

Summary for Tides, Internal Tides, High-frequency

Good progress in tidal modeling, much of it focused on SWOT:

Barotropic tides: FES, TPXO, GOT, etc. being revised.

Higher resolutions, Cryosat-2 data in latitudes $> 66^\circ$.

Baroclinic tides (stationary) – OGCM-based
HYCOM, NEMO, MITgcm, etc.

Baroclinic tides (stationary) – empirical from past altimetry

Many new solutions being developed.

All show evidence of reducing variance in independent altimetry.

New methods for testing models: XBTs, velocity from surface drifters.

New applications in addition to SWOT: e.g., SKIM.

Baroclinic tides (nonstationary)

OGCMs will inform approaches to attacking the problem

Will likely require SWOT data

Special filtering approaches

Large-scale assimilation/inversions (e.g., Gille talk)

(Selection of SWOT orbit anticipated this need .)

