



Supplement of

The composite development and structure of intense synoptic-scale Arctic cyclones

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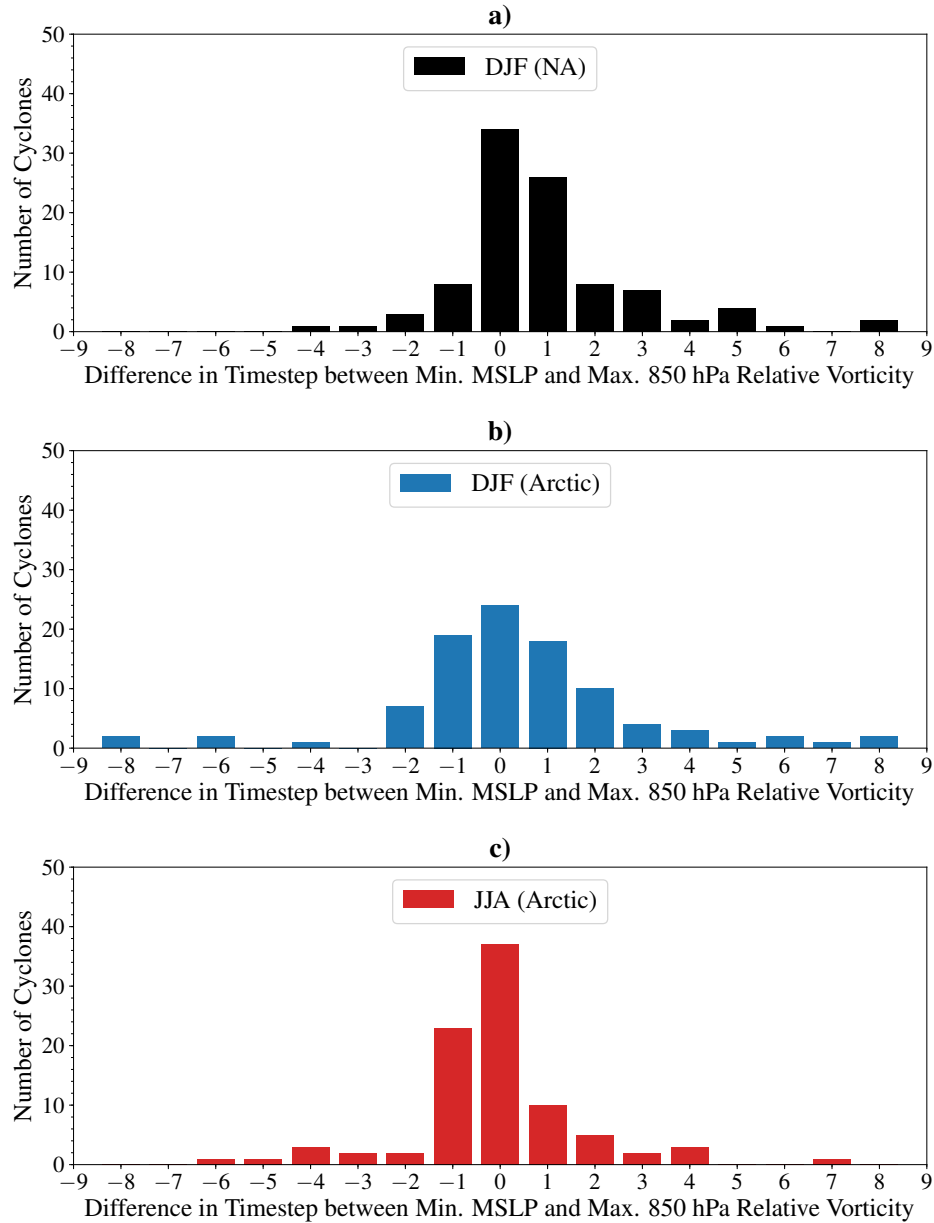


Figure S1. The difference in timestep (i.e., 6-hours) between each cyclone’s point of maximum filtered T42 850 hPa relative vorticity and point of full resolution minimum mean sea level pressure (MSLP) that contribute to the **a)** winter (DJF) North Atlantic (NA) Ocean cyclone composite, **b)** winter Arctic cyclone composite, and **c)** summer (JJA) Arctic cyclone composite.

