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UniSQ Pacific Project

Chris McAlister

Aaron Hick



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Who we are...

Chris McAlister

Professional Fellow (Surveying)

- ☺ = I have lots of students to keep busy!
- ☹ = I have lots of students to keep busy!
- Sharing the Geodesy love through open resources





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Who we are...

Aaron Hick

Cadastral and Consulting Surveyor

Geodesy Hack / Heathen (thank you
to all here)

& Capacity Building OG





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About UniSQ Surveying

- Regional University based in Queensland Australia
- Approx 80% of our students study online
- From Australia and overseas
- Average age of 1st year student is 28
 - people already in surveying upskilling
 - People changing from other careers
- This year we had 240 first year students!



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Bachelor with Honours

- 4 years
- +2 On Campus Courses

Bachelor of Surveying

- 3 years
- +1 On Campus Course

Associate Degree

- 2 years
- 2 practical courses

Undergraduate Certificate

- 6 months
- 4 courses

Approximately 40-60 Honours students each year so LOTS of projects needed!

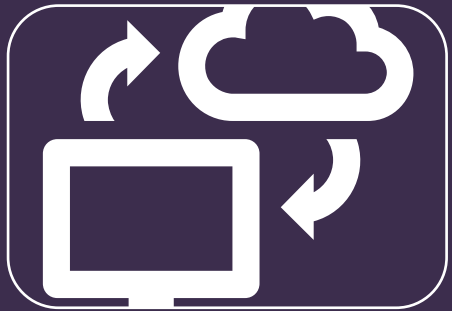


Control
Networks
don't care
about the
weather!



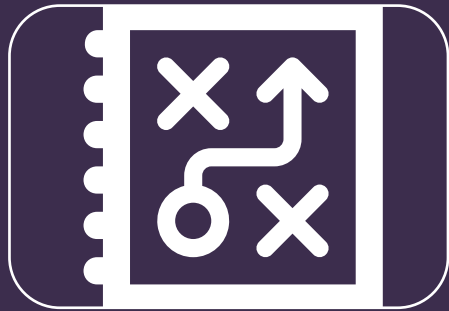
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Chapter 1: Where in the world is Kiribati?



nteering in Kiribati and i
nd learn how to pronou
igger

Software
issues



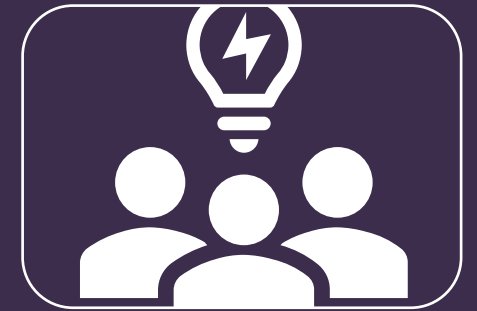
Where is
Kiribati?



Pronounce it
properly!



How else can
we help?



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nd learn how to pronou
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Phone some
friends!



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Chapter 2:

Kiribati

Adventure No. 1



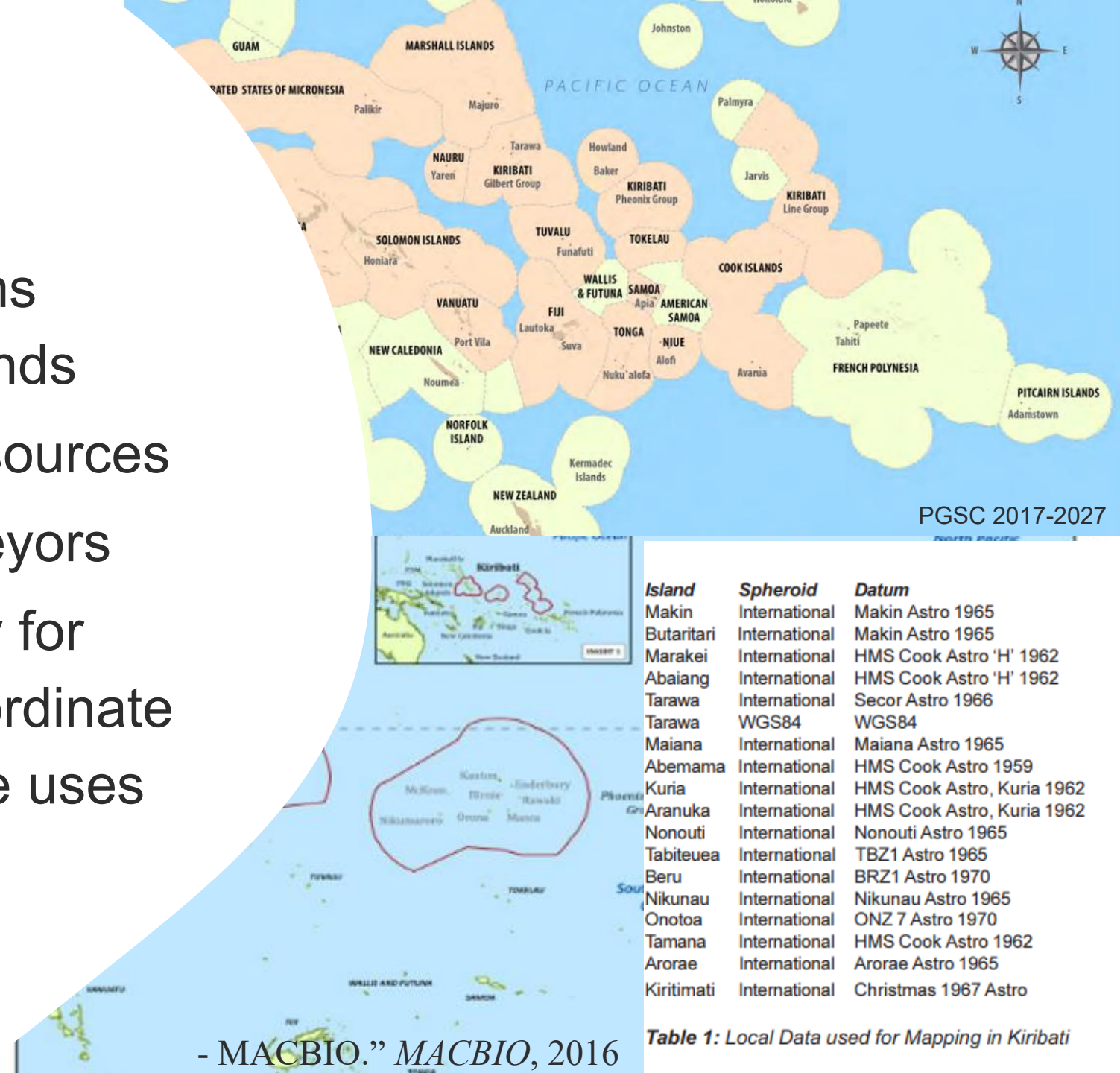


Kiribati Adventure No. 1

- Hannah Watson, Honours student – building a framework that can help people determine where they're at in the Geodetic Supply Chain to prepare for modern datums & capacity building
- Spoke to EVERYONE we could about how an improved datum and coordinate system could assist their work (and how the current one restricts them)
- Preparing for the New Colombo Trip

