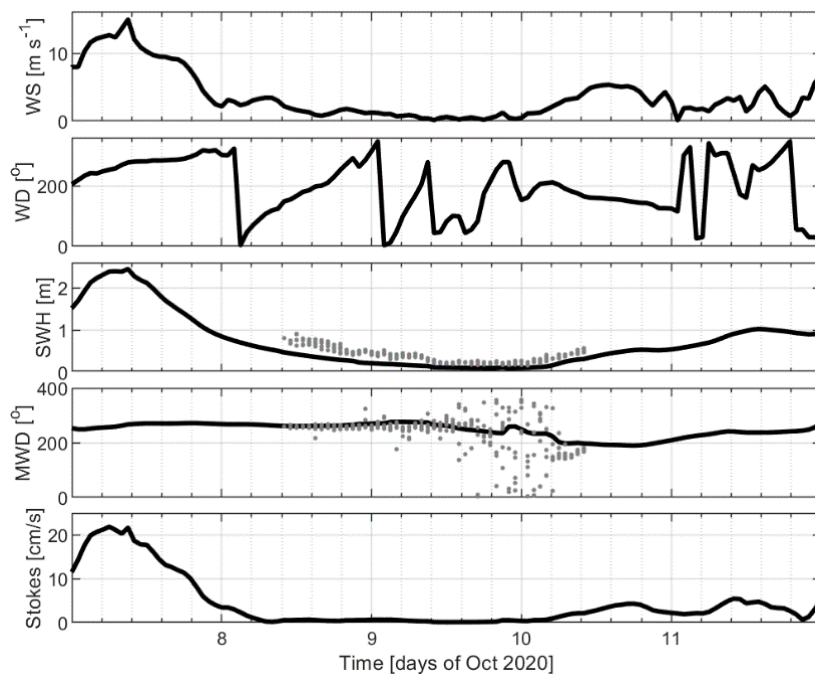
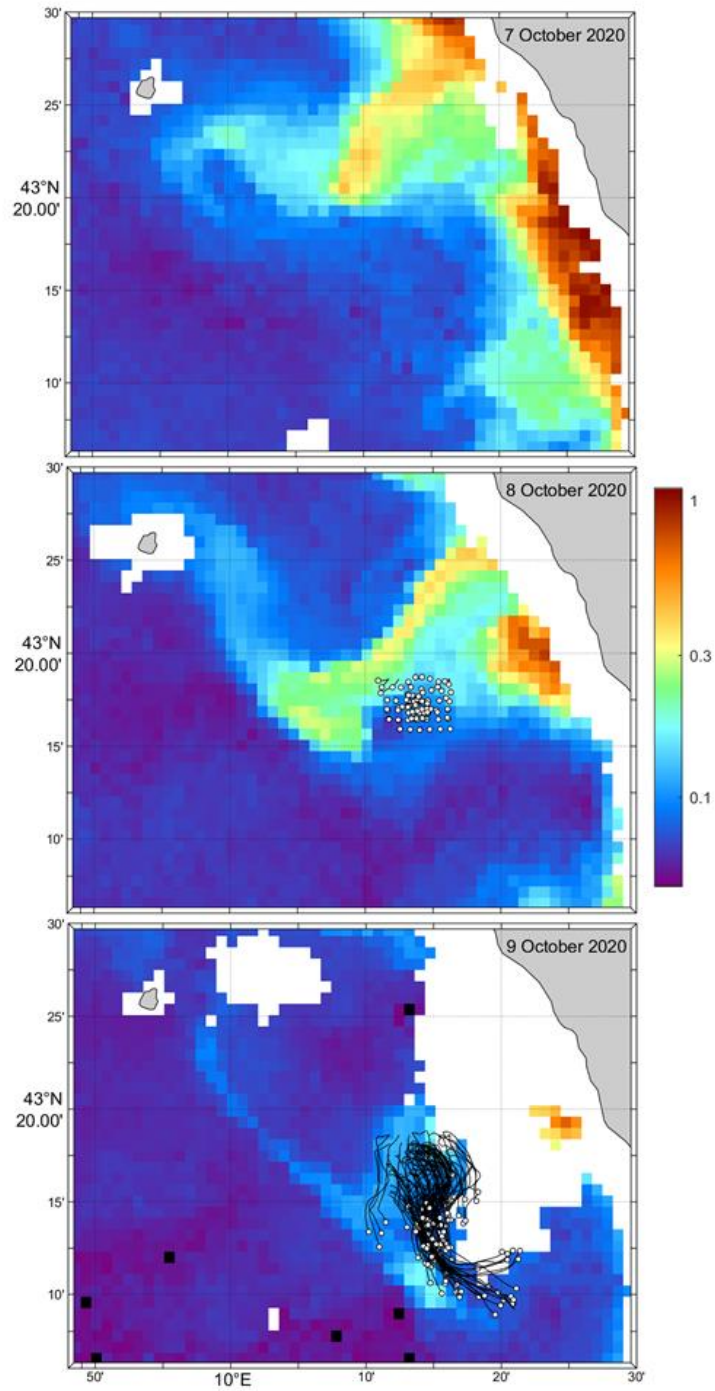


5 **Figure 1: (a) CMEMS near-surface currents (arrows) and salinity (colours) and (b) MODIS chlorophyll concentration (OCI algorithm) on 8 October 2020 at 12:00 UTC in the SLS. The Italian mainland is to the East. The drifter deployment locations are indicated with white dots (6x6 km² array). The ECC and Ligurian Eddy are schematized in white.**



10 **Figure 2. ECMWF ERA5 atmospheric and surface wave products at 43°N, 10°E (black curves): 10 m wind speed (WS) and direction (WD), significant wave height (SWH), mean wave direction (MWD) and surface Stokes drift. The surface properties measured by the DWS drifters are superimposed with grey dots. Wind and wave direction are clockwise from true North (from).**



15 Figure 3. MODIS chlorophyll images on 7, 8 and 9 October 2020 and tracks of the drifters from deployment until 12:00 UTC on the respective days (white circles). Chlorophyll concentration is in mg/m^3 .

