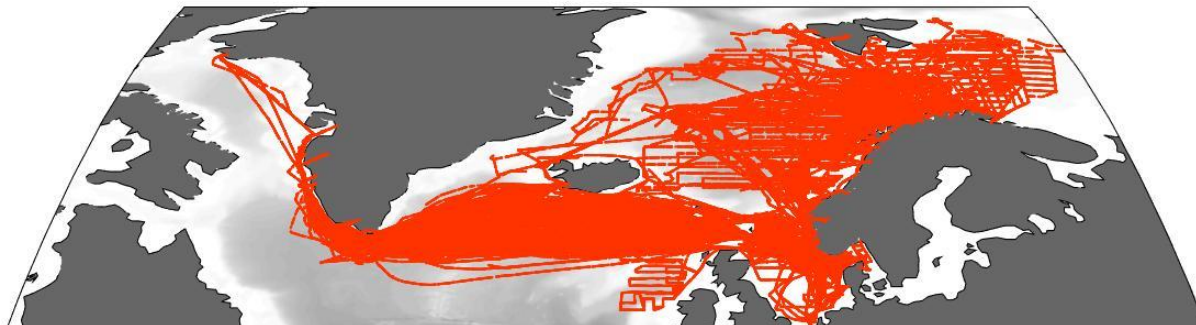


ICOS

National
Network
Norway



PI: Ingunn Skjelvan

NORCE

PIs: Meike Becker
Are Olsen



PI: Abdirahman Omar

NORCE



PIs: Agneta Fransson
Ylva Ericson





- *all lines are in operation*
- *data are flowing into databases*
- *data are being utilised in a range of activities*

A major move

Nuka Arctica



Tukuma Arctica



- Replaced Nuka April this year
- Long term deployed on the line
- Allowed onboard, despite COVID-19
- Travel cumbersome, few flights + quarantine

A major move

Tukuma Arctica

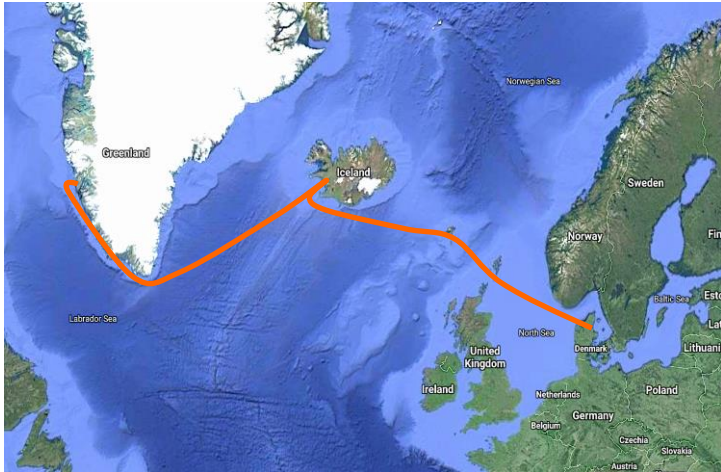


A major move

Tukuma Arctica

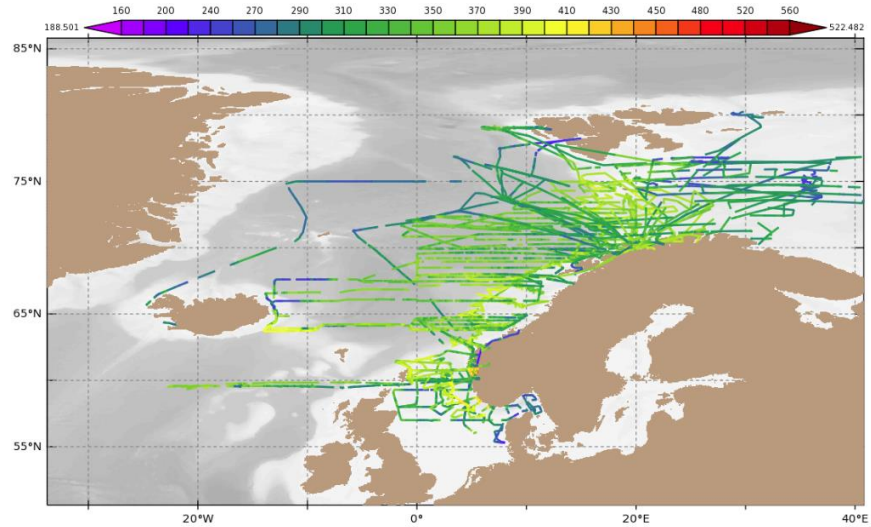


Tukuma Arctica 2020 -



- $p\text{CO}_2$ instrument is running
- Position, SST and oxygen optode and internet connection will be installed during the next weeks.
- **We hope to get our first data next week!**
- **CLASS 1 certification kept**

