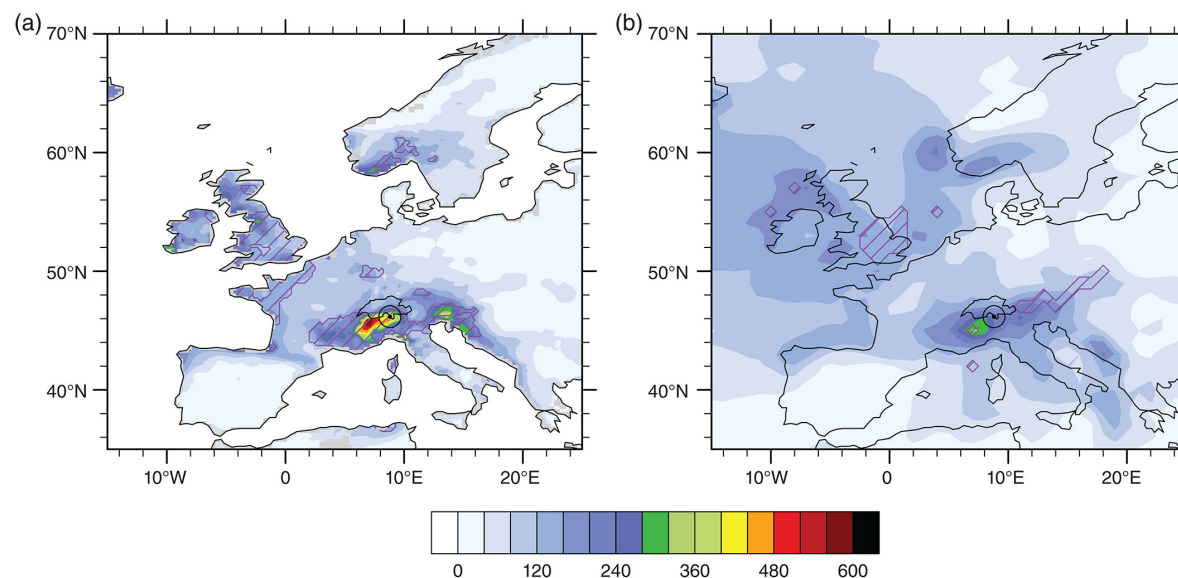




On the dynamical coupling between atmospheric blocks and heavy precipitation events: A discussion of the southern Alpine flood in October 2000

- Focuses on physical mechanisms that lead to heavy precipitation events
- 3 case studies of heavy precipitation events in the southern Alps in autumn 2000



Lenggenhager et al. (2018)

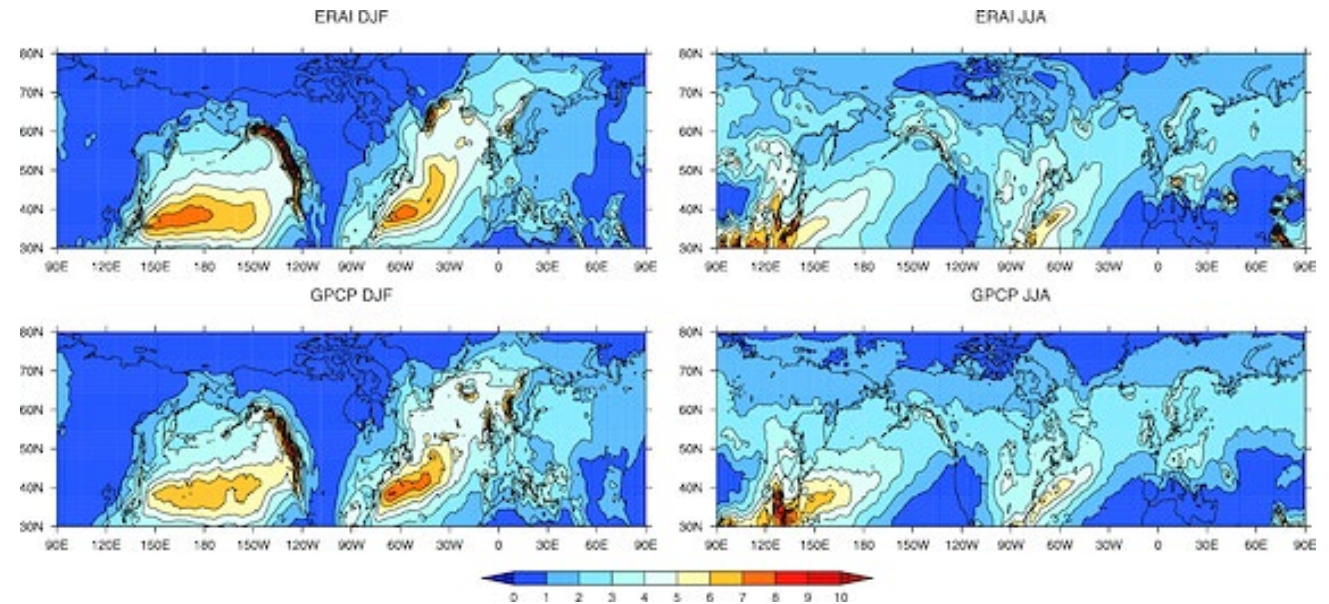
Lenggenhager et al (2018): On the dynamical coupling between atmospheric blocks and heavy precipitation events: A discussion of the southern Alpine flood in October 2000. Quarterly Journal of the Royal meteorological society, 145 (719), p.530 -545.

