
PLACE19
Te Kahui Manu Hokai
Māori GIS Association
tekahuimanuhokai.org

He Mihi **2**

Kaupapa at a Glance **4**
Wenerei 4
Rāpare 4
Rāmere 4

Whakamihi **5**

Kaupapa mō te Wenerei 13th Whiringa **7**
Abstracts and Presenter Biographies 7

Kaupapa mō te Rāpare 14th Whiringa **12**
Abstracts and Presenter Biographies 13

Kaupapa mō te Rāmere 15th Whiringa **22**
Abstracts and Presenter Biographies 22

A digital copy of this programme is available from
tekahuimanuhokai.org

He Mihi

E nga iwi,
E nga mana,
E nga reo,
E nga karanga maha,
E nga maata waka katoa o te motu,

Tena koutou katoa

It is with pleasure that Te Kahui Manu Hokai welcomes you all to our national Maori GIS Conference, PLACE19 here in Rotorua.

This year the conference continues to build on the relationships of tangata whenua with their ancestral lands and the way GIS enables iwi to articulate and express these relationships to whenua, to moana, to taonga and to each other.

We have a range of exciting presentations that highlight iwi initiatives, service provision and programmes to support iwi aspirations.

Places form an essential part of a māori perspective. We use PLACE19 as a way to present 5 key themes:

- People
- Landscapes
- Assets
- Communication
- Eduction

We are pleased to share that this year's conference brings together over 100 delegates from all over Aotearoa, including representation across iwi, hapu, government agencies, Territorial Local Authorities (TLAs), non-government organisations (NGOs), service providers and those who have a strong interest in this kaupapa.

We hope you enjoy the conference and acknowledge all of our guests, presenters, sponsors, supporters and delegates who have made this conference possible.

No reira e te iwi, Naku te rourou, nau te rourou, ka ora ai te iwi!

Nga mihi nui
Na matou te komiti

Te Komiti,
Te Kahui Manu Hokai

Te Kahui Manu Hokai is very pleased to have the support of Massey University as our major Huia Level Sponsor for PLACE19.



For 35 years Massey University has been at the forefront of teaching GIS and Remote Sensing as well as supporting applied land based technological advances through research.

Massey University recognises the innovation, leadership and creativity coming from Māori and iwi towards the development of GIS in New Zealand and is pleased to support PLACE19.

PLACE19 Kaupapa at a Glance

Wenerei	12:00 PM	Registration Open
	1:00 PM	Mihi Whakatau
	1:30 PM	Kapu ti, networking
	2:00 PM	Conference Opening
		PEOPLE
	3:40 PM	Kapu ti
		PEOPLE
	5:00 PM	Kua mutu.
Rāpare	8:30 AM	Registration Open
		LANDSCAPES
	10:40 PM	Kapu Ti
		ASSETS
	12:00 PM	TINA
	1:00 PM	**ASSETS**
		COMMUNICATION
	3:00 PM	Kapu ti
		COMMUNICATION
	4:35 PM	TKMH AGM
	5:00 PM	Happy Hour Drinks
Rāmere	8:30 AM	Registration Open
	9:00 AM	**EDUCATION**
	10:30 AM	Kapu Ti
		EDUCATION
	12:00 PM	Kua Mutu

Whakamihi

The PLACE19 Conference would not have been possible without the efforts of many great supporting organisations and individuals. It is impossible to acknowledge everyone who has played a role in making this year's PLACE19 conference a success.

However, the following groups deserve special recognition:

- **Massey University** as our Huia level sponsor, making the conference possible.
- The team from **Land Information New Zealand**, who provided support for programme development, maintaining the website, programme printing and logistical support for the conference.
- **Pinpoint Geospatial** for providing resources and support.
- **Eagle Technology Group Ltd** who have consistently been supportive of our endeavours.
- **GBS** Solutions for their continued technical support and advice.
- **NZ Esri Users Group** for their sponsorship and support.
- Many thanks to **Nga Whenua Rahui** for its generosity in providing resources and support.
- **Ngati Rangiwewehi** for financial logistics and support.

Te Kahui Manu Hokai is a voluntary organisation consisting of people who are passionate about GIS and kaupapa Maori and are committed to working with and for iwi.

