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Ensemble random forest for tropical cyclone tracking

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Table S 1. Variables description extracted from the Climate Data Store website. https://cds.climate.copernicus.eu/datasets/

Variable	Abbreviation	Unit	Description
Mean sea level pressure	MSLP	Pa	This parameter is the pressure (force per unit area) of the atmosphere at the surface of the Earth, adjusted to the height of mean sea level. It is a measure of the weight that all the air in a column vertically above a point on the Earth's surface would have if the point were located at mean sea level. It is calculated over all surfaces - land, sea and inland water.
10-m wind intensity	UV10	m s^{-1}	This parameter can be calculated by combining the eastward (U) and northward (V) components of the 10m wind. U is the horizontal speed of air moving towards the east, and V is the horizontal speed of air moving towards the north, at a height of ten metres above the surface of the Earth.
Total column water vapour	TCWV	kg m^{-2}	This parameter is the total amount of water vapour in a column extending from the surface of the Earth to the top of the atmosphere. This parameter represents the area-averaged value for a grid box.
Relative Vorticity at 850 hPa pressure level	RV850	s^{-1}	This parameter is a measure of the rotation of air in the horizontal, around a vertical axis, relative to a fixed point on the surface of the Earth. On the scale of weather systems, troughs (weather features that can include rain) are associated with anticlockwise rotation (in the Northern Hemisphere), and ridges (weather features that bring light or still winds) are associated with clockwise rotation. It is extracted at the 850 hPa pressure level.
Geopotential thickness between 500 and 300hPa pressure levels	THZ300_Z500	m	This parameter is obtained from the gravitational potential energy of a unit mass, at a particular location, relative to mean sea level. It is also the amount of work that would have to be done, against the force of gravity, to lift a unit mass to that location from mean sea level. The geopotential height can be calculated by dividing the geopotential by the Earth's gravitational acceleration, g (=9.80665 m s^{-2}), and the thickness is the difference in height between two levels of pressure.

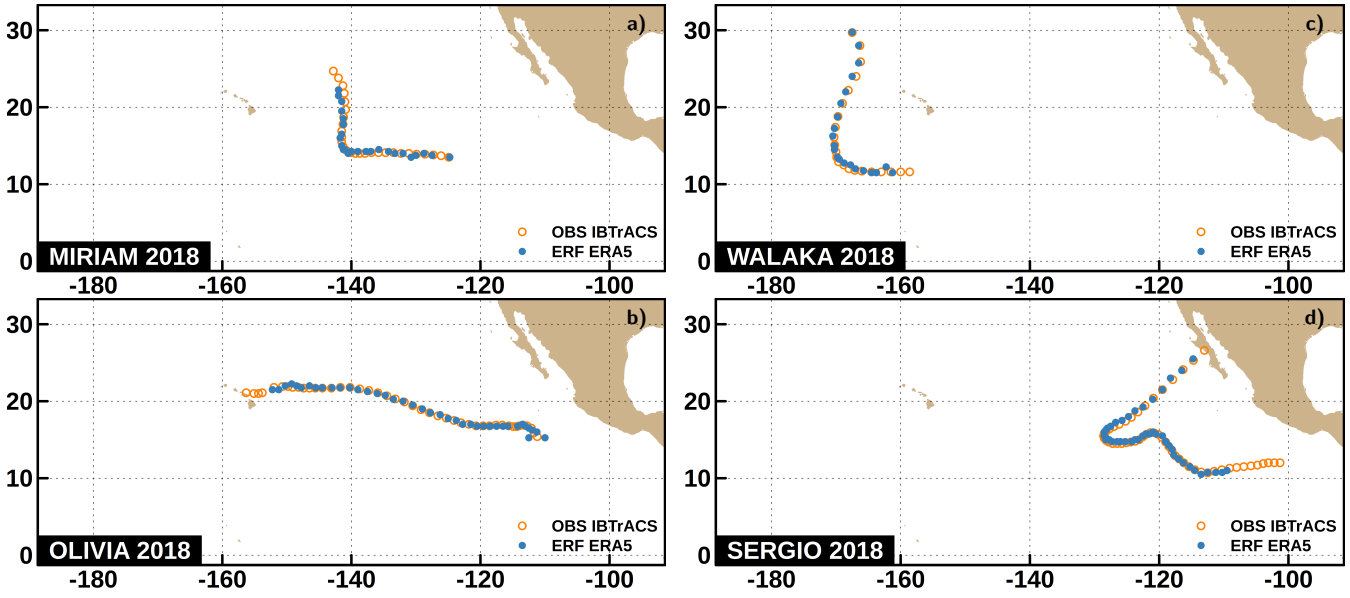

Figure S 1. Same as Fig. 4 for ENP basin and validation year 2018.

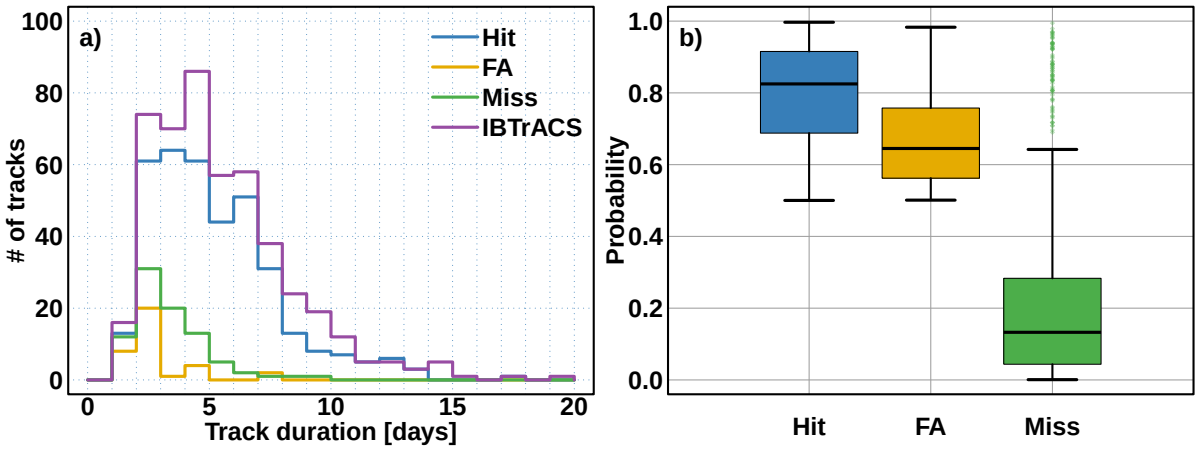

Figure S 2. Same as Fig. 5 for ENP basin.

