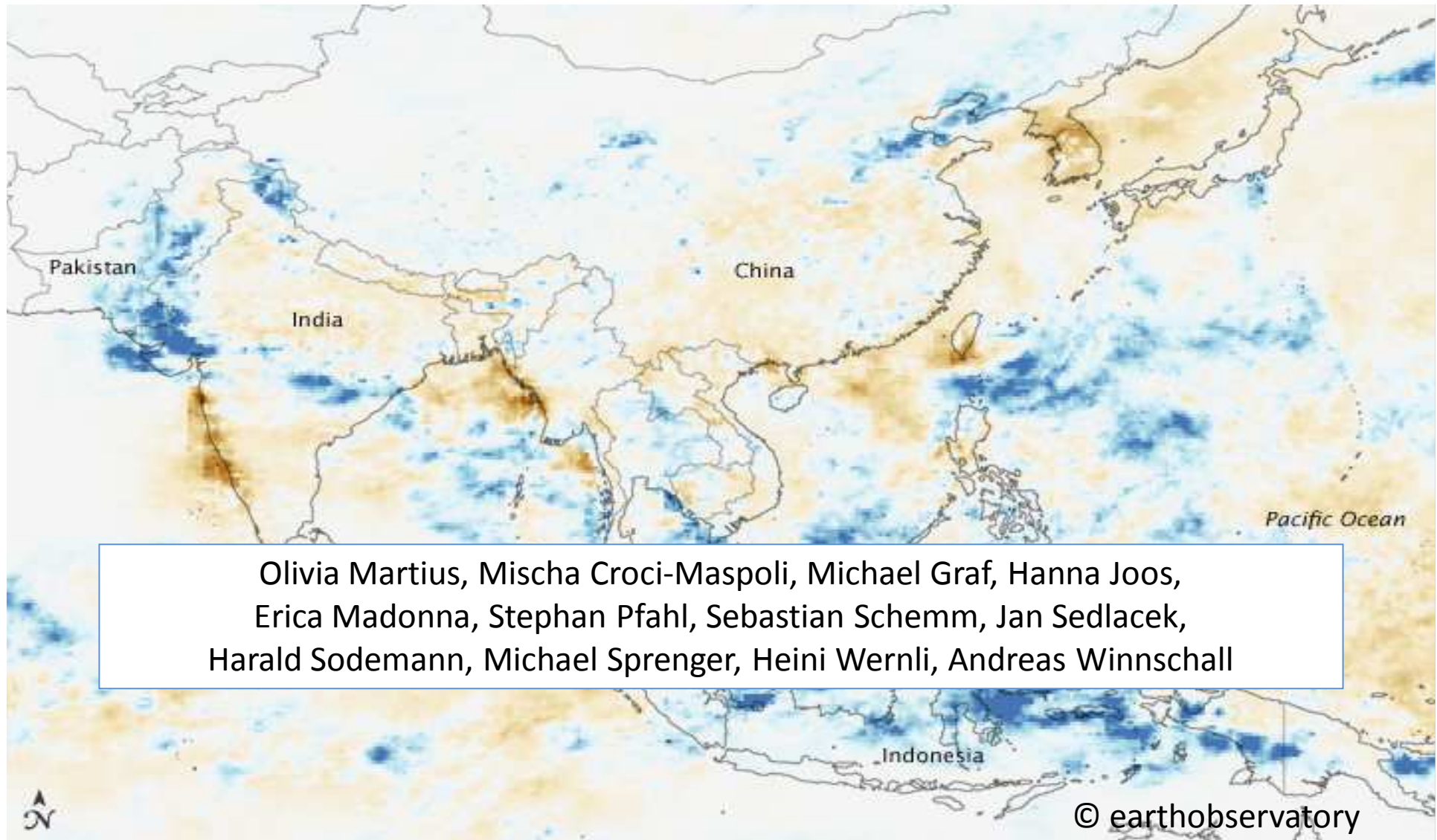


On the Dynamics of the Heat Wave in Russia and the Floods in Pakistan in Summer 2010

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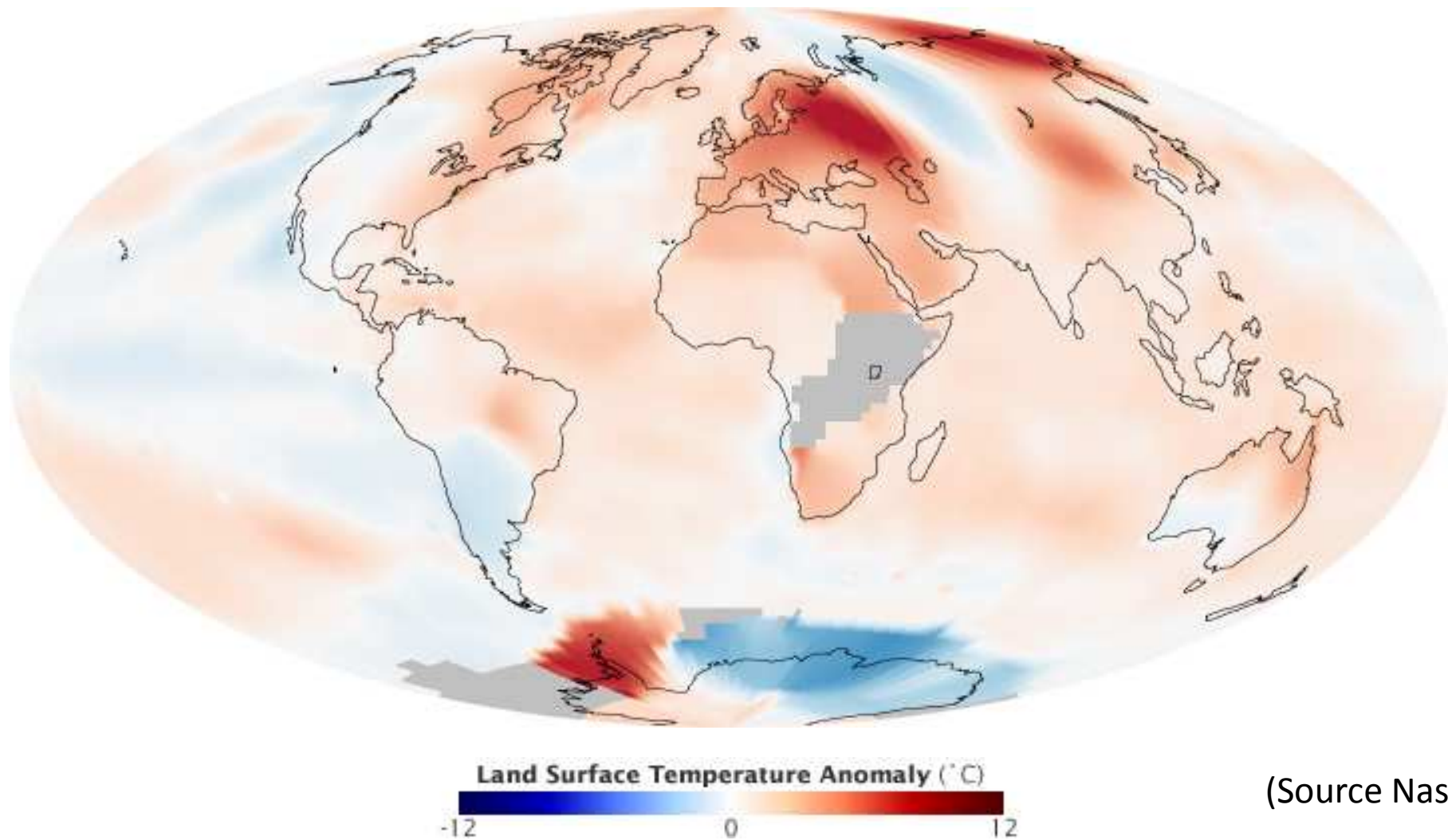
Heat wave in Russia

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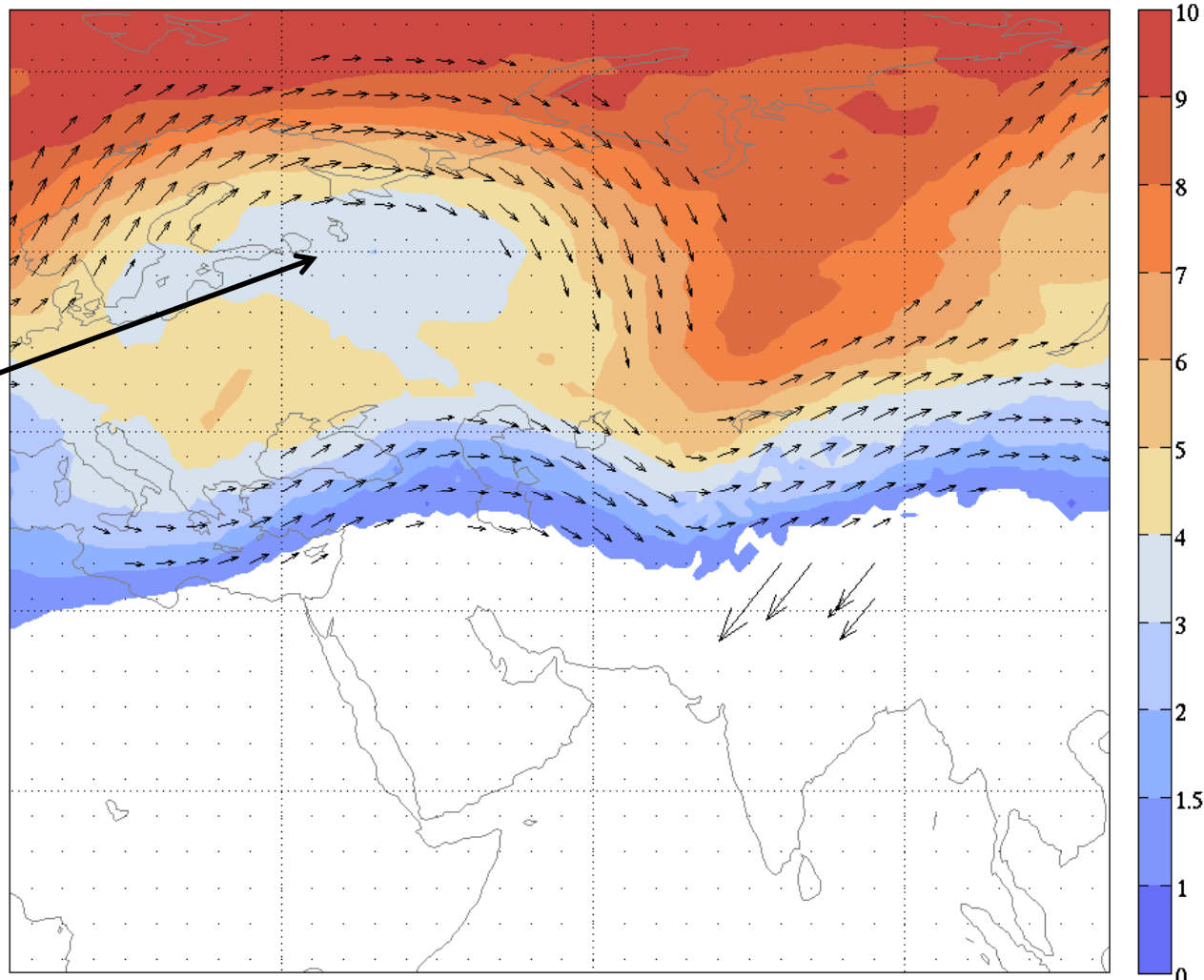
Temperature Anomaly July 2010



