

Hydrology splinter results

Floodplains/DEM:

- 1) There is a need for a pre-launch DEM to support data processing. The SDT needs to select/endorse a DEM in consultation with the project/engineers. The burden for preparing the DEM is unclear.
- 2) Alternative strategies for preparing a SWOT Floodplain DEM have been proposed ("contour" method, data assimilation), but work is needed to evaluate these methods.
- 3) There was a call for a working group on floodplains to follow up on the above.

Data Assimilation:

- 1) Need an initiative to share data & software among the SDT
- 2) Within the context of the groups formed at the data assimilation meeting, future studies should be prioritized (e.g. floodplain/channel topography)

Cal/Val, Impacts of SNR, AirSWOT:

- Priorities for experimental collaborations among engineers/scientists include:
- Evaluate inundation extent & land cover (optical camera, etc.)
 - Understand sources/magnitude of temporal decorrelation
 - Examine observability of water under vegetation and surface roughness

River discharge:

- 1) A WG is working on inter-comparison of 3 algorithms for river discharge tested over 10 river basins (2 papers, + reports + blog)
- 2) Simulation also performed and comparisons with real data
- 3) Extension from small reach to river network
- 4) Investigation to determine the main features of variability over estuaries from wavelet analysis (Seine & Garonne)
- 5) Main issue for the next few months
 - 1) How to define river reaches?
 - 2) Continue inter-comparison
 - 3) How to use existing and future IS and AirSWOT to refine and evaluate discharge algorithm
 - 4) Modelisation and Cal/Val from AirSWOT over the estuaries

Water cycle

on the $dS/dt = P-Q-E$

SWOT will contribute to Q (discharge) and surface component of dS/dt .

- 1) Main questions issued:
 - 1) Which strategy to adopt for assimilation into LSM?
 - 2) How will IS data and models inform SWOT data products?

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 - 1) Studies are needed to understand this 2 topics?