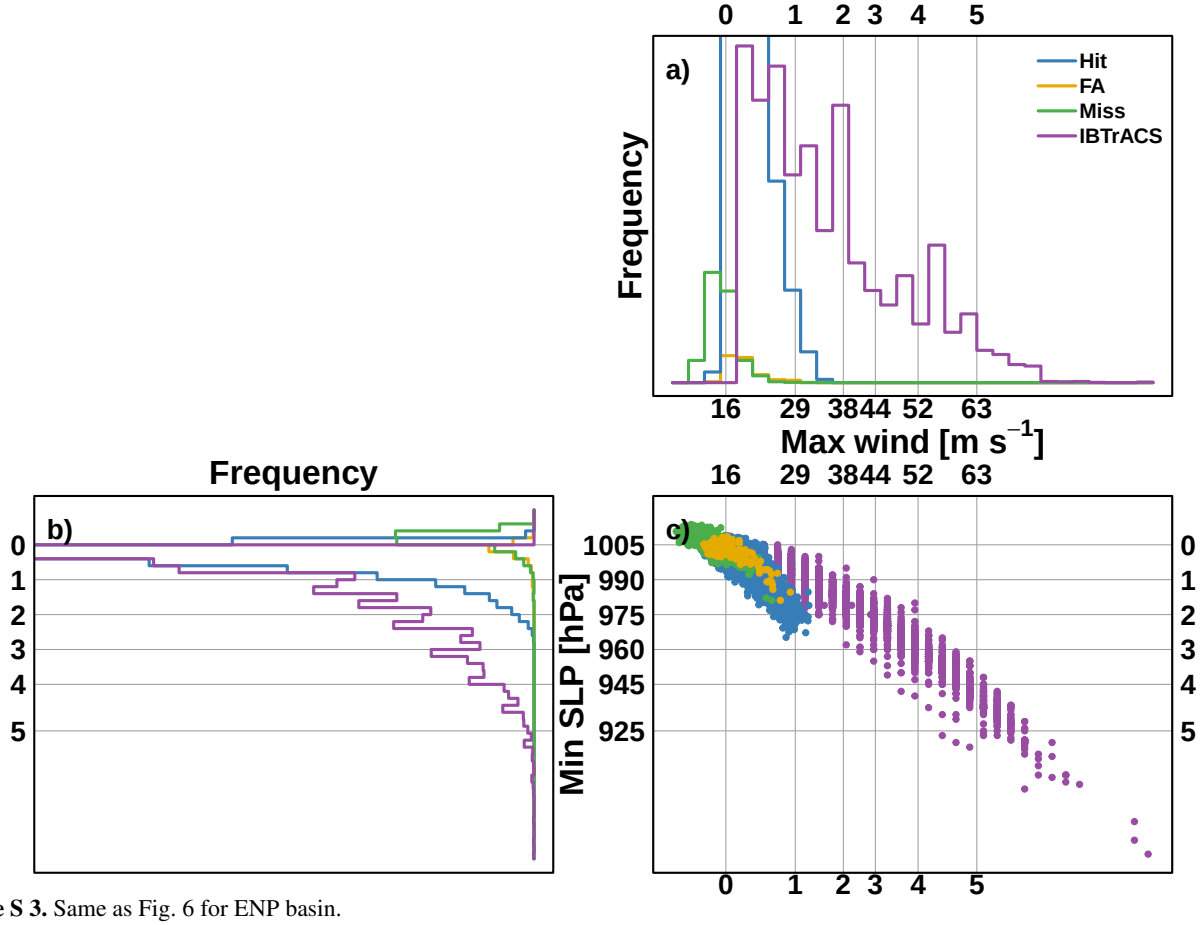

Figure S 3. Same as Fig. 6 for ENP basin.