(Source Nasa)

Flow over Russia and Asia

BLOCK
negative PV
anomaly



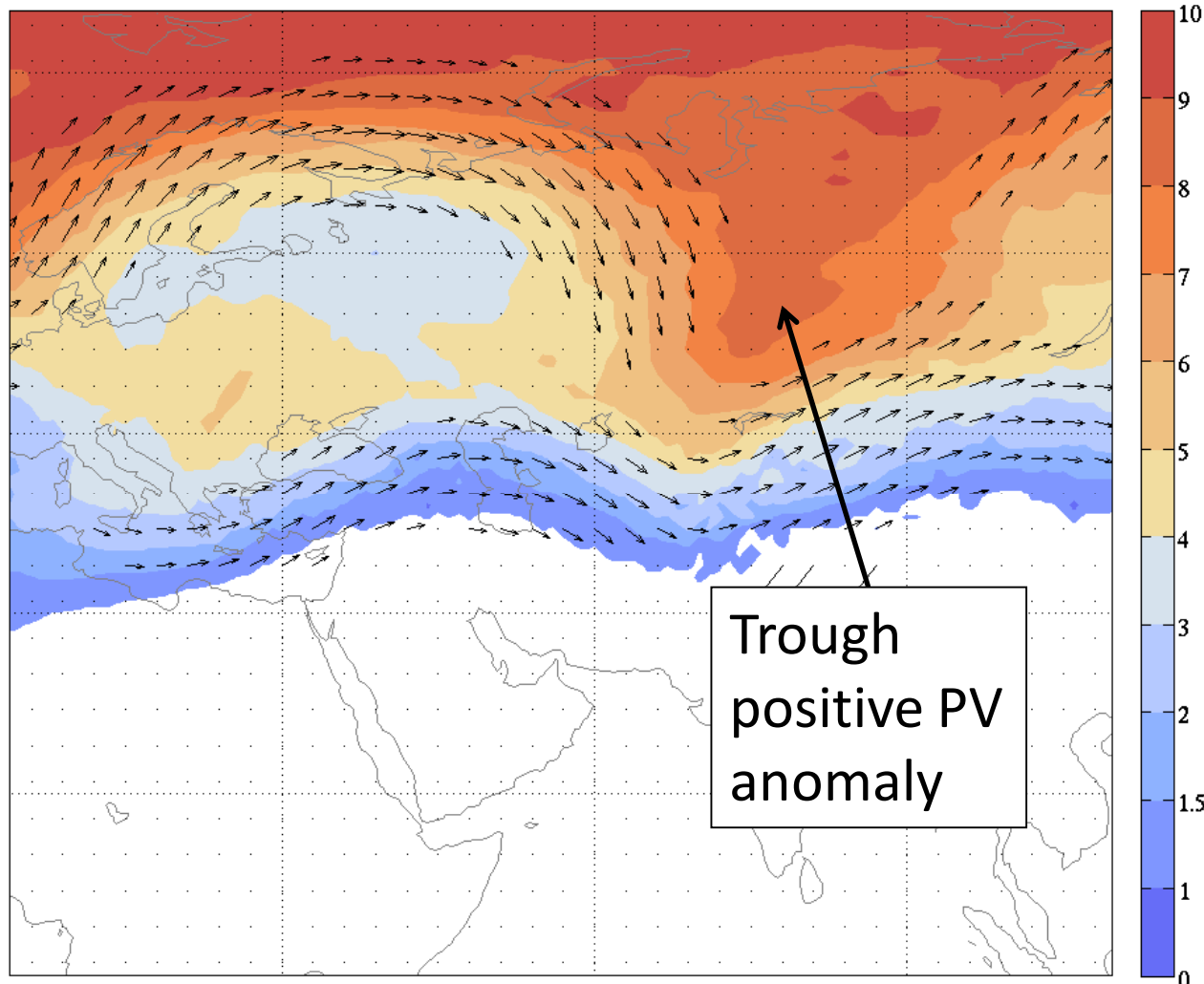
July mean PV and wind on 340K

Flow over Russia and Asia

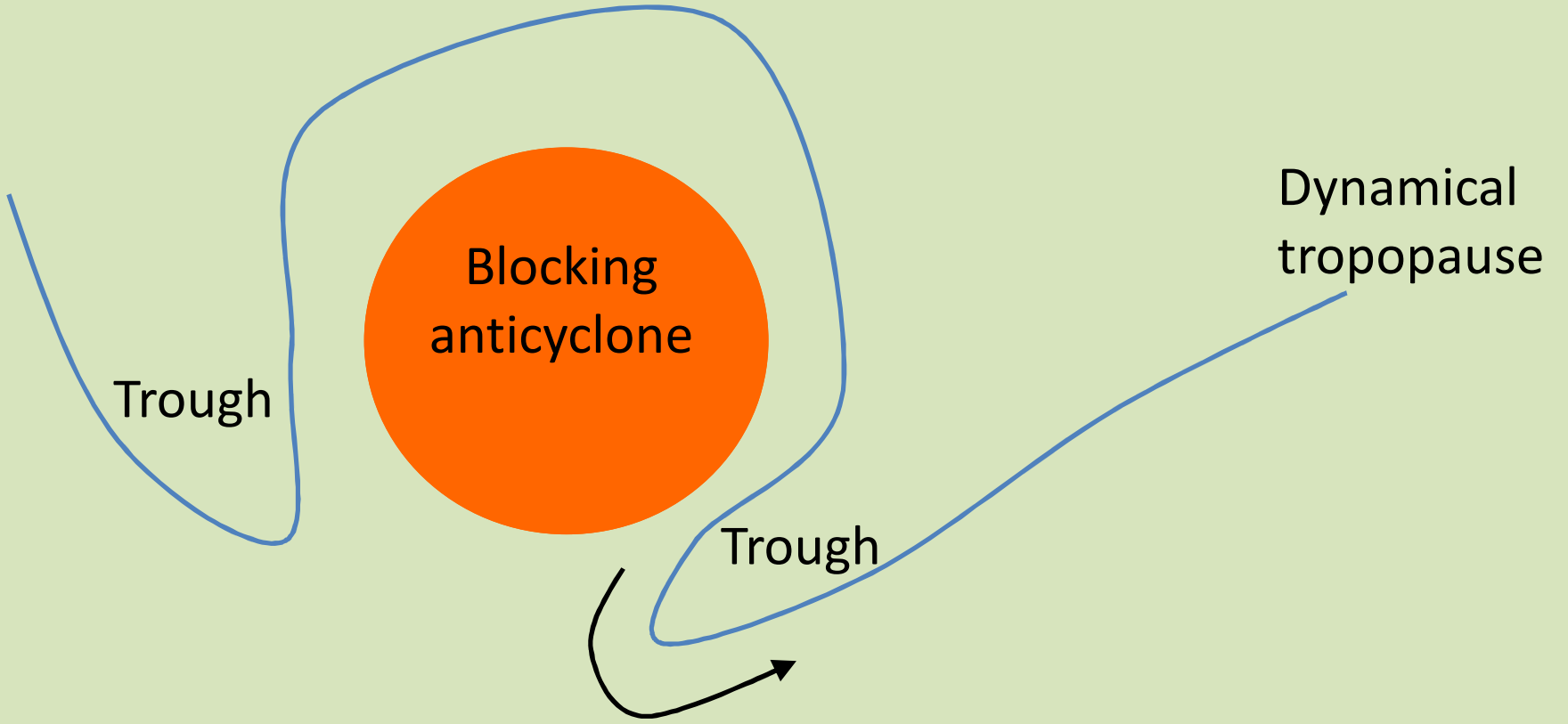
