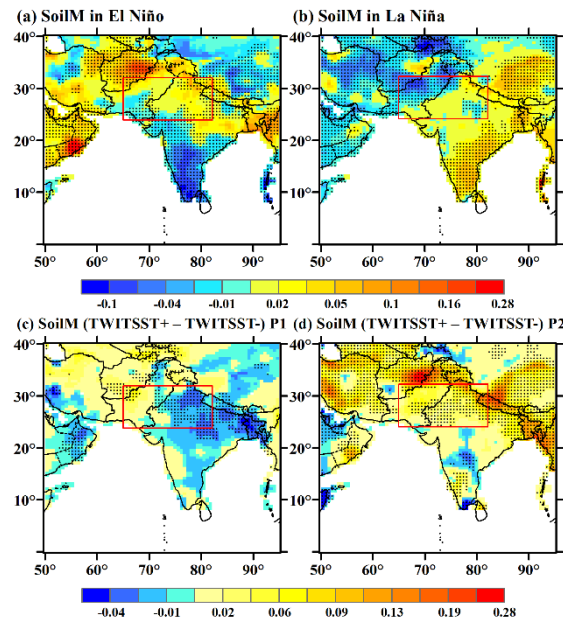
**Figure S1: June to July mean soil moisture (SoilM) averaged for the (a) El Niño years, (b) La Niña years, and (c) the difference between positive ASGI years (ASGI+) and negative ASGI (ASGI-) years during P1 and P2 (d). The difference exceeding 90% confidence level was marked by black dots.**



**Figure S2: Difference of June to July mean velocity potential (VP) at 200hPa (a-b) and 850hPa (c-d) between El Niño (EN) and La Niña (LN) years during P1 and P2. Difference of June to July mean velocity potential (VP) at 200hPa (e-f) and 850hPa (g-h) between ASGI+ and ASGI- years during P1 and P2. The difference exceeding 90% confidence level was marked by black dots.**



**Figure S3: June to July mean precipitation (PPT) averaged for the (a) El Niño years, (b) La Niña years, and (c) the difference between positive TWISST years (TWISST+) and negative TWISST (TWISST-) years during P1 (c) and P2 (d). The difference exceeding 90% confidence level was marked by black dots.**



**Figure S4: June to July mean SoilM averaged for the (a) El Niño years, (b) La Niña years, and (c) the difference between TWISST+ and TWISST- years during P1 (c) and P2 (d). The difference exceeding 90% confidence level was marked by black dots.**

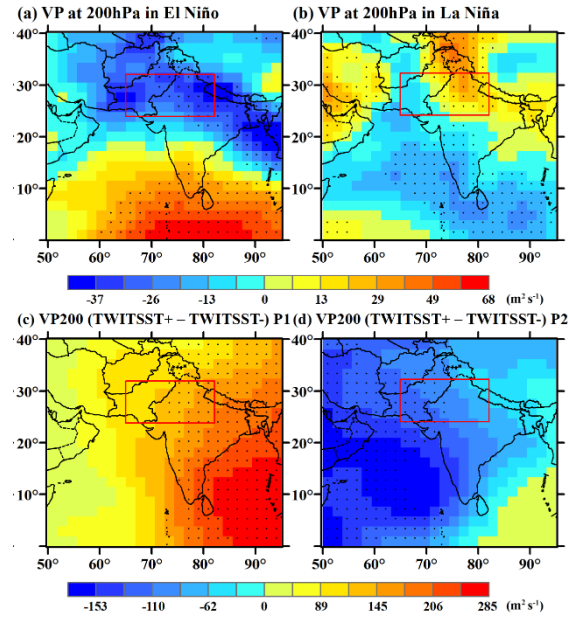


Figure S5: June to July mean VP averaged for the (a) El Niño years, (b) La Niña years, and (c) the difference between TWISST+ and TWISST- years during P1 (c) and P2 (d). The difference exceeding 90% confidence level was marked by black dots.