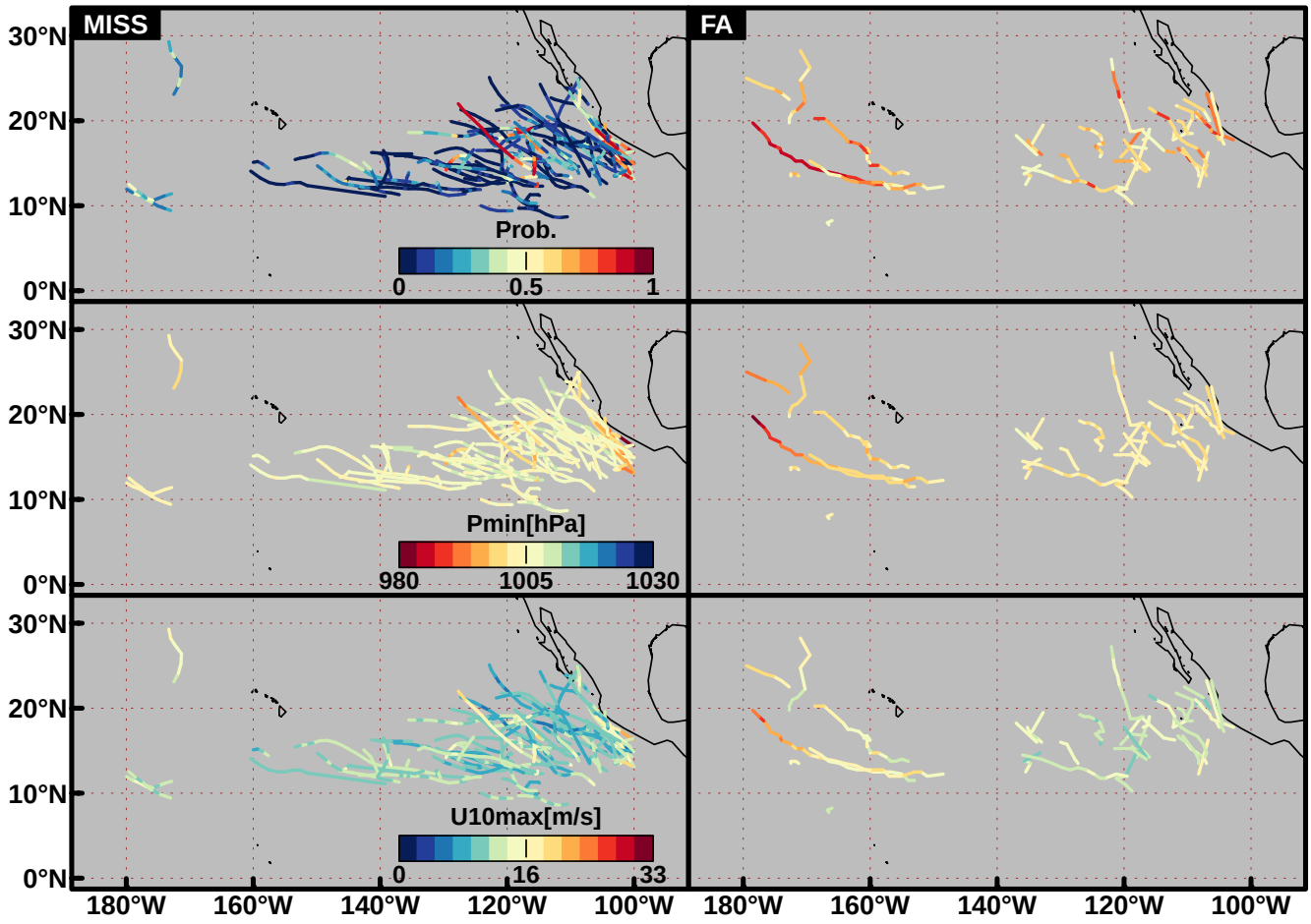

Figure S 4. Same as Fig. 7 for ENP basin.

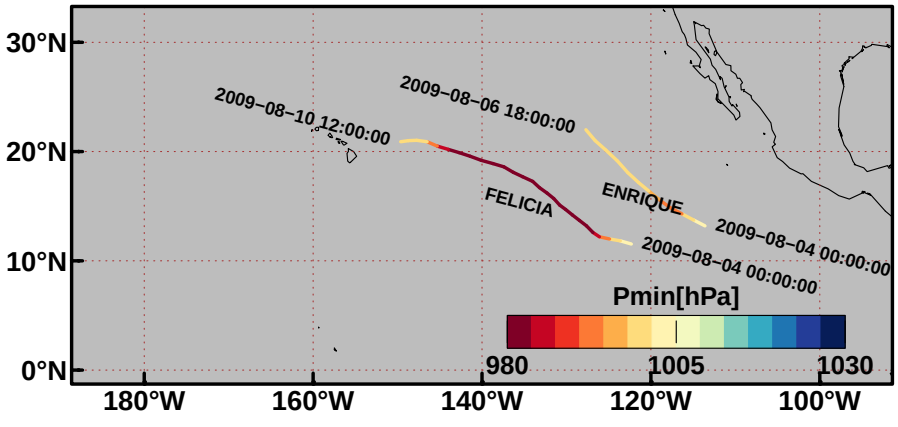

Figure S 5. Same as Fig. 8 for ENP basin.