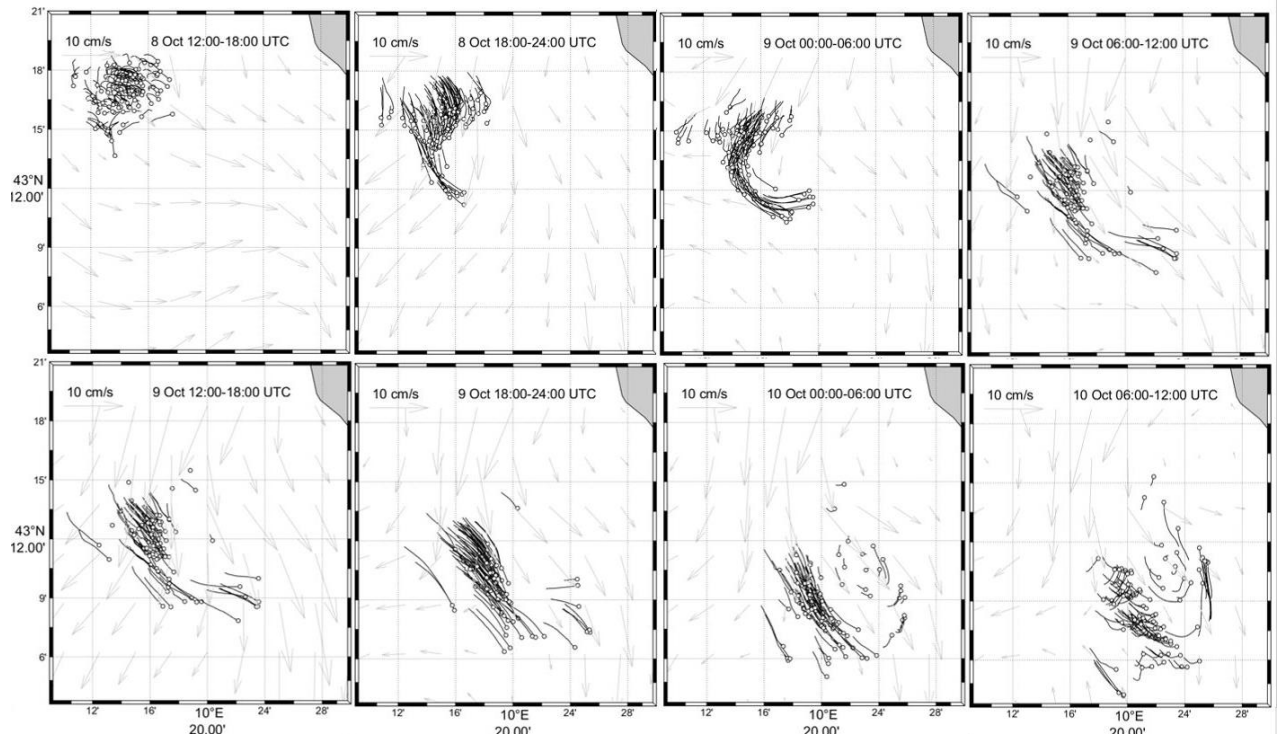


Figure 4. Track segments of all the drifters. Segments are 6-h long and end with an open circle for each drifter on the date/time posted in the panels. CMEMS surface currents are overlaid in gray for the central hour.

