



Operational oceanography in the coastal region using multi-model super-ensembles

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Multi-model Super-Ensembles (SE) aiming at combining optimally different models have been shown to improve significantly atmospheric weather predictions. In the coastal ocean, complex, yet poorly understood dynamics, the presence of small-scales processes, the lack of real-time data and limited reliability of operational models so far prevented the application of SE methods. Here, we report results from state-of-the-

art super-ensemble techniques based on dynamic combinations of SEPTR [a trawl-resistant bottom mounted platform transmitting in near real-time] data and a series of eight operational models ran during an experiment in a coastal area in the Adriatic Sea. Kalman filter and Particle filter based methods which allow for dynamic evolution of weights and associated uncertainty show increased skill (+10%) as compared to single models. The latter method copes with non Gaussian error statistics and reduces the uncertainty by a further 30%.