Dear Dr. Williams,

During the proofreading of the manuscript "Reconstruction of Mediterranean coastal sea level at different timescales based on tide gauge records" we detected a typo in equation (1a) that had gone undetected during previous revisions. Now we have been asked to send you an explanation about it, for you to approve this change in the manuscript.

Equation (1a) is the introductory equation to the interpolation method, reporting how a single interpolated value $\phi_g$ is obtained from a set of $N$ observations $\phi_i^n$. Hence it should read as it appears in Hasselmann et al. (1997):

$$\phi_g = \phi_g^{fg} + \sum_{i=1}^{N} W_{gi} (\phi_i^n - \phi_i^{fg}) = \phi_g^{fg} + \sum_{i=1}^{N} W_{gi} \phi_i'$$

In the previous version, the summations in front of the weights ($W_{gi}$) were missing. In the manuscript it is indicated that the value of the state vector of the system at point $g$ is obtained as a first guess at that point ($\phi_g^{fg}$) plus the weighted differences between observations ($\phi_i^n$) and the value of the first guess at each observation point ($\phi_i^{fg}$). Thus, the weighting of the differences obviously needs of a summation over all observation points.

It is probably also convenient to complete the line after equation (1a) in the following way: "where $W_{gi}$ are the weights applied to the differences at each observation point $i$ to obtain the state vector at point $g$, and $N$ is the number of observation points."

From that point we reformulate (1a) but now for the whole state vector $\phi$ (which contains all interpolation points), the first guess vector $\phi^{fg}$ (with the values of the first guess at every interpolation point) and the vector of differences $\phi'$ at all observation points. In that formulation (1b), the weights can be represented by a matrix $W$. Therefore, in the first sentence after (1b), $\phi$, $\phi^{fg}$ and $\phi'$ should be written in boldface, since they are vectors.

We apologize for the inconvenience of this late corrections.

Best regards,

The authors