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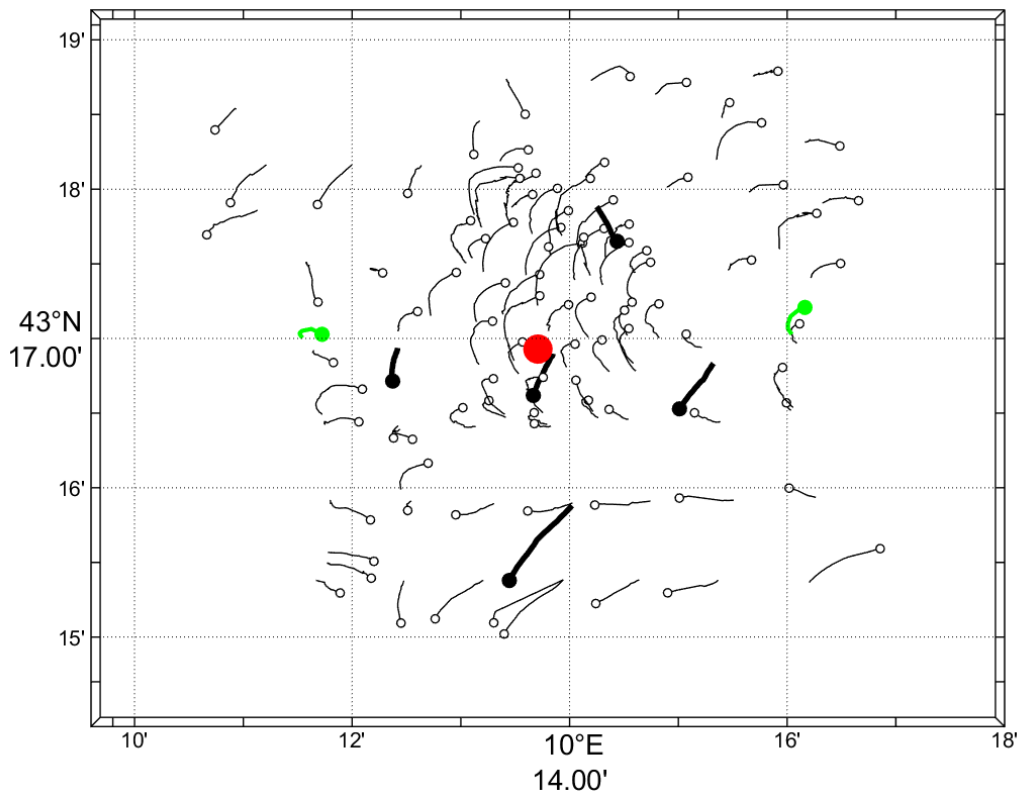
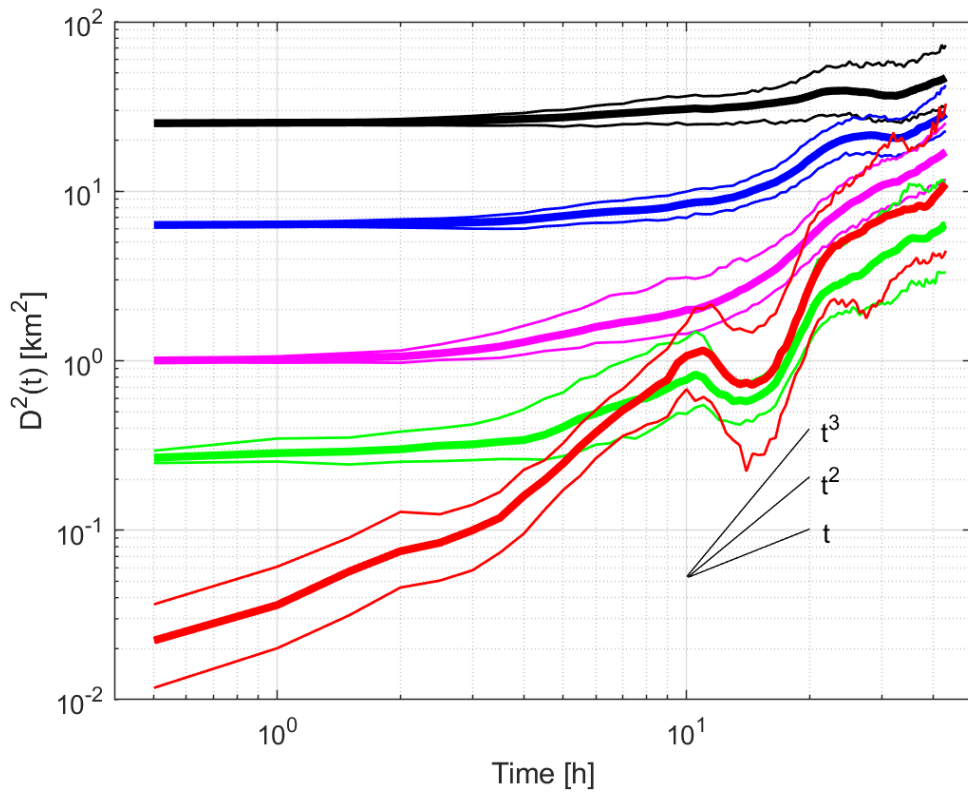
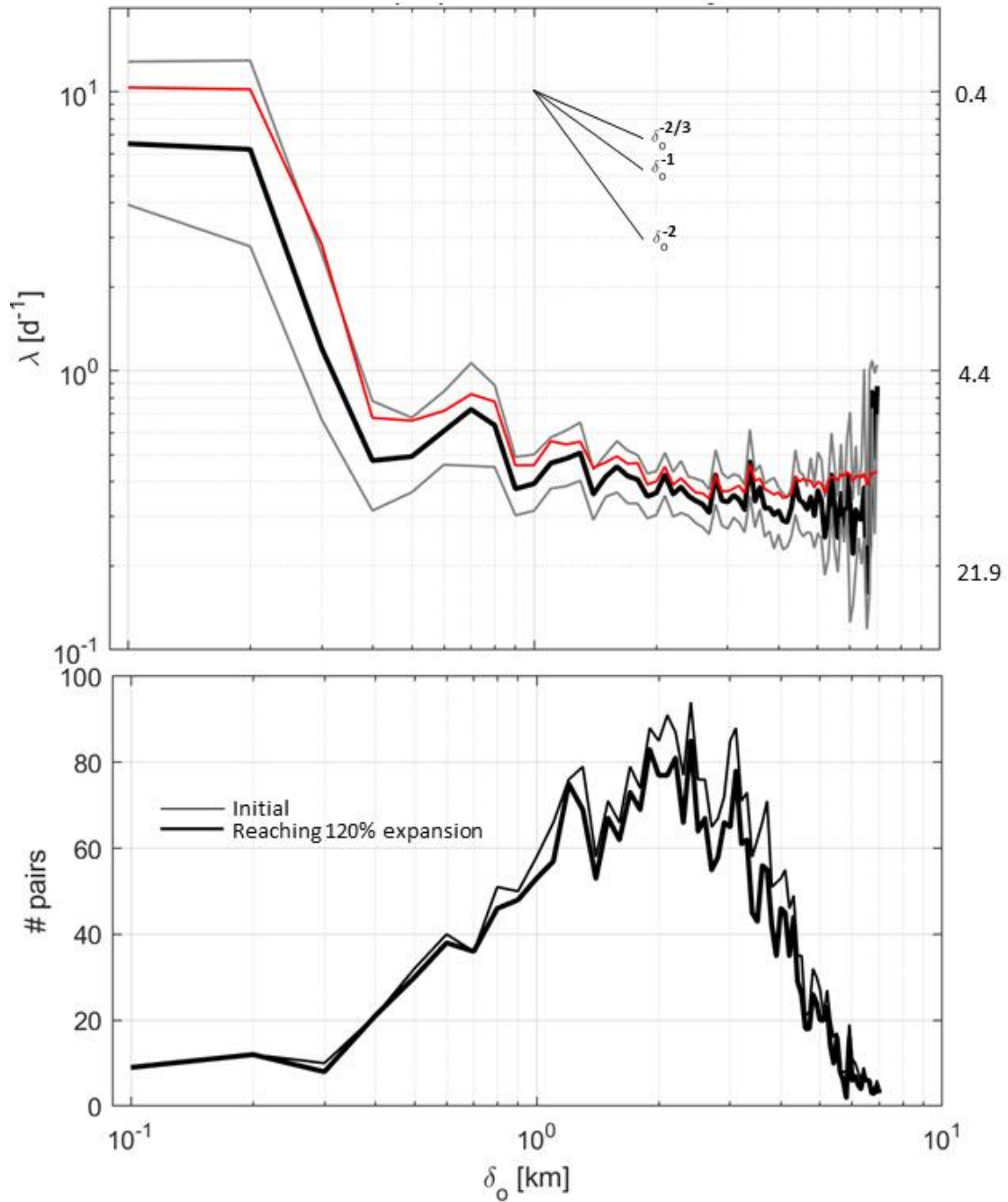