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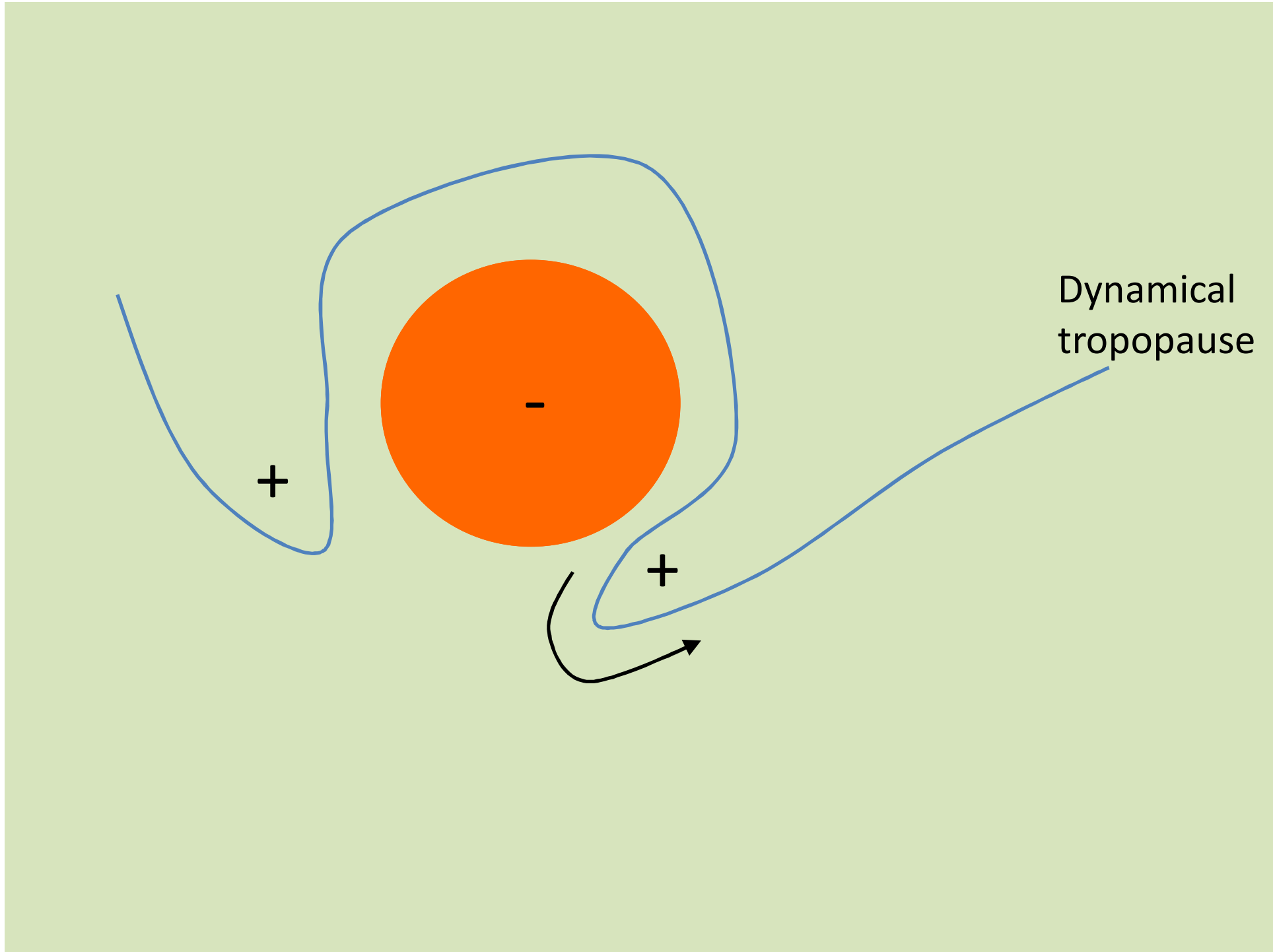
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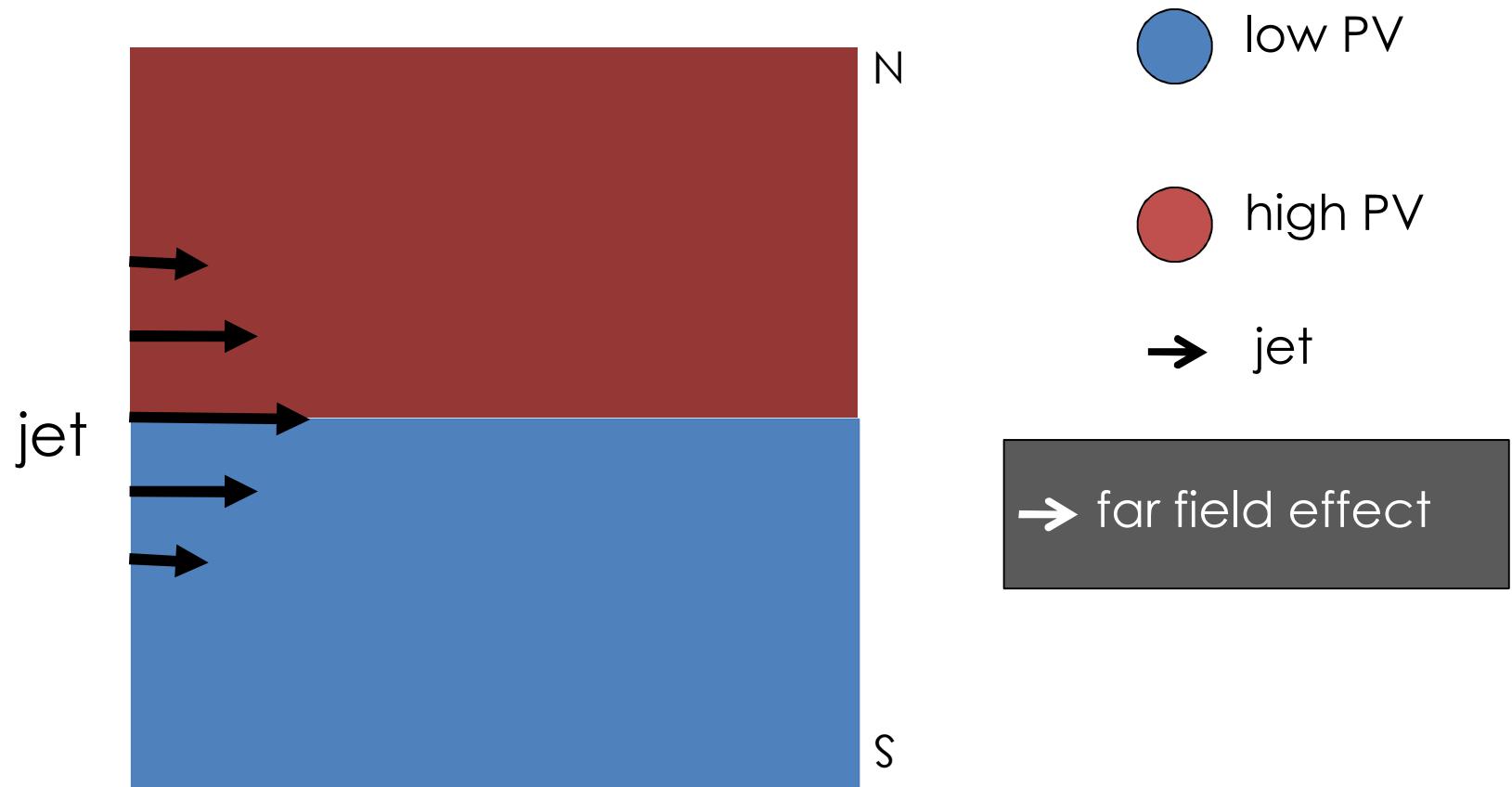


