Scenarios of the post-launch campaign

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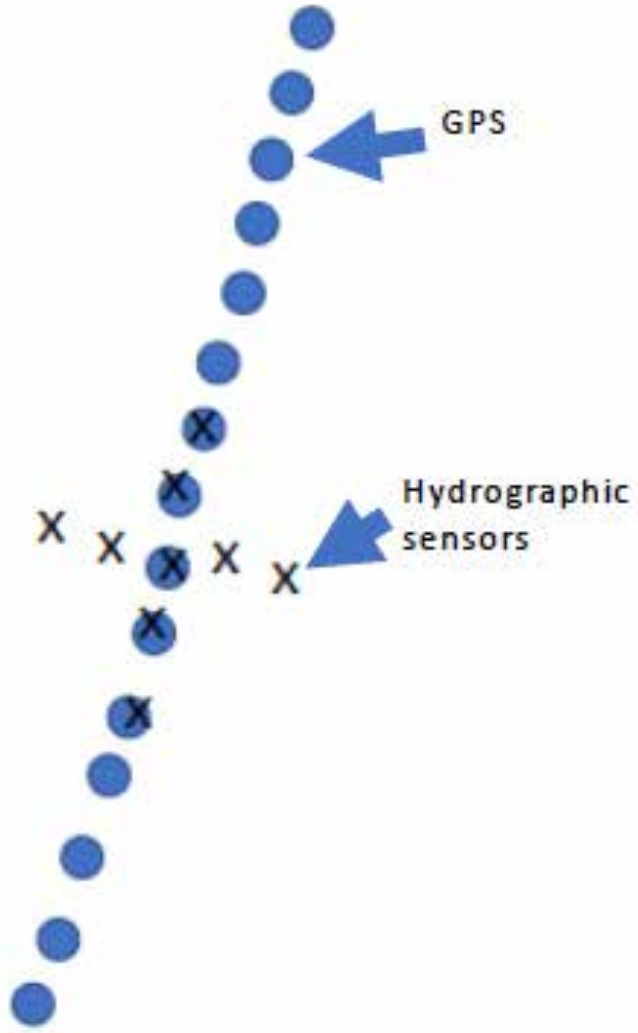
A strawman scenario of the post-launch ocean in-situ observing system

Pending on the outcome of the pre-launch experiment, the post-launch campaign might include:

An along-track array of GPS buoys for the geodetic objective;

A two-dimensional array of hydrographic sensors (gliders, wirewalkers, possibly some deep CTDs, or combination of them), shown on the right (a strawman), which is linking the mission's calval plan to the development of the post-launch science campaign.

The minimum length of the GPS array needs to be ~ 110 km, according to a modeling study of the long-wavelength calval by the SWOT nadir altimeter (Jinbo Wang's presentation later)