R/V G.O. Sars – ICOS class 1 Station

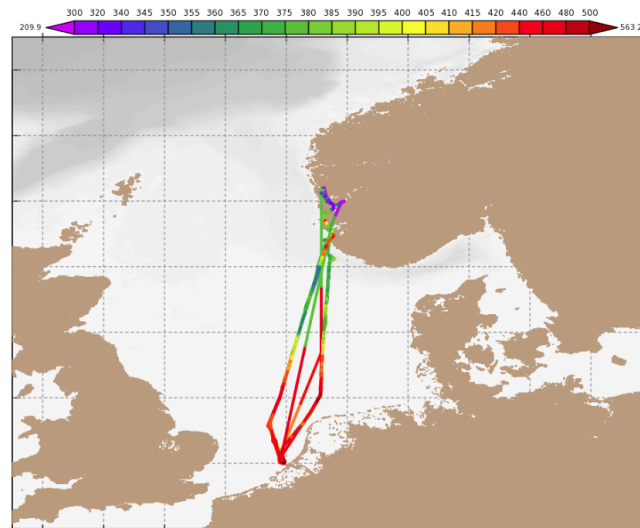


All data since 2016

- In operation since 2003
- Upgraded and operationalised in ICOS –Norway
- Class 1 certification in 2019
- Uneventful operations in 2020

Trans Carrier

- System installed in 2017.
- Labelling ongoing, expected done by summer 2021.
- Computer breakdown on Sep 2019. Solved March 2020.
- Good data recovery in 2020 (Mar-Jun) - but broken Temperature probe.
- New Temperature probe purchased and scheduled to be installed medio Nov 2020.



RV Kronprins Haakon



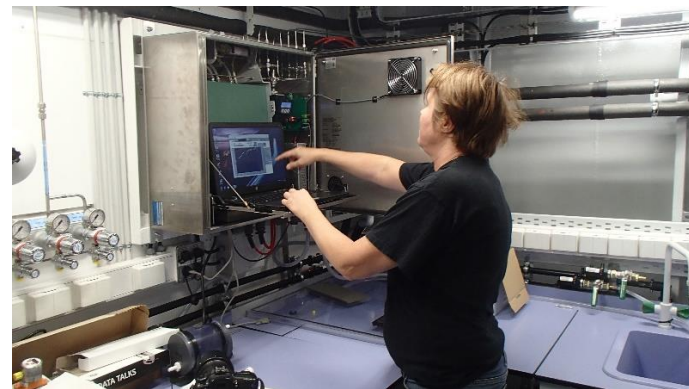
2018 - 2019



2020

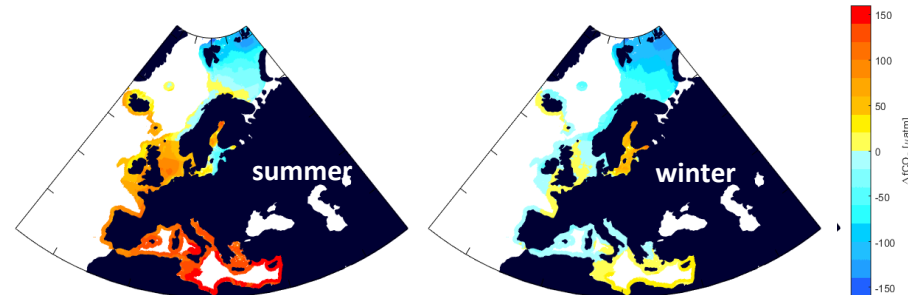
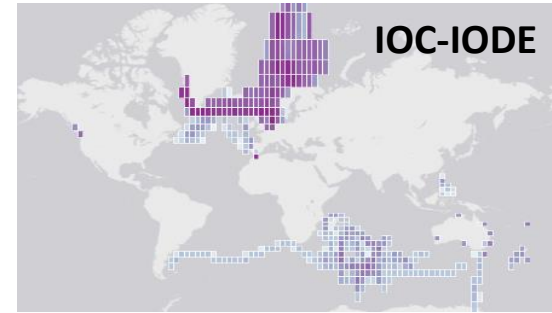
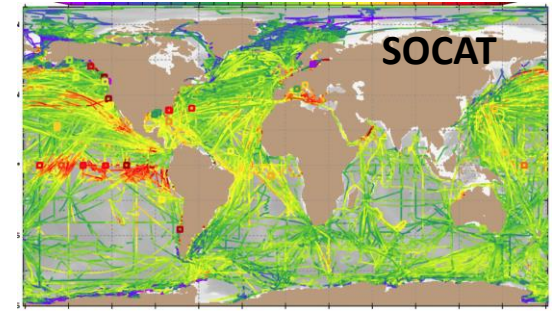