Figure 5. Tracks between 12:00 and 15:00 UTC on 8 October for all CODE, CARTHE and PARC drifters (thin curves and open circles), for the five SVP drifters (thick curves and black dots) and for the two RIVER drifters (green). Symbols are at the end of the trajectory segments. The position of the Arvor-C float during the same period is shown with a red dot. Coherent anticyclonic motion of the surface drifters contrast with the mean southward motion of the SVP drifters.

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30 Figure 6. MSSD versus time for selected initial distances of 100, 500, 1000, 2500 and 5000 m in a log-log plot. Initial time is 8 October at 12:00 UTC. Slope corresponding to theoretical dispersion regimes are also shown.



35 **Figure 7. Top: Scale-dependent FSLE $\lambda(\delta_o)$ as a function of scale δ_o in a log-log plot using pairs tracked from 8 October at 12:00 UTC. The diffusive (δ_o^{-2}), ballistic (δ_o^{-1}) and Richardson ($\delta_o^{-2/3}$) regimes are indicated by straight lines. Thin gray curves indicate the 95% confidence intervals. Estimate using Boffetta et al (2000)'s method (red curve). "Doubling" times are posted to the right in hours. Bottom: Number of initial pairs considered in 100 m scale bins versus scale (thin) and number of pairs whose separation distance is amplified by 120% or more during the 43 h drift period (thick).**

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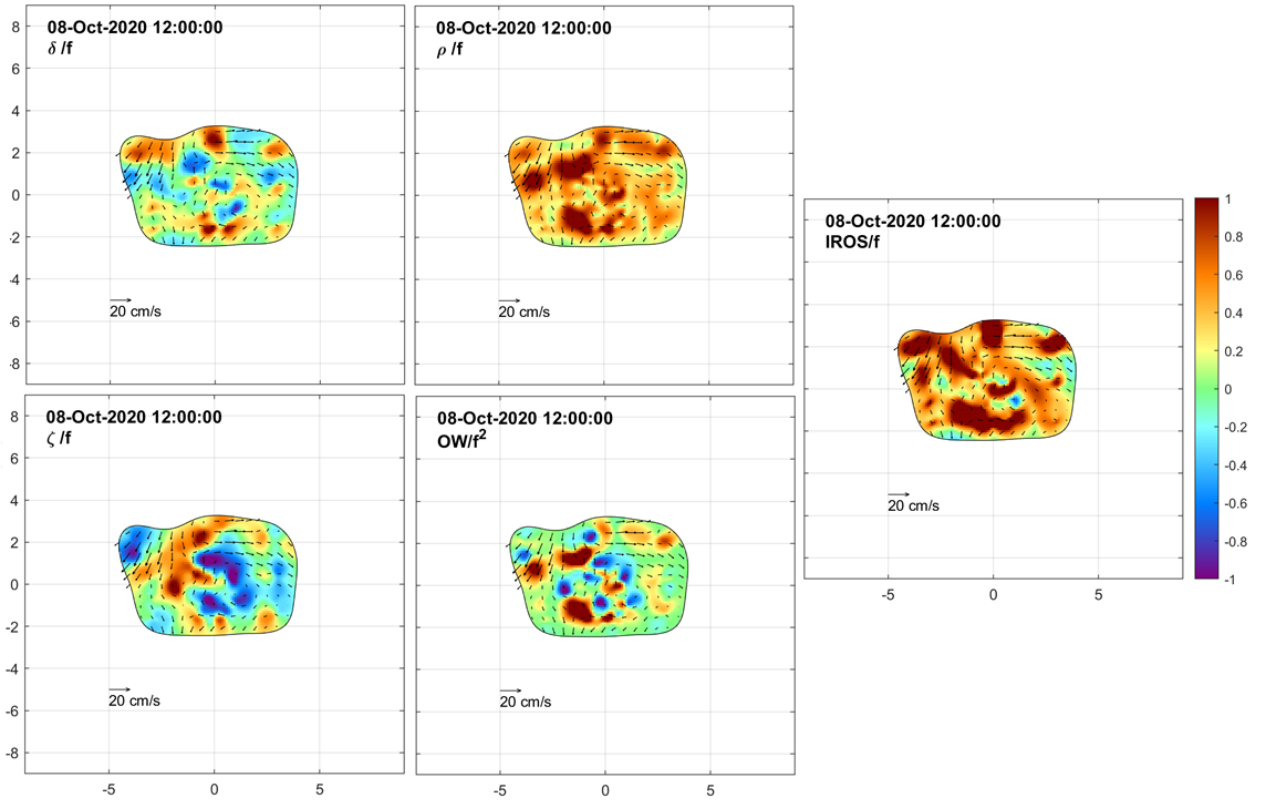


