



International Nutrient Inter-Comparison Voyage: Newsletter #14

We are back, and it went well



Photo Credit: CSIRO Chloe Creed

INIV is back!

RV Investigator has returned to Hobart after a successful INIV voyage. Voyage participants stepped foot back on land on a chill Sunday morning. After a quick welcome by a few friends and families, demobilisation got underway before some late celebrations at the Dark Mofo Festival were enjoyed by all.

Welcome

Welcome to the fourteen INIV newsletter. We are freshly back from the successful INIV voyage. In this issue you will find a **summary** of the **voyage** and the **Ocean and Coastal Nutrient Symposium**. This is followed by a **call for abstract** for our **Ocean Science Meeting 2024** session, and some fun facts from the voyage!

Thanks for the Support!

We would like to start off by thanking all our participants, partners, and stakeholders in supporting the delivery of INIV. The voyage presented a number of complex logistical challenges and its success was in no small part to all the support we (and our participants) received. Thank you all.

Andreas Marouchos
Chief Scientist – INIV2023

INIV voyage summary

RV Investigator set sails on Monday 5th of June with 32 scientists and support staffs (joining 20 crew members)

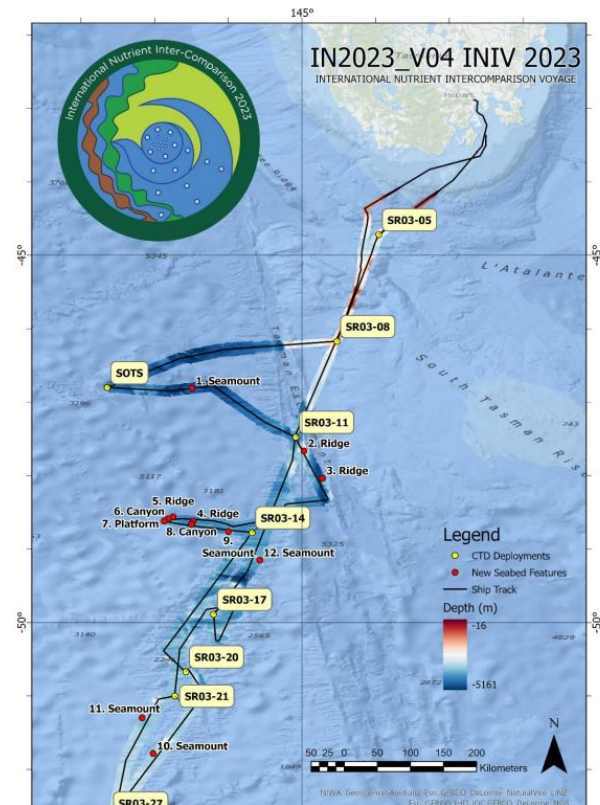


Figure 1. INIV Voyage track and sampled stations.

onboard. Prior to the first CTD deployment, the 14 laboratories from 12 different countries took part in a first at-sea Proficiency Test.



Photo Credit: Andreas Marouchos

Figure 2. CTD sampling onboard RV Investigator.

Sailing through the rough weather we were able to sample 10 CTD stations, encompassing the SR03 transect line, and the Southern Ocean Time Series (SOTS) site. Two of these stations were dedicated to a precision CTD cast, targeting three different depths. The analytical runs at each station included a variety of certified reference materials which will be used to determine measurement uncertainty. A small team of CSIRO staff ran additional experiments overnight investigating the effect of sampling and standard comparisons.



Photo Credit: Andreas Marouchos

Figure 3. Wocjeh and Jason from Analytical Service Tasmania operating their AA500 in the Dirty Wet lab.



Photo Credit: Andreas Marouchos

Figure 4. Li-Fang from Xiamen University operating her AA3 in the dry clean lab.