- Installed instrument in July 2018
- External sensors at water intake system: Chl/fluorescence, CDOM, and pH
- Has worked well since then, but some recent COVID gaps
- Final stages of labelling passed, expect final approval in November (CLASS 2)
- Presentation by Agneta



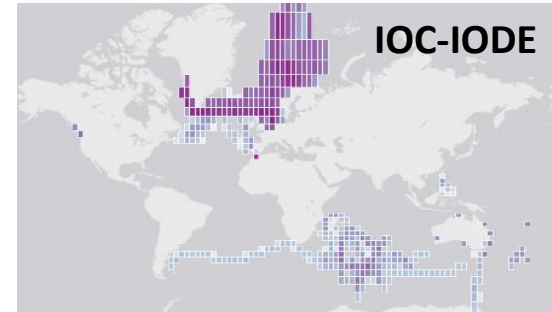
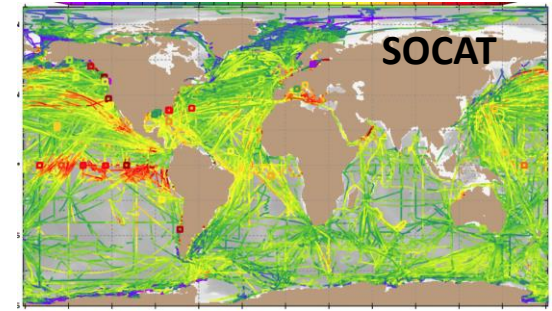
Utilization

- An essential component of global ocean observing system
 - Data freely available via ICOS CP, SOCAT, COPERNICUS
 - Used in many global and regional studies
 - Global Carbon Budget
- Contributes directly to UN SDG14 assessments on OA
- Coastal flux maps used in atmospheric inversions (ICOS & VERIFY)
- NRT data from GO Sars and Nuka/Tukuma via CP



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- NRT data from GO Sars and Nuka/Tukuma via CP
- Norwegian projects: Nansen Legacy, Ocean Acidification monitoring (Envr. Agency)
- Many MSc, PhD and postdoc level projects
- Interactions with other RIs (NorEMSO, NorArgo)



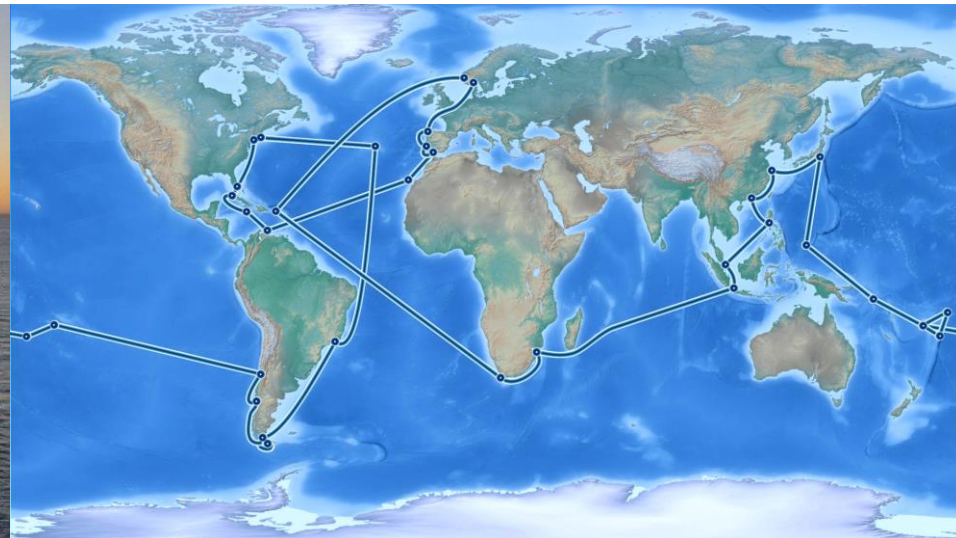
Plans



- Maintain and make better
- Trollfjord installation
- Presentation by Kai Sørensen



Plans



One Ocean circumnavigation 2021-2023
NRK "sommerbåten" 2021

Thanks for listening

NORCE



NORCE



NIVA

Norsk institutt for vannforskning