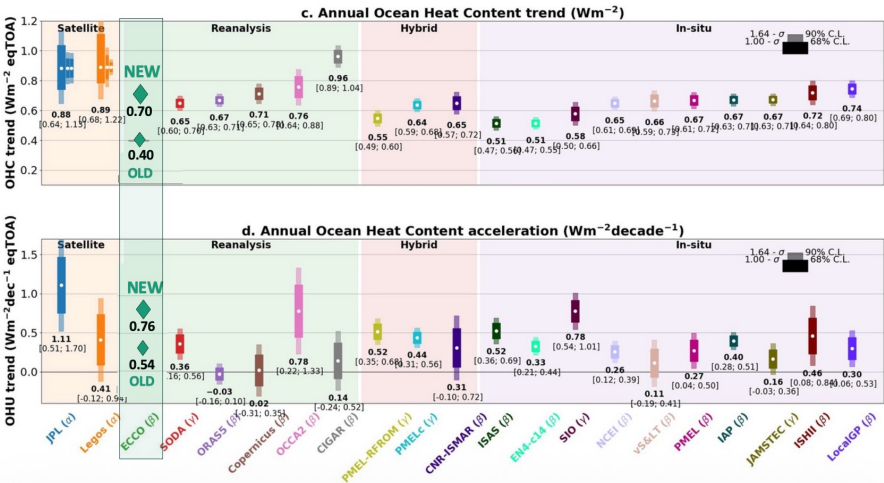


What I learned and what surprised me in my heat inventory & EEI research (GEWEX-EEI, ROSES GFO)

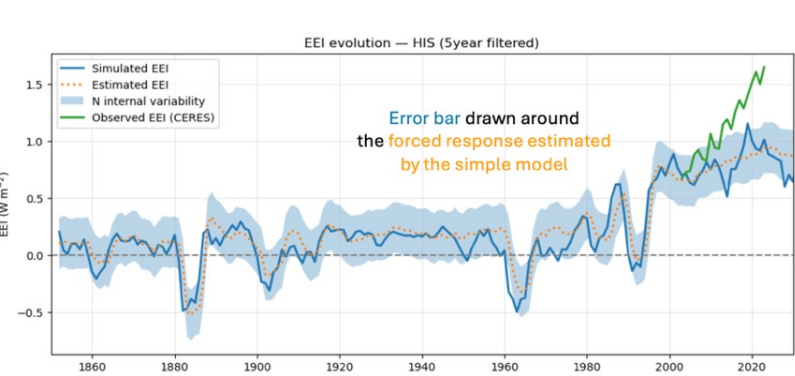
1. Surprising spread in OHU estimates & trends (2024)



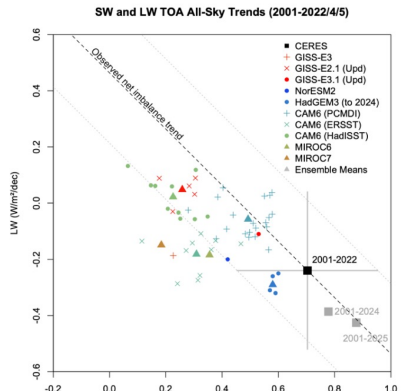
Hakuba et al., 2024

- Better agreement through advancing data quality (2026)
- Best practice: in-situ combined with **satellite** improves OHU variability compared to CERES (geodetic, hybrids, ECCO)

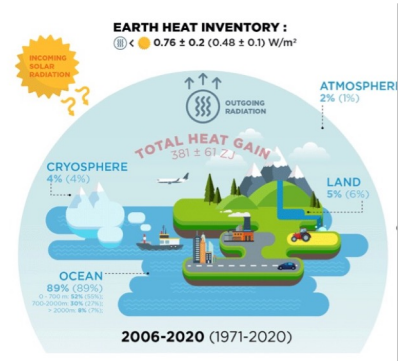
3. ESMs underestimate EEI trend



Yan-Ting et al., 2026

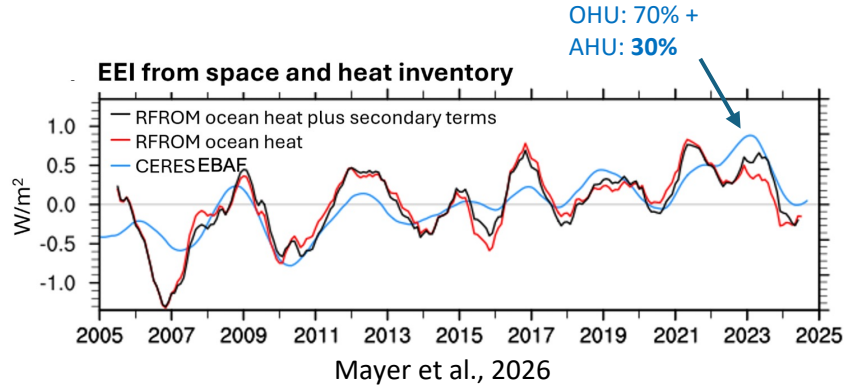


Schmidt et al., in prep



Von Schuckmann et al., 2023

2. OHU is not enough to close energy budget at (sub-)annual timescales

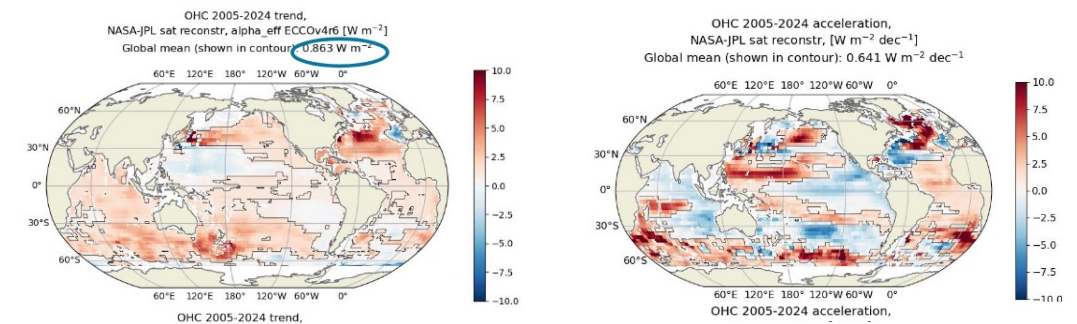


Mayer et al., 2026

4. The next frontier: Attributing (regional) OHC & OHU changes

$$\frac{dH}{dt} = Q_{\text{net}} + F_{\text{transport}}$$

- What **processes** control OHC & OHU change where? (ECCO)
- What is the role of **forcing** vs **feedback** vs natural variability? (ESM)



Delman, Hakuba, Fenty, Frederikse, Landerer, in prep.

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