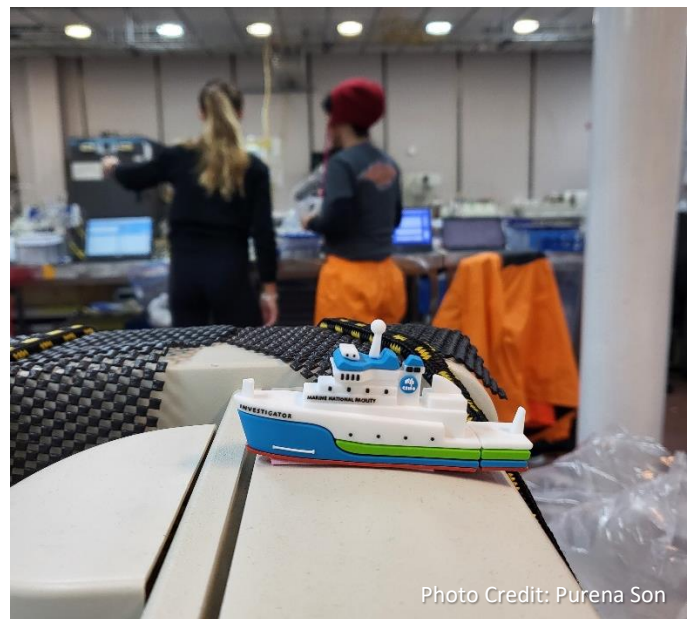


Photo Credit: Puren Son

Figure 5. Miniature version of RV Investigator as a USB key.

This voyage also marked the maiden journey of the HydroBox, our portable hydrochemistry container, which showcased its capabilities and performed crucial experimental work.

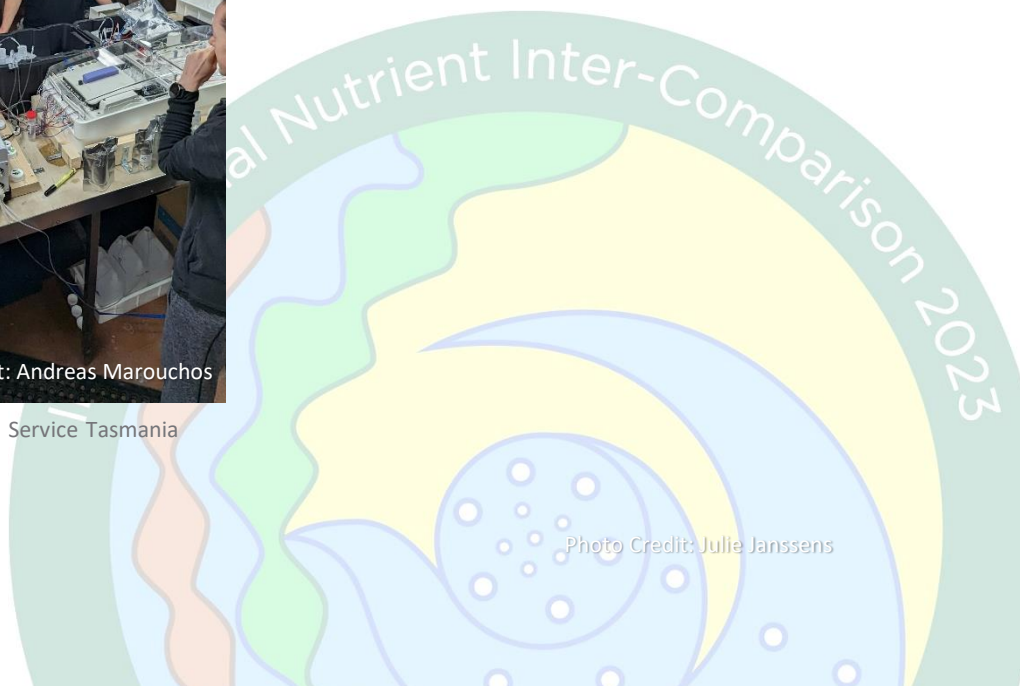




Photo Credit: Julie Janssens

Figure 6. The HydroBox on the CSIRO wharf.

Amidst all the nutrient work, significant milestones were achieved by the Geophysical and Survey Mapping team with the completion of the seafloor mapping of the Southern part of the Tasman Fracture Marine Park, and the mapping of an additional 3 seamounts in the vicinity of SOTS.

The camaraderie onboard was evident as everyone gathered trying to claim the “Big INIV Quizz” championship, catch a “Unique Awards”, or attend a dance class.