A recap of the proposed calval site experiment

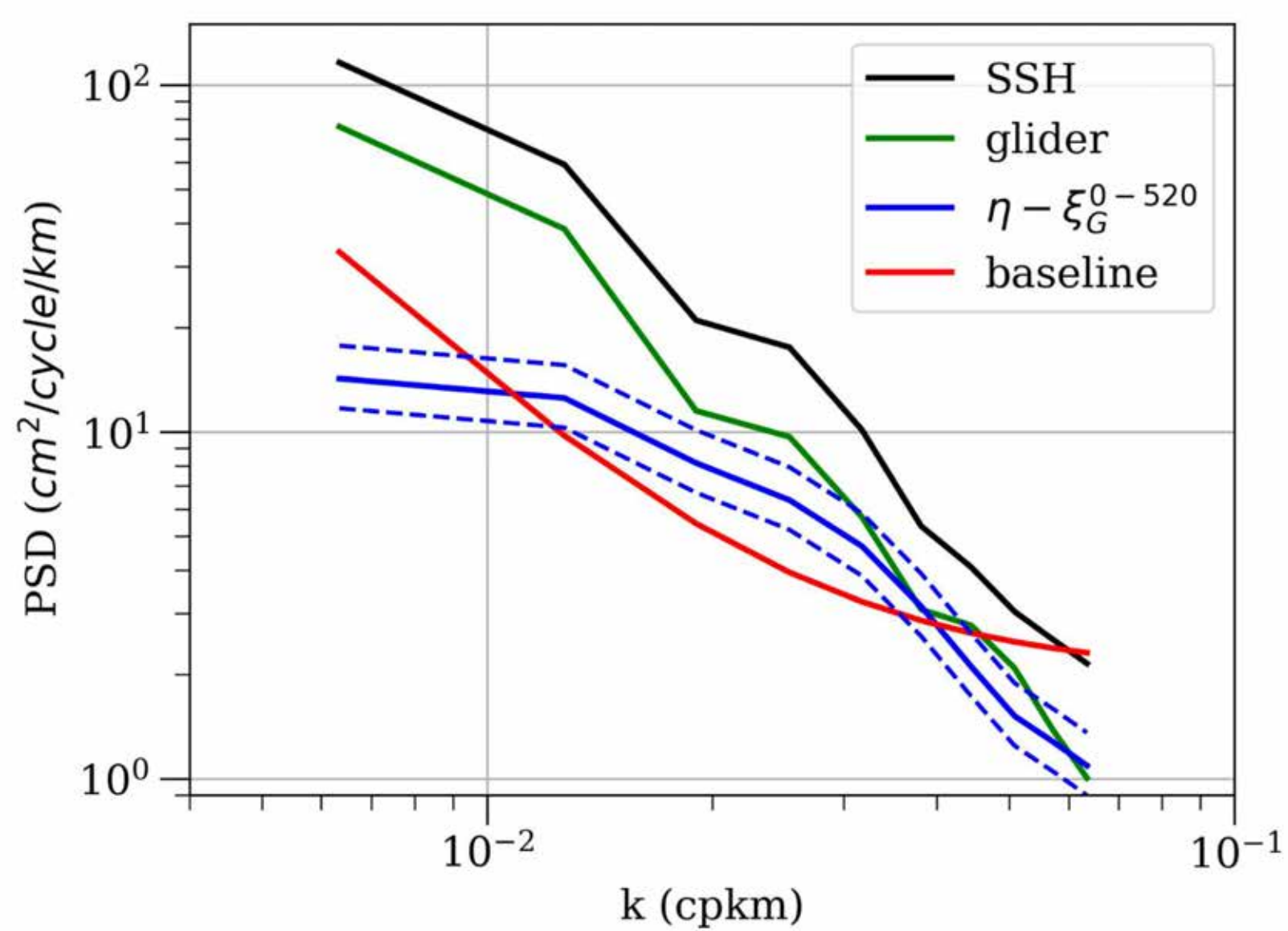
1. Can we reach a closure of the equivalence of the GPS – BPR to the full-depth dynamic height at the calval site where the ocean bottom is fairly flat?
2. What is the extent of the upper ocean sampling required to represent the full-depth dynamic height?
3. What is the feasibility of station-keeping gliders?
4. How is the performance of the faster wire-walker vs station-keeping gliders in sampling the upper ocean?

The proposed instrumentation is composed of four separate moorings plus two gliders:

A deep CTD mooring (reaching 1700 m with ~30 CTDs), addressing #1,2,4
A GPS buoy mooring, addressing #1
A BPR mooring addressing #1
A wire-walker mooring addressing #4

The gliders will address #3,4.

Model simulation of the glider performance



Oceanographic objectives by an array of hydrographic sensors

- Pending the results of the pre-launch experiment, we might replace gliders with moored wirewalkers.
- If the variability below 500 m is significant, we might need to add CTDs below the wirewalker.
- If GPS proves able to meet the requirement for validating the SSH spectrum, a GPS sensor will be mounted on top of the wirewalker.