Figure 9. Maps of relative interpolated currents superimposed with color-coded DKPs on 8 October 2020 at 12:00 UTC. See text for DKP definitions. DKPs are scaled by the local inertial frequency f .

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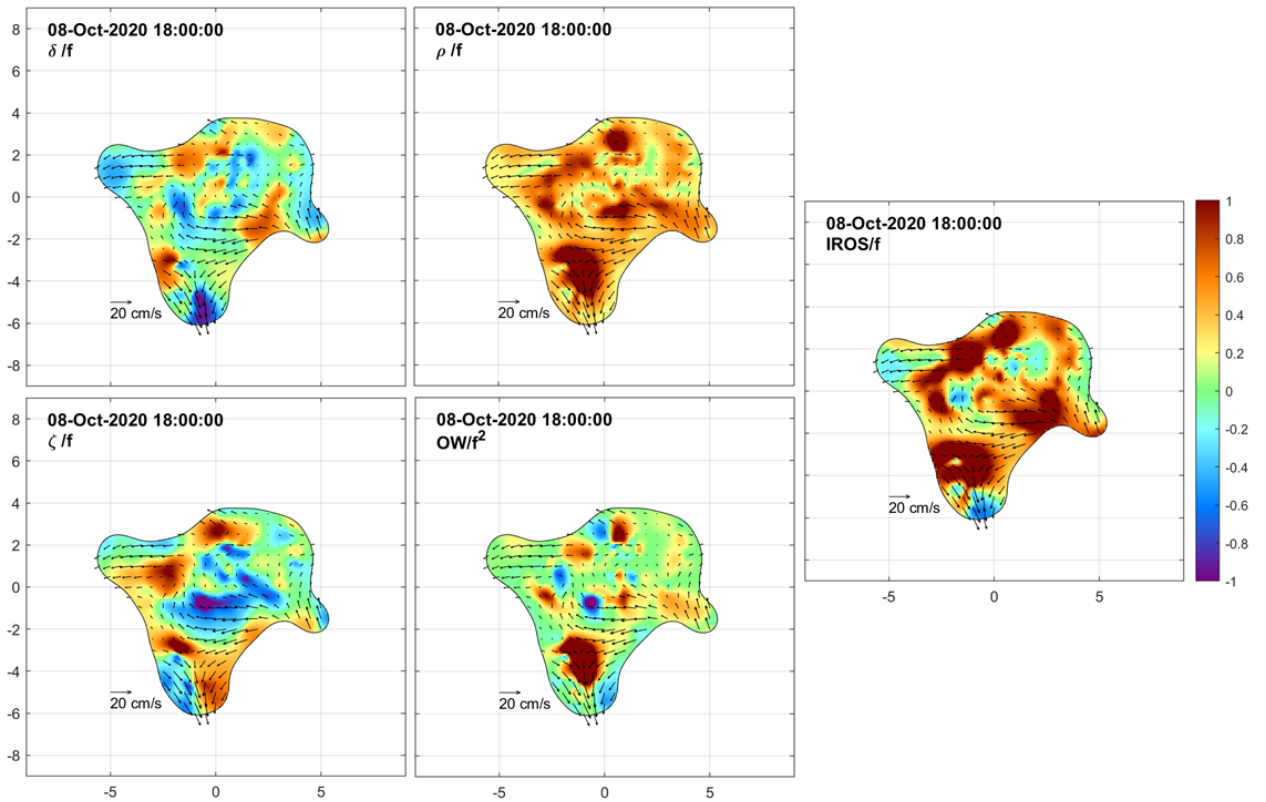


Figure 10. Same as Figure 9 but on 8 October 2020 at 18:00 UTC.

