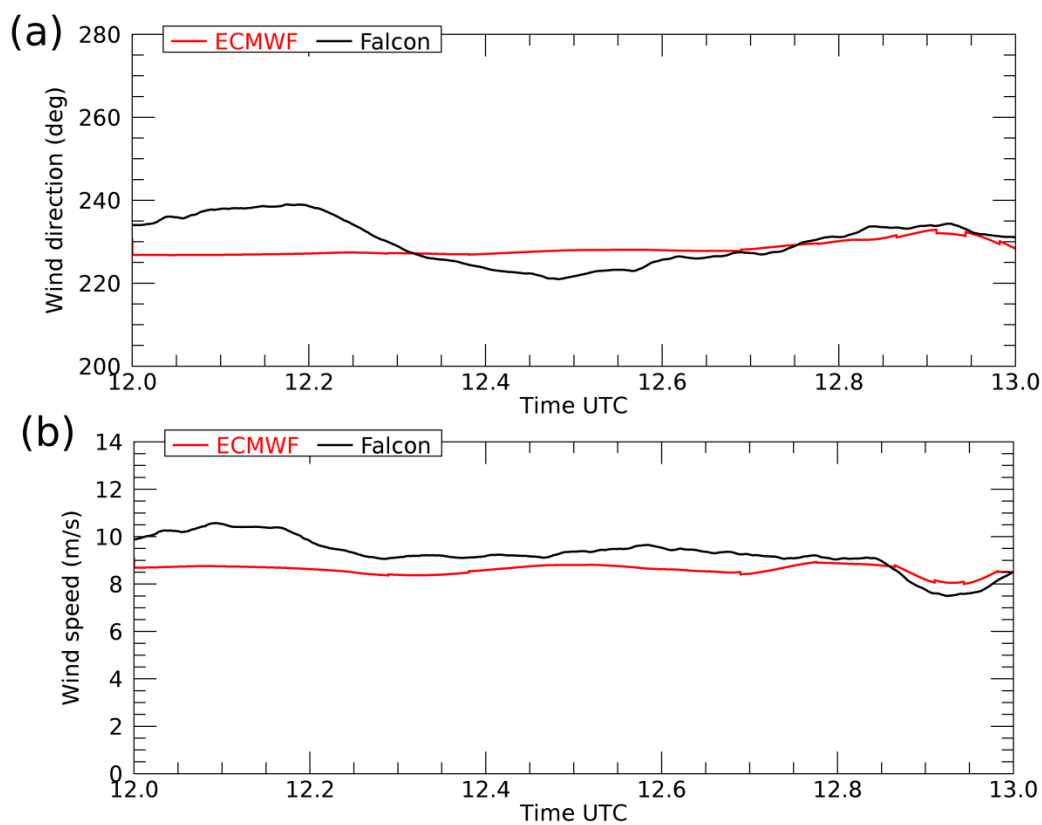
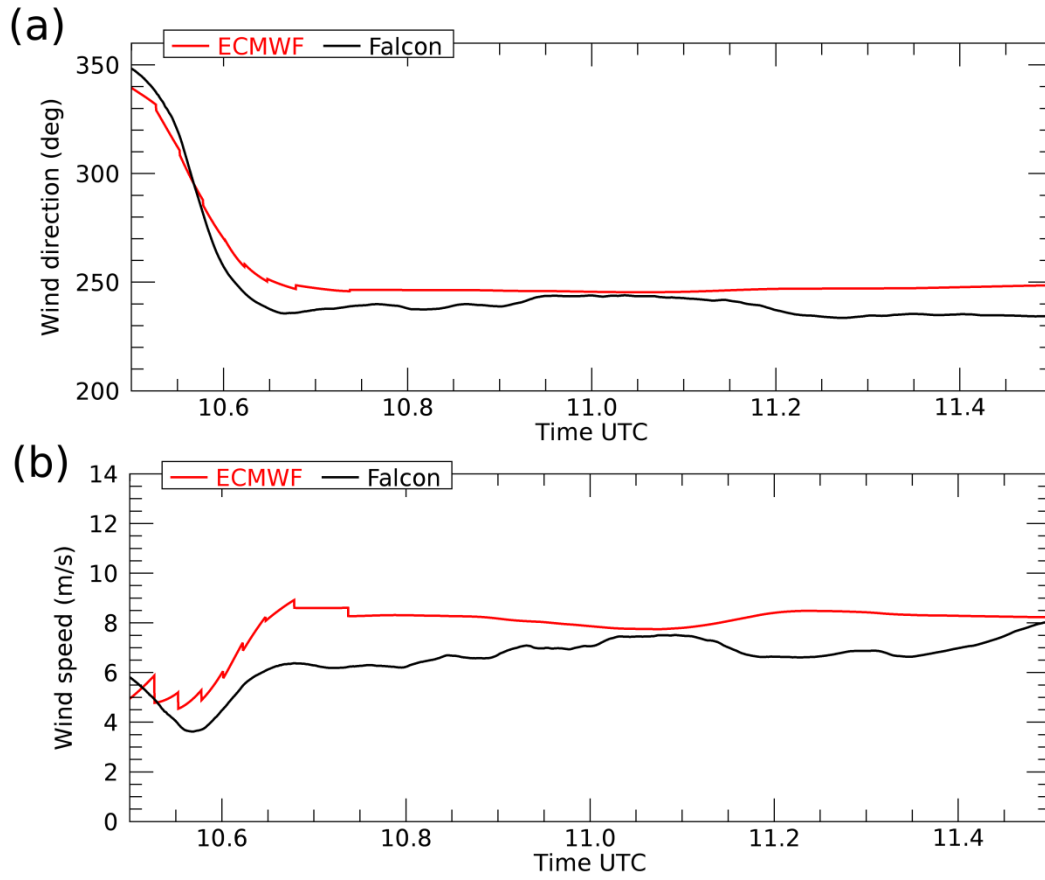
S1. General location of the DACCIWA research site in southern West Africa. The black dot marks the location of the FPSO vessel.

S2. Comparison between time series of observed (black) and simulated (red) wind direction (a) and wind speed (b) for July 10, zoomed in on the period of the flight surrounding the NO_2 peaks.

S3. Comparison between time series of observed (black) and simulated (red) wind direction (a) and wind speed (b) for July 14, zoomed in on the period of the flight surrounding the NO_2 peaks.