AUTONOMOUS MONITORING SERVICE (AMS)

Link to AMS Video
https://www.youtube.com/watch?v=WpmZyfW-2Qw

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Andrew Morris, Research Engineer, Ocean Technology and Engineering, National Oceanography Centre

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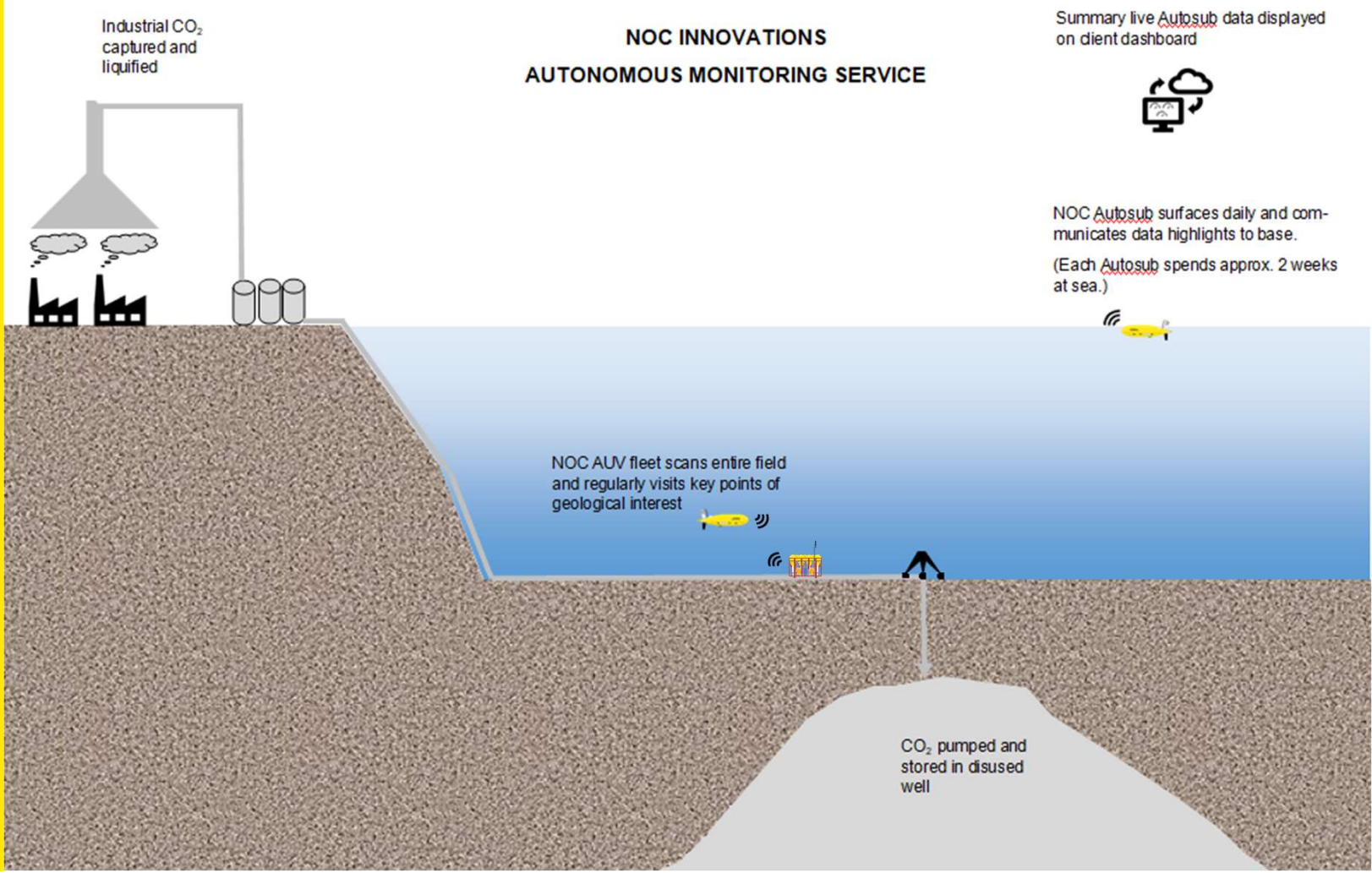
AMS PRINCIPALS OF OPERATION