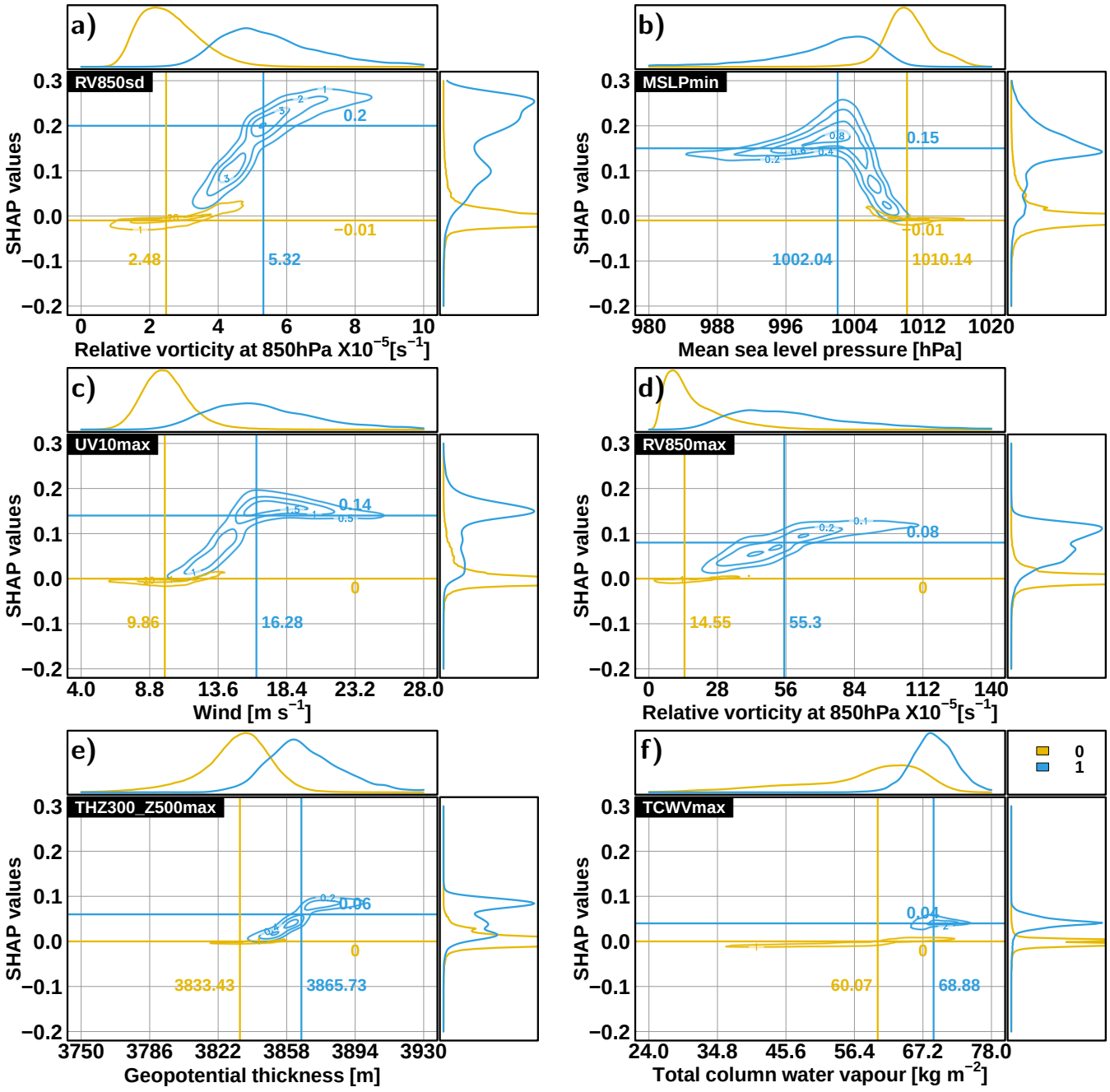

Figure S 6. Same as Fig. 10 for ENP basin.

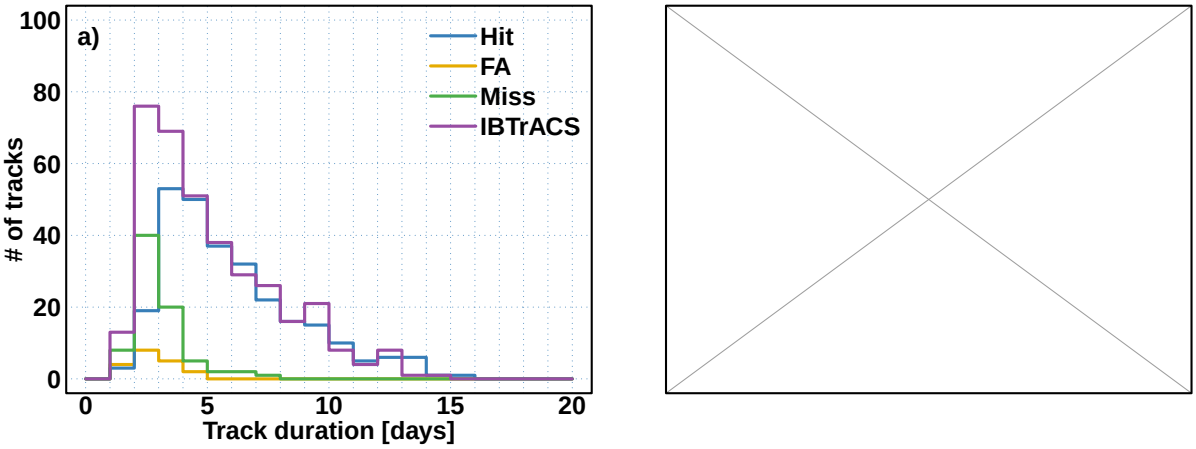

Figure S 7. Same as Fig. 5 for NA basin and UZ tracker.

