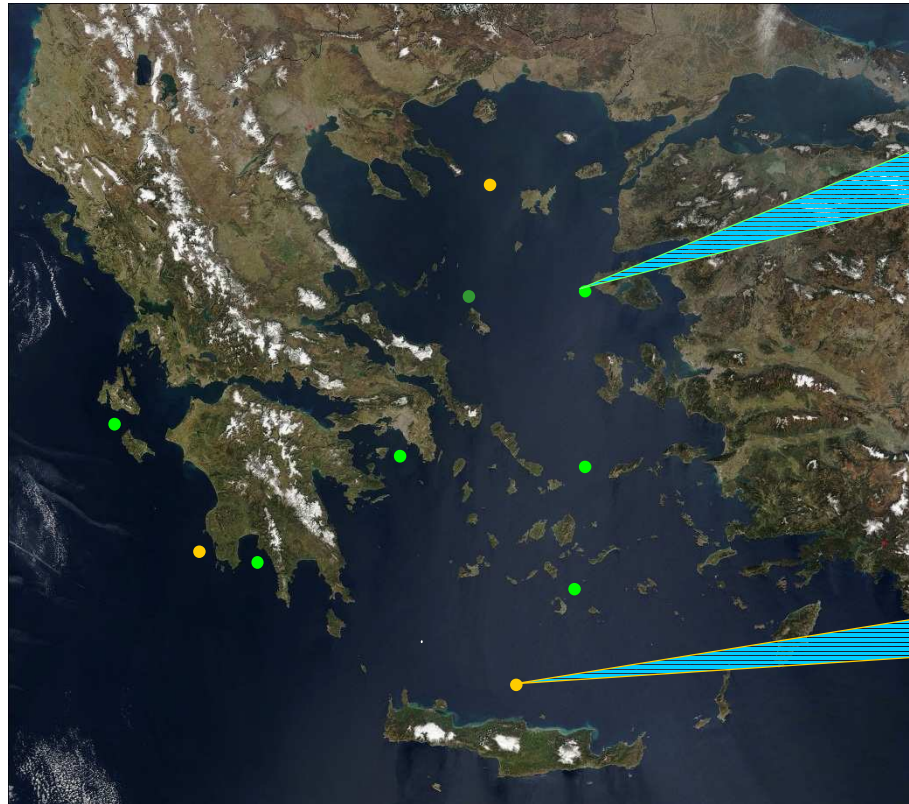




POSEIDON BUOY NETWORK MAINTENANCE METHODS AND PRACTICES

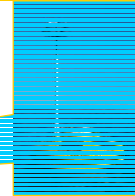
The “POSEIDON” buoy network system



7 Seawatch buoys



3 Wavescan buoys



- Main measurement parameters:
- Air-pressure
 - Air-temperature
 - Wind speed and direction
 - Wave height, period and direction
 - Sea surface salinity and temperature
 - Surface current speed and direction
 - Sea surface dissolved oxygen
 - Light attenuation with fluorescence
 - Salinity and temperature in depths 20-1000 m
 - Chlorophyll-A in depths 0-100 m
 - Dissolved oxygen in depths 20-100 m