The Komiti has worked hard to organise this year's conference to support and provide opportunities for iwi to grow and develop further.

If you are interested in joining our komiti, please join us at the AGM Thursday afternoon.

We acknowledge everyone for their support and contributions and we hope you enjoy the programme that has been put together for you this year.

Nga mihi,

Te Komiti,
Te Kahui Manu Hokai

Ngāti Rangiwewehi

Te Kahui Manu Hokai gratefully acknowledges the ongoing support of Ngāti Rangiwewehi for their ongoing support and contribution to PLACE19.

Land Information New Zealand
Toitū te whenua

Te Kahui Manu hokai is pleased to confirm the support of Land Information New Zealand as Whekau sponsor..

LINZ is the authoritative source for many key geographic and property datasets. LINZ seeks to help Māori and iwi better understand their land, through accessing and understanding information that supports decision making about land and asset use. LINZ is working to ensure Māori and iwi have access to fit-for-purpose location information and expertise from an authoritative source.

LINZ aims to do this by working with Māori, iwi, government and others to improve access to, and reliability of, past and present Māori location information wherever it is held and undertaking specific initiatives that target greatest identified need and are very pleased to support PLACE19.

Kaupapa mō te Wenerei 13th Whiringa

12:00 pm	01:00	**Registration Open**		
1:00 pm	**00:45**	**Mihi whakatau**		
1:45 pm	00:30	Kapu ti/networking		
2:15 pm	00:20	Conference opening		
2:35 pm	00:10	**Huia Partner Message**		
2:45 pm	00:05	**People: Sponsor Message**		
2:50 pm	00:20	Keynote 1	Indigenous Mapping Wananga	Moka Apiti
3:10 pm	00:15	Keynote 2	He Tatai Whenua - Steps Towards a Matauranga Maori Landscape Classification	Jon Procter
3:25 pm	00:15	Lightning talks 1	3 x 5 minute lightning talks.	
3:40 pm	00:30	Kapu ti		
4:10 pm	00:15	Presentation	Developing GIS for Te Awa Tupua	Jacob Robinson
4:25 pm	00:15	Technical Demo	How to access Satellite Data and Google Earth Engine	Stuart Mead and Gabor Kereszturi
4:40 pm	00:20	Panel session	Presenters and Guests	
5:00 pm	00:10	Close Day	Afternoon summary, Notices, and Partner Thanks	

Wednesday Abstracts and Presenter Biographies

Moka Apiti

Digital Navigators Ltd

Indigenous Mapping Wananga

Indigenous Mapping Waananga is a practical hands-on training workshops in using geospatial technologies delivered by world-leading technology companies and expert trainers from around the world.

Participants were taught how to use a range of GIS mapping software in a hands-on training waananga. The IMWNZ evolved from the Indigenous Mapping Workshop founded by Steve Deroy of the Firelight Group and has been successfully delivered to over 1000 Indigenous Communities around the world including New Zealand, Australia and Canada.

Biography

Moka Apiti descends from the Ngāti Hikairo, Ngāti Te Wehi, Ngāti Wairere, Ngāti Porou and Te Whanau a Apanui tribes of Aotearoa, New Zealand.

Moka's journey in the GIS sector has been guided by the vision of his tribal elders 28 years ago. Moka serves his tribal communities in the roles of the Chair and Treaty Negotiations Manager for his Ngāti Hikairo tribe, GIS Project Manager for his Ngāti Porou tribe, and as the Technical