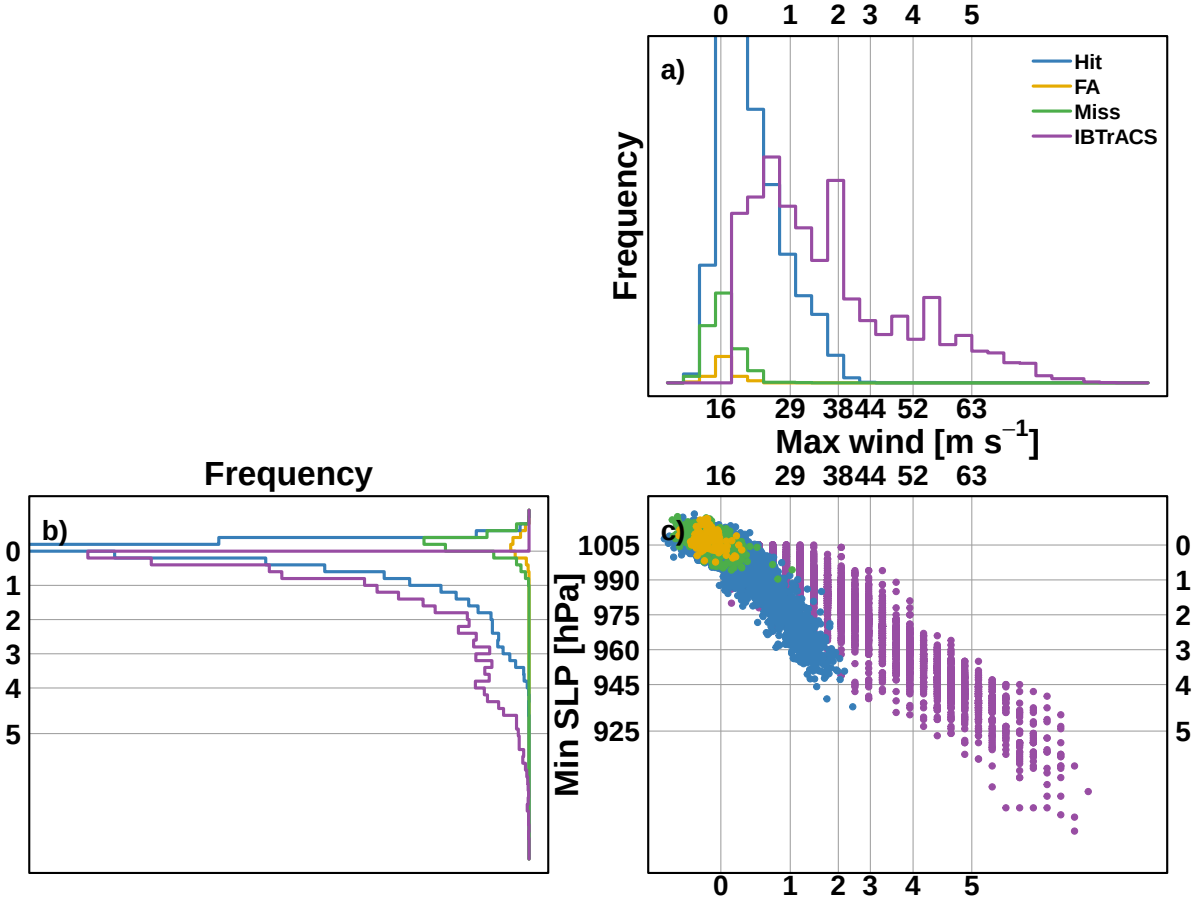

Figure S 8. Same as Fig. 6 for NA basin and UZ tracker.

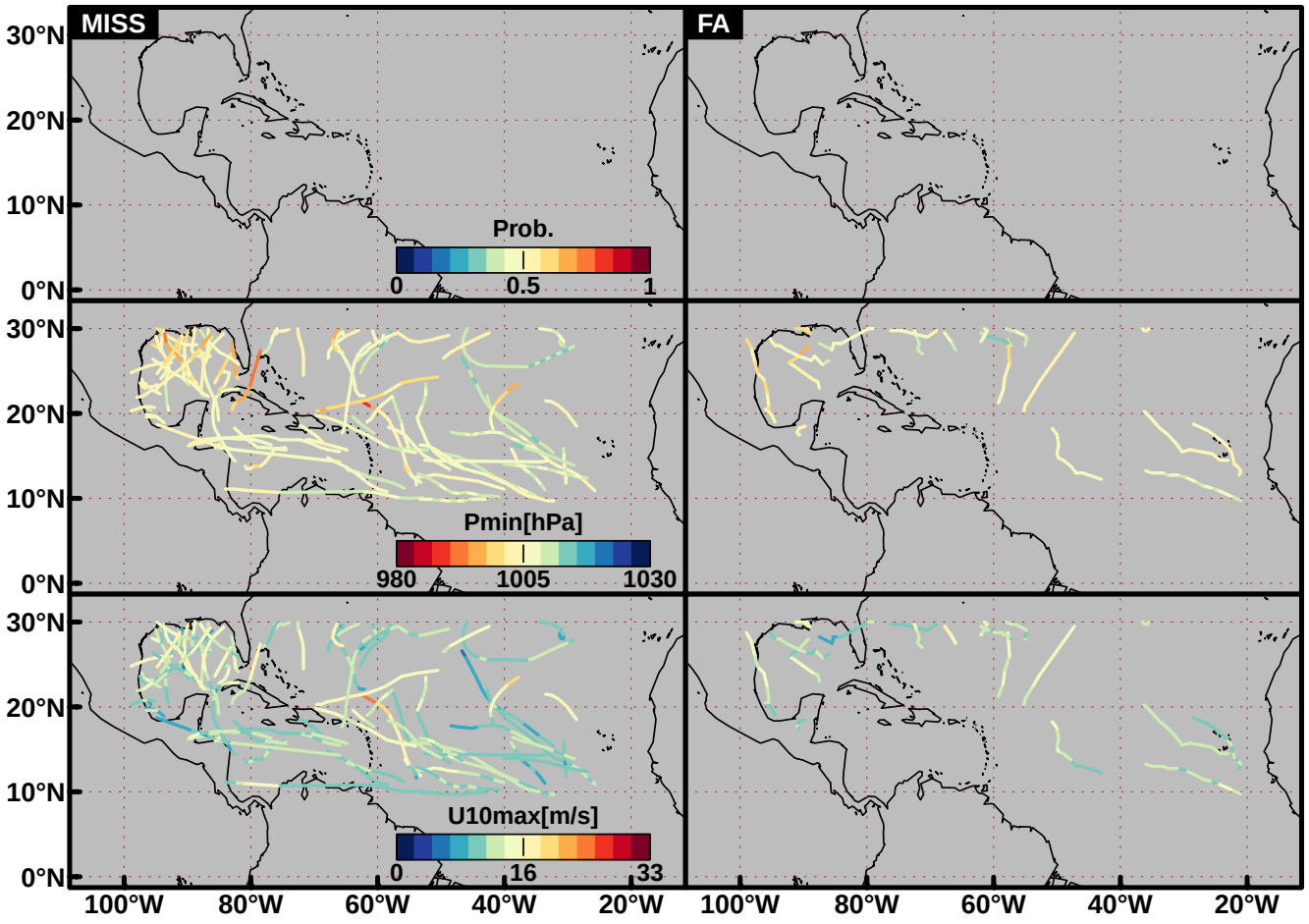

Figure S 9. Same as Fig. 7 for NA basin and UZ tracker.

