

# SEA ICE, ICEBERG, AND OCEAN DRIFT OBSERVATIONS in the Greenland Sea

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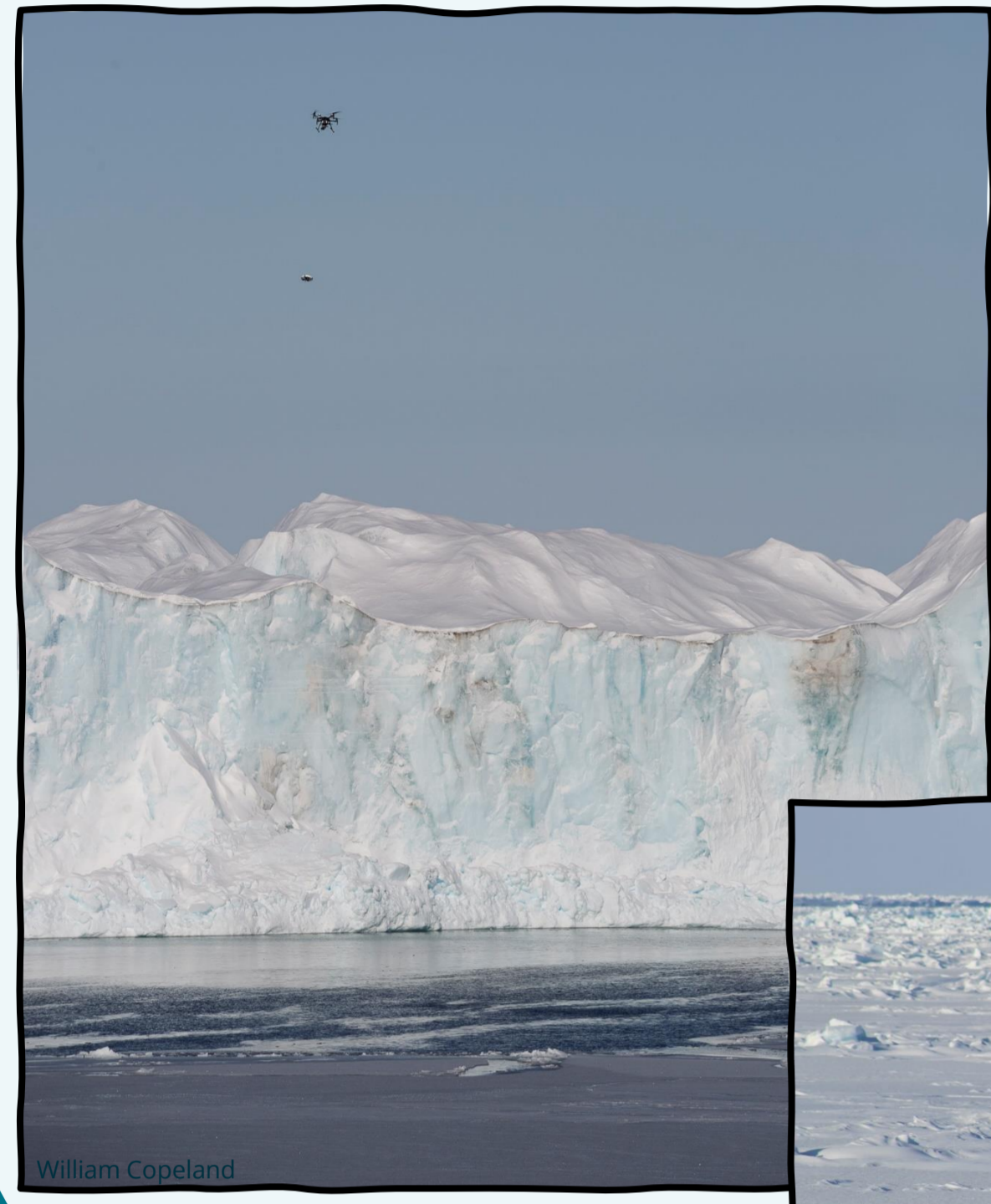


## DRIFTER DEPLOYMENT

- CIRFA-22 cruise to Western Fram Strait
- 20 drifters deployed:
  - 17 on sea ice (manually)
  - 3 on icebergs (by drones)
- April-May 2022
- auxilliary snow and ice measurements at deployment sites