July mean PV and wind on 340K

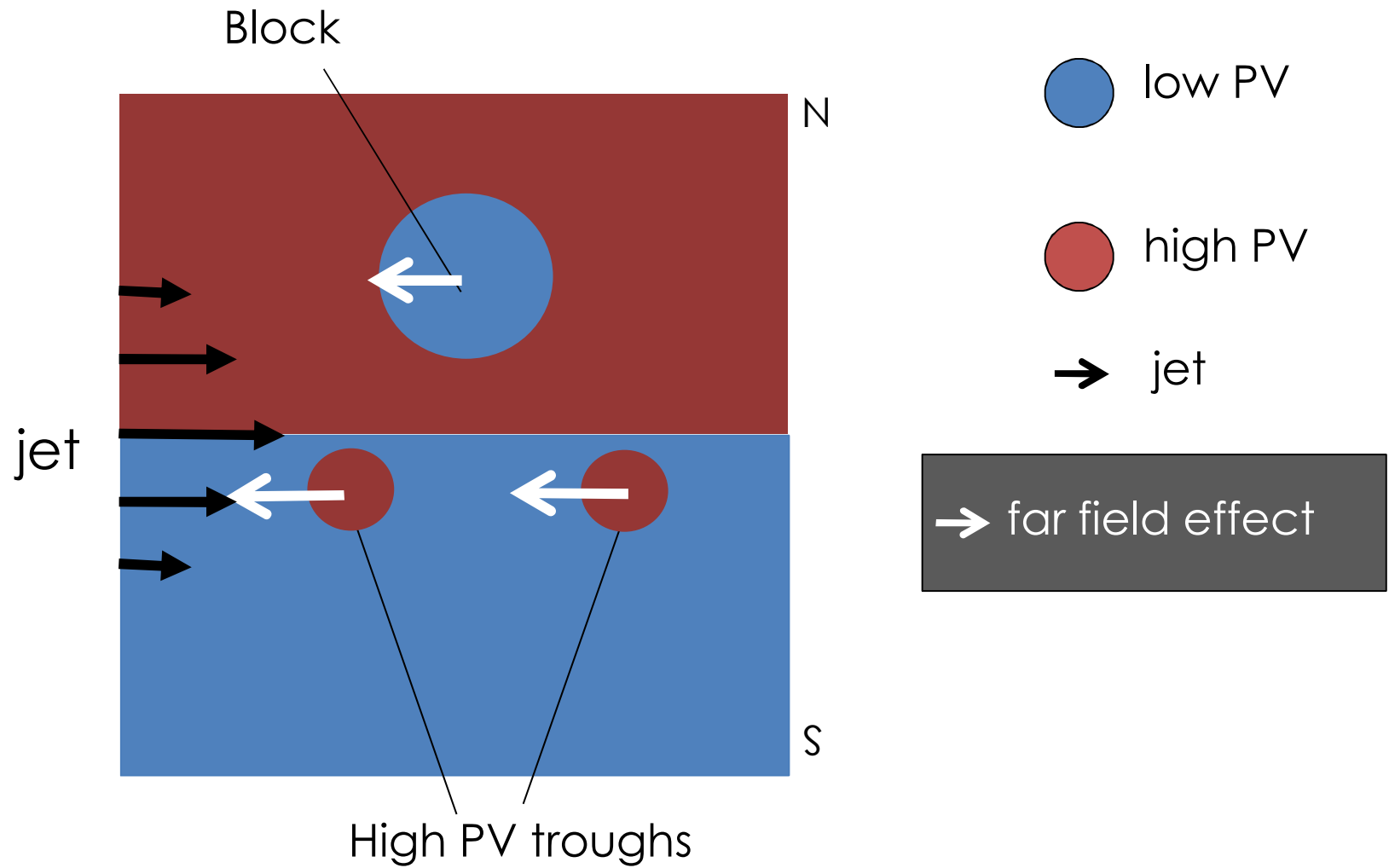




Stationarity of Blocking

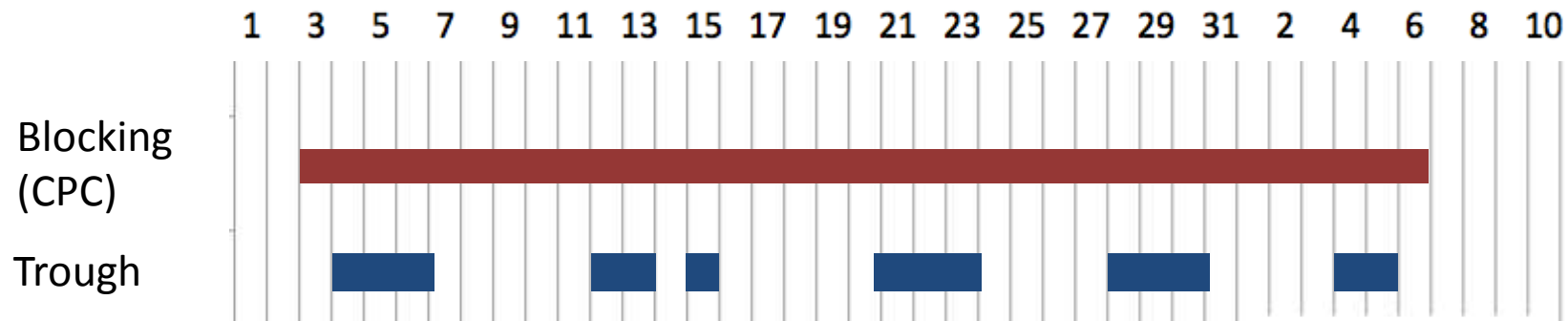


Stationarity of Blocking

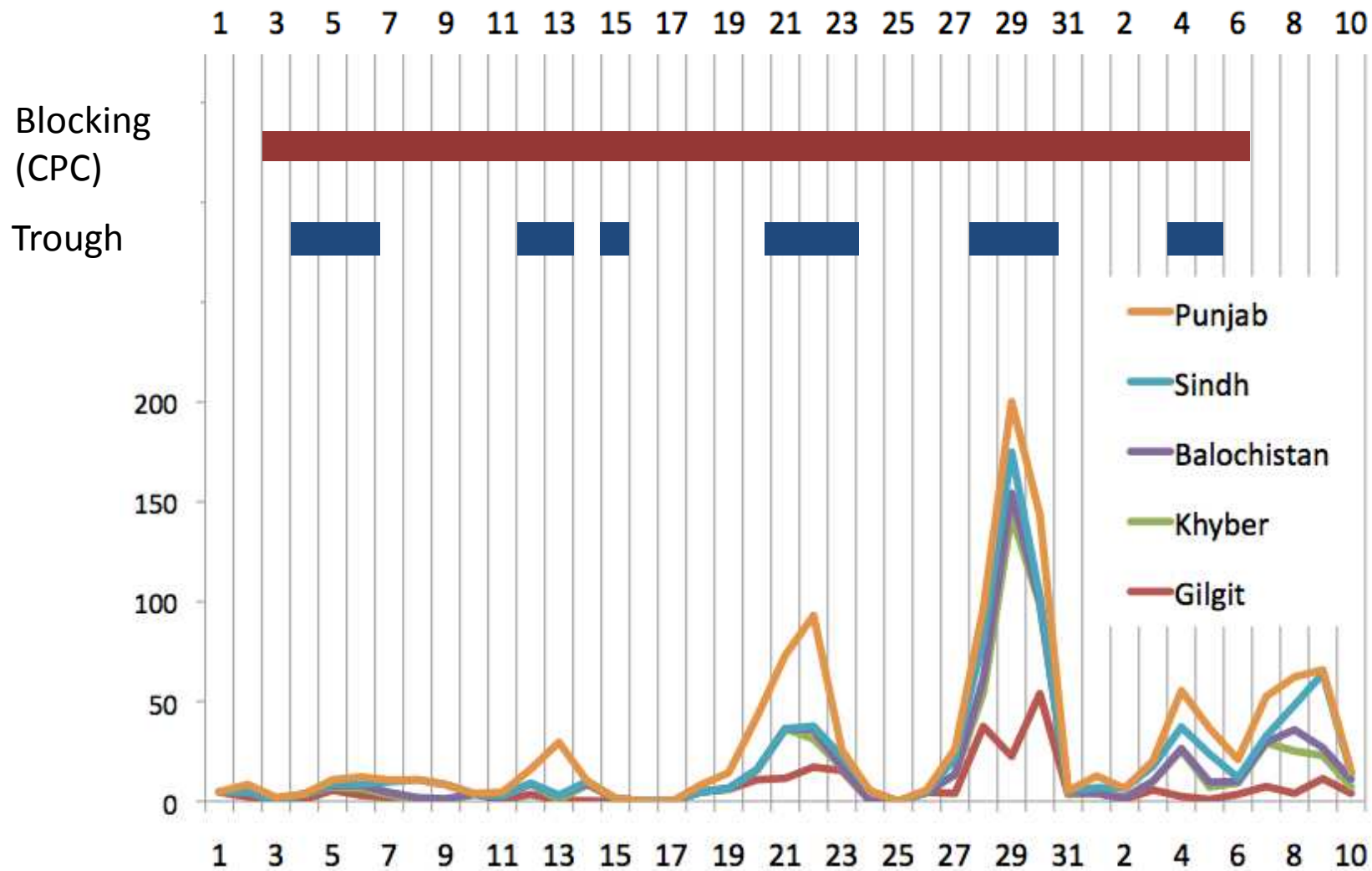


Altenhoff et al. 2008

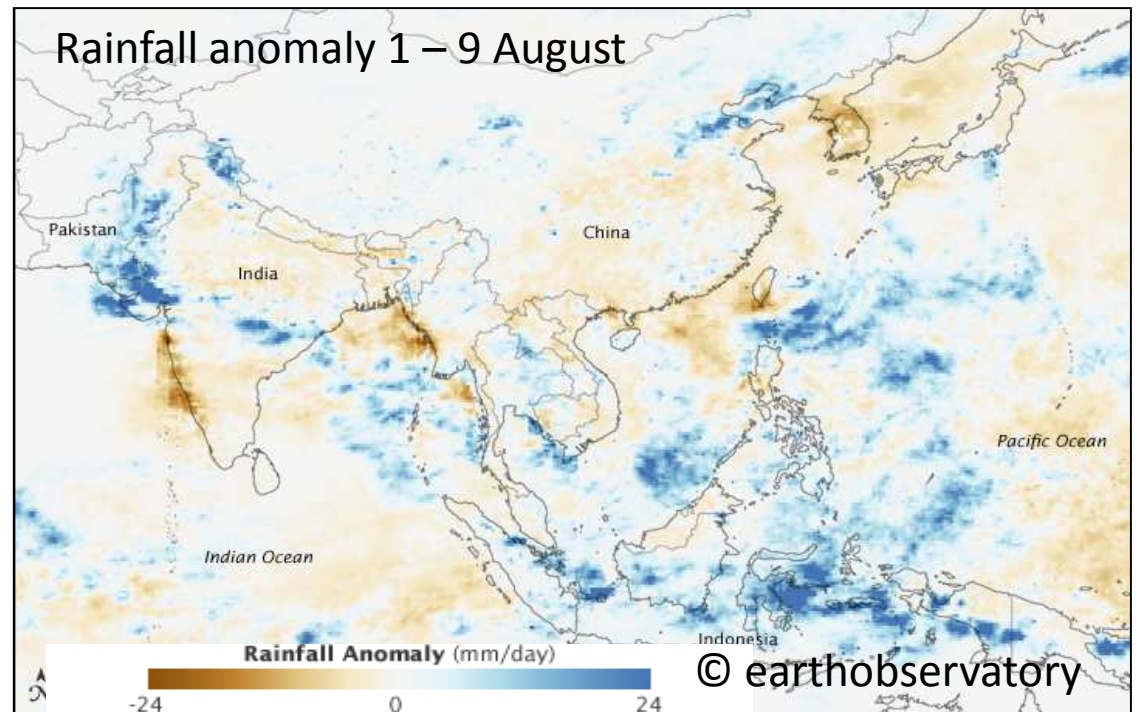
Upper-level flow and precipitation



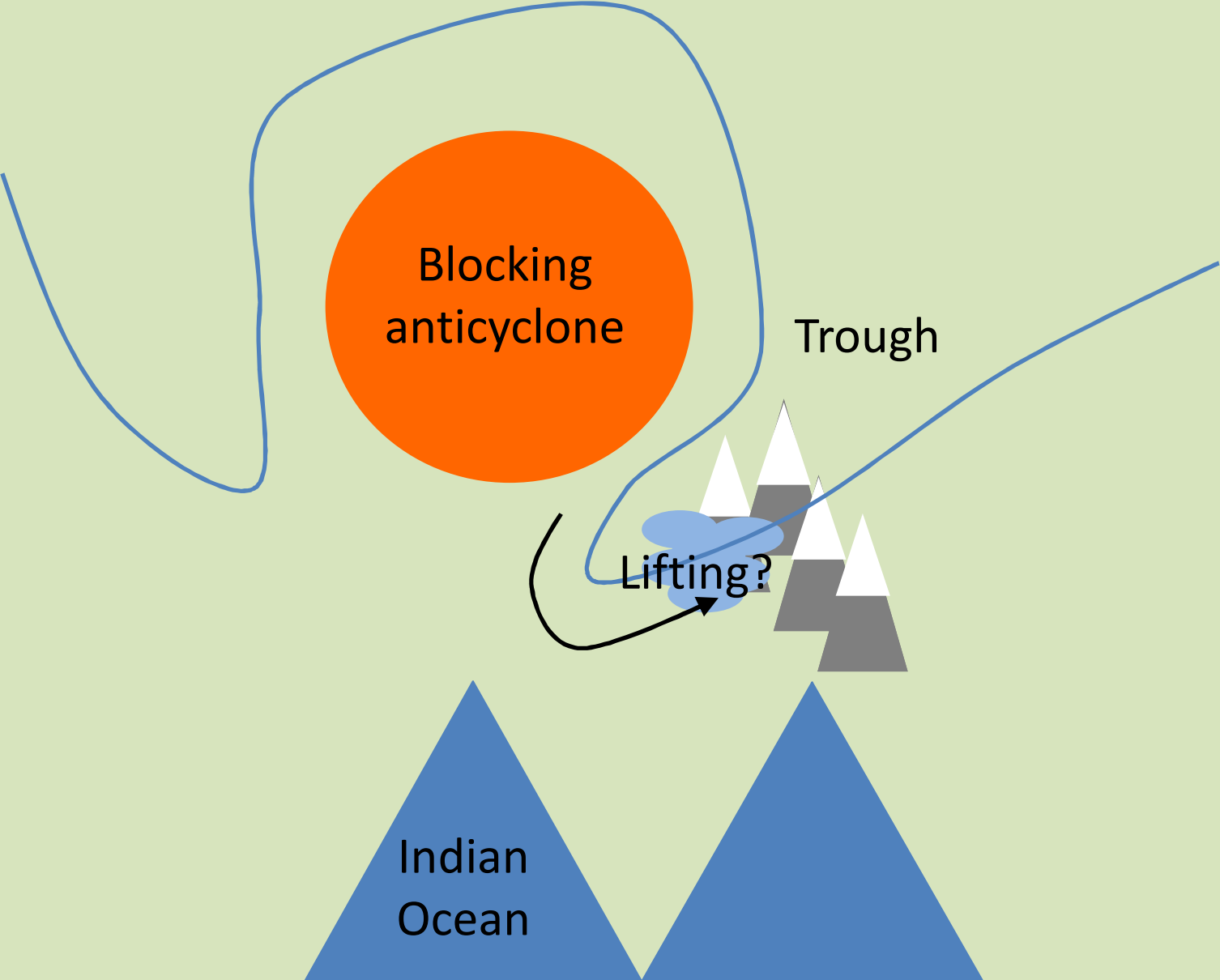