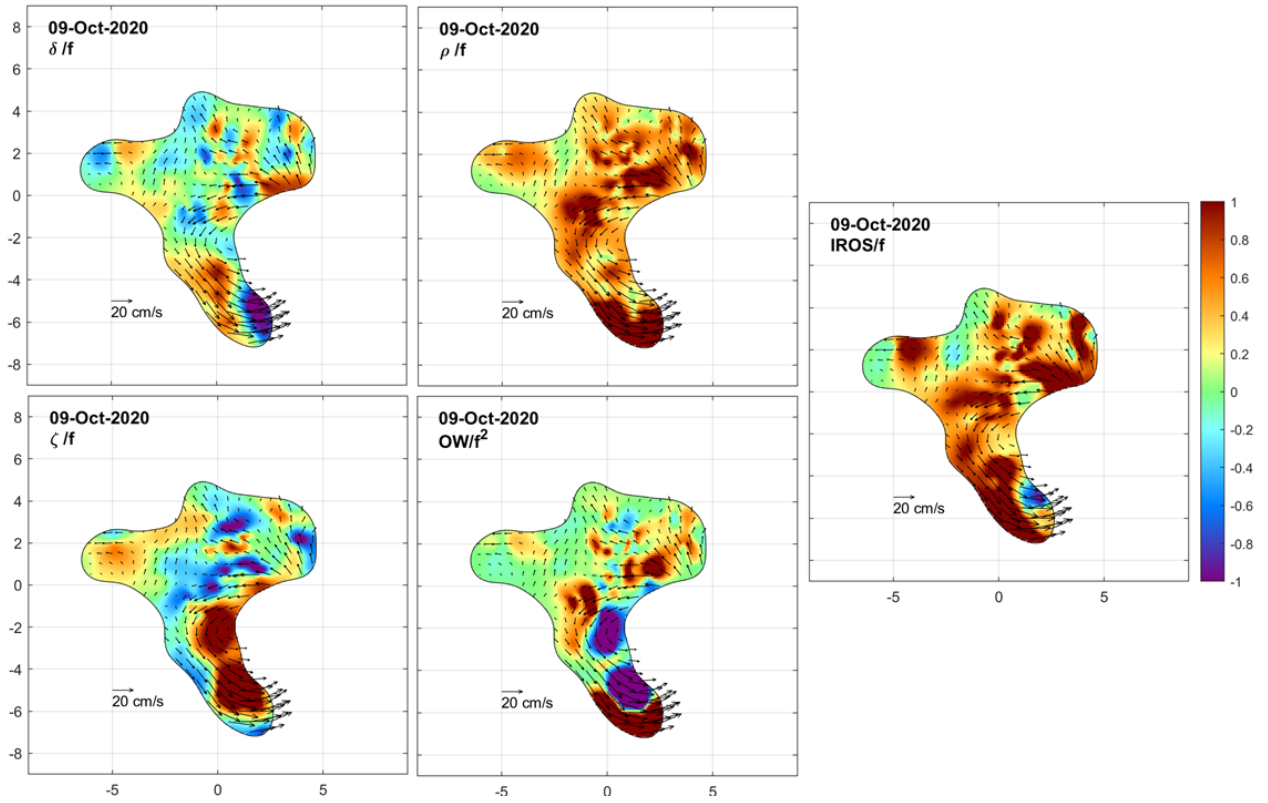


Figure 11. Same as Figure 9 but on 9 October 2020 at 00:00 UTC.

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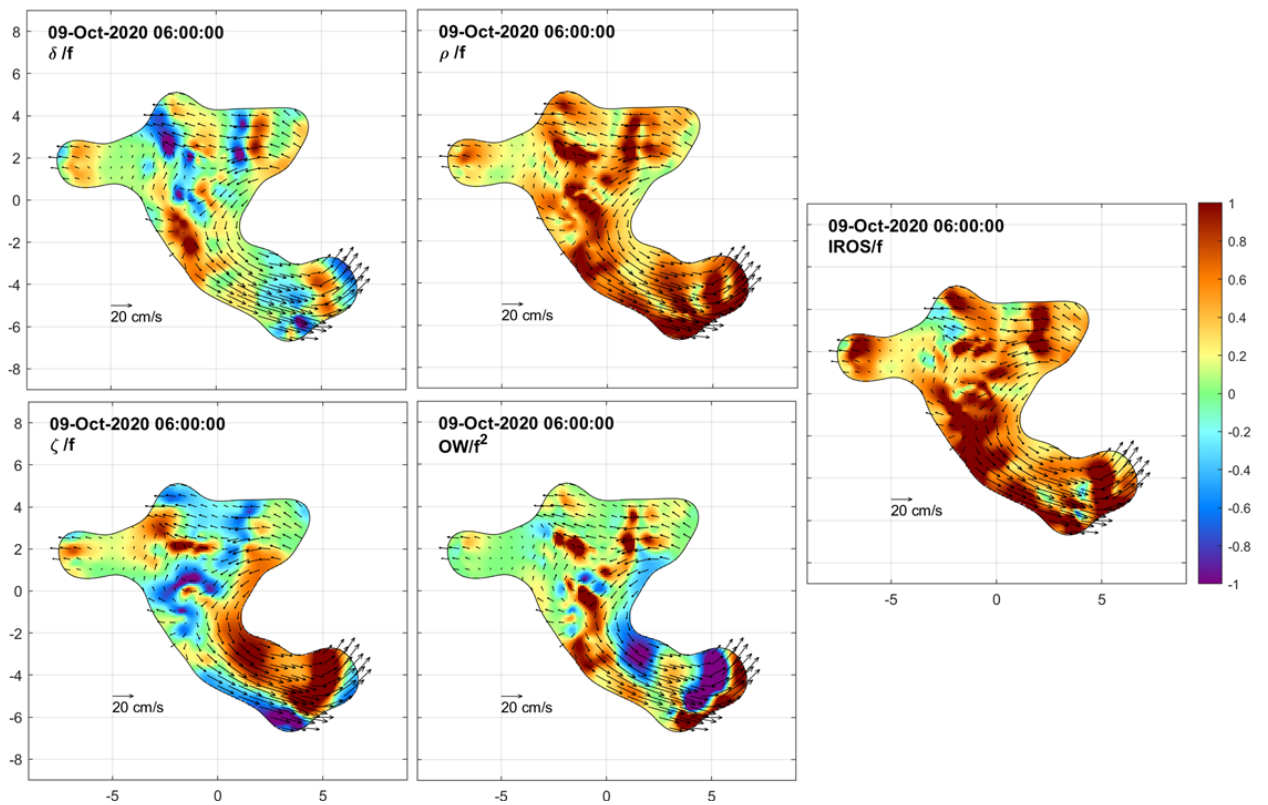


Figure 12. Same as Figure 9 but on 9 October 2020 at 06:00 UTC.

