Supplemental figures for:

Uncertainties in Atmospheric River Life Cycles by Detection Algorithms: Climatology and Variability

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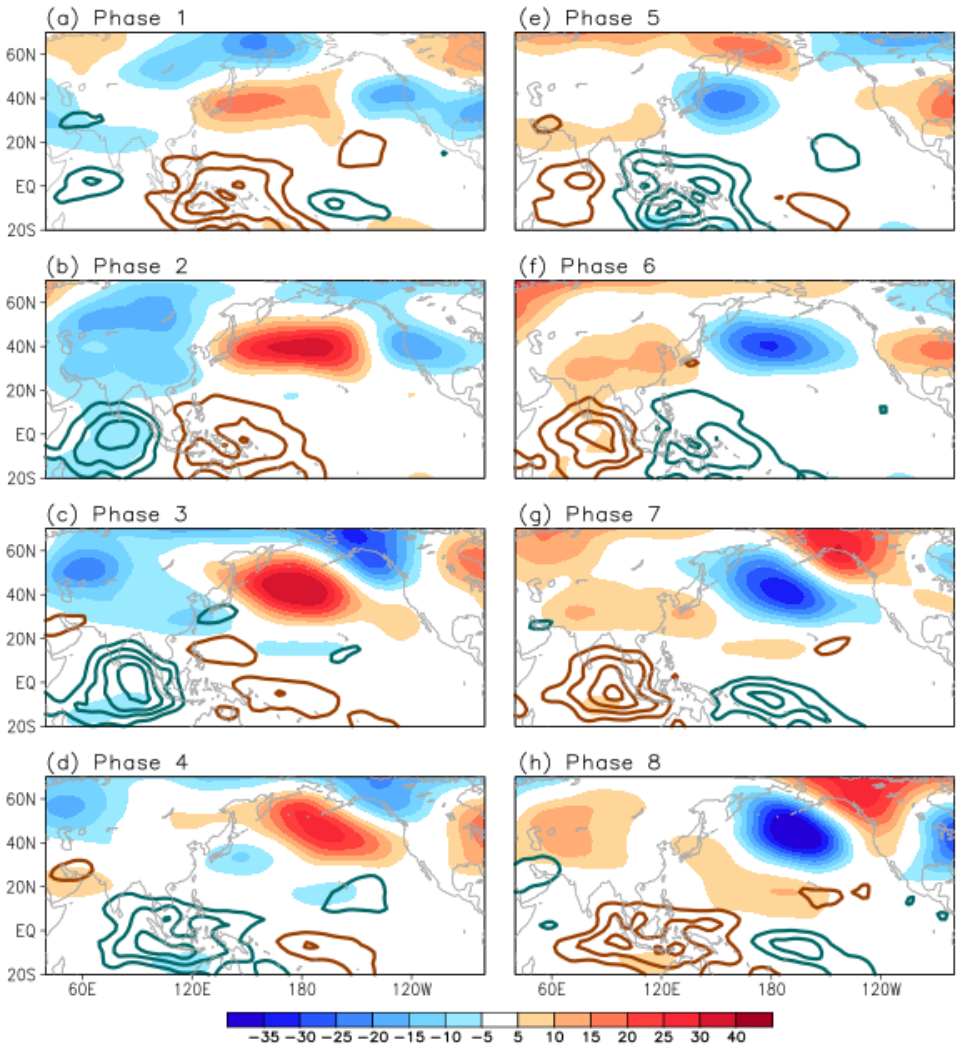
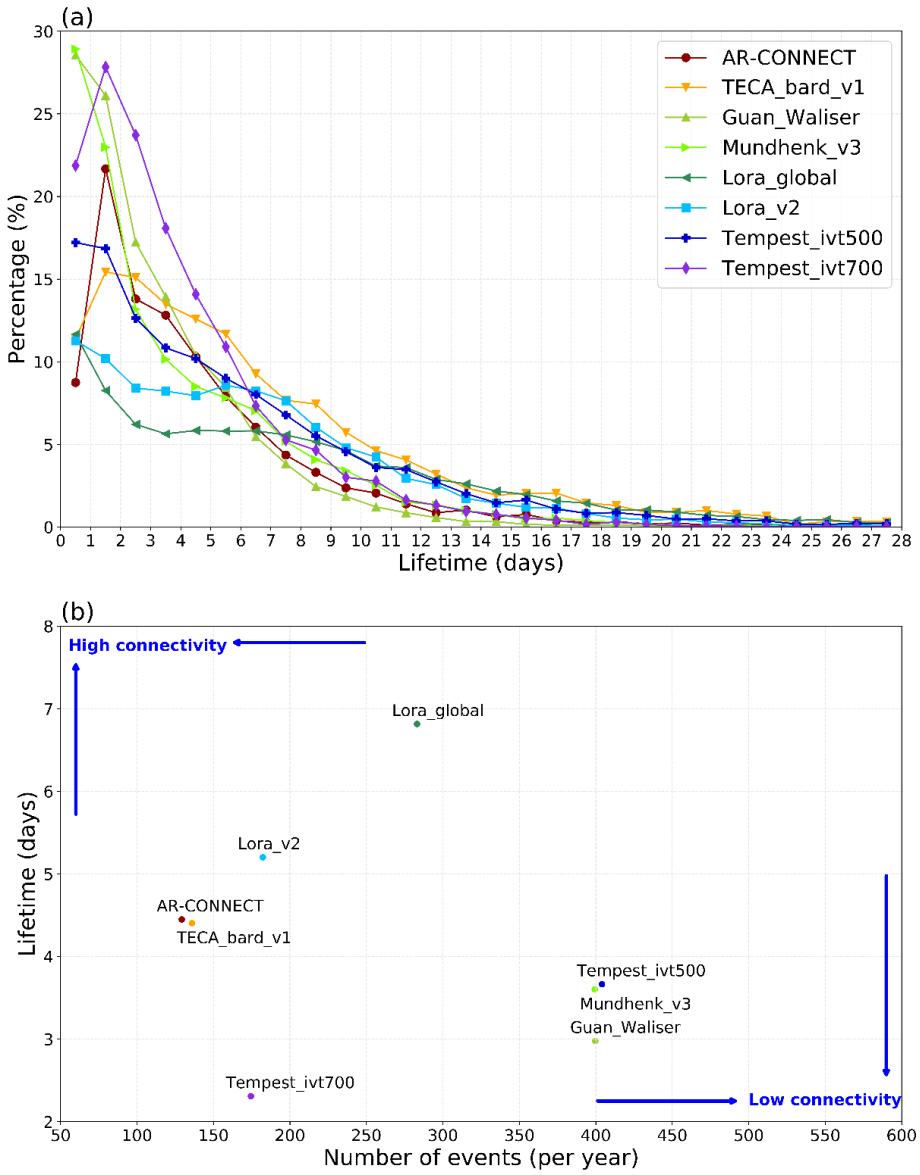
Introduction