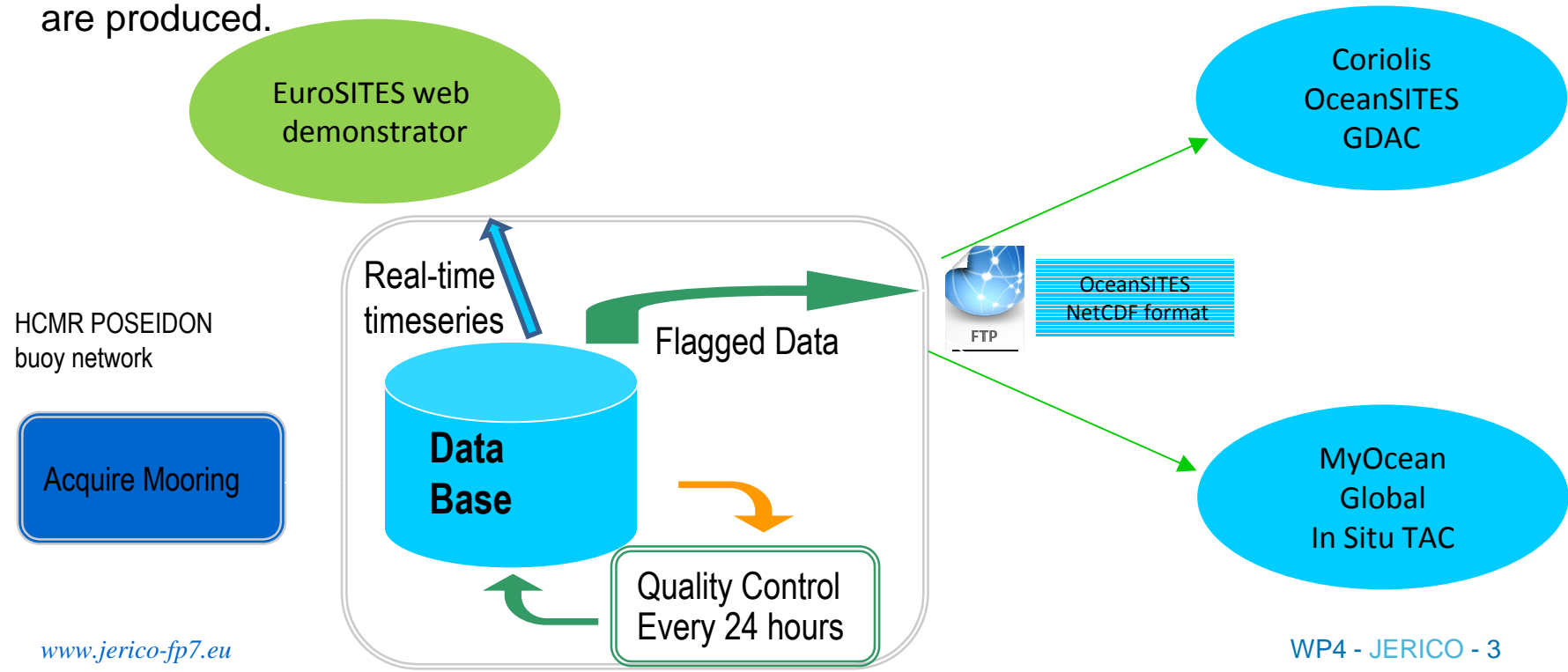


<http://www.poseidon.hcmr.gr>

HCMR mooring data processing streams



POSEIDON operational center acquires data from observatories every 3-hours. Data and metadata information is stored to POSEIDON DB while at the same time this information is being released to the web through EuroSITES. The real-time QC procedure is performed in a 24h basis and OceanSITES NetCDF files are produced.



Methods and practices



Maintenance sites every 6 months

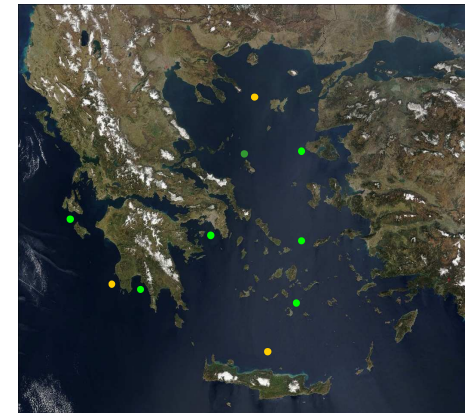
- Cruises are split in North and South Aegean
- Spare buoy is used on rotation to save cruise time
- CTD casts on each of the locations

Poseidon maintenance team

- 2 electrical/electronic engineers
- 1 mechanical engineer
- 1 physical oceanographer
- 3-5 trained crew members of R/V Aegeo

Maintenance cruise includes service or replacement of

- Measurement instruments
- Mechanical parts
- Support equipment



Maintenance of measurement instruments



CTs

Seabird SBE37, SBE16 CTs are replaced with spare prior calibrated in lab.

Clean on site with 1%-2% Triton X-100 (soak for 1 hour).

Drain and flush with warm distilled water for 5 minutes.

Instruments are stored dry with Tygon tubing looped around the cell ends.

Aanderaa 3919 CTs are cleaned on site on a similar manner. Bio fouling !!

DO, Chl, Turbidity

Instruments are replaced with spare prior calibrated in lab

All other sensors are cleaned/replaced as needed

Replace batteries where applicable

Maintenance of mechanical parts



Service mechanical parts of buoy and general cleaning.
Replace anodes and re-apply Anti-fouling paint.
Service or replace as needed mooring line.



POSEIDON, 2009

Maintenance of support equipment



Support equipment includes

- Power management unit (PMU) manages battery charging from solar panels
- Main controller unit (check system configuration)
- Telecommunication devices (Satellite and GPRS modems)

Perform all systems check

Buoy ready for deployment