Photo Credit: CSIRO/Chloe Creed

Figure 7. (left to right) Purenna Son from KIOST, Madeline Davis from the University of Hawaii, Mariko Hatta from Jamstec, Maxime Grand from the MLML laboratory, and Teng-Yue Fang, Jin-Ming Tang, and Li-Fang Wang from Xiamen University.

Throughout the voyage we also hosted an Ocean and Coastal Nutrient Symposium. On six days we broadcast live talks and at-sea demonstrations attracting participants both onboard the ship and online from across the globe. The symposium culminated with a full day of



Photo Credit: Andreas Marouchos

Figure 8. Voyage participants enjoying end of voyage celebrations.

talks and workshops on the 20th of June in the CSIRO auditorium. As the voyage and the symposium came to a close, the team gathered for a memorable end-of-voyage dinner at the Rockwall, celebrating the experience, achievement, success and new connections they had shared and made together.



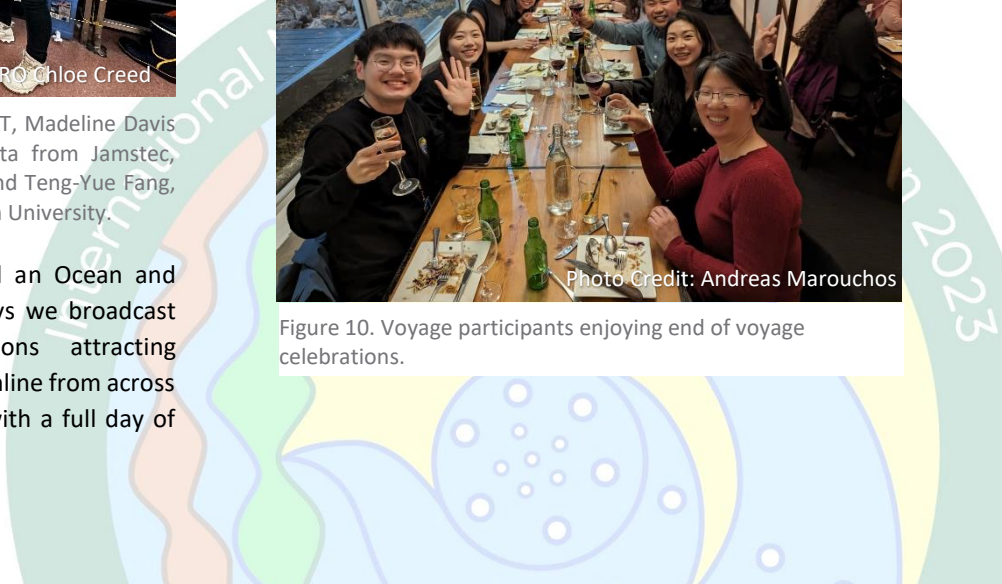
Photo Credit: Andreas Marouchos

Figure 9. Voyage participants enjoying end of voyage celebrations.



Photo Credit: Andreas Marouchos

Figure 10. Voyage participants enjoying end of voyage celebrations.



Ocean Science Meeting 2024 – Submit your abstract!

We are hosting a session at the 2024 Ocean Science Meeting (OSM) which will take place on 18-23rd of February 2024 in New Orleans, Louisiana. The aim of the “**Breaking Barriers: Bridging the Gap in Methodologies and Data Reporting for Ocean Biogeochemistry**” session is to update participants on the latest method developments in seawater and sea-ice biogeochemical measurements, with a particular focus on method standardisation, calibration, and reporting. We welcome participants to present a combination of technical and methods papers alongside more science focused work demonstrating the underlying need and impact of methods development and standardisation in this field. We are particularly keen to see work done around nutrients measurements in seawater and during the INIV voyage. Submit your abstract using this link: <https://agu.confex.com/agu/OSM24/prelim.cgi/Home/0> Abstract must be submitted before **Wednesday, 13 September 2023, 23:59 EDT/03:59 +1 GMT**. Once you submit your abstract please send the details to Julie so we can track INIV related submissions

INIV Data Processing

While the voyage has ended the work continues. The CSIRO team, led by Steve and Harris have begun the task

of processing data for the voyage. We are aiming to complete initial data analysis by the end of August for review by our participants with first publications ready within the following year. We have planned a number of papers and reports and we’ll be sharing progress on those as we progress in their development. Below (Figure 11) we’ve included a preliminary snapshot of some data collected at station 14.

