

Presented at the FIG e-Working Week 2021,
21-25 June 2021 in Virtuality in the Netherlands



e WORKING WEEK 2021 20-25 JUNE
SMART SURVEYORS FOR LAND
AND WATER MANAGEMENT
CHALLENGES IN A NEW REALITY



Looking astern to chart our way forward

Emily Tidey

*Te Kura Kairūri, Te Whare Wānanga o Otāgo, Aotearoa
National School of Surveying, University of Otago, New Zealand*



UNIVERSITY
of
OTAGO
Te Whare Wānanga o Otāgo
NEW ZEALAND

School of
Surveying
Te Kura Kairūri



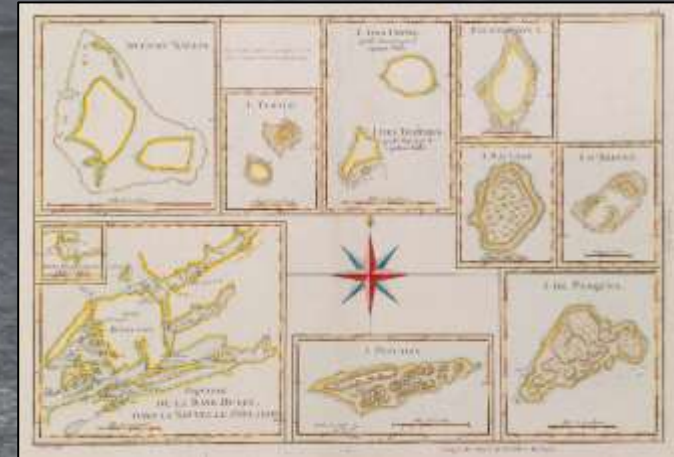
Tuia 250

- “In 2019, Aotearoa New Zealand will acknowledge 250 years since the first onshore meetings between Māori and Europeans. Tuia – Encounters 250 (Tuia 250) is the national commemoration that recognises this milestone in our history.”
(Ministry for Culture and Heritage)
- @ Otago: “Tuia: 250 years of navigation, map making and belonging.” Considering the development of hydrography, nautical charting and hydrographers over the last 250 years in New Zealand.



Tuia 250 projects

- People
- Technology
- Hydrographic investigations elsewhere...