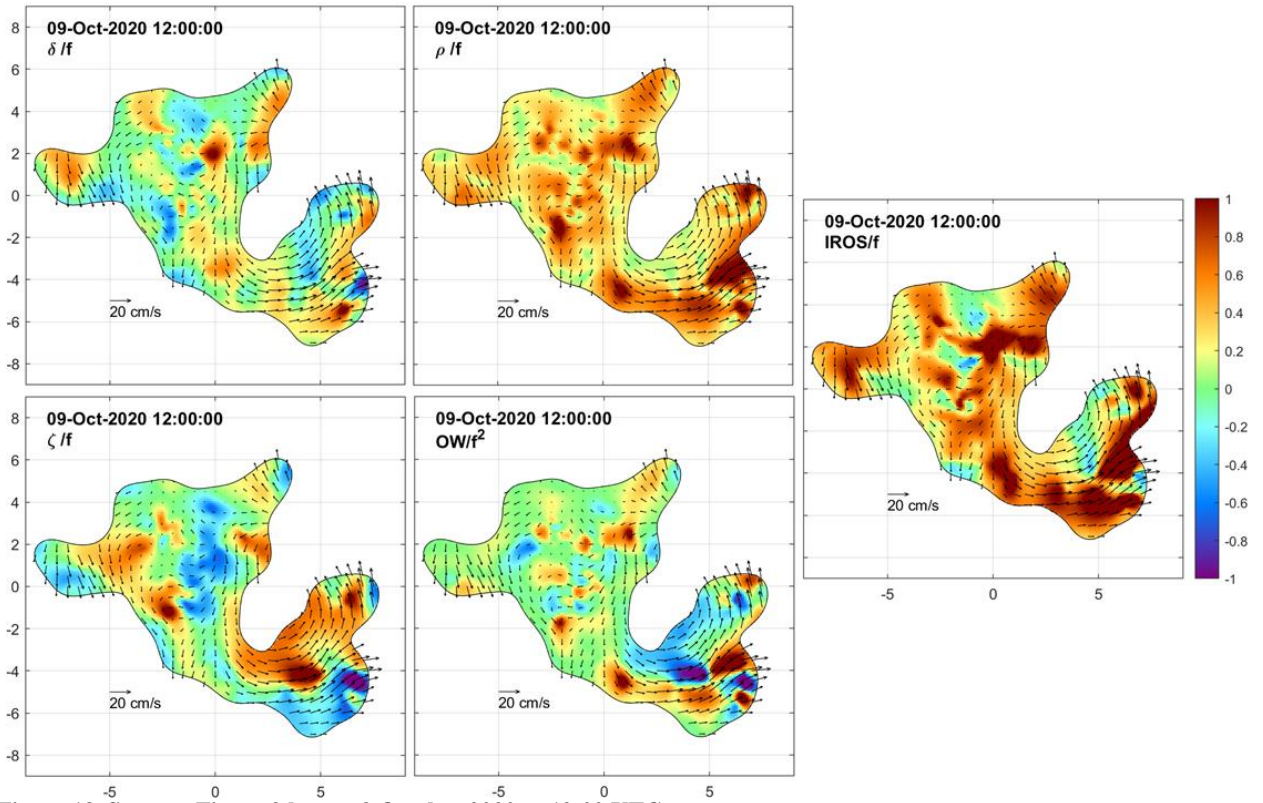


Figure 13. Same as Figure 9 but on 9 October 2020 at 12:00 UTC.