Upper-level flow and precipitation



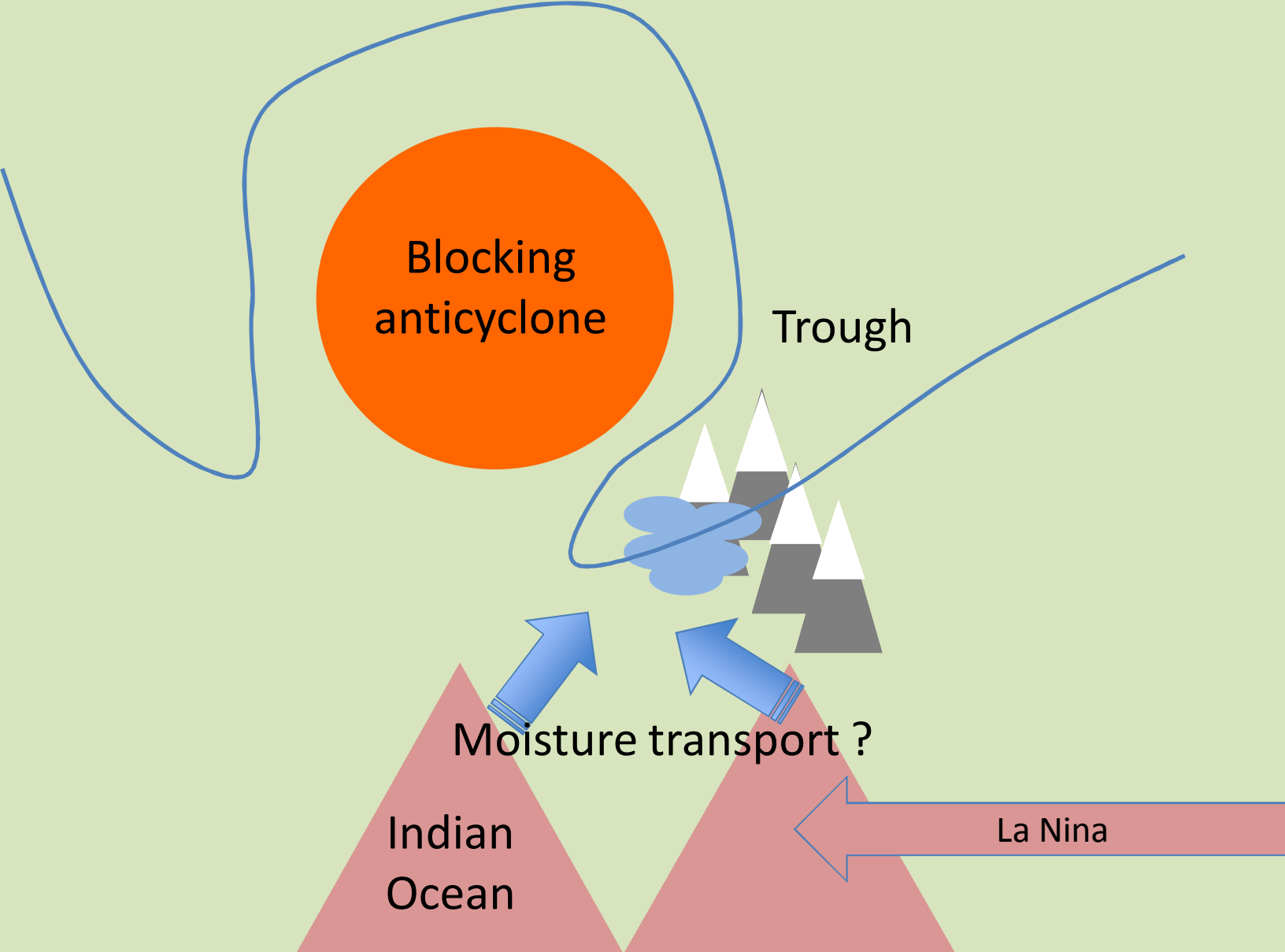
Flood in Pakistan



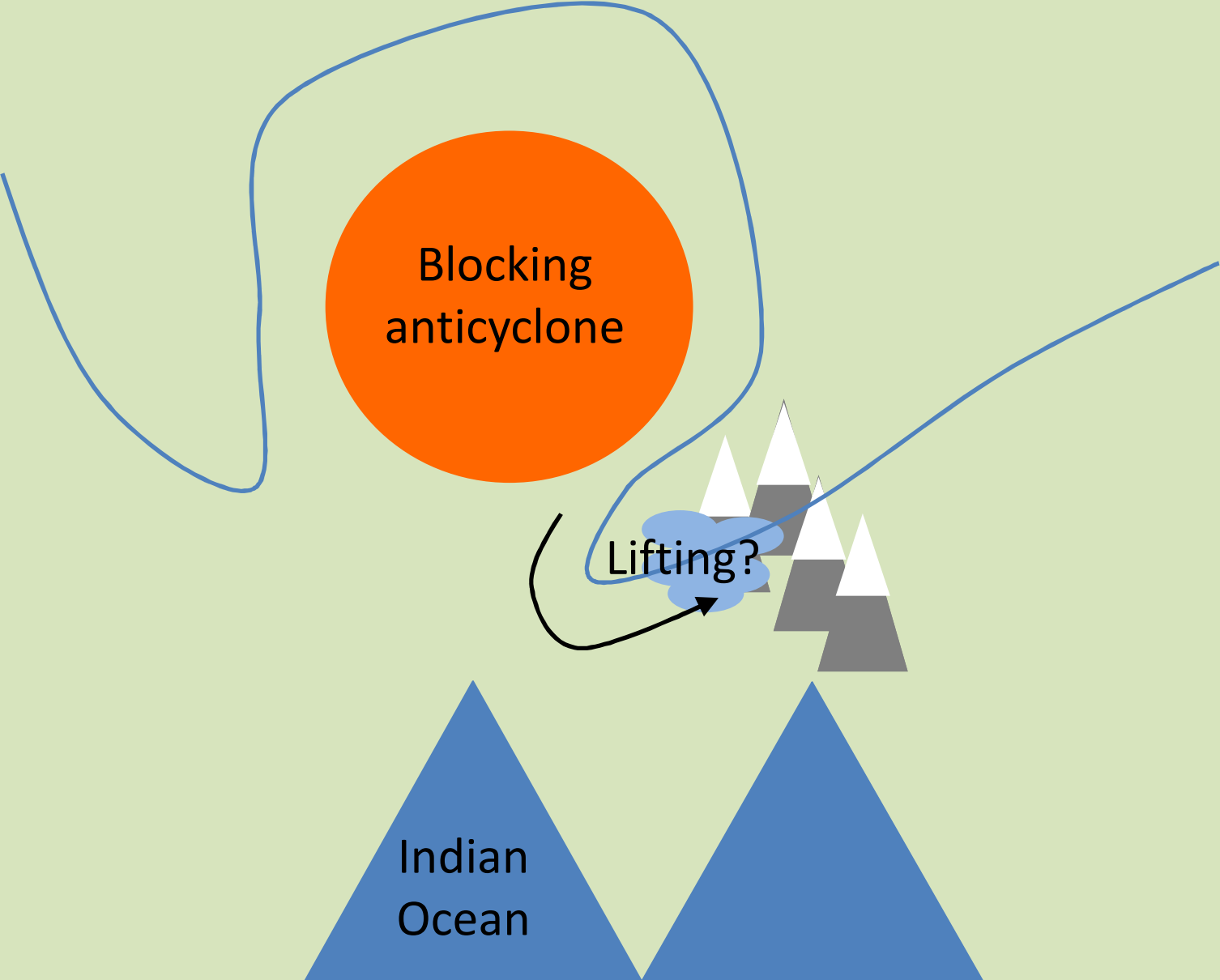
Flood in Pakistan



Flood in Pakistan



Flood in Pakistan

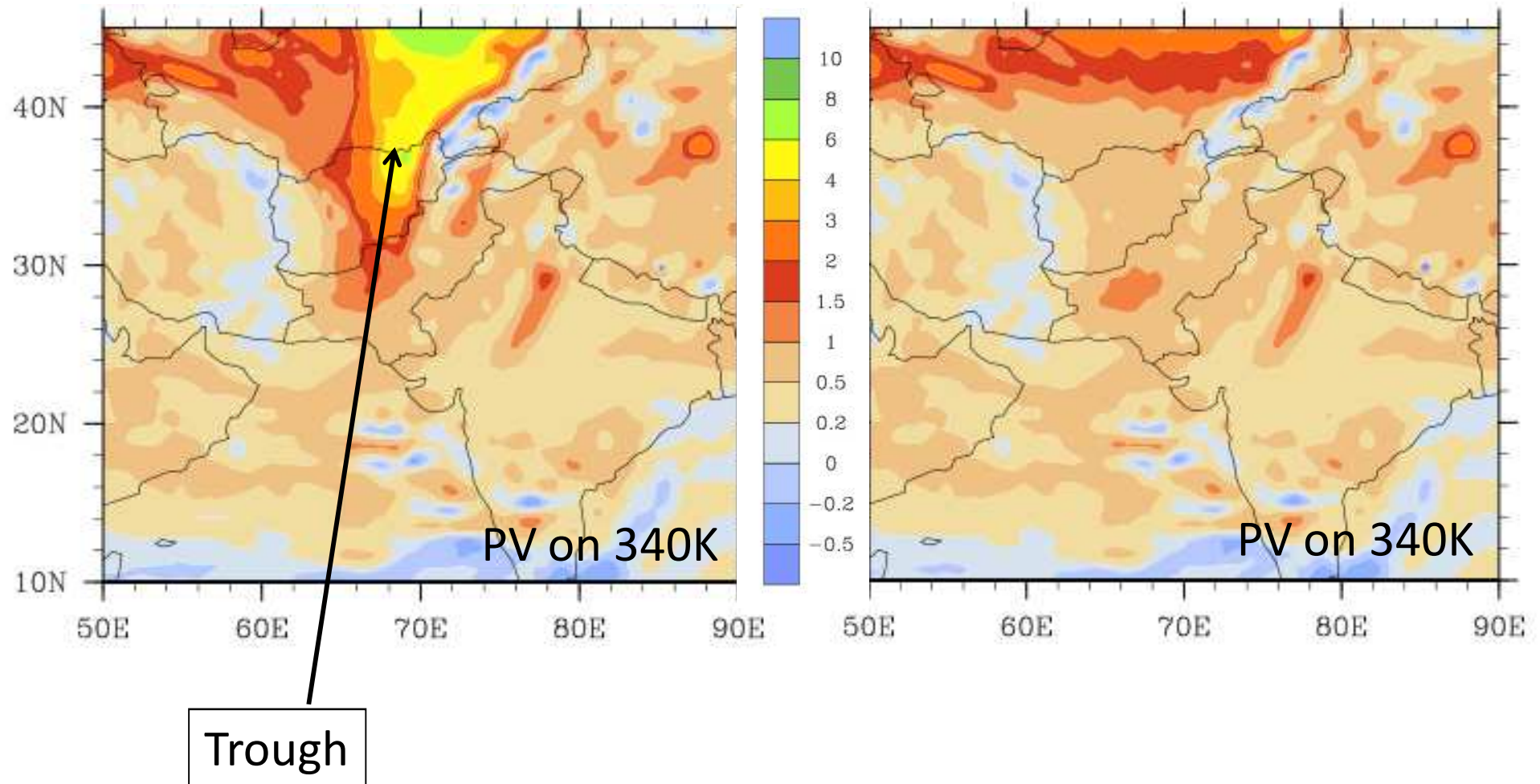


PV inversion for 22 July 2010

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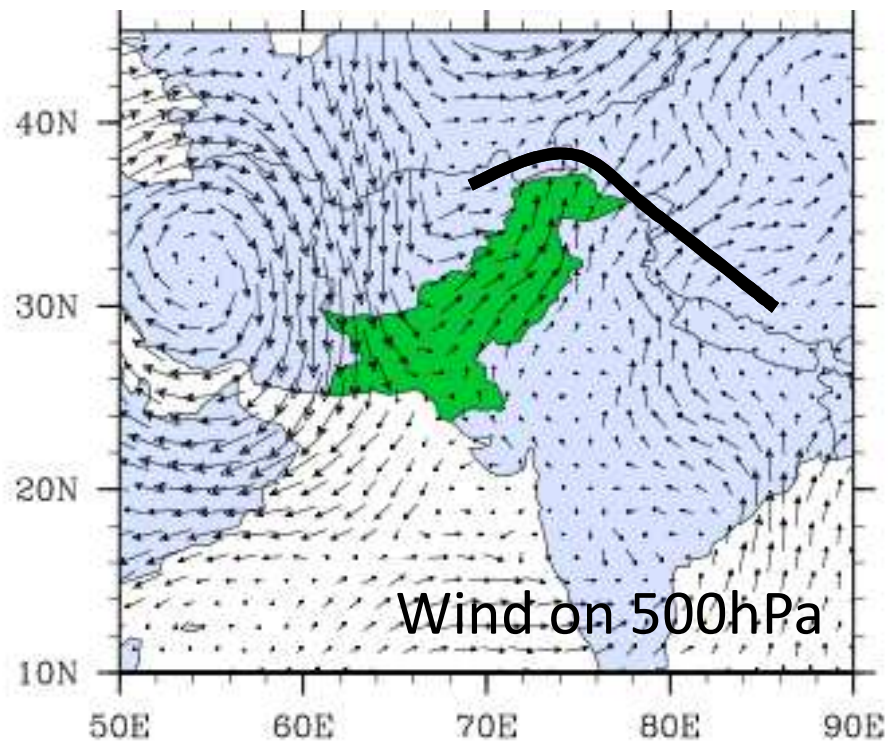