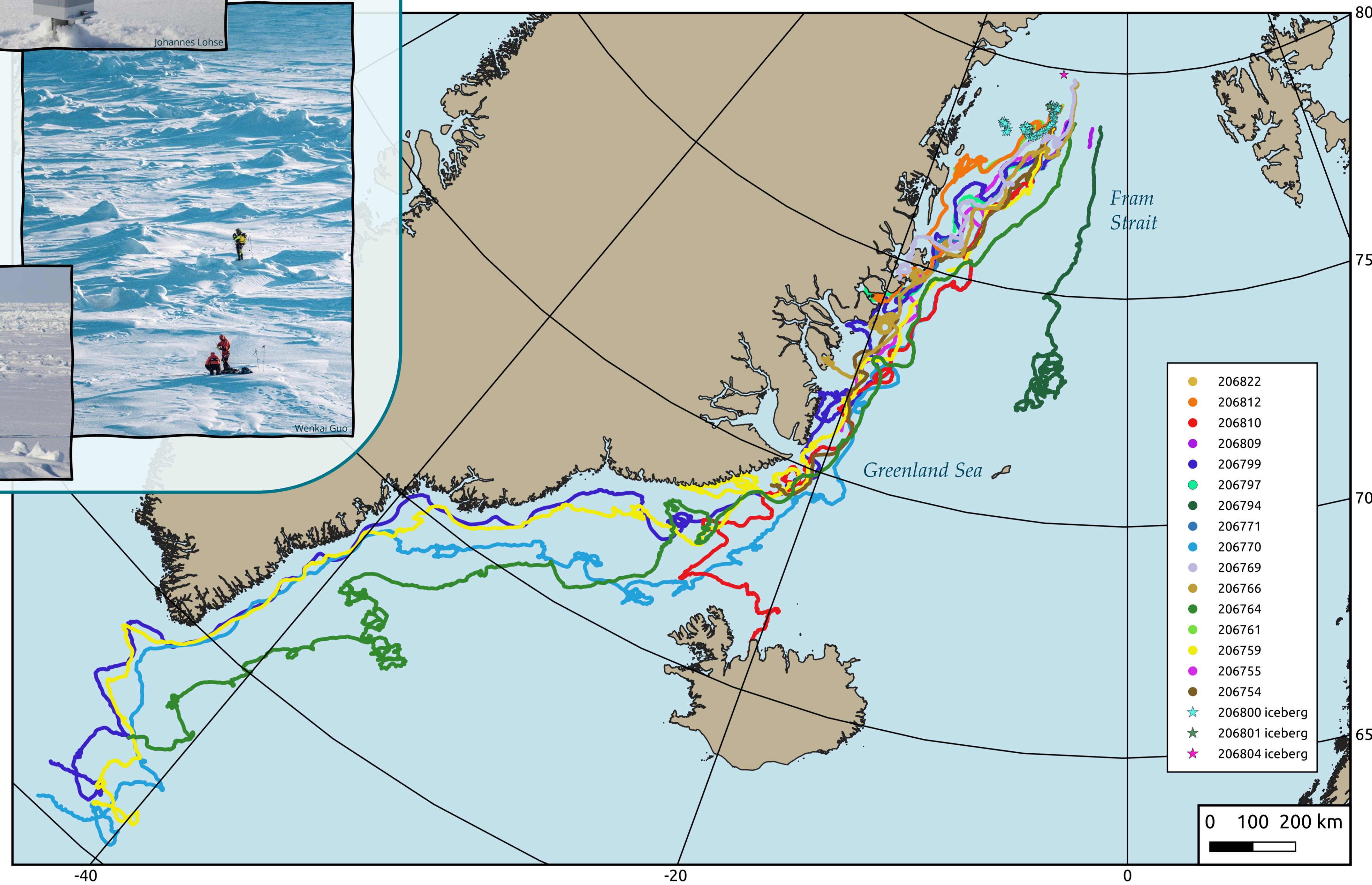
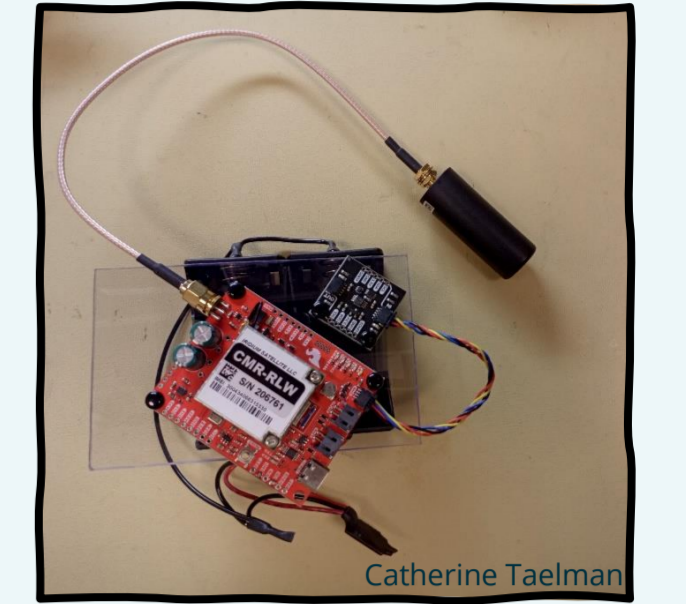
Drifters sample:

- GPS position every 30 mins
- wave measurement every 3 h



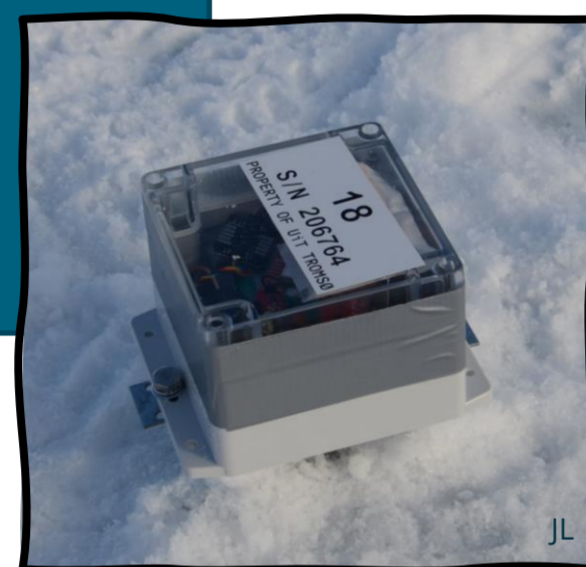
## DRIFTERS: THE MAKING OF

- All 20 drifters were built in-house at UiT
- drifter = Arduino + GNSS modem + wave sensor packaged in watertight box
- built after OpenMetBuoy design (Rabault et al.)

