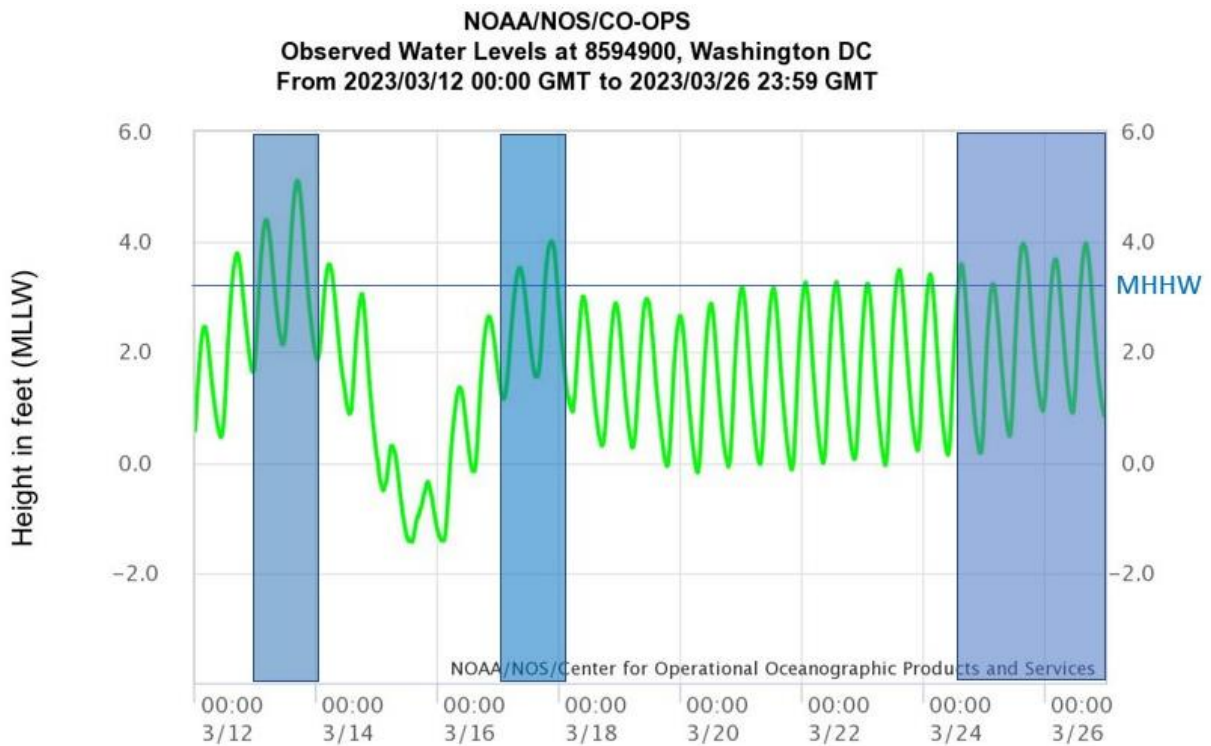


Here are a few observations that my colleague Jim O'Donnell (Oceanography Professor at the University of Connecticut) and I, Arnaldo Valle-Levinson (Oceanography Professor at the University of Florida), have identified from the materials we have received from the National Park Service. These materials are related to the proposed modifications of the tidal-basin seawall and Potomac River seawall in the vicinity of the tidal basin.

Comments:

The plan will not prevent flooding of the path along the shore to the FDR memorial. This path flooded three times in March 2023 during the surge events that surpassed Mean High-High Water (see shaded periods in the Figure below).



According to the NOAA extreme water level analysis at the DC station, the events in March 2023 should have been expected every 1 to 2 years. However, 3 of them occurred in March only.

The location of the contour at the elevation of the proposed wall (4.5 ft NAVD) is shown here,



Elevation line at proposed wall height (4.5 ft NAVD)

126 m

Google Earth

Furthermore, 2 of the storms in March, plus a) the water level with a 20-yr return probability and the 20-yr return probability in addition to sea-level rise by 2050 (only 1 ft higher than now) are illustrated below:



This picture from Google Earth shows the estimated extent of the two vents in March 2023, and then in magenta the extent of the flooding that should be expected due to a 1/20 per year event (20-yr return). The thin green line is what should be the 1 in 20-yr event in 2050 (when sea level will be 1 ft higher). These events would surpass the proposed wall and cause extensive flooding.

We consider that if the tidal gates at the 'inlet' and 'outlet' separating the tidal basin from the Potomac River were operational and as high as the wall, then the proposed wall would protect the pathway around the tidal basin. Further justification should be given of the lack of active interactions with on-going Army Corps of Engineers efforts to rehabilitate the tidal gates.

We also believe that a project of this scope and extent should have a planning horizon of 30 to 50 years. No mention of the expected impacts of sea-level rise is incorporated in this proposal. That is a serious flaw. Other branches of the Executive have established estimates for use in planning projects and these

should be referenced and used. Further, the frequency of flooding (or return period) that is tolerable should be defined. Perhaps once every 10 or 20 years would be appropriate.

We further ponder that the alternatives analysis proposed is inadequate. There are many options to preserve access to the park and monuments other than the projected wall. For example, relocating the paths and trees, and a protection strategy for the monuments would allow much of what is desired at less expense and environmental impact.

We were surprised not to find an assessment of (or plan for) storm-water management.

We are convinced that a robust quantitative assessment is needed on the potential effects of the project's new coastal morphology on the compound flooding from co-occurring storm surges and rainfall.

Finally, we think that a reliable calculation is needed on the potential for exacerbated flooding at FDR and MLK memorials, where the wall would not be restored to its historical heights.