AirSWOT Applications demonstration project

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The Sacramento-San Joaquin Delta

SWOT SDT Meeting Jan 16th 2014
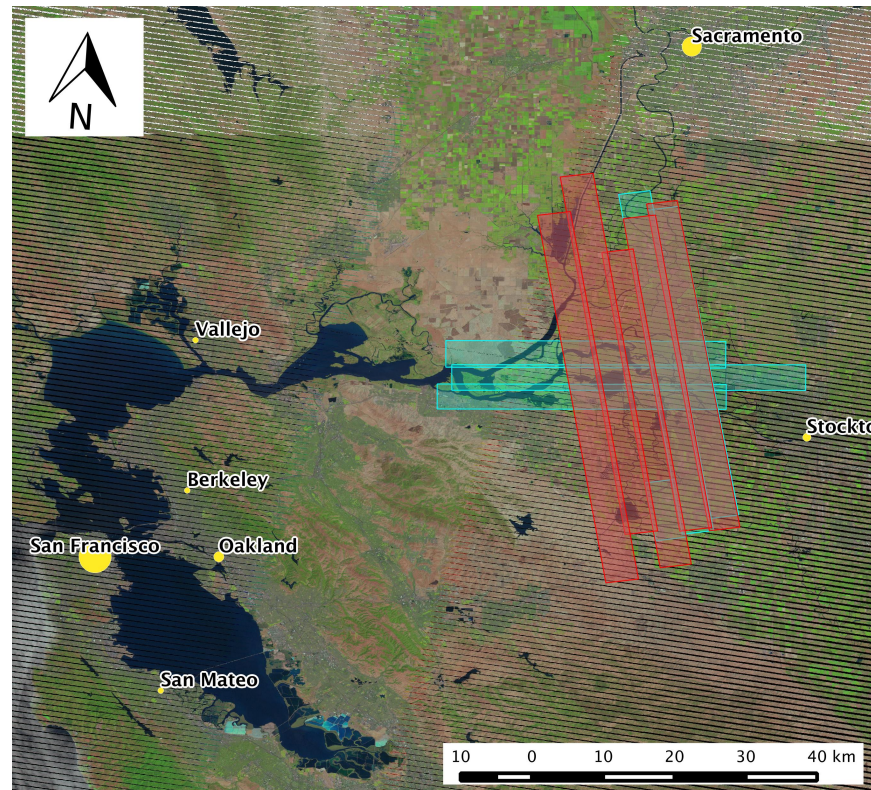
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General Objective

- "…use of remote sensing measurements towards the improved understanding, monitoring and management of estuaries and deltas, with particular emphasis on the Sacramento – San Joaquin Delta Estuary."

  ➤ AirSWOT data
  ➤ Application example: data assimilation in the delta

1st step: making AirSWOT Data useable

- Data collected on May 21st 2013
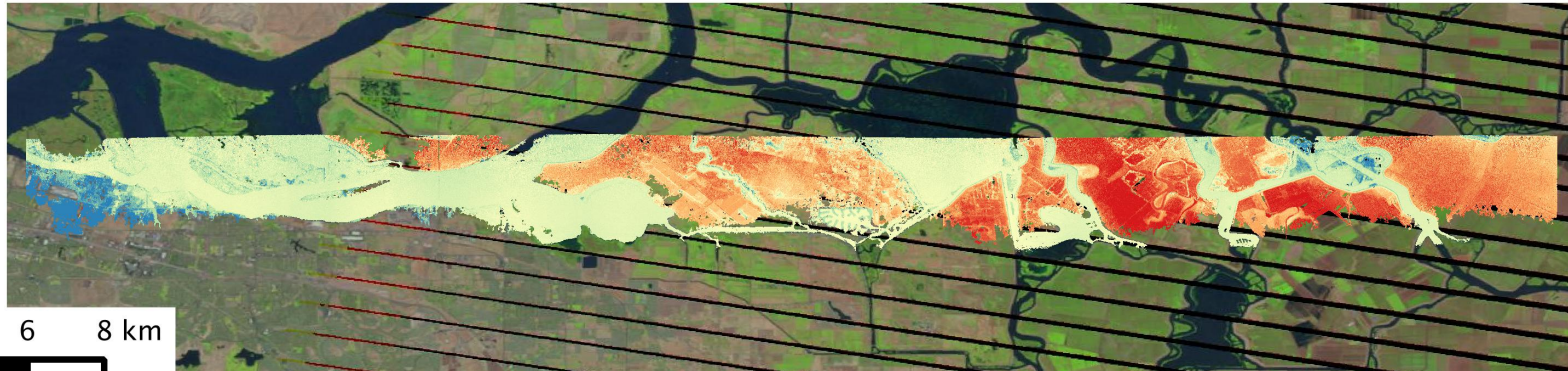- Collection in the morning (blue strips) and afternoon (red strips) during high and low tides
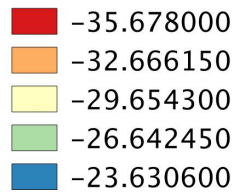
1ˢᵗ step: making AirSWOT Data useable

- Continue work for calibration of height to DEM

- Remove bias between different lines/mosaicking

- Validation to pressure transducers

- Deal with vegetation in the water

Legend

calibrated heigts (m)

- −35.678000
- −32.666150
- −29.654300
- −26.642450
- −23.630600

2 0 2 4 6 8 km

2ⁿᵈ step: application demonstration

- Develop hydrodynamic model (TELEMAC-2D)
  - high spatial resolution to assimilate full resolution data
  - need bathymetry, tidal info etc.
- Assimilation of AirSWOT data using either EKF or EnKF in hindcasting experiment in order to assess added value
- Also possible to assimilate for model parameters
- Simply use as calibration data?