Highlights

- Proposal of exercise to compare and synthesize sea surface height (ssh) bias results from in situ CalVal methods.

- Aim: To analyse the results from CalVal sites on a computing basis as comparable as possible.

- To try to make easier the comparison between ssh bias from different CalVal sites.

- It requires: a plan of exchanges and analyses of results from different works on CalVal missions.

- The definition of a common protocol to compute ssh bias (epoch, corrections choices, ...)

- the implementation and realization of the CalVal exercise

- The synthesis of results after each OSTST meeting.

- The analyse of results and its diffusion to the CalVal teams.

- This action participates to Margins Altimetry Projects (MAP), initiated by POC, CTOH, LEGOS, NOVELTIS.

Point 1: Data Selection from altimetry and in situ records

Interest for common choices: In a first step, we propose to fix computing constraints (ex: versions of instrumental & geographical corrections). This should give a common framework for ssh bias computing with conditions as homogeneous as possible. This exchange plan will be built with the participant CalVal teams. It'll be proposed to be applied before OSTST future meetings. The bias analysis at different sites should be made easier. By the geophysical conditions and different types of in situ instruments used, specific to the calval sites, departures between bias could be observed. That's why data selection the most comparable possible is a help for reach a consensus on ssh bias estimation provided by in situ CalVal technique.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Data source</th>
<th>Data format</th>
<th>Data version</th>
<th>Data selection (if any)</th>
<th>Calculation</th>
<th>Intra-Team (data transferred)?</th>
<th>Inter-Team (data transferred)?</th>
<th>Data collection (if any)</th>
<th>Data treatment (if any)</th>
<th>Data reduction (if any)</th>
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</thead>
<tbody>
<tr>
<td>SSH</td>
<td>Sea level</td>
<td>Level one</td>
<td>1Hz</td>
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<tr>
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<td>Satellite</td>
<td>Level two</td>
<td>20Hz</td>
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<tr>
<td>Local</td>
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<td>Level three</td>
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Point 2: In situ CalVal methods description

For each CalVal site, introduce the Team, the Technique to compute the ssh bias and possible Local Corrections.

- Ex: CNES and OCA teams


- Description:
  - Calibration: localisation of altimetric measures and tide gauges records
  - Extrapolation on a coastal mean sea surface slope obtained from GPS/CMAP data
  - SSH Altimetry is computing at 20 Hz or 1 Hz. 20 Hz data are built from 1Hz data.

Point 3: Choice of common criteria and unusued cycles

- Criteria
  - Satellite name
  - Cycle number
  - User-defined criteria

- Criteria version
  - Level 1: Basic criteria
  - Level 2: Advanced criteria

- Criteria: Data quality
  - Calibration
  - Data format
  - Data version

- Data collection
  - In situ
  - Satelite
  - Calibration

- Data reduction
  - Calibration
  - Data format
  - Data version

- Data treatment
  - Calibration
  - Data format
  - Data version

- Data selection
  - In situ
  - Satellite
  - Calibration

- Data transfer
  - Intra-Team (data transferred)?
  - Inter-Team (data transferred)?

- Data collection
  - In situ
  - Satellite
  - Calibration

- Data reduction
  - Calibration
  - Data format
  - Data version

- Data treatment
  - Calibration
  - Data format
  - Data version

- Data selection
  - In situ
  - Satellite
  - Calibration

- Data transfer
  - Intra-Team (data transferred)?
  - Inter-Team (data transferred)?

- Data collection
  - In situ
  - Satellite
  - Calibration

- Data reduction
  - Calibration
  - Data format
  - Data version

- Data treatment
  - Calibration
  - Data format
  - Data version

- Data selection
  - In situ
  - Satellite
  - Calibration

- Data transfer
  - Intra-Team (data transferred)?
  - Inter-Team (data transferred)?

Point 4: Reporting errors estimates and validation phase

- Instrument
  - Tide gauge
  - Pressure sensor, radar sensor, acoustic

- Calibration
  - Absolute calibration. Single pass method

- Other criteria
  - SSH Altimetry is computing at 20 Hz or 1 Hz. 20 Hz data are built from 1Hz data.

Point 5: Statistics on ssh bias results on a common epoch

- SSH bias statistics
  - Mean & error (mm)
  - Std (mm)
  - N days (days)

- Validation of results
  - In situ
  - Satellite
  - Calibration

- SSH bias diffusion to the next OSTST