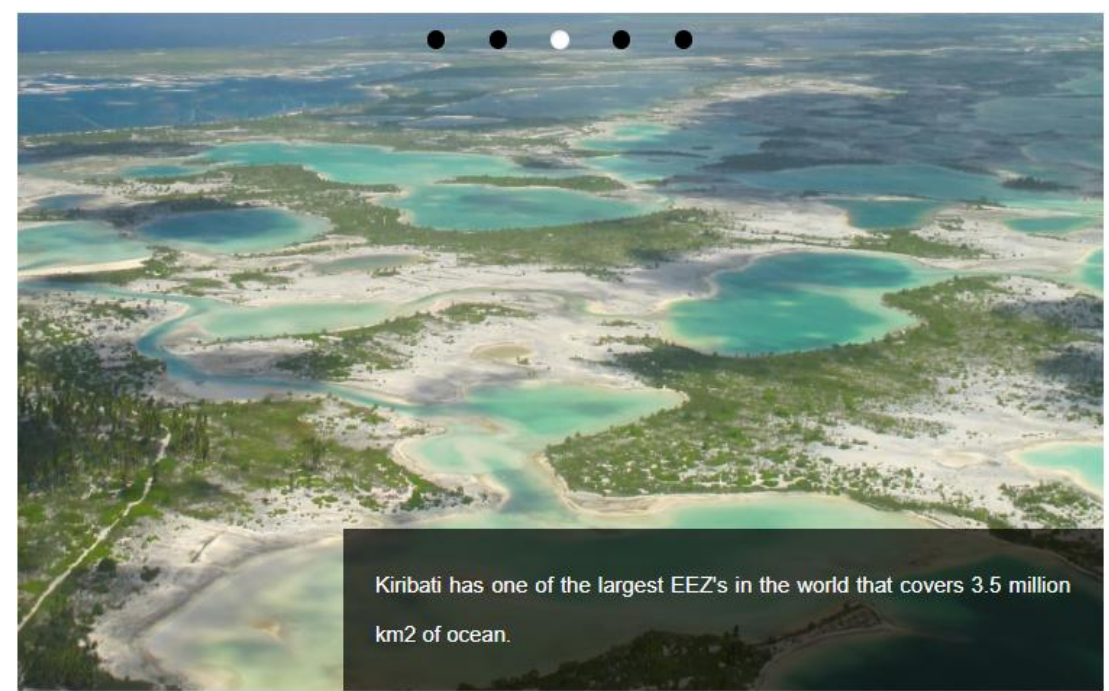
Research background

- Historic systems
- Multiple coordinate systems utilised across Kiribati islands
- Opportunity to develop resources
- Capacity building for surveyors
- Understanding opportunity for new united datum and coordinate system that allows multiple uses



Importance and Benefits

- Need has been identified by Kiribati's government
- Aligning the coordinate system to international GNSS systems
- Global Geodesy Supply Chain
 - UN Global Geodetic Centre of Excellence (UN-GGCE)
- Kiribati has one of the largest Exclusive Economic Zone (EEZ)
- Immediate impacts & longer-term plans



Kiribati - MACBIO." *MACBIO*, 2016



"Marine Spatial Planning Banner – Tarawa, Kiribati - MACBIO." *MACBIO*, 2016



Chapter 3: New Colombo Plan Mobility Project

- New Colombo Plan Mobility Project funded by Australian Department of Foreign Affairs and Trade (DFAT)
- \$107,000 funding to bring Surveying Students to Kiribati
- 4 to 12 week placements within LMD offices in Tarawa and Kiritimati
- Thanks to Land Management Division (LMD), MELAD & Bill Chapman for their support in preparing the application and developing the idea
- Wrapped in a nice layer of the UN GGCE work we're all a part of!



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Side Quest!

What do you call a Total Station in your
country?



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Goals for students

- Undertake necessary research for their Honours Projects, which will focus on Kiribati Survey research needs,
- Provide mentoring and support for Land Management Division surveyors,
- Develop a personal understanding of Kiribati culture and Surveying needs, and
- Develop an understanding of the local language, including specific Surveying lexicon



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Chapter 3:

Kiribati

Adventure No. 2





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Adventure No. 2

28th August for 12 weeks

7 students

1 Chris

Working with LMD on day to day

LMD & SPC to deliver on key
projects



Student Project Work...

Some current project ideas (feel free to contribute more!)

- Creating a localised geoid model using local level data inputs combined with global geoid model
- Evaluating existing GNSS data to a common ITRF epoch to establish updated (intermediate) datums for outer islands
- Participatory GIS for land boundary and water/sewer service location
 - Collaboration is key – benefits go both ways!



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Capacity Building

- Support from Geoscience Australia, Dept of Resources Queensland, Spatial Sciences NSW and other experts across Australia, New Zealand and across the globe
- Building partnerships to assist in Geodetic capabilities (No one needs to do everything!)
 - Processing
 - Private sector support
 - Other Government's services



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Capacity building our own people...

Bringing people along for the journey

- Supported by UN GGCE
- DFAT
- Students
- Colleagues understanding of the Geodesy Supply Chain



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The next Chapter
is yet to be
written...



Challenges

Navigating the funding systems can be challenging!

- New Colombo Plan = DFAT
- Australia Volunteers International = DFAT
- Education Scholarships = DFAT
- Aid Projects = DFAT

...we need a better approach to ensure efficient Capacity Building

Opportunities

- University & student visits can be done through New Colombo Plan Mobility Grants
 - Require letter of support from in country Department
- Volunteers with Professional skills/qualifications can be requested through Australian Volunteers International (AVI) or VSA (NZ)
- Retired gurus looking for things to do!
 - Can be in country and virtual for short and long term