	Advisor for his Waikato Tainui tribes on the National Tribal Leaders Data Forum on issues pertaining to Indigenous data sovereignty. Moka has worked extensively with tribes to support them to use GIS to engage and negotiate their Treaty grievance claims with the New Zealand Government, and designed and managed the GIS framework for tribes as part of the New Zealand Treaty Settlement process. He is passionate about building grassroots GIS capability to support tribes in the preservation of traditional knowledge systems and cultural revitalisation projects and continues to work with many tribes in their Post-Settlement phase. Moka is also the Managing Director of Digital Navigators Ltd, a Māori owned and operated business, which provides GIS mapping services, education and strategic digital technology advisory to build family and tribal GIS capability within Indigenous communities. Digital Navigators Ltd hosts the annual Indigenous Mapping Workshop in Aotearoa New Zealand. As a Google Earth Outreach Trainer and a member of the Google Education Experts panel Moka also uses these avenues to share his experience and expertise to support Indigenous peoples.
Jonathan Proctor Massey University	**He Tatai Whenua** Can we create a Te Ao Māori landscape classification that can be directly integrated with existing geographical information systems (GIS) that provides a mātauranga-a-iwi, metric based Landscape Classification for New Zealand. Despite Māori expert elicitation, or interpretation, of landscape features being well recognised, coherent representation and display of this knowledge is significantly underdeveloped. Data of this kind is still treated as anecdotal or qualitative and, as a result, lacks impact in environmental management and decision-making. In stark contrast, the underlying descriptors and datasets used to classify NZ's environment for decision-making are all displayed in advanced GIS systems utilising cutting edge technology. Many of the fundamental methods used to create these datasets are based on frameworks and criteria created through quasi-quantitative methods with no inclusion or recognition of mātauranga Māori. Development of Māori landscape classification criteria based on mātauranga Māori, tikanga, kaitiakitanga and tohu taiao can be achieved through methods that integrate GIS, remote sensing (RS) techniques and mathematical methods that then visualise landscapes based on the developed criteria. Research to date focuses on the Manawatū catchment where protocols have been developed and test cases required to explore new GIS, RS, and visualization tools in conjunction with mātauranga Māori are underway. **Biography** Jon (Muaupoko, Ngati Apa, Ngai Tahu) has a background in Geographical Information Systems, mapping, geology and numerical mass flow modelling for volcanic hazard analysis. He currently leads the multi-agency volcanic risk programme and has also leads a diverse range of other Māori-specific projects via MBIE, NZ Natural Hazards Research Platform, and Resilience to Nature's Challenges-National Science Challenge. Through working for Iwi Authorities and his own iwi, his experience includes Māori-resource management, landscape mapping and iwi-based initiatives into volcanic hazard mapping and environmental/pollution monitoring and management. He is an Associate Professor in the School of Agriculture and Environment at Massey University.

Thomas (Tame) Malcolm Te Tira Whakamātaki	**No Ngati Warapi ahau** Dama wallabies have plagued the ngahere around the Okataina and Okareka catchments for more than a century. As a result of the growing and expanding wallaby population over those years, the Dama wallaby management programme was established by BOPRC, Waikato RC and DOC. At the centre of this programme is the wallaby reporting app; a real time programme that can map wallaby locations to show the extent of their expanding range. The issue now is how to get more people to use the app and how these agencies will manage these pest with tangata whenua at risk of losing our taonga species. **Biography** He uri a Tame no Te Arawa whaanui. As a biosecurity specialist, Tame has spent the last 10 plus years working for and with Department of Conservation, Bay of Plenty and Waikato Regional Councils, land and Iwi trusts and more recently with the Biological heritage National Science challenge. An advocate for Mana whenua leading pest management on their whenua, his passion is educating and empowering Maori on effective pest management.
Jacob Robinson Massey University	**Developing GIS for Te Awa Tupua** This project aims to develop a strong GIS capability for the purpose of enhancing the environmental, cultural and spiritual health and wellbeing of Te Awa Tupua. The initial aspirations of the project are to bring together all of the geospatial data currently available that relates to the many aspects of Te Awa Tupua including its people. This will allow us to gain a more holistic understanding of the issues that need to be overcome in order for us to fulfil our responsibilities as kaitiaki of the natural environment of which we are a part. Another important component of the project involves geo-referencing an archive of historic maps from many different sources and extracting Māori place names and other information to form new datasets. This historic archive will become a catalyst for ongoing cultural & historic mapping with the aim of preserving our wāhi tapu and cultural knowledge. We are also investigating how GIS tools can be used to empower our communities to contribute to environmental monitoring within Te Awa Tupua by using "Citizen Science" ideas and values. A key part of what we want to achieve is to develop robust GIS capability among our people. **Biography** I am of Atihaunui-a Paparangi decent. I am currently a PhD student at Massey University. My research involves understanding the impacts and origins of excess sediment entering the waterways of Te Awa Tupua using Scientific and Mātauranga Māori tools.
Stuart Mead & Gabor Kereszturi Massey University	**How to access Satellite Data and Google Earth Engine** Remote Sensing provides a fast and versatile baseline of information to monitor and quantify our environment. The technology is rapidly developing and providing an ever-growing range of new sensors and satellite, airborne and ground-based remote sensing platforms. However, data access, storage and processing needs are increasing at a similar rate – placing significant demands on computational resources, beyond that of a typical desktop computer.