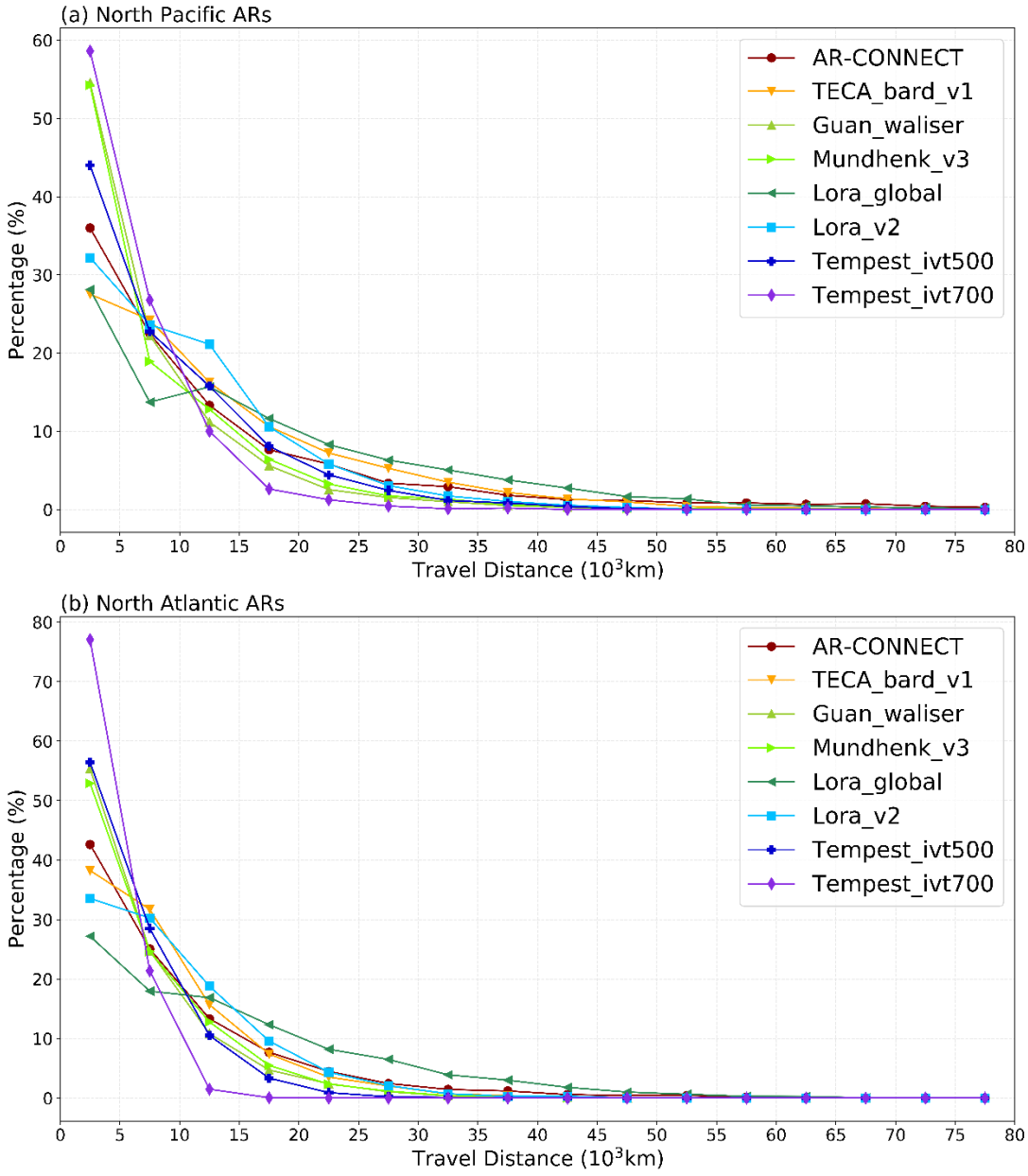
This supporting information provides figures showing the MJO teleconnection patterns and winter climatological atmospheric river frequency; and the same figures as seen in the main article but for North Atlantic atmospheric rivers, or for other domain averages including Oregon & Washington and British Columbia.



