This is an interesting paper taking ideas from atmospheric numerical weather prediction and applying them to oceans. Unfortunately references to the current state of play in atmospheric hybrid data assimilation methods are lacking. In particular important papers including theoretical studies by Lorenc (QJR Met Soc; 2003; 129, 3183) and operational implementations by Buehner (QJR Met Soc; 2005; 131, 1013), Wang et al (Mon. Wea. Rev.; 2008, 136, 5116: 136; 5132) among others are not mentioned. The claim that the paper presents "the hybrid covariance methods are applied for the first time to a realistic application i.e. assimilating real observations, and thus applicable in an operational setting" is over stating the case particularly given hybrid methods are in pre-operational trials in a number of atmospheric NWP centers.

We would like to first to thank you for commenting on our manuscript and for making us aware of a reference that was unknown to us, i.e. *Lorenc et al.*
This work gives a good overview of the need for hybrid covariance and has been referred in the revised version of our article.

However, we rather refrain from referring to the work of *Buehner* as we believe that the hybrid covariance methodology employed differs from the other work on hybrid covariance, and is not an ensemble method as such.
In Wang et al., Hamill et al., Etherton et al. and in Lorenc, a sequential ensemble approach is used: The output from the 3D-VAR analysis becomes the ensemble mean of the ETKF, which then produce the perturbation, and propagate the ensemble.
On the contrary, Buehner uses an ensemble from an independent EnKF run for improving the background error covariance matrix, of a single variational approach, and does not belong to the class of Kalman Filters.

The paper by *Wang et al.* represents a nice effort in the field of hybrid covariance and is now referred in our revised manuscript. Note that although Part II of Wang et al. paper is assimilating real observation, it cannot be considered as a realistic application as the resolution is purposely reduced. The authors are mentioning "Our results are thus not a direct analog to the operational regional applications where much finer resolution and denser observations are assimilated".
We therefore still consider our work as the first realistic operational demonstration published (in a system used already used for operations). However, we have stressed more precisely what we define as a realistic application: "… a realistic application (i.e. assimilating real observations, using a state of the art model at a resolution capable of resolving the dynamics, and thus applicable in an operational setting …"

An unresolved issue is how can balance be preserved when using a Gaspari & Cohn (1999) Shur product localization scheme?
This is an interesting question but out of the scope of our manuscript.
The EnKF-OI is ensemble-based, and the balance is preserved similarly to an EnOI or an EnKF. We chose a localization radius that appeared as adapted for our system (*Counillon et al. 2009a*, *Counillon et al. 2009b*). *Oke et al, 2006* suggest that the balance for an ensemble method is conserved if the localization radius is larger than the decorrelation radius. This appears to be reasonably valid from Figure 10 and 11