Tuia 250 project findings – people

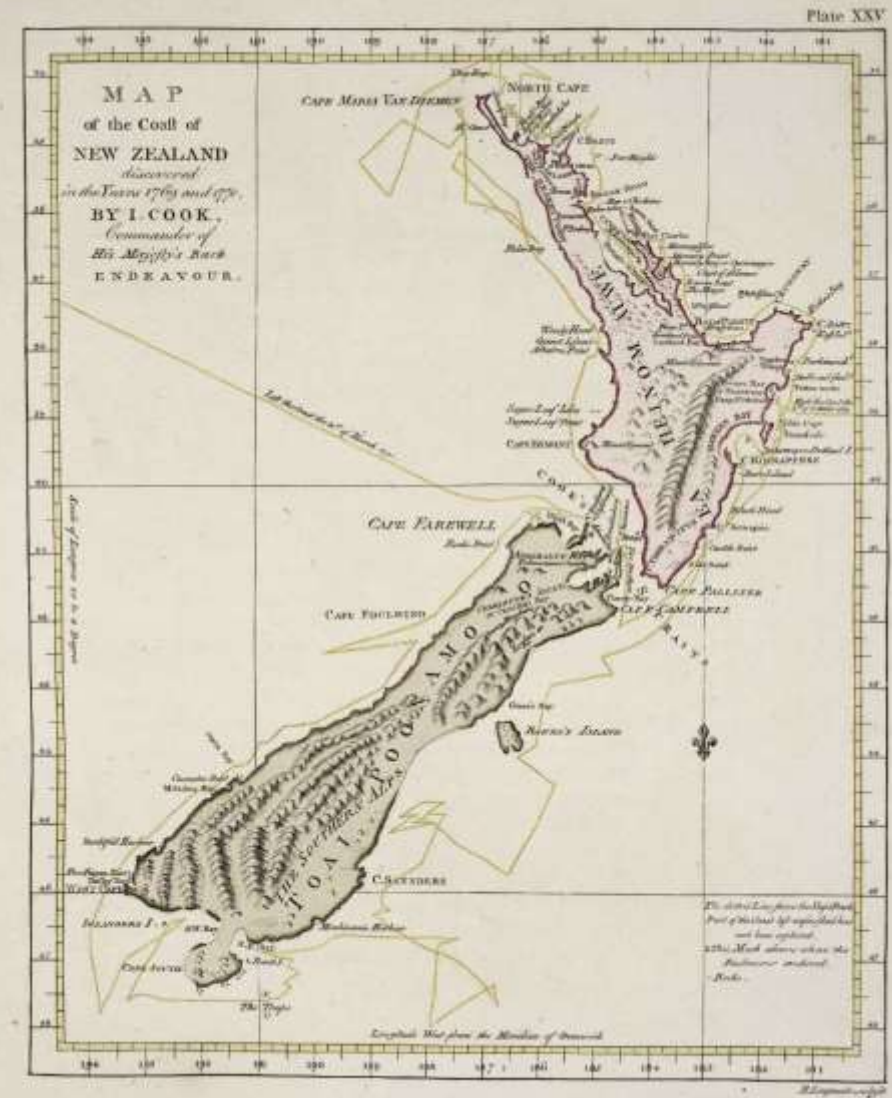
- Sent to S+SNZ, AHS members and contacts.
- 51 responses over the month **THANK YOU!**
 - 43 male, 8 female
- 82% NZ European, 2% Māori, 2% Samoan, 16% other
- Where have you done hydrographic surveying:
 - 76% in NZ
 - 86% overseas
- 37% see themselves on a continuum from early explorer/ surveyors like Cook or Tupaia (“same thing” is being done with newer technology).