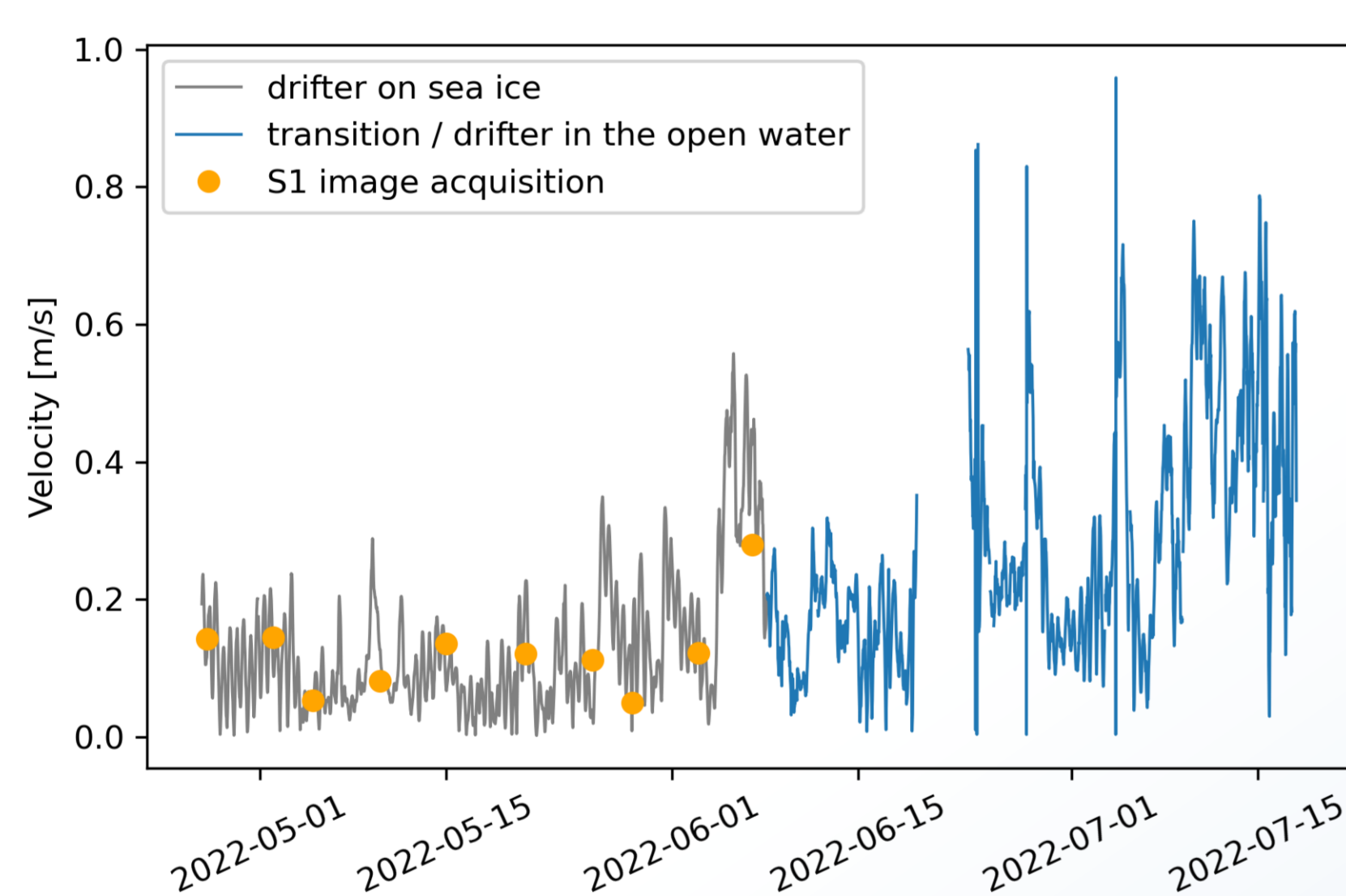


Complete drift trajectories of the 20 buoys, ranging from April-December 2022.