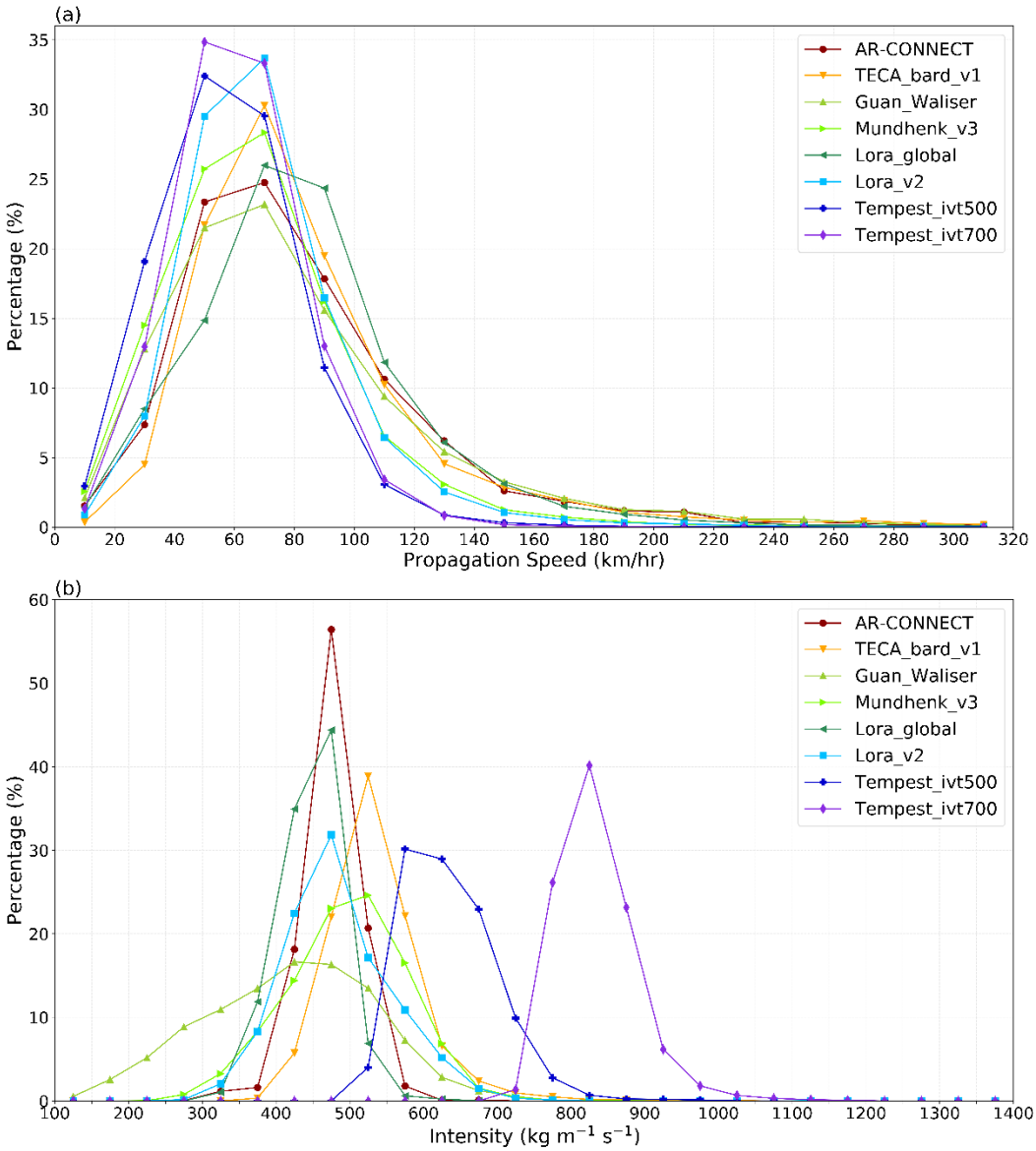
S1. Composite of 20-100-day filtered OLR anomaly (contours, W m^{-2}) and 500 hPa geopotential height anomaly (shading, m) for the (a-h) MJO phase 1-8.