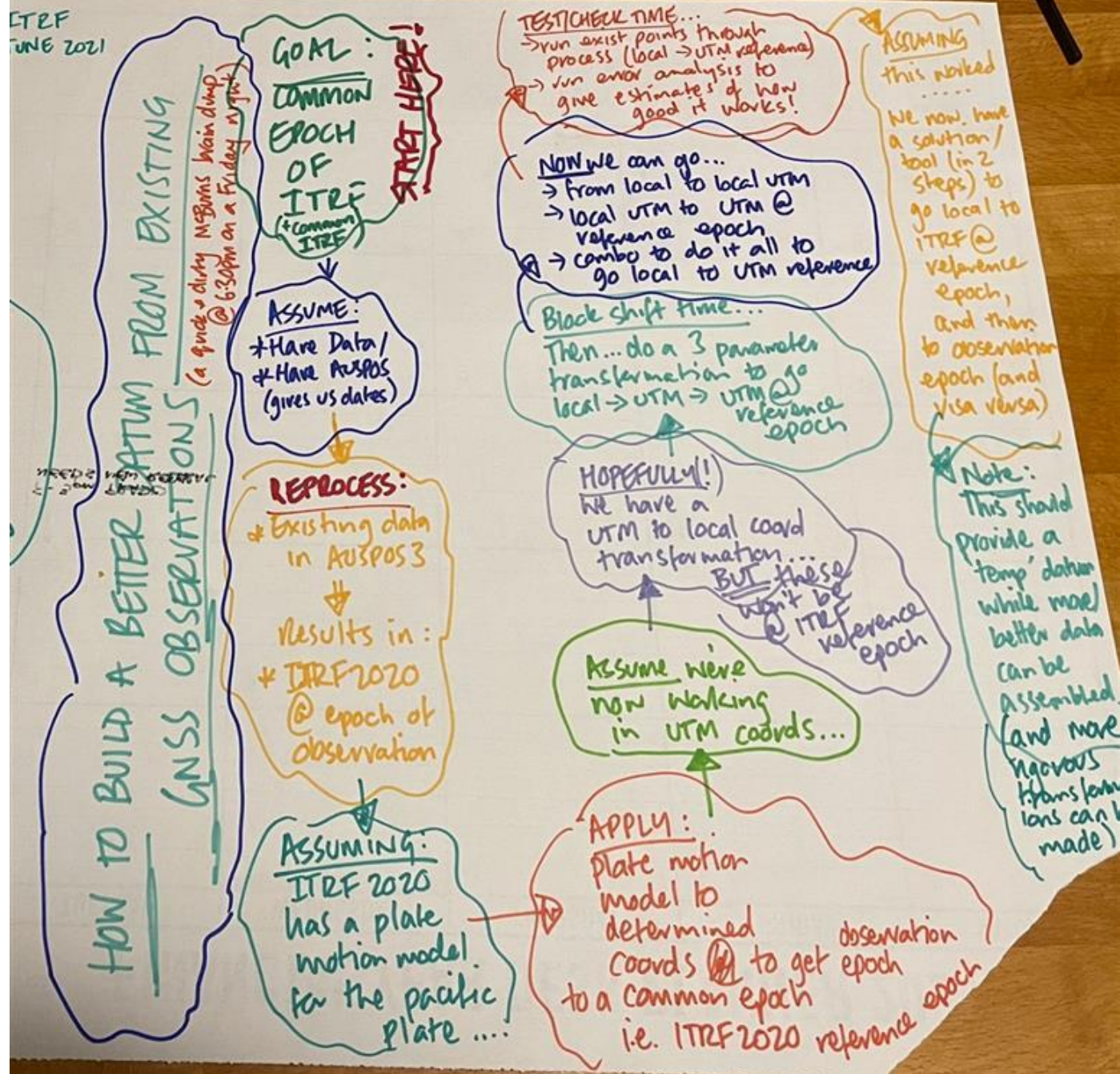
Opportunities

- Connection through UN GGCE, SPC (or equivalent) organisations for support, networking and development opportunities
- Never be afraid of asking a specific person for help! You're all nice people!
- Industry Opportunities....

Industry Interaction / Opportunities

- Consulting work enables travel and unique interactions
 - Build and leverage networks
 - Lean on them and anticipate / expect support
- Industry (especially infrastructure partners) are regularly in-country. Can you engage with them?

Sometimes help comes
from weird & wonderful
places...



Into the future...

Keep students busy & doing meaningful work!

Assist with Capacity Building wherever we are asked

Recognising that small things can have big impacts

- Gear – equipment, drills, repair kits
- Operating Procedures/Techniques
- Learning resources
- Knowledge & networks
- Navigation of complex support systems

Closing Comments



Universities have an important role to play in capacity building beyond just offering Degrees



Opportunity for all sorts of projects, help & support. We are all only at the beginning of our Geodesy Journey!



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