<http://www.haslemerefestival.org.uk/events/talk-captain-james-cooks-voyages/>

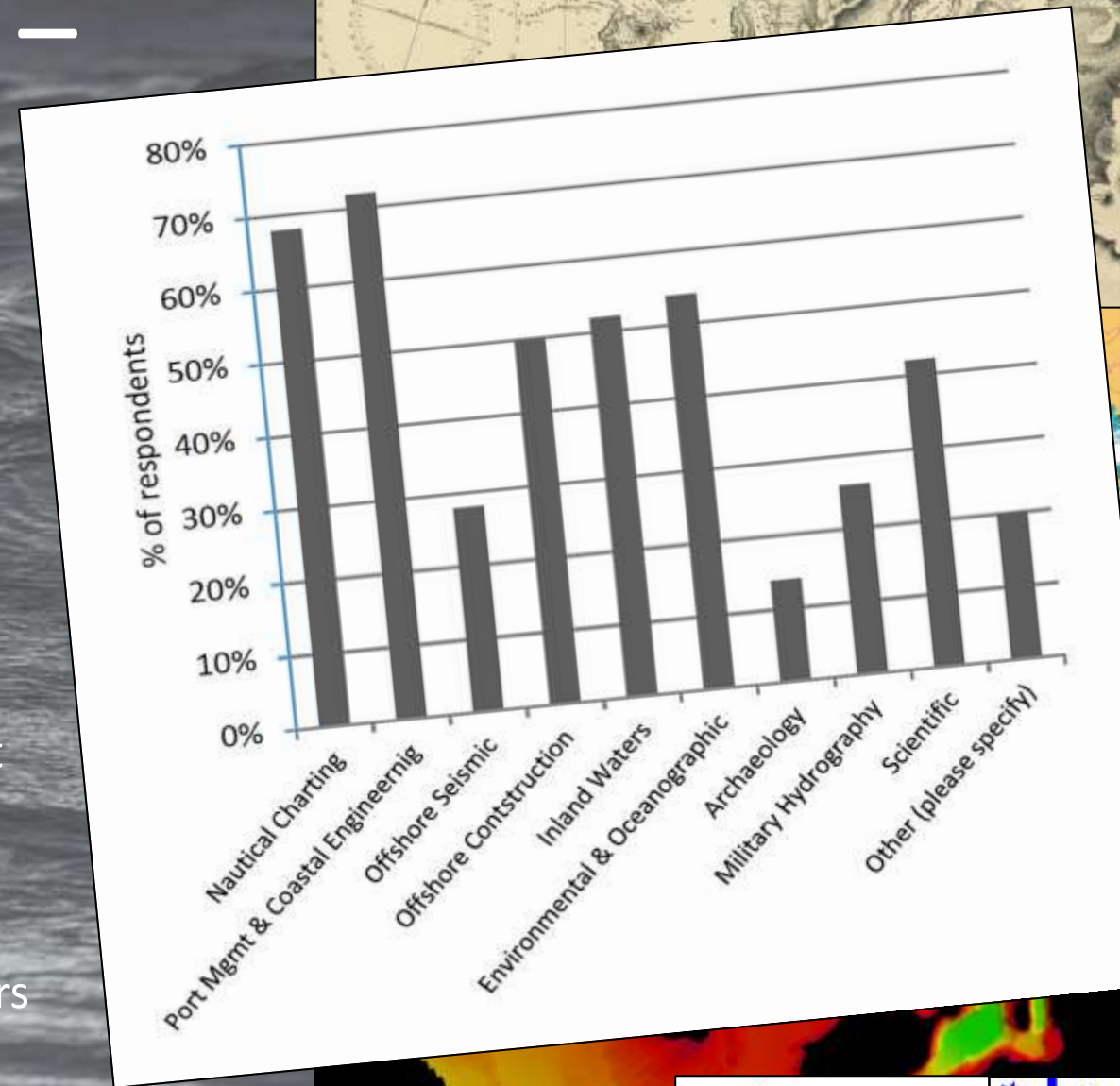
Tuia 250 project findings – technology

- Data at richer densities, increasingly higher accuracies and in more environments (deeper and shallower)
- Charting
 - Not using all of this data
 - Change from exploration to risk-based
- Support of science, environmental and engineering
- Growth in autonomy



Charting our way forward – Insights

- Technology change
- Experiences, methods and procedures
- Growth in type of operations:
 - Port Management and Coastal Engineering
 - Inland Waters
 - Environmental and Oceanographic
 - Scientific
 - UN Development Goal 14: Life Below Water
 - Nippon Foundation GEBCO Seabed 2030 Project
- ‘Smart Surveyors’
 - Link land and sea
 - Automation challenges
 - Work on isolation and mental health of surveyors
- Public understanding



Charting our way forward - Representation

- Tuia 250 different to previous commemorations
- Ethnicity
- Gender
- Education/training
- Age
- Public understanding



Special Edition of the NZ Surveyor Journal

- *For those interested in the full text of the Tuia 250 papers referenced here, an online copy of the Special Edition of the New Zealand Surveyor journal 2019 is available at:*

https://www.surveyspatialnz.org/members/Publications/nz_surveyor_journal



Cook: Our Professional Ancestor - Tidey, E. J., Jurgens, K. M., & Morrison, J-L. B.

Charting Our History - Tidey, E. J., Morrison, J-L. B., & Jurgens, K. M.

THANK YOU

- *Generous chart donation:* Personal donation from Ron Tyson (of NZ Ocean Technology Ltd)



- *Amazing student sponsorship and support:* Australasian Hydrographic Society (AHS)

Australasian Hydrographic Society

Promoting the science of hydrography and marine exploration



- *Digital chart records and multibeam:* LINZ (particularly James Ford)



- *Library materials and support:* Karen Craw from the Hocken Library
- *Education and research software licensing:* ESRI ArcGIS