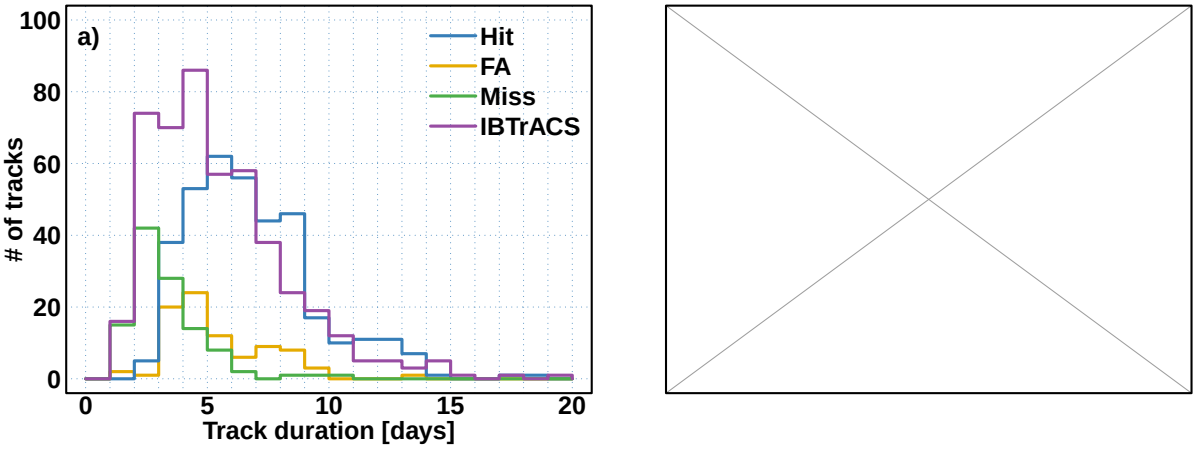

Figure S 10. Same as Fig. 5 for EP basin and UZ tracker.

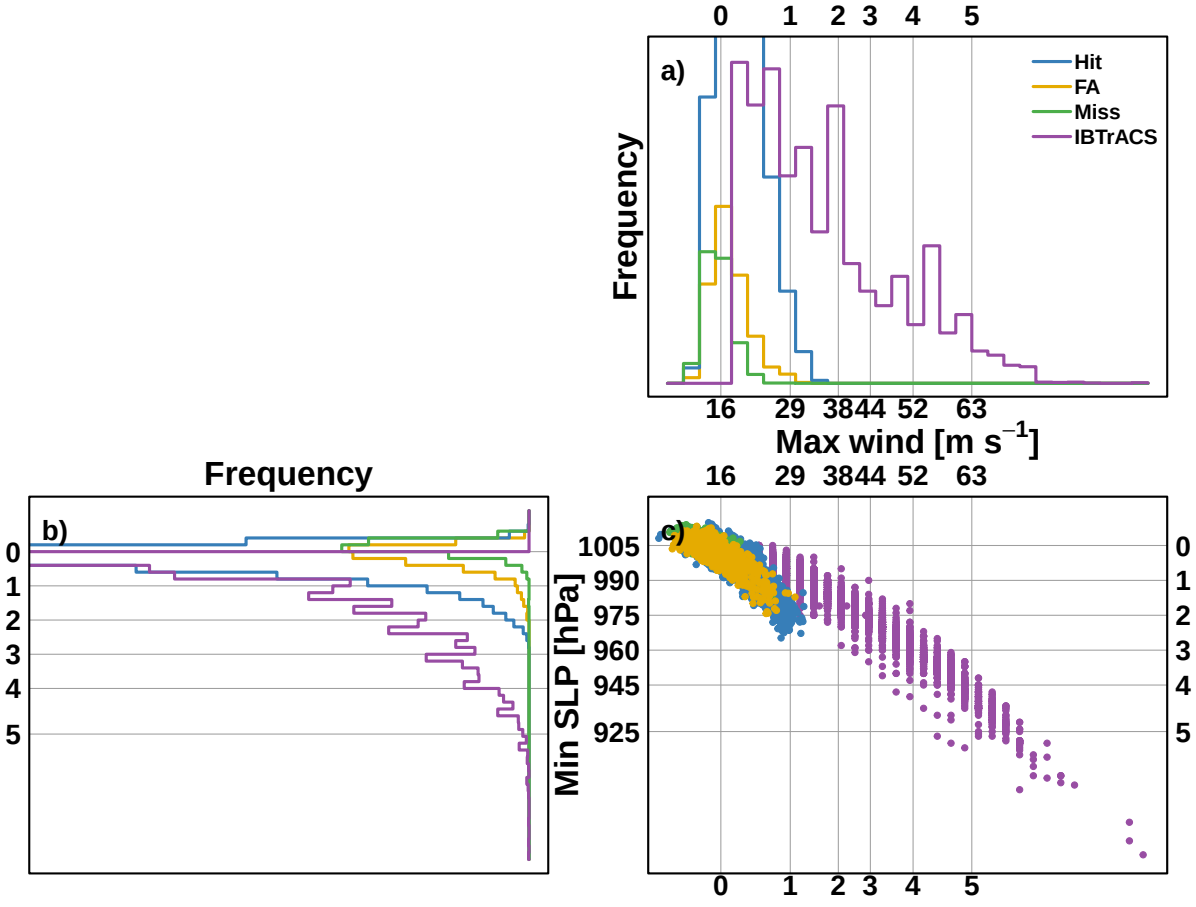

Figure S 11. Same as Fig. 6 for EP basin and UZ tracker.