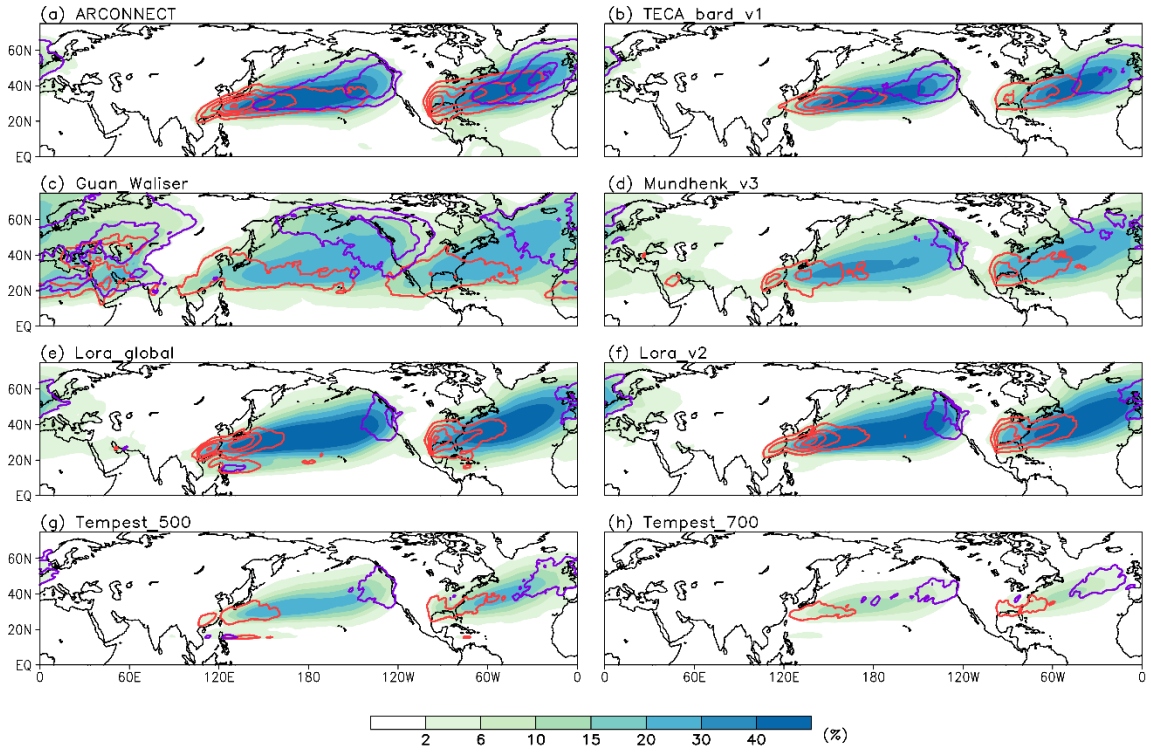
S2. (a) Percentage distribution of North Atlantic AR lifetime. (b) Scatter plot of the number of North Atlantic AR events per year and their mean lifetime.



