



Fig. 12. Panel (a) shows the 3 day surface temperature forecast for Sep. 18, 0:00 GMT, overlaid with surface velocity vectors (scale arrow is 0.25 m/s). It is the forecast for both the OI and ESSE schemes. Panel (b) is the satellite SST distribution for Sept. 17, 12:10 GMT. Clouded regions are black (e.g., west side of the Strait). The picture was downloaded from the real-time unclassified RR96 World Wide Web server of the SACLANT-CEN. Panel (c) shows the surface temperature map estimate after OI assimilation of the temperature vs. depth probes (and estimated salinities) collected on Sept. 18 (Fig. 4b). Panel (d) is as (c) but after ESSE assimilation.

southern coast of Sicily (Panel d), the present analysis immediately estimates a closed ABV while the OI (Panel c) loses the vortex structure. Similar statements are true for the SMV, south of the Strait of Messina. In the active ABV and IBV regions, the present temperature front defining the AIS free jet (Panel d) is tighter than the OI one (Panel c). In addition, comparing Panels (c–d) with the SST (Panel b), the present analysis appears closer to that of the SST. The contour and shape of the estimated IBV (Panel d) agrees with the corresponding SST feature. The OI somewhat misses the quasi-enclosed structure of the vortex by warmer water. The present estimates of the southward MAW filaments and eddy field south of the IBV are also better than their OI version. For instance, the OI has smoothed the forecast of a cold eddy pinching off the eastern side of