

Citizen science and crowdsourcing in the field of marine scientific research – the MaDCrow project



Paolo Diviacco *, National Institute of Oceanography and Applied Geophysics - OGS, pdiviacco@inogs.it

Antonio Nadali, Transpobank Srl

Francesca Malfatti, National Institute of Oceanography and Applied Geophysics - OGS,

Massimiliano Iurcev, National Institute of Oceanography and Applied Geophysics - OGS,

Rodrigo Carbajales, National Institute of Oceanography and Applied Geophysics - OGS,

Alessandro Busato, National Institute of Oceanography and Applied Geophysics - OGS,

Alessandro Pavan, National Institute of Oceanography and Applied Geophysics - OGS,

Lorenzo Grio, Transpobank Srl

Massimiliano Nolic, University of Trieste



Crowdsourcing paradigm

Crowd-sourcing (-sensing): Data acquired by volunteers

Advantages:

- Reduction of costs/resources
- Larger areas can be covered (...some limitations)
- Reduction of time (...some limitation)
- 'Citizen-scientists', environmental awareness
- Less 'scientist-centric bias'

Problems to address:

- Increase in number of acquisition platforms → must be low cost → lowers quality
- QA/QC
- No planning (problematic if some areas tend to be overlooked)
- Motivational challenges for both volunteers and scientists



MadCrow Schema



- pH
- Conductivity
- DO
- Temperature
- ORP

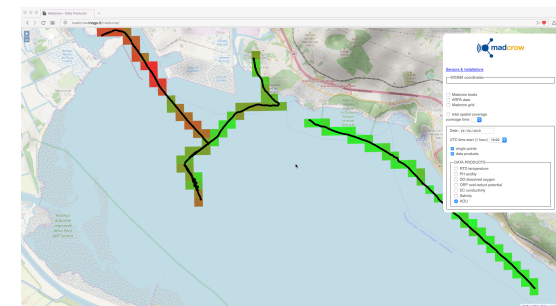


Data is difficult
to be read



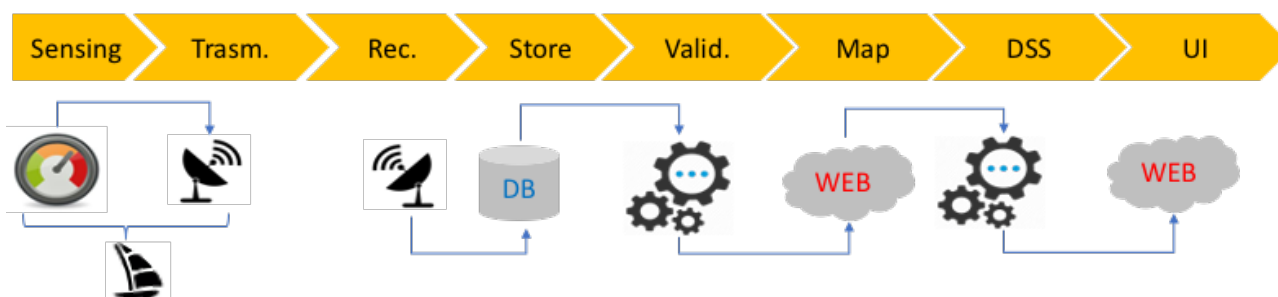
Products →

Data must be
simple to read



Apparent oxygen utilization (AOU)

Timeline





Future work

- Improve sensor case, power supply, deployability
- Extend number of sensors (es: turbidity)
- QA/QC with reference stations

References

- Official website: [//madcrow.it](http://madcrow.it)
- Promotional video:
https://www.youtube.com/watch?time_continue=1&v=FeVhwydSxWg&feature=emb_logo