S3. Percentage distribution of travel distance (10^3 km) for (a) North Pacific and (b) North Atlantic AR events.



S4. Distribution of (a) propagation speed (km/hr) and (b) lifecycle intensity (kg m^{-1} s^{-1}) for North Atlantic AR events.



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45 S5. Winter mean total AR frequency (shading), origin (red contour), and termination frequencies

46 (violet contour). Unit is percent of time steps. Note that shading intervals are not constant.

47 Contour interval: (a-f) 0.2 percent of time steps and (g-h) 0.1 percent of time steps.

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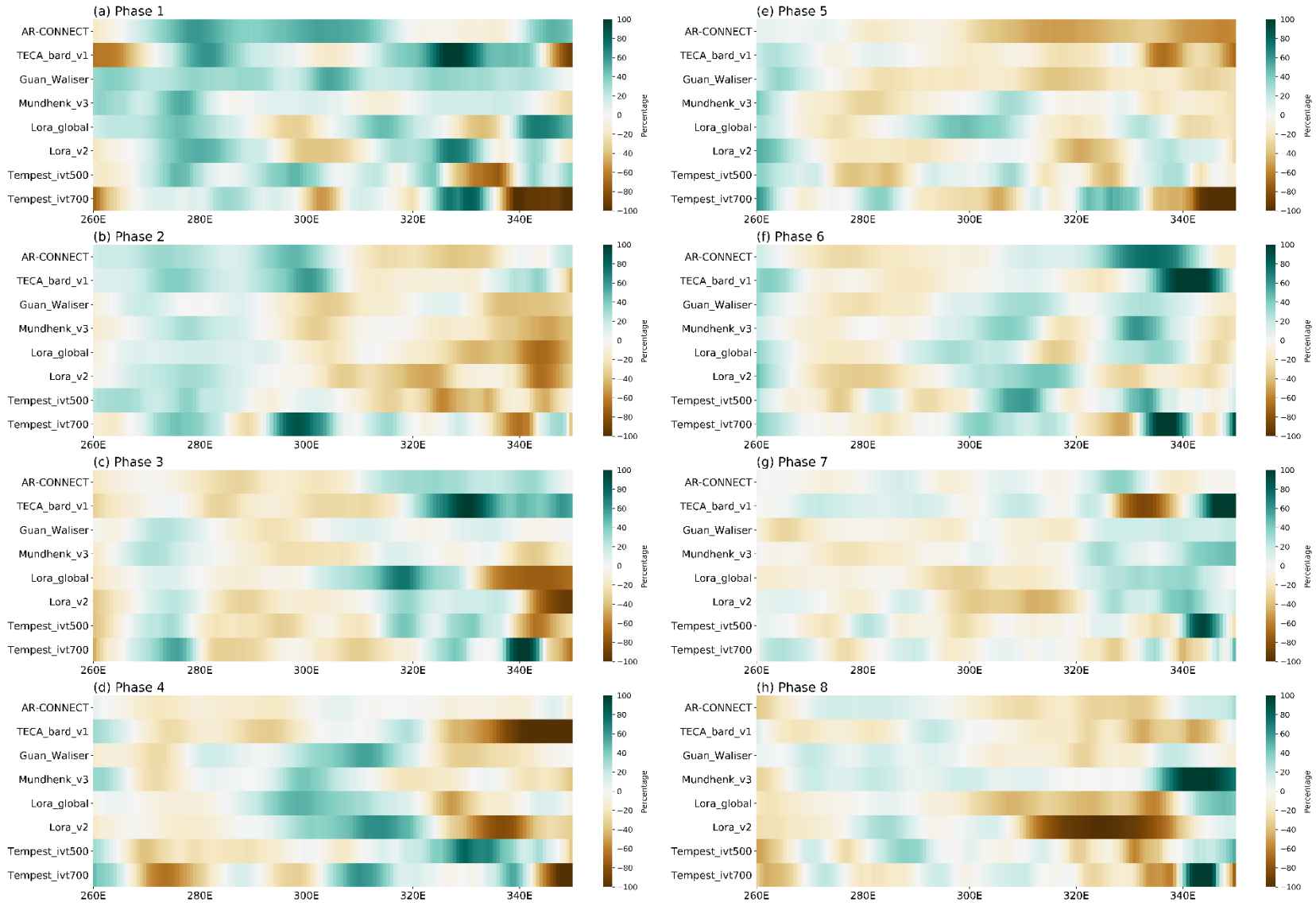
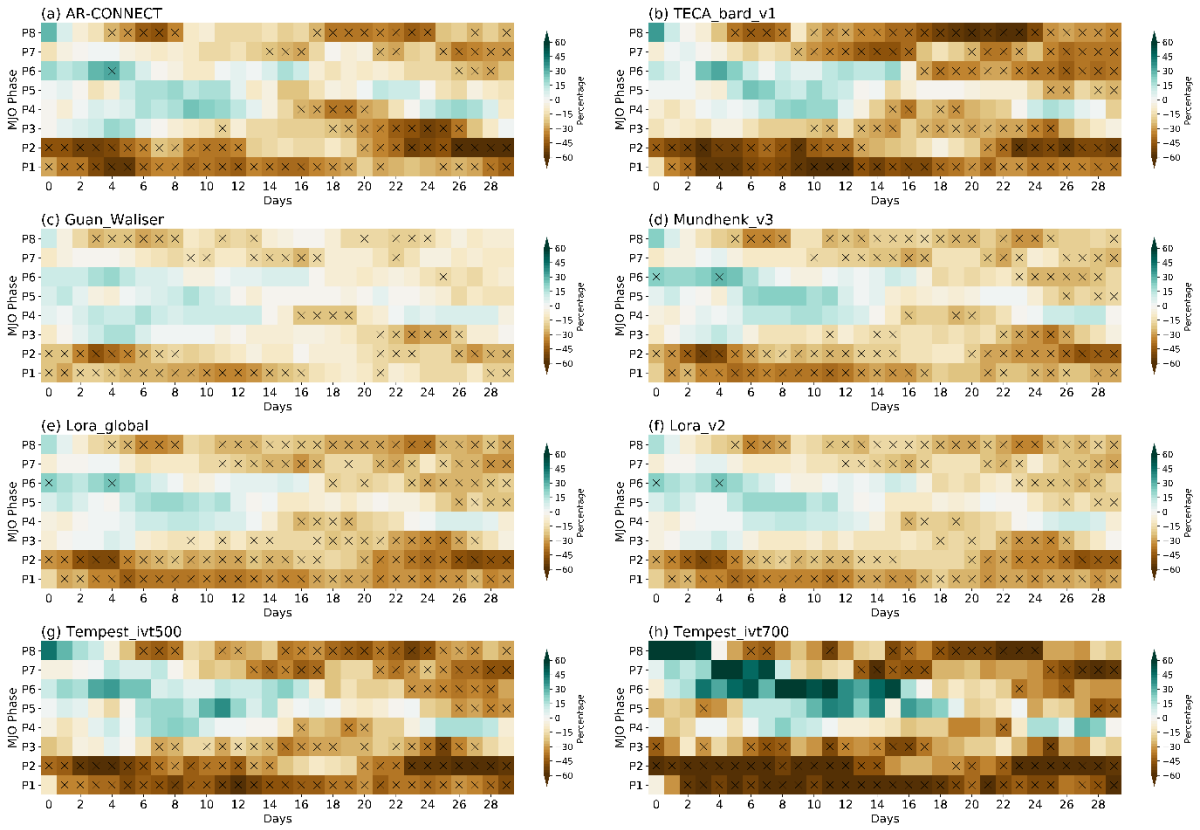
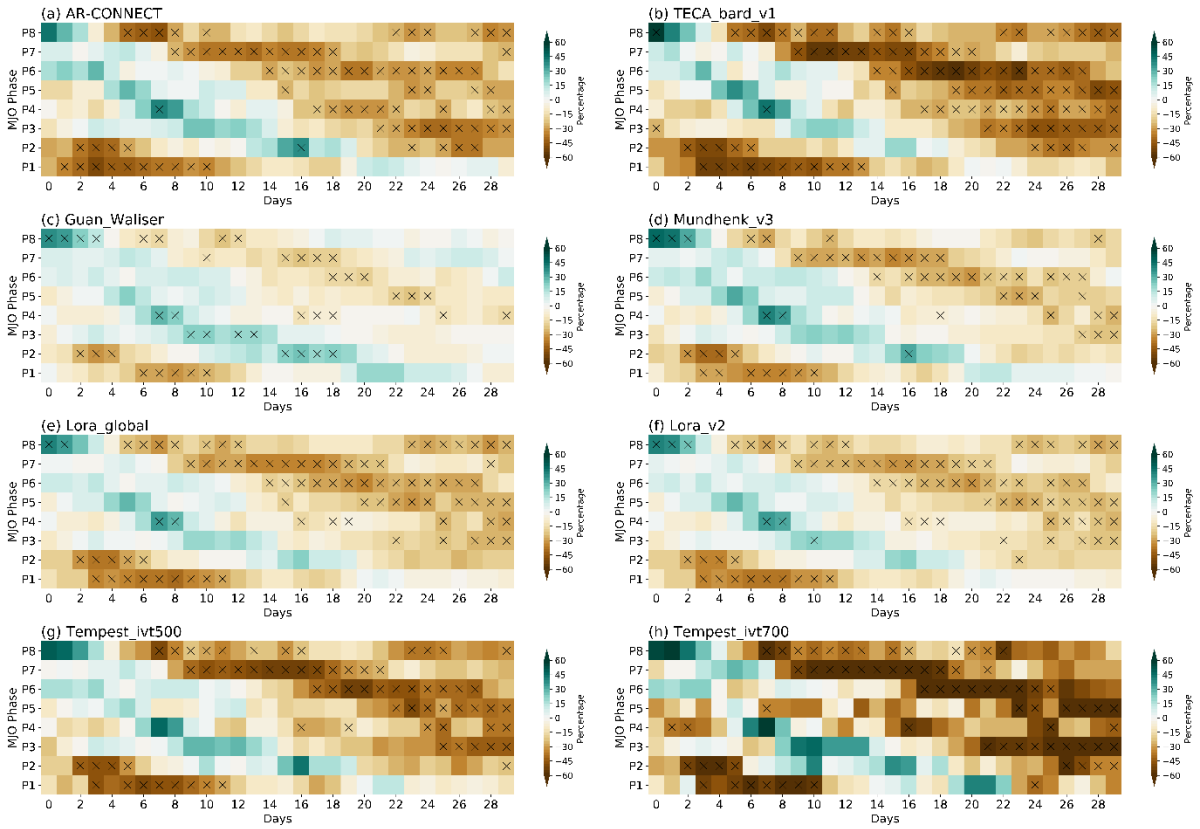


S6. Percentage changes in North Atlantic origin frequency during (a-h) MJO phase 1-8.



S7. Percentage changes in landfalling AR frequency over Oregon and Washington during MJO phase 1-8. The x-axis represents the days after an in-phase MJO. The dot marks the day that exceeds the 95% significant level of a one-sample t-test.



S8. Same as Figure S7 but for domain average over British Columbia.