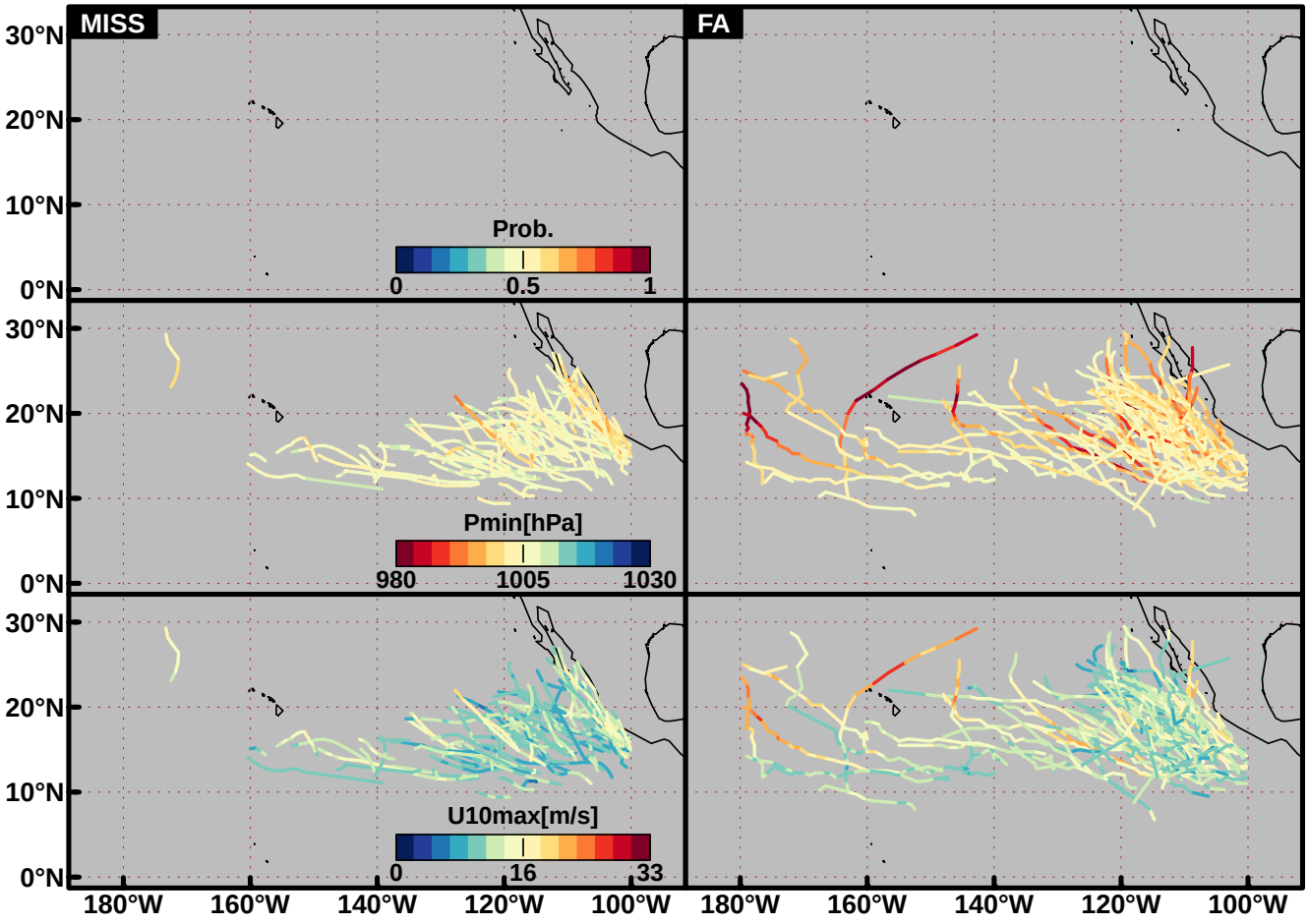

Figure S 12. Same as Fig. 7 for EP basin and UZ tracker.