Cloud based computing is a scalable solution to this increase in computational demands, providing the capability to access, store, process and derive analytics from large volumes of geospatial data with little constraints. In this demonstration, we will give a brief review and technical demonstration of the Google Earth Engine cloud computing platform and uses for accessing remote sensing data, image manipulation and classification, and spatial mapping.

Stuart Mead

Stuart Mead is a research officer in the School of Agriculture and Environment, Massey University. His research focuses on applying computational techniques to problems in earth sciences, hazards and the environment. Stuart gained his PhD in 2017, studying the quantification of lahar hazard and risk.

His current research includes the simulation of volcanic processes and simplification through statistical and geospatial modelling; applying computational techniques to visualise complex environments; and using cloud-computing technology to deliver interactive spatial information to end-users.

Gabor Kereszturi

Gabor completed his Master's degree (Diploma) in Geography, specialization in Geographical Information System (GIS) and Geomorphology, at the Faculty of Earth Science and Engineering at the University of Miskolc, Hungary, in 2009. He earned a Doctor of Philosophy degree in Earth Sciences at Massey University, New Zealand, in 2014. He has completed his post-doc research on hyperspectral imaging at Massey University. Since 2017, He has been working as a Lecturer and then as a Senior Lecturer at Massey University on a variety of research topics in Earth Science and Remote Sensing.

EAGLE TECHNOLOGY

esri Official Distributor

Te Kahui Manu Hokai is pleased to have the support for PLACE19 of Eagle Technology Group Ltd as our Whekau Sponsor for the ASSETS stream. Eagle Technology Group Ltd is a privately-held New Zealand-owned systems integration and information management company established since 1969. It has approximately 120 employees with offices in Auckland, Wellington and Christchurch.

Eagle has a long-established and successful geospatial technology practice in Geographic Information Systems (GIS) and related technologies, as well as a unique understanding of on premise ICT infrastructure, managed services expertise and Cloud applications. Eagle Technology is the distributor for global software leader Esri and the ArcGIS platform in New Zealand and the South Pacific.

GBS Smarter Location Intelligence

World Class Location Intelligence

esri Partner Network Gold

- Dynamic, professional & experienced
- Web/Mobile/Desktop ESRI solutions
- Agile methods
- Tailored solutions to deliver real business benefits
- GBS support programme
- Consulting
  - Project management
  - Business analysis
  - Solutions architecture & design
  - Enterprise geospatial strategy
  - Technical Advisory