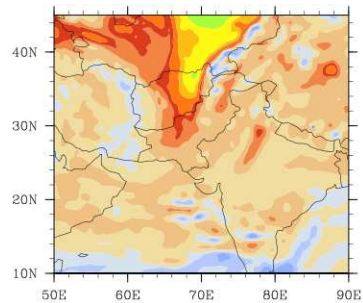
Figures courtesy Sebastian Schemm

PV inversion for 22 July 2010

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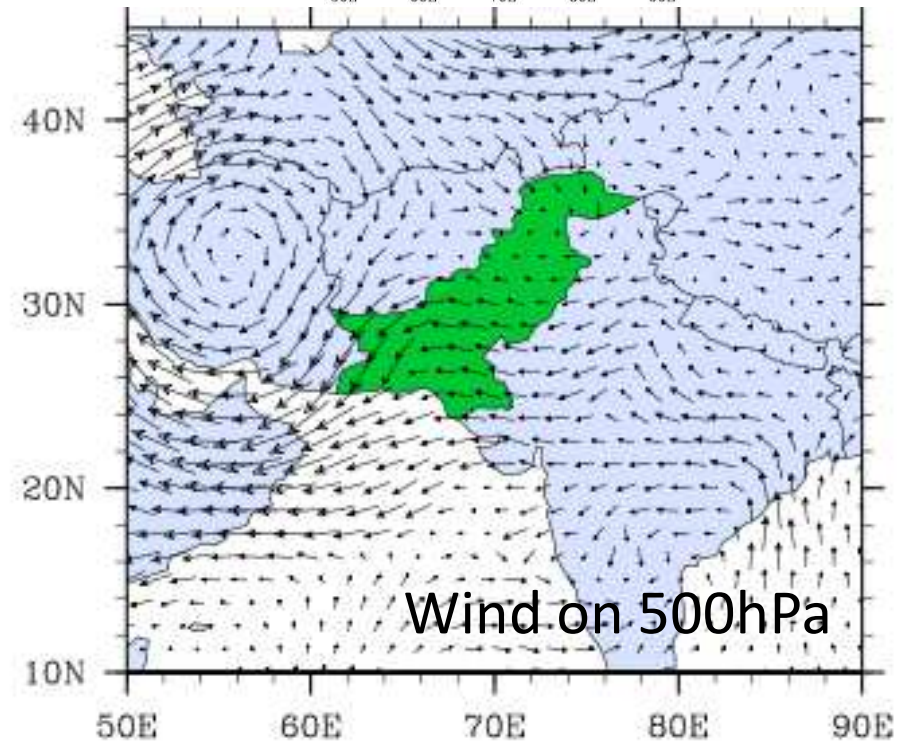
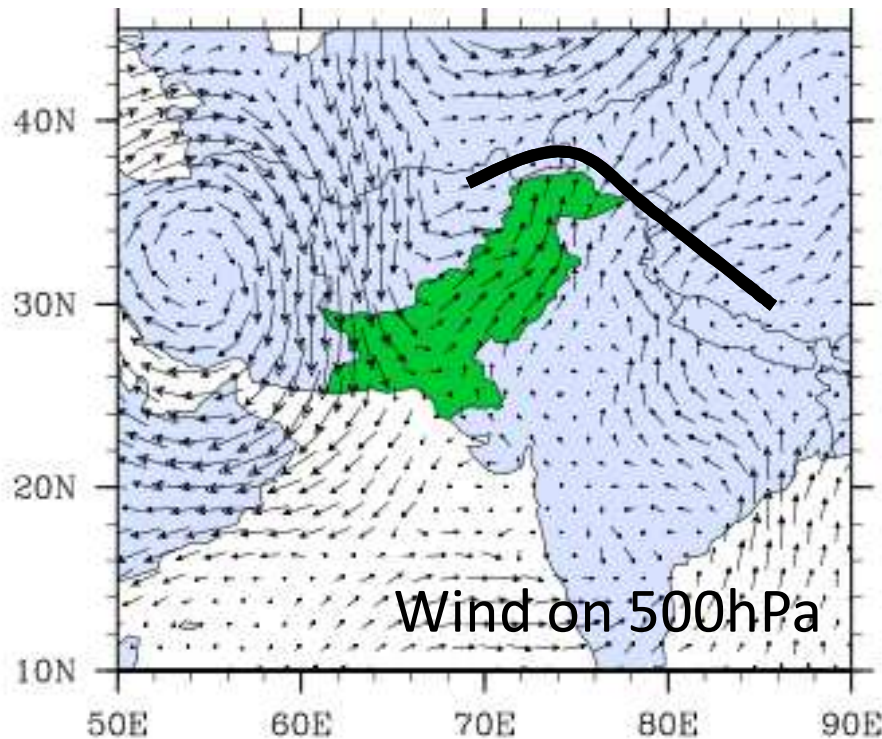
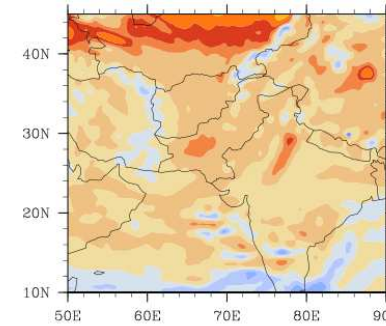
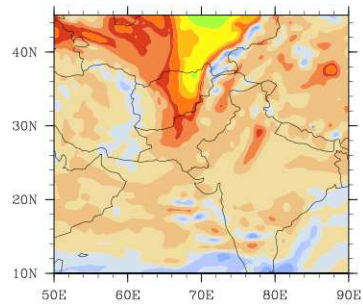
Figures courtesy Sebastian Schemm

