mesoscale to subbasin-scale variability. Their evolutions and several of the MAW mesoscale eddies formed east of 13E and south of the AIS are discussed next, as part of the field evaluation.

The present estimates (Fig. 20a) are first evaluated by intercomparisons with the OI ones (Fig. 20b). After the assimilations, the two melded fields differ significantly even though they each have RMS data misfits with the estimated measurement error

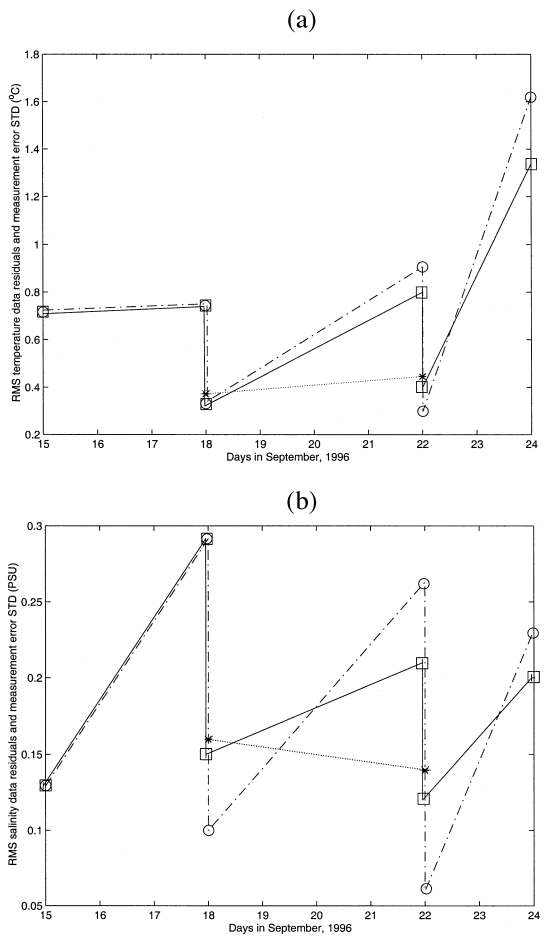

Fig. 21. Panel (a) shows the surface averaged (top 5 levels) root mean square (RMS) a priori and a posteriori residuals with respect to the temperature probes collected on Sept. 18, 22 and 24 (Fig. 4b–d). Data are only assimilated on Sept. 18 and 22. On Sept. 15, the RMS was taken with respect to the probes of Sept. 18 for skill evaluation. The curve in red is the RMS for the OI, the blue curve is for the ESSE. Using this RMS measure, the present temperature forecast is 14% better than the OI one for Sept. 22 and 21% better for Sept. 24. The green curve is the surface averaged (top 5 levels) of the measurement model RMS error used in ESSE. Panel (b) is as (a) but for salinity. The present salinity forecast is 25% better than the OI one for Sept. 22 and 16% better for Sept. 24.