Geographic Business Solutions P: +64 9 570 3875 or info@gbs.kiwi gbs.kiwi

Kaupapa mō te Rāpare 14th Whiringa

8:30 am	00:30	Registration opens		
9:00 am	00:10	Day 2 opening		
9:10 am	**00:05**	**Landscapes: Sponsor Message**		
9:15 am	00:15	Keynote 4	Mapping Streams: Environmental River Patrol Aotearoa	Millan Ruka MNZM
9:30 am	00:15	1st Presentation	Historical Imagery & LiDAR	Andrew Ferrel
9:45 am	00:15	2nd Presentation	Navigating Aotearoa to a thriving Blue Economy	Anna Meissner
10:00 am	00:15	3rd Presentation	He kete o nga wahi! Data sources for Iwi Māori GIS Projects	Duane Wilkins
10:15 am	00:20	Technical Demo	StoryTelling with Google Earth	Raleigh Seamster (Google USA)
10:35 am	00:05	Close stream		
10:40 am	00:30	Kapu ti		
11:10 am	**00:05**	**Assets: Sponsor Message**		
11:15 am	00:20	Keynote 5	Software v Vehicle - which ones needs a warrant?	Graeme Henderson
11:35 am	00:20	1st Presentation	GIS @ Te Rūnanga o Ngāi Tahu	Sean Bragg
11:55 am	01:00	TINA		
12:55 pm	00:15	2nd Presentation	Resilience – what we've achieved so far, and what are the outcomes for Māori?	Kasey Oomen
1:10 pm	00:15	Technical Demo 1	Setting Up ArcGIS Online	Eagle Technology
1:25 pm	00:15	Technical Demo 2	Using ArcGIS Online	Eagle Technology
1:40 pm	00:05	Close stream		
1:45 pm	00:20	Lightning Talks 2	3 x 5 minute lightning talks.	
2:05 pm	**00:05**	**Communication: Sponsor Message**		
2:10 pm	00:20	Keynote 6 (Skype)	Enhancing World Heritage Maps using Indigenous Toponyms, Stories, and Interpretive Attributes	Mark Palmer (Missouri USA)
2:30 pm	00:15	1st Presentation	Geospatial tools for community and rūnanga-led settlement planning	Dean Walker
2:45 pm	00:15	2nd Presentation	New Zealand Gazetteer: Evolution, Linking and Discovery	Wendy Shaw
3:00 pm	00:30	Kapu tu		
3:30 pm	00:15	3rd Presentation	Ngāi Tahu right of first refusal GIS management	Adrian Patchett
3:45 pm	00:15	Technical Demo	Free and Open Source Software	Suzanne Bergman
4:00 pm	00:20	Panel Session	Presenters and Guests	
4:20 pm	00:30	AGM, Komiti Nominations	Close day	
4:50 pm	01:00	Happy Hour	Distinction Hotel Bar	

Thursday Abstracts and Presenter Biographies

	LANDSCAPES
Millan Ruka Environment River Patrol - Aotearoa	**Environmental River Assessment and the need for basic GIS, Topo & Google Earth mapping skills.** Environmental river assessment requires basic mapping skills that include GIS, Topo and Google Earth experience. ERP-A has been at the coalface paddling and motor boat patrolling rivers for nearly 10 years now as a profession. Unfortunately this is not recognised as a profession by NZs sixteen Regional Councils and they are very resistant for private contractors to be involved in monitoring and enforcement. Consequently there is almost no funding available from Councils limited funding from other Government sources. The day will come for this work to be recognised and already this Government accepts that there is a need for dedicated waterway assessors to monitor and enforce the proposed new regulations that are being developed. Maori want a role in kaitiaki management of our waterways and this is expressed in the Kahui Wai Maori submission document "Te Mana o te Wai" 2019 for Ministry for Environment to adopt into their new proposed environmental water policy. With limited or no funds for this type of work at this point in time, a river assessor needs to be resourceful to use free GIS, Topo and Google Earth services till such time as proper aligned environmental reporting platforms are established that are "fit for purpose" to manaaki our waterways. **Biography** Millan Ruka established Environment River Patrol - Aotearoa in 2010 as a "not for profit org". ERP-A covers environmental reporting on issues including - unfenced cattle on waterways, illegal dairy effluent discharge, water related consents, and submissions on water quality. Most reporting goes to Northland Regional Council. Millan relies on basic mapping tools to go about his work and has been mentored and assisted to get reports evidenced to a standard that meets a criteria to be accepted by Regional Councils requiring them to respond as per the RMA. ERP-A will soon embark on a new Digital Nitrate Sensor project that will require GIS mapping skills and deployment to some 740 consented dairy effluent discharge points to ensure compliance with RMA legislation. ***Editor's Note:*** *Mr Ruka was made a member of the NZ Order of Merit (MNZM) in 2018 by the Governor General of New Zealand for his contributions to Conservation.*
Andrew Ferrel Land Information NZ	**Imagery and Elevation - Past, Present and Future** Aerial photography in New Zealand dates back to the 1930's, this makes it a valuable piece of information when looking at the past. We will look at how people are using this resource, and how when used with current imagery it tells a powerful story. Elevation data in New Zealand is going through a massive change moving from 20 metre contour data to LiDAR. derived data. We will look at what is on its way and how this could be