PV inversion for 22 July 2010

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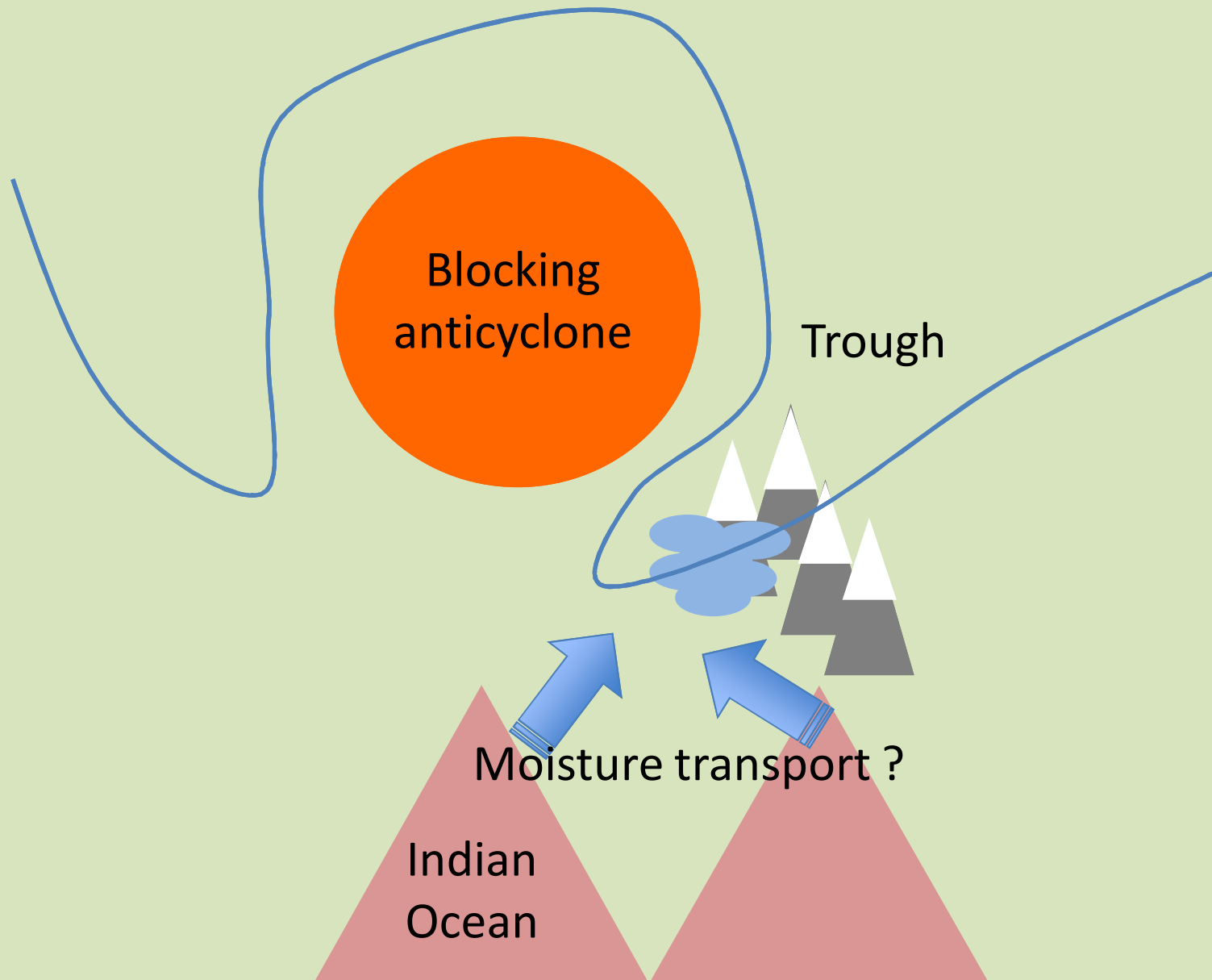
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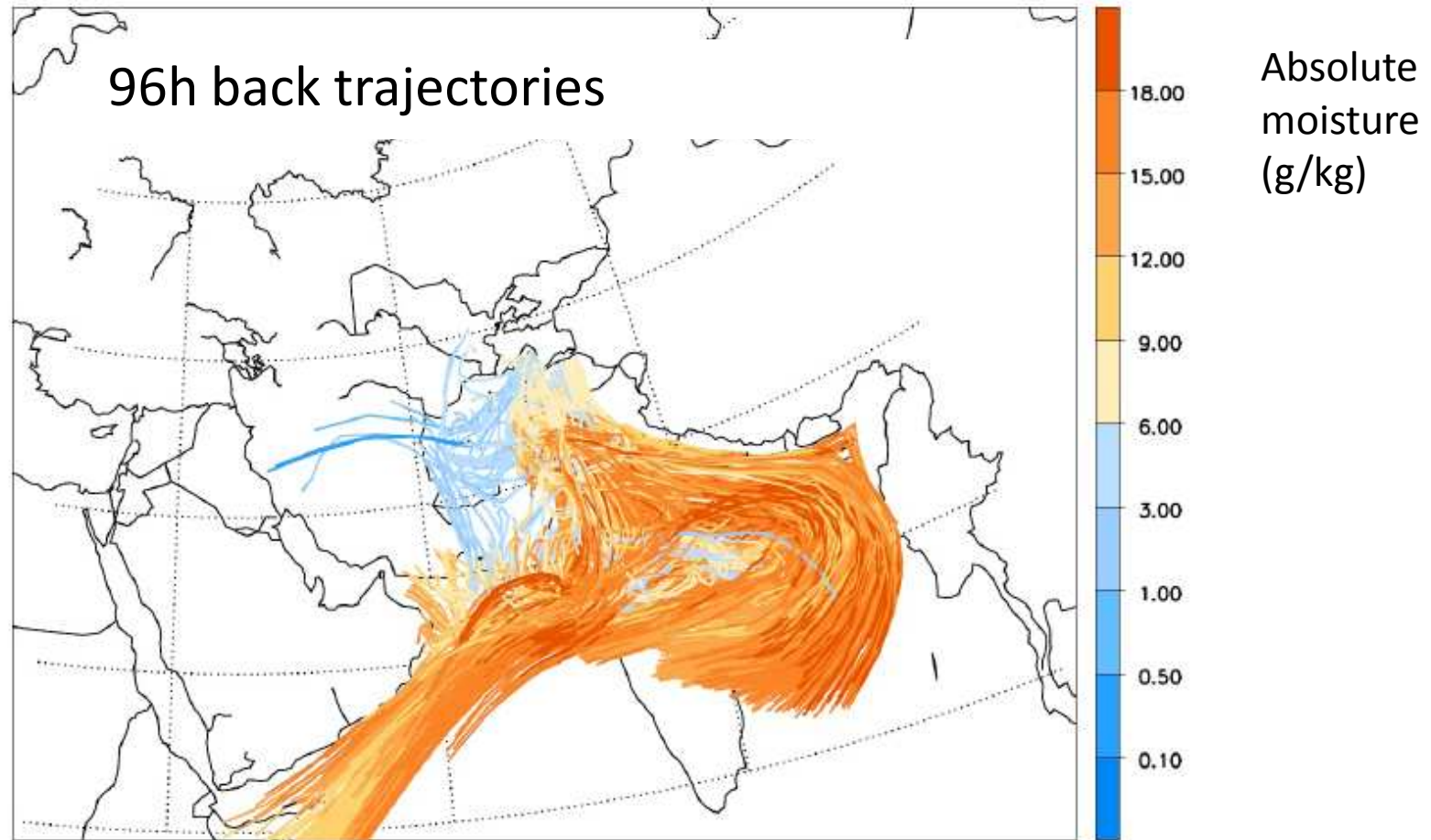