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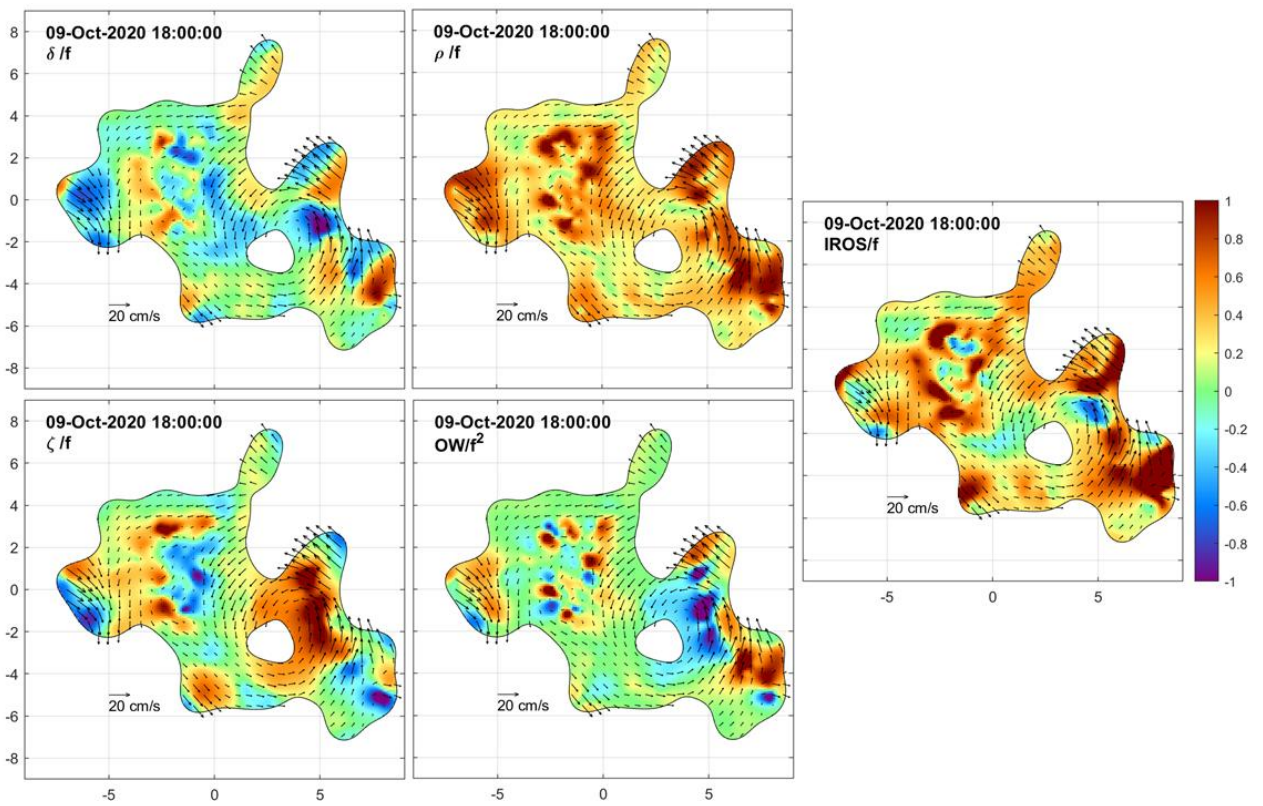


Figure 14. Same as Figure 9 but on 9 October 2020 at 18:00 UTC.

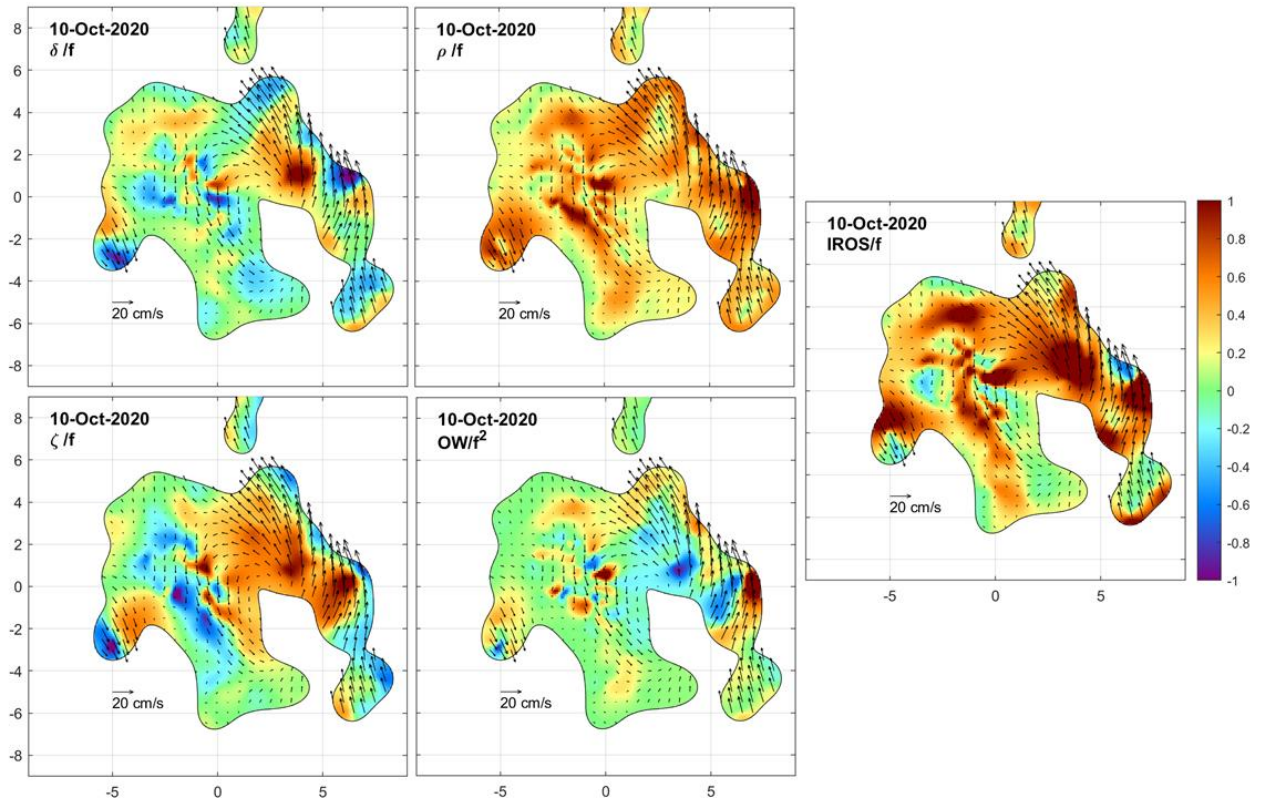


Figure 15. Same as Figure 9 but on 10 October 2020 at 00:00 UTC.

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