Fun INIV Facts

1. **Conventional Media Outreach (#’s of unique stories):** 76 TV, 185 Radio, 39 Online, one print reaching an audience of over 1,350,000; including the front page article on The Mercury on our departure day!
2. **Social Media Outreach:** 15 posts, 2,415,529 impressions, and 19,028 engagements. The rough sea post on Facebook exceeded the 1.2M views (<https://www.facebook.com/watch/?v=1439217656879981>)!
3. **INIV participants:** 17 nationalities
4. INIV hosted a boomerang national champion (and he was not from Australia)
5. We have learnt that Mageirocophobia is the extreme fear of cooking!

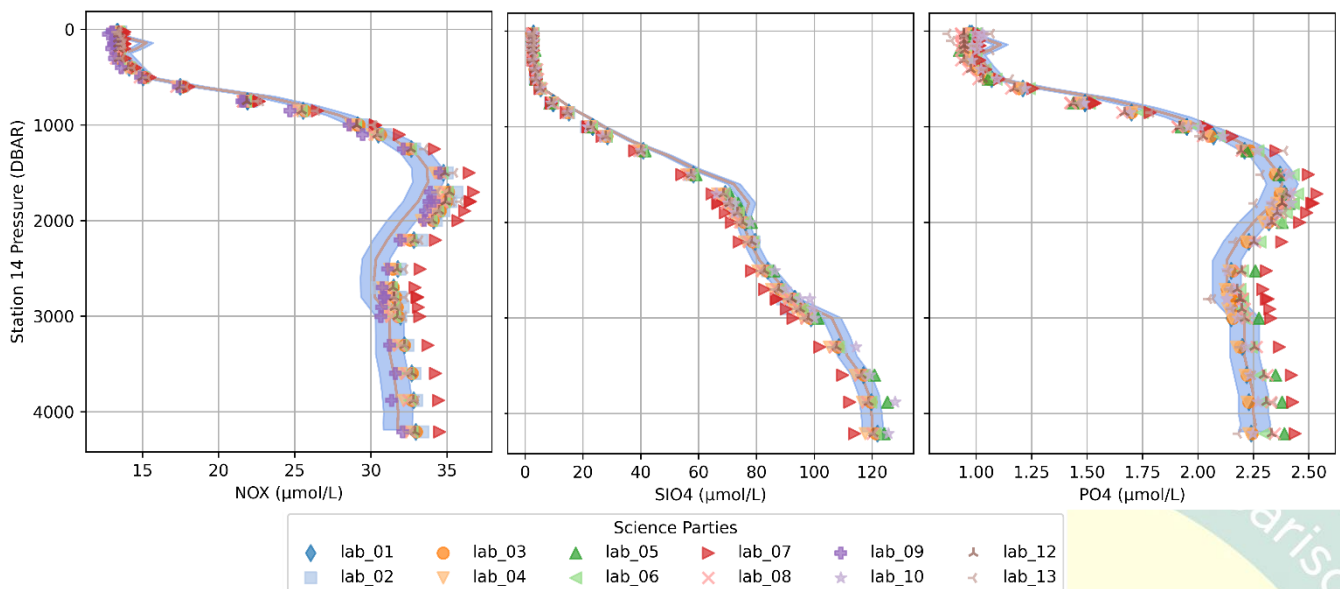


Figure 11: NOx, SiO4, and PO4 concentration (µmol/L) at station 14 measured by each lab during the INIV voyage. The orange line represents the mean of the historical data, and the shaded blue represents a 3 percent error around the mean of the historic data.

Voyage Website

We have a website! Check it out for additional information about our voyage including voyage location, planning, getting involved, previous newsletters, FAQ and more: <https://wp.csiro.au/iniv>

Contact Us

Please feel free to reach out to the CSIRO Hydrochemistry team at any time:
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