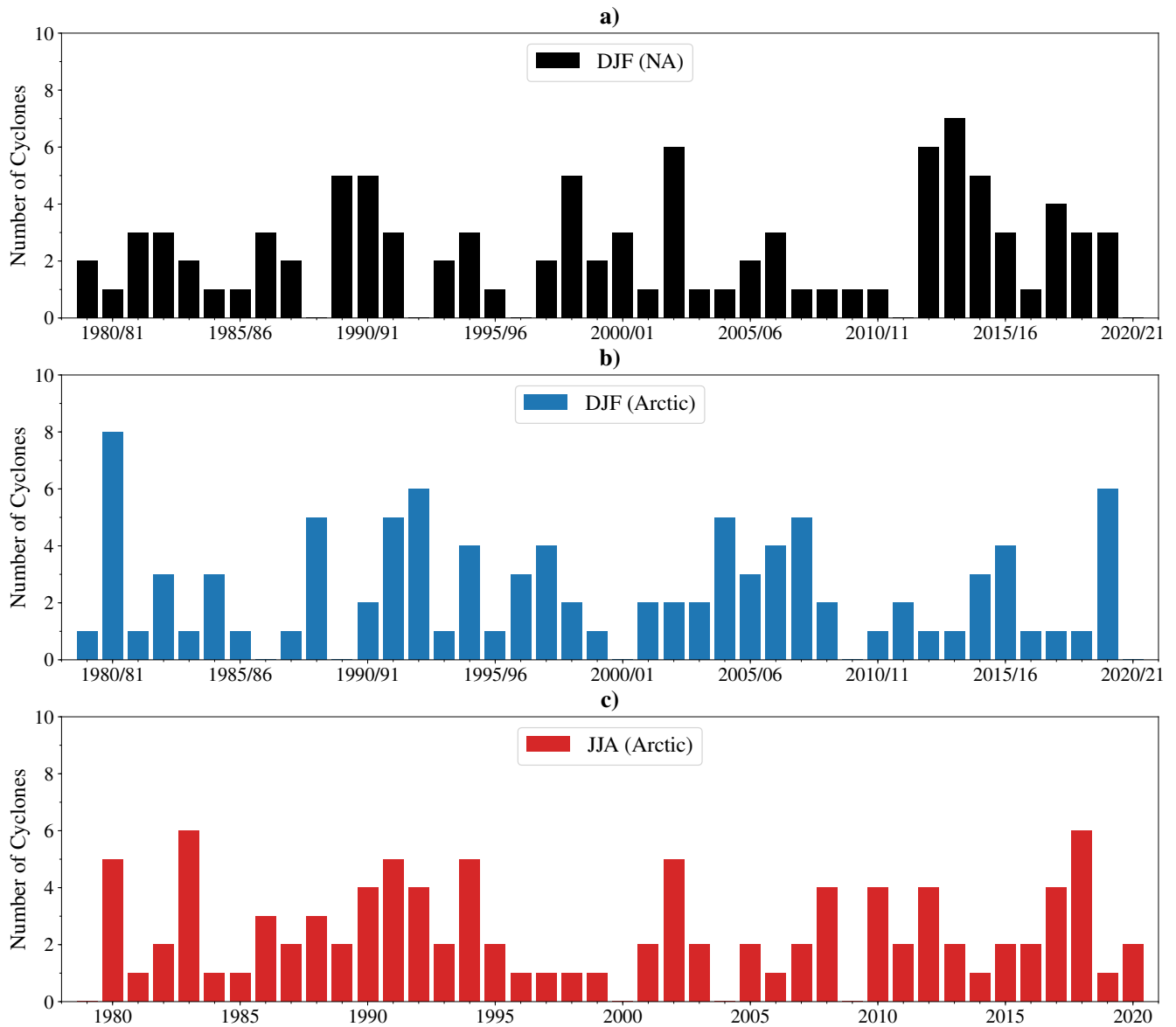


Figure S2. Timeseries showing the occurrence per year of each cyclone in the sample of the 100 most intense **a)** winter (DJF) North Atlantic (NA) Ocean cyclones, **b)** winter Arctic cyclones, and **c)** summer Arctic cyclones, between 1979 and 2020 identified in the ERA5 reanalysis dataset.

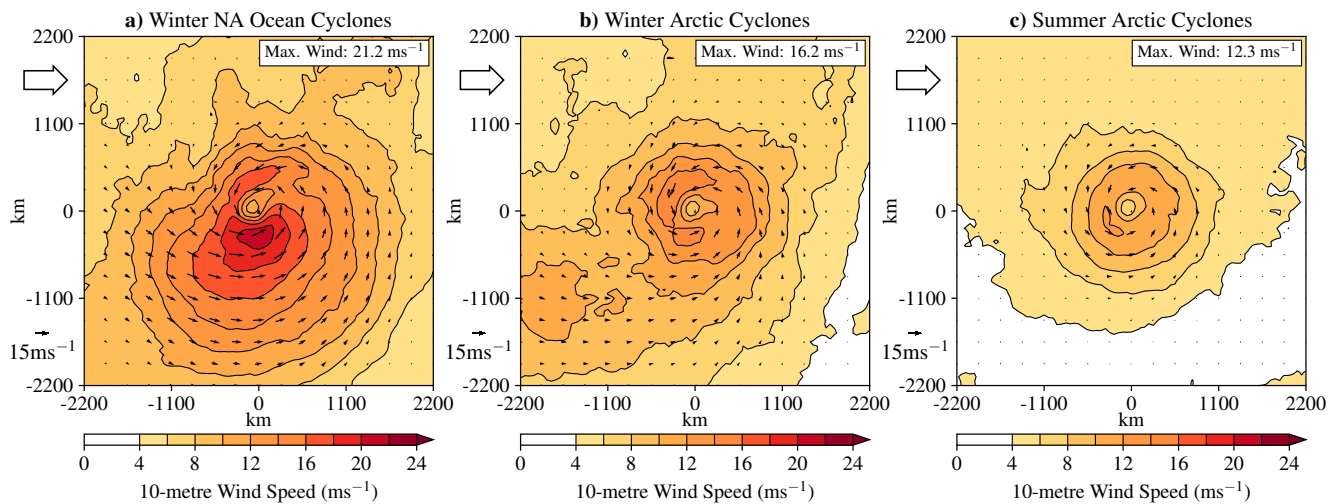


Figure S3. Horizontal 10-metre earth-relative wind speed (m s^{-1}) composite structure at the time of maximum intensity (i.e., minimum MSLP), of **a)** winter (DJF) North Atlantic (NA) Ocean cyclones, **b)** winter Arctic cyclones and **c)** summer (JJA) Arctic cyclones. The large arrow indicates the direction of storm propagation.