

Post-training report introduction to RTK GNSS Surveying

Secretariat of the Pacific Regional Environmental
Programme (SPREP)



Sustainable, transformative and resilient for a Blue Pacific

Post-Training Report
Introduction to RTK GNSS Surveying
South Pacific Regional Environmental Programme



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1 Project Summary

Following on from the acquisition of RTK GNSS equipment for mapping geohazards such as storm surge and flood inundation vulnerability, Mangoesmapping delivered three days of RTK GNSS training to a small group of professionals, from VMGD (VAN KIRAP), Public Works Department and Department of Water Resources.

The training was a mix of theory, delivered in a classroom setting using PowerPoint presentations and printed handouts, combined with applied (hands-on) training to reinforce the theory and develop confidence using the new RTK GNSS surveying hardware for mapping tasks. To maximise the hands-on training time for individual trainees, Mangoesmapping brought additional RTK GNSS survey hardware from Australia temporarily for the training course.



Figure 1: Trainees with Mangoesmapping’s Alistair Hart and Van KIRAP Manager Sunny Seuseu

The formal scope for the training outcomes and topics are defined on the following pages, however wide ranging ‘bonus’ topics related to mapping and surveying were included. These were accommodated during conversations, PowerPoint presentations and evening ‘whiteboard sessions’ that extended well beyond formal training times and on a bonus half-day training while Alistair was in Port Vila.

Digital copies of all training materials (slide decks, handouts etc.) and additional support materials such as survey planning equipment checklists and in-depth 3rd party technical



training videos for professional surveyors were also provided on a USB memory stick for future reference.

Both classroom and hands-on field training were delivered by Alistair Hart, General Manager for Mangoesmapping, at the VMGD premises in Port Vila over the period 18-20 July, with bonus half-day training on Friday 21st.



Figure 2: Trainees practising survey techniques with RTK GNSS equipment at VMGD, Port Vila

As part of the training program, local media were invited and communications were produced in Bislama, including (English-language) interviews with Alistair to highlight this investment in new capability for promotion through VTBC (national news, Facebook and YouTube) and Van KIRAP media (social media channels).

2 Extension Activities

Whilst in country, Alistair Hart from Mangoesmapping attended the Vanuatu GIS and Remote Sensing User Group meeting at the Vanuatu Bureau of Statistics (VBoS), and presented on the use of RPAS (drones) and RTK GNSS technologies for monitoring sediment movement in 4D, in complex erosion gully structures that impact on Great Barrier Reef water quality.

Following on from completion of the in-person training, Alistair has provided remote telephone and WhatsApp to two of the training recipients to assist in the practical implementation of some course outcomes.



3 Training Outcomes

1. Establish long-term reference benchmarks
2. Establish a base station
3. Collect precise 3d points with a rover
4. Re-locate pre-existing 3d points (ie. to assist with longitudinal monitoring of coastal erosion)
5. Determine changes in elevation at monitoring points
6. Care for and maintain GNSS survey equipment

4 Topics Covered During Training

1. Establishing a benchmark
2. Setup and levelling a tripod
3. Use of tribrachs and tribrach adapters
4. Configuring GNSS receivers - GNSS settings, radio settings, base/rover settings etc.
5. Static logging
6. Setting up base station receiver
7. Setting up rover for data collection
8. Connecting to a CORS station (eg. AUSCORS) for internet-based correction data
9. Training in Emlid Flow app
10. Downloading field data for subsequent use on a computer

5 Training Participants

- Jonah Taviti - Van KIRAP Water Coordinator
- Aetrian Robert - Department of Water Resources
- Jason Wai - Department of Water Resources
- Clifford Vusi - Department of Water Resources
- Sunny Seuseu – Van KIRAP (participated in some sessions where possible)
- Connie Sewere – Van KIRAP
- Iuma Bani – Vanuatu Meteorology and Geo-Hazard Department
- Arty Iman – Public Works Department
- Raviky Talae - Public Works Department

6 Conclusion

On a personal note, trainer Alistair Hart greatly appreciated the opportunity to help grow capability for Vanuatu public servants to adopt contemporary survey technologies to assist in



mapping climate hazards and related adaptation strategies and welcomes continued dialogue with training recipients and SPREP / Van KIRAP project staff - Tangkyu tumas!