# Cloud-based Data Matchup Service (CDMS)

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What is CDMS?

- A web-accessible service to match satellite and in situ marine observations
- Build upon the Distributed Oceanographic Matchup Service (DOMS) which was funded by the NASA AIST program. More info about DOMS can be found at https://mdc.coaps.fsu.edu/doms/
- Software stack supporting existing matchup capability available via Apache Science Data Analytics Platform (SDAP) an Apache incubator project. More info about SDAP can be found at
https://sdap.incubator.apache.org/
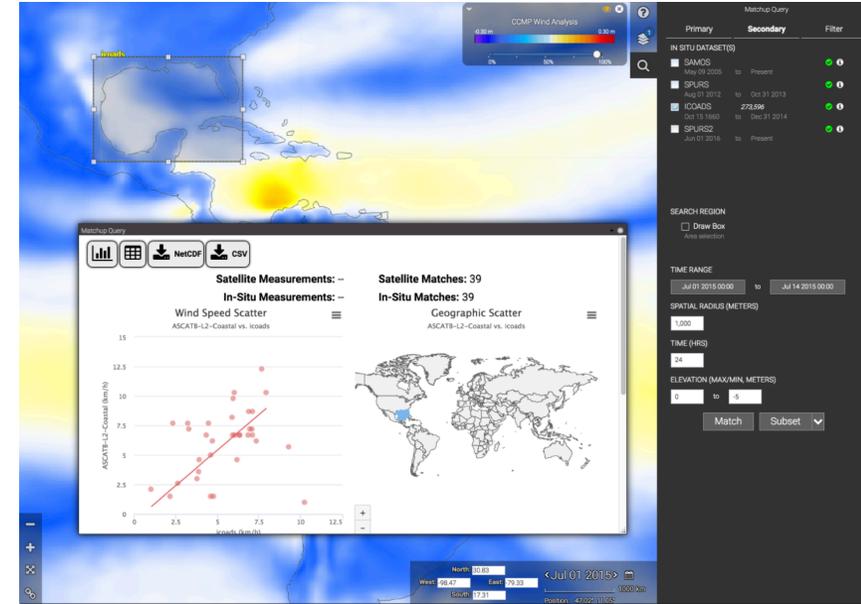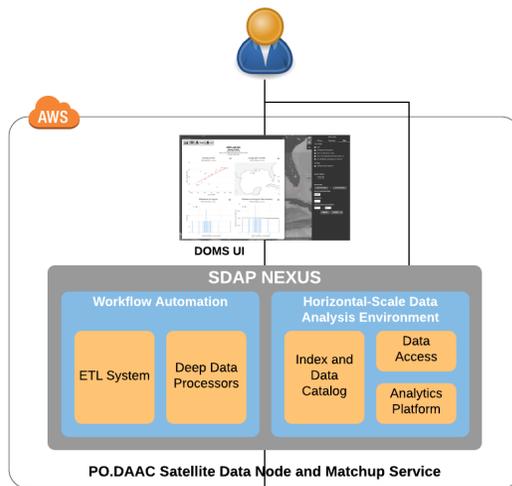

Visualization Platform

Significance

There is a need for a generalized matchup capability that is publicly accessible and provides flexibility and reproducibility for both calibration/validation (cal/val) and science use cases including, but not limited to:

- Iterative cal/val of satellite retrieval algorithms
- Decision support for designing and implementing field campaigns
- Scientific investigations (e.g., developing blended satellite-in situ products, process studies)
- Quality control of surface marine observations

Goals

- Deliver a production-ready near real-time and delayed-mode matchup service in the cloud to address cal/val and science use cases
- Integrate interactive matchup capability with a visualization platform
- Formalize architecture and information model for in situ and satellite data nodes to efficiently onboard additional datasets via PO.DAAC and remote data hosts
- Capture and analyze user matchup metrics to enable future data search and recommendations

Architecture