DOI: <https://doi.org/10.1002/qj.3449>.



How much Northern Hemisphere precipitation is associated with extratropical cyclones?

- Quantify the contribution of extratropical cyclones to total precipitation in NH
- Apply a climatological perspective



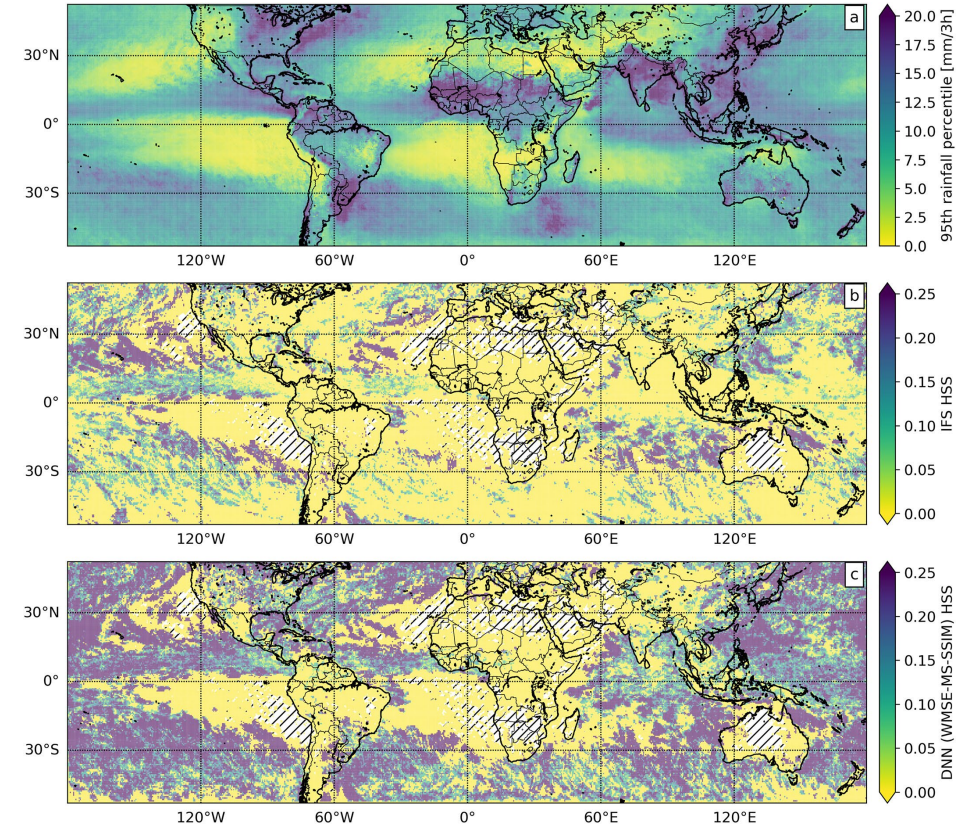
Hawcroft et al. (2012)

Hawcroft et al. (2012): How much Northern Hemisphere precipitation is associated with extratropical cyclones? Geophysical Research Letters, 39 (24). DOI: <https://doi.org/10.1029/2012GL053866>.



Deep Learning for Improving Numerical Weather Prediction of Heavy Rainfall

- How to improve the forecasting skill of heavy precipitation
- Apply deep neural networks (machine learning) to IFS



Hess and Boers (2022)

Hess and Boers (2022): Deep Learning for Improving Numerical Weather Prediction of Heavy Rainfall. Journal of Advances in Modelling Earth Systems, 14 (3). DOI: <https://doi.org/10.1029/2021MS002765>.