## BEHIND THE SCENES

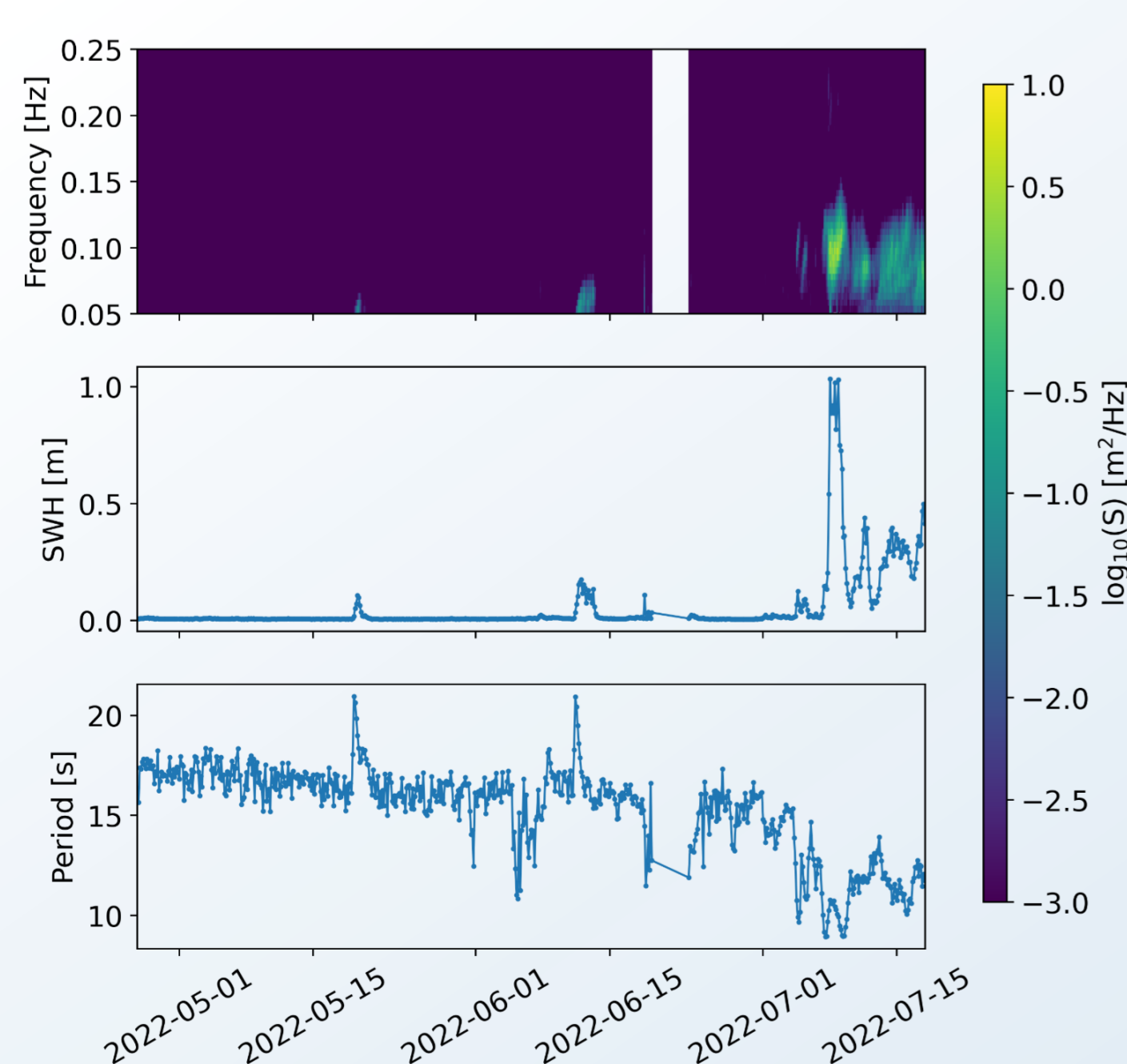


## In-situ sea ice and ocean drift velocities



## Wave spectra

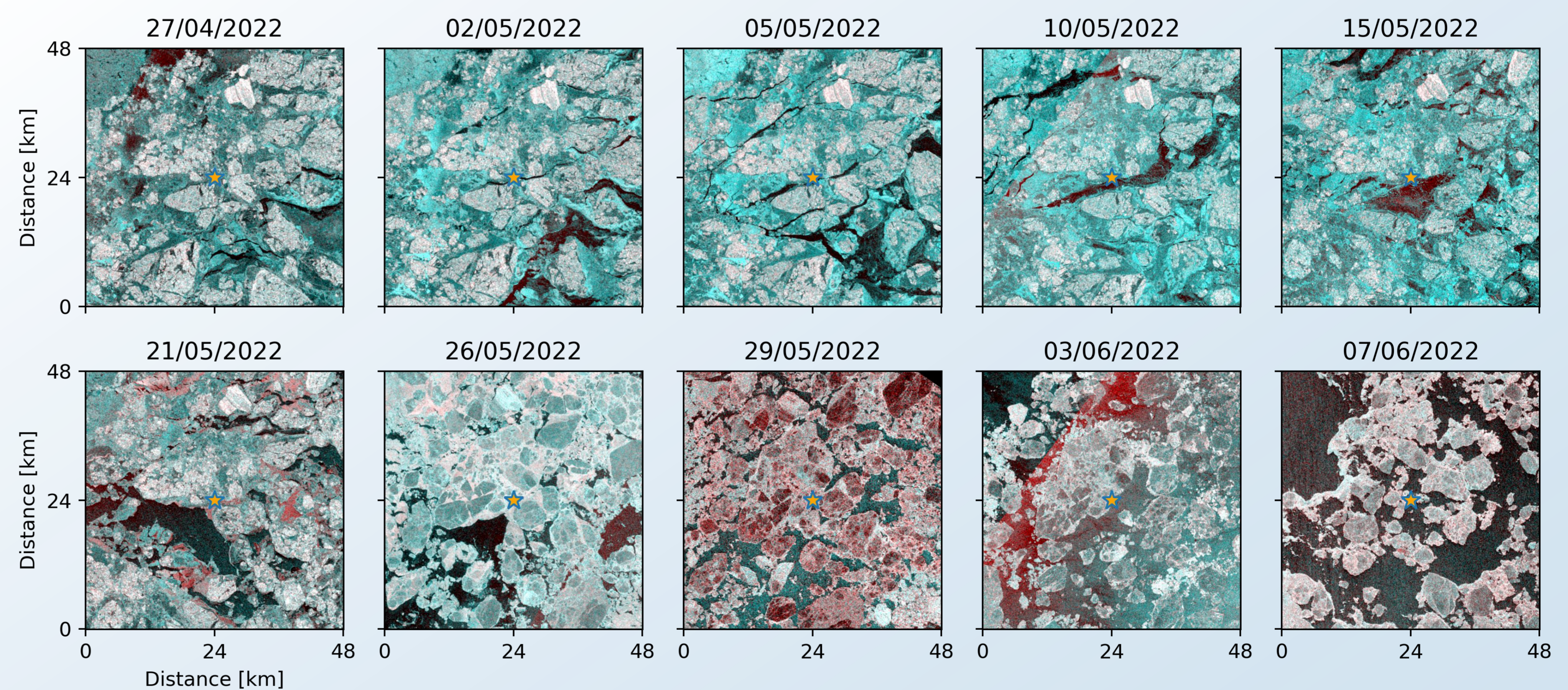
Detect transition from sea ice to ocean drifter.



## CASE STUDY: DRIFTER 206754

### SAR sea ice time series

Selected Sentinel-1 imagery visualized as false color (HV-HH-HH). The drifter location at the time of image acquisition is marked with an orange star.



→ rare opportunity to study fast-drifting ice floes during the transition from freezing conditions to melt onset