Reply on RC1
Paul PUKITE

Community comment on "The modelled climatic response to the 18.6-year lunar nodal cycle and its role in decadal temperature trends" by Manoj Joshi et al., EGUsphere, https://doi.org/10.5194/egusphere-2022-151-CC3, 2022

"Two degrees is way too coarse to investigate tides. We’re talking about a process that has a typical scale of fewer than 5 km at critical locations, and that is highly dependent on the correct representation of bathymetry."

Misconception here. Lunar tidal forcing has a global effect and causes measurable changes in the Earth’s rotation rate, as evidenced by length of day (LOD) data which shows significant impacts of monthly and fortnightly tidal cycles. Being a fluid, the ocean has a more complex response to inertial forcing, leading to sloshing, especially along the thermocline where a reduced effective gravity exists. So can't assume the diurnal tidal properties alone.