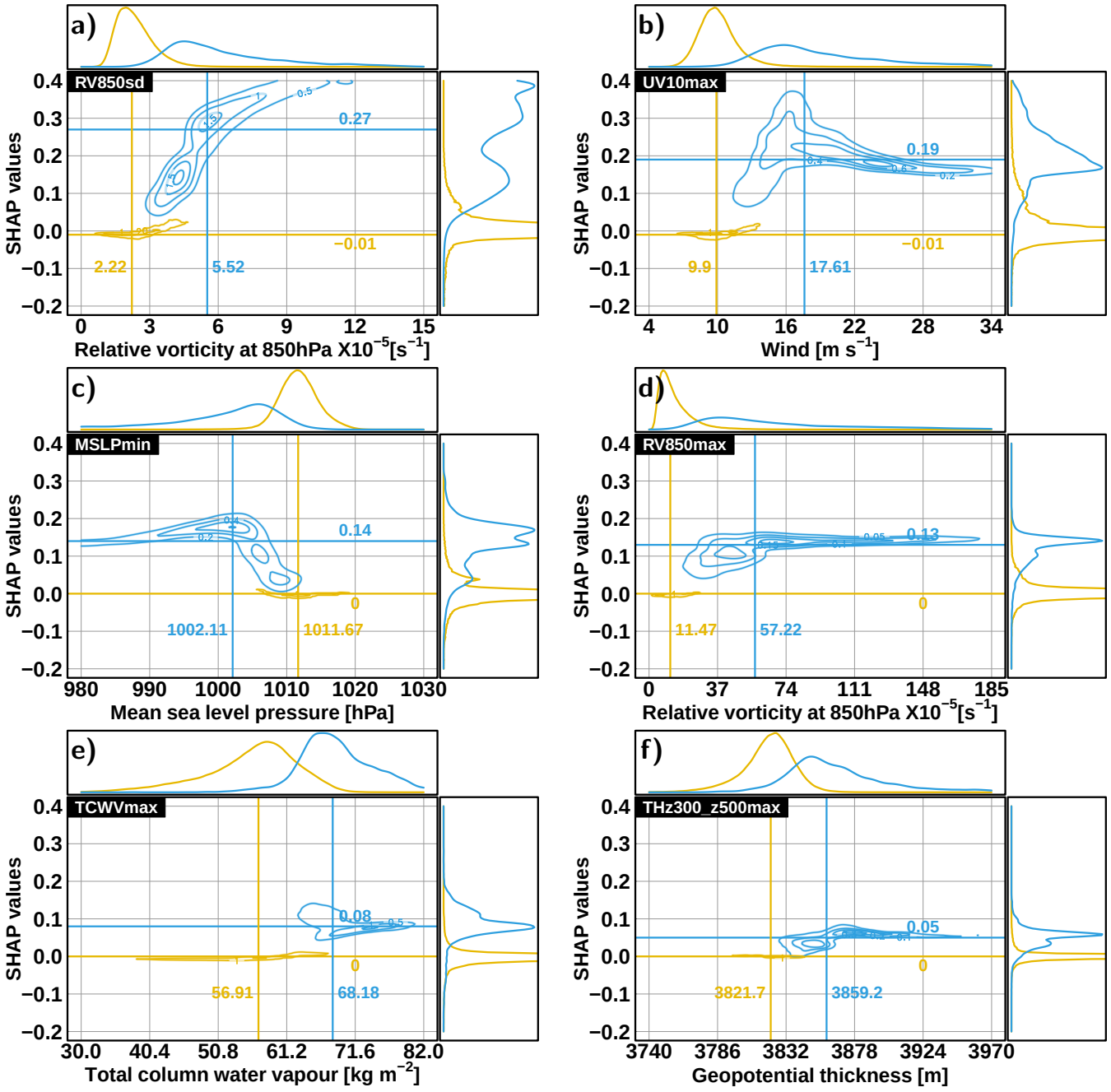

Figure S 13. Same as Fig. 10 for ablation experiment for NATL basin..

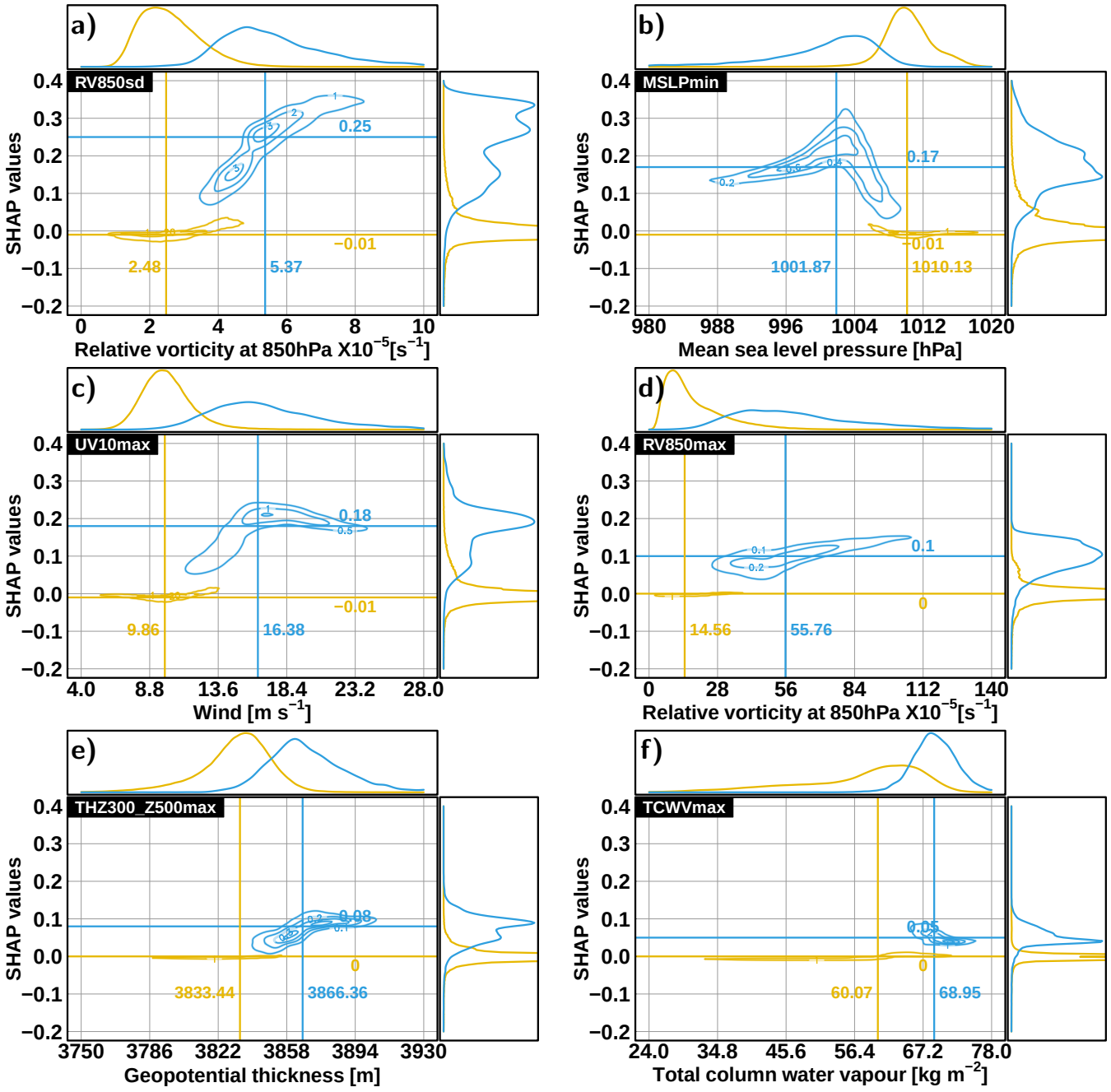

Figure S 14. Same as Fig. 10 for the ablation experiment for ENP basin.