Figures courtesy Sebastian Schemm

Floods in Pakistan



Trajectories started on July 29

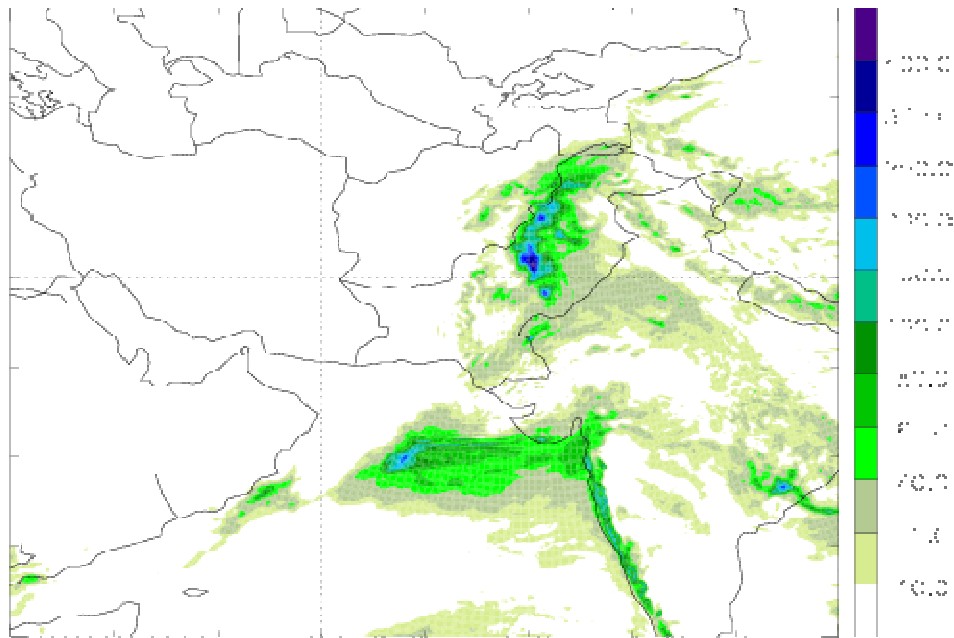


Majority of trajectories spend more than 72 hours over land

Figure courtesy Hanna Joos

Cosmo Simulations

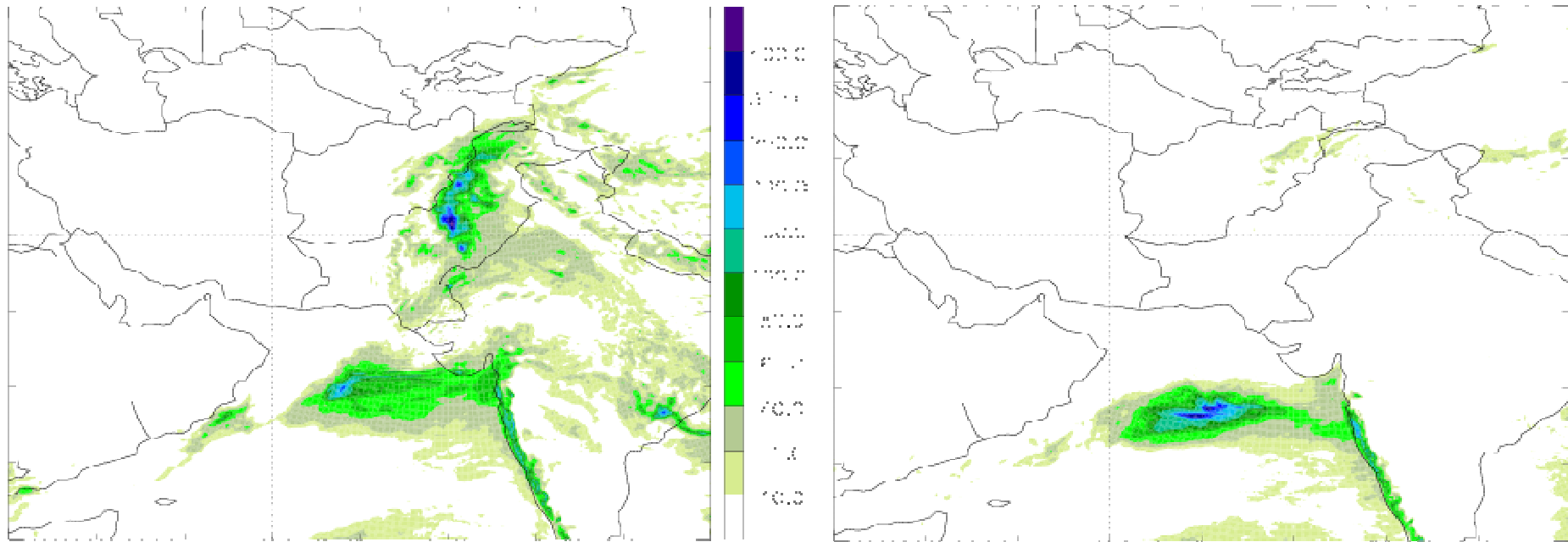
Precipitation 28 July 00 UTC – 30 July 00 UTC



Control Simulation

Cosmo Simulations

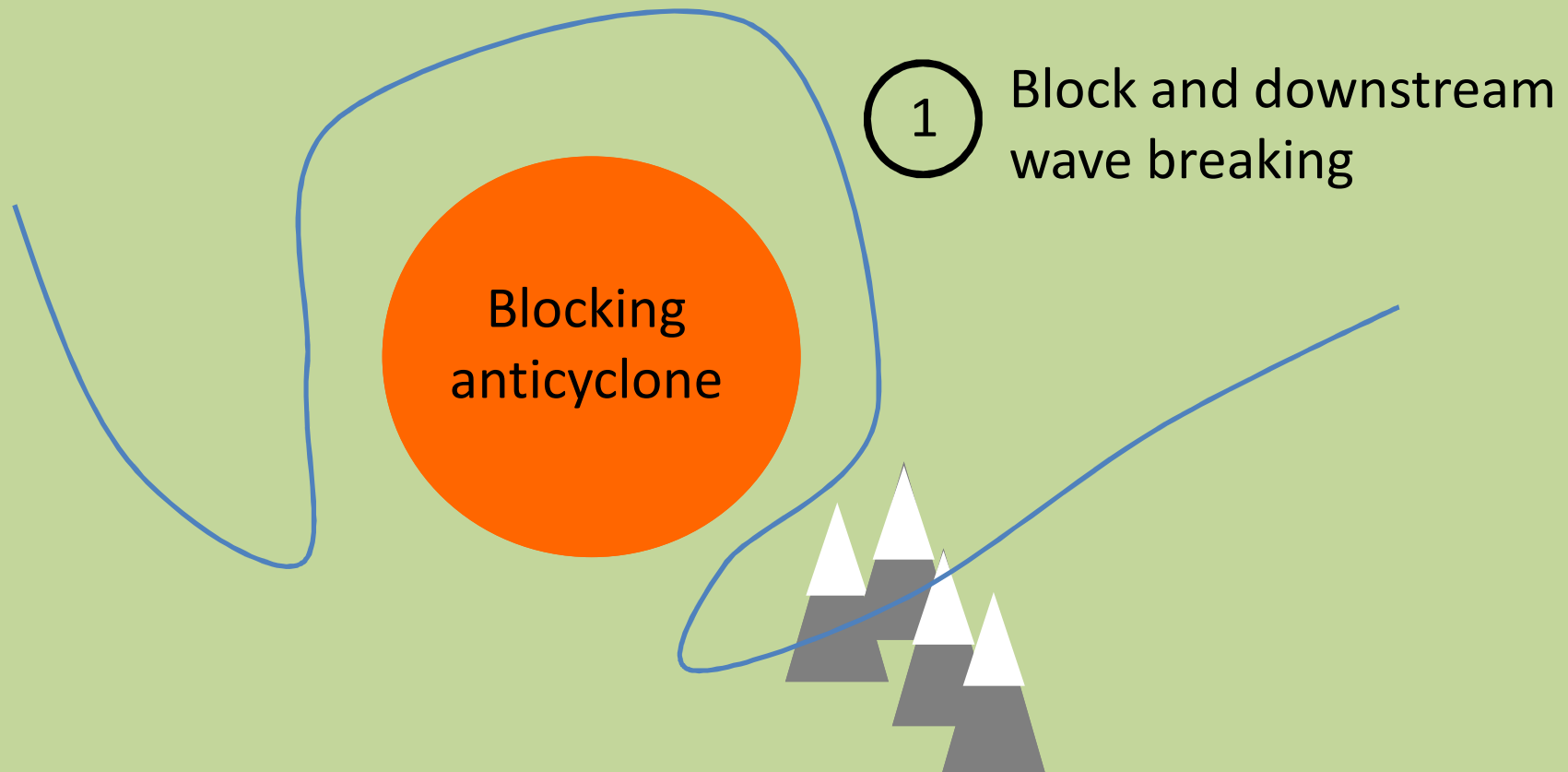
Precipitation 28 July 00 UTC – 30 July 00 UTC



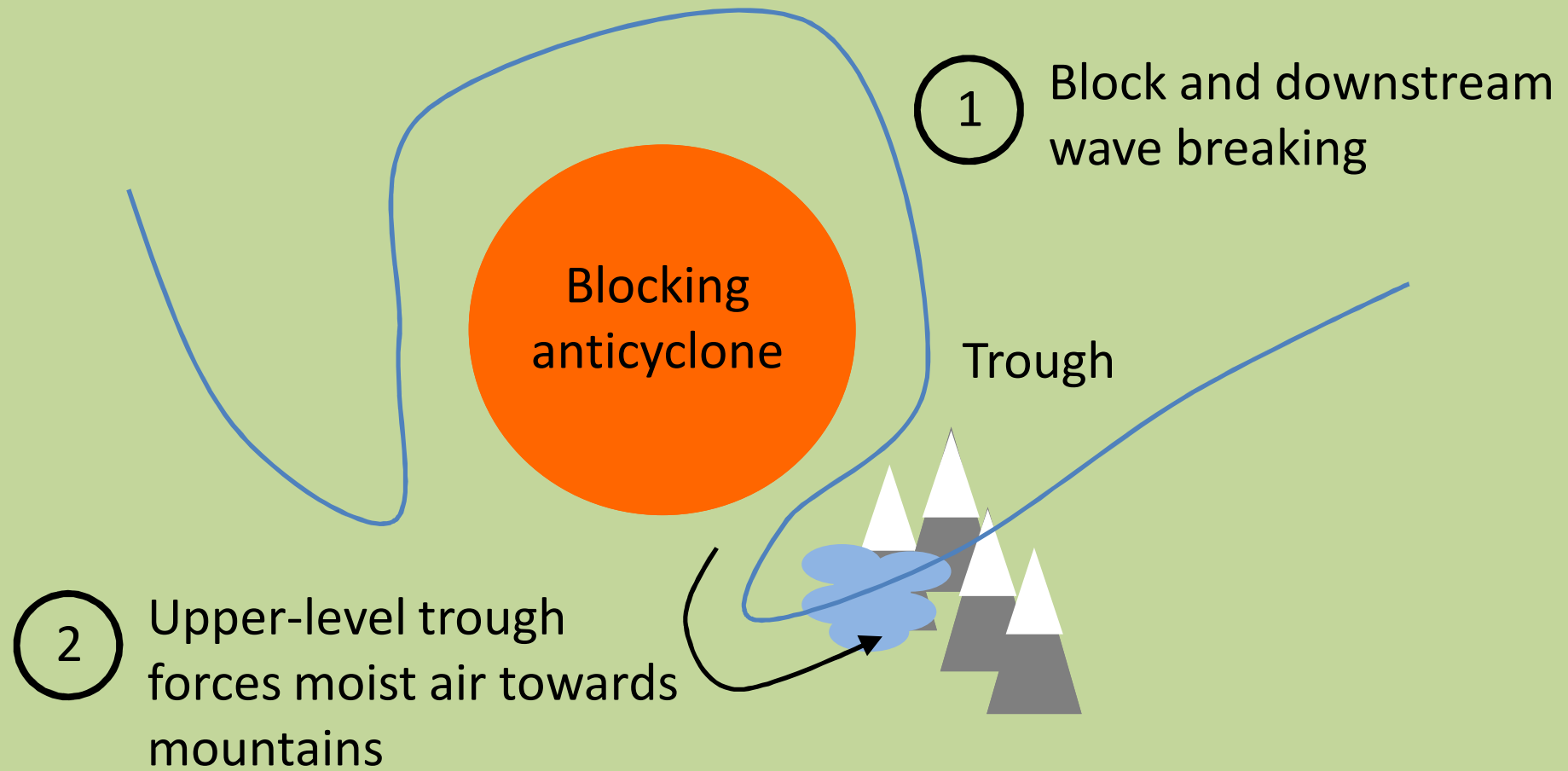
Control Simulation

No land-evaporation

Floods in Pakistan



Floods in Pakistan



Floods in Pakistan