CHEMICAL SENSING OF WATER COLUMN USING LANDERS

National Oceanography Centre

Research project funded activity

Identification of dissolved CO_2 above background

Continuous, responsive, economical and autonomous

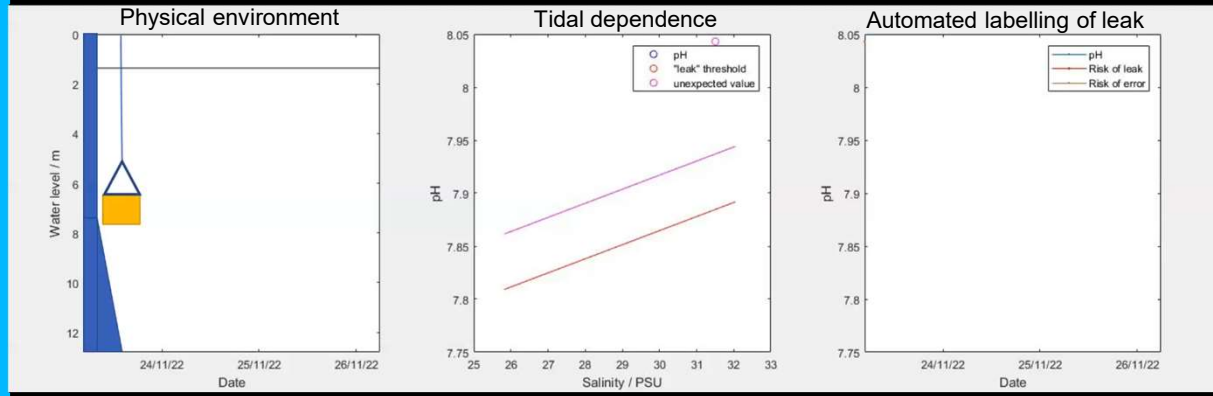
Multiple parameter monitoring

Adjusting for local physical and biological variations

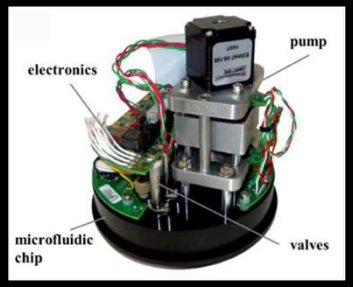
Demonstrated with test releases

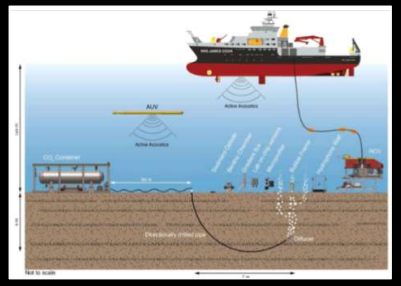
(STEMM-CCS, Project Greensand)

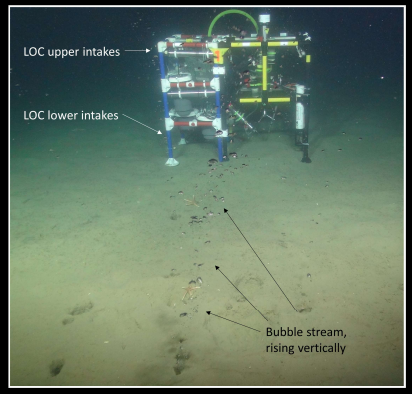
UK dock deployment



North sea deployment







Schaap, A., *et al.*, 2021. Quantification of a subsea CO2 release with lab-on-chip sensors measuring benthic gradients. International Journal of Greenhouse Gas Control, 110, p.103427.

AUTOSUB CCS LONG RANGE SPECIFICATION

CO2 DETECTION

Flying at between 10m down to 2m above the seafloor the AUTOSUB can detect and quantify CO_2 leaks as small as 274kg/day using a mix of active acoustics and chemical sensors.

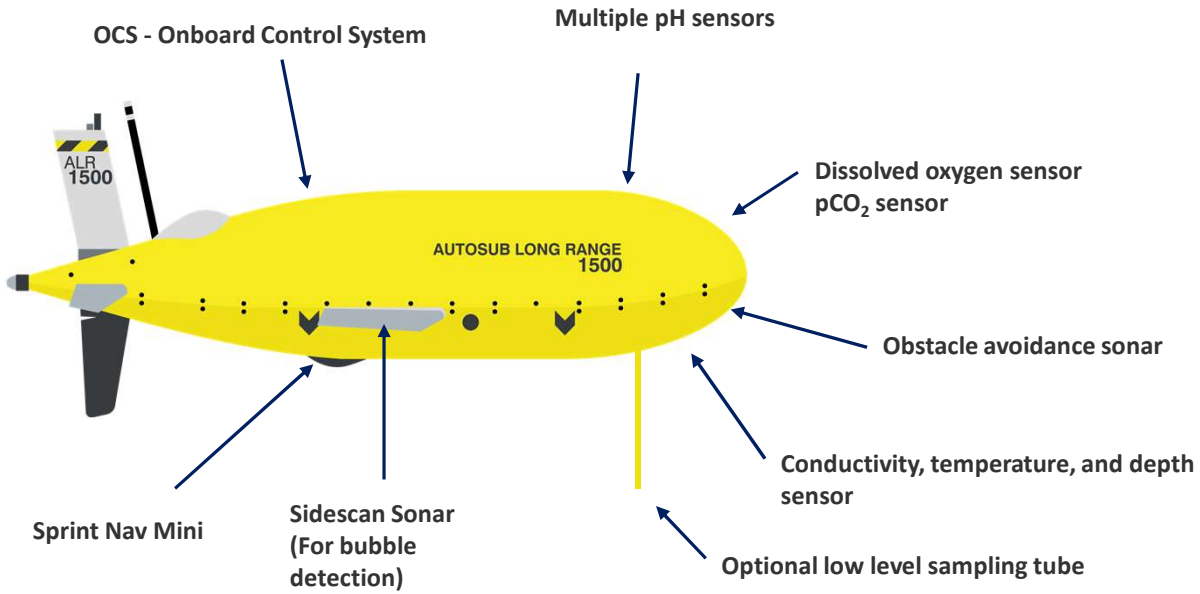
Increased detection sensitivity can achieved via an optional sampling tube that hangs below the ALR.

WIDE AREA SURVEY

The AUTOSUB can typically cover ~43km per day which on a standard sweep can cover an area of ~4.3km^2.

SUPPORTING SCIENCE

Non-confidential scientific data can be shared with the scientific community and used to enhance ocean research.



AMS
PRINCIPALS OF OPERATION