



## **The impact of upper-ocean warming on sea level variations in the Indian Ocean**

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Examination of observational temperature data across the ocean layers of all major basins and regional coastal sea-level records demonstrates that one key measurement – large-scale changes in upper-ocean heating – is a good indicator for decadal relative sea level changes. Temperature changes within the upper-ocean layers seem to provide better insight into relative sea level variations than surface-based indices like the Indian Ocean Dipole Mode Index. As a result, we may need to reconsider using these traditional indices to represent internal climate variability when evaluating relative changes in sea level at the basin level. Further investigation would be needed to explore whether these new estimates can be used as a new way to constrain internal climate variability for the purpose of isolating the anthropogenic sea-level rise signal from the regional sea level trends.