	utilised. **Biography** Andrew Ferrel is the Manager Partnership Programmes within the Location Information Group at Land Information New Zealand. Andrew is part of the team working on National Imagery Coordination and Elevation Data Improvement Programme. Andrew is passionate about ensuring high value public sector data is widely available.
Anna Meissner Land Information NZ	**Navigating Aotearoa to a thriving Blue Economy** Our future relies on a clean and healthy ocean, to provide food, generate jobs, deliver energy and provide communication highways. The ocean helps regulate the climate and supports biodiversity. However, the ocean is vulnerable and today many marine habitats and species are under serious threat from the effects of climate change, overfishing, pollution and unsustainable use. Organisations call for actions, but where do we start? Knowledge is the basis of our actions and policies to ensure the protection of our ocean, responsible management of marine resources and sustainable future economic growth. Land Information New Zealand (LINZ), through the New Zealand Hydrographic Authority (NZHA), collects hydrographic data for navigational safety vital for maritime transport and safety of life at sea. Hydrographic data and the information derived from it can also be used beyond its original investment. For example, this data can play a crucial role in understanding changes occurring in marine habitats, understanding the relationship between habitats and fisheries, and provide knowledge to support better decision-making ultimately fostering blue growth for local communities. To protect our ocean, balance production and sustainable use, partnerships between government, local communities, researchers and private investors are critical. Through the NZ Marine Geospatial Working Group (NZMG-WG) partnerships are facilitated, and knowledge of what data exists and how it can be reused is improved to benefit all New Zealanders. **Biography** Anna holds a strong scientific background attained by an extended international academic curriculum focusing on oceanography, marine mammal ecology and conservation science. Over the last 15 years, she acquired considerable experience in designing and conducting large research projects with successful scientific and conservation outcomes. She also has extended experience leading and contributing to data analysis including spatial and temporal distribution of marine mammal species. In her current role, Anna is leading the NZ Marine Geospatial Initiative for which she focuses on strengthening stakeholder relationships both in the public and private sectors, establishing partnerships, providing technical advice internally and externally, and leveraging opportunities and investments in the marine geospatial field.

Duane Wilkins Land Information NZ	**He kete o nga wahi! Data sources for Iwi Māori GIS Projects (Thursday)** This presentation will describe where to find and how to access useful free datasets of interest for Maori GIS Projects. Discover where to find GIS data for your projects, how to access it, what is available, how it can be used to grow your own GIS capability. **Kōrero Pūrākau! Storytelling with 3D Maps (Friday)** Epic stories need to be shared with epic tools, and every story *needs* a flythrough from outer space down through the clouds to a place of significance. Everyone has a story to share, and the storymaps tool makes it easy for anyone to create and share their korero. StoryMaps can be used to describe your pepeha, a moteatea, support a funding application, communicate with your stakeholders, inform beneficiaries, present an annual report and many other uses in an easy to use format that looks great on mobiles, tablets and computers. Learn how to use Storymaps, their crafting, packaging, sharing and presenting 3D flythrough maps, korero, images and video within this easy to use tool. **Biography** Ko Taupiri te Maunga, Ko Waikato te Awa, Ko Rimutaka te Waka, Ko Irish/Welsh/Scottish te Iwi, Nō Rahui Pokeka ahau, Nō ō Toitu te Whenua au e mahi ana. Duane Wilkins is a senior advisor geospatial capability building at Land Information New Zealand. He has supported Māori claimant groups prepare, present and negotiate treaty settlements with the Crown. He was a foundation member of Te Kahui Manu Hokai, The Māori GIS Association, supports the Indigenous Mapping Wananga by providing training and logistics, as well as the Māori GIS Facebook group. For the past three years he has also supported the large “Map My Waahi” virtual field trips, exposing tens of thousands of students to GIS Mapping. Previously he led the GIS Team at the Department of Conservation, a Project Manager for Eagle Technology Group Ltd and for three years directed the implementation of geospatial technology to support infrastructure reconstruction throughout Iraq and Afghanistan for the United States Agency for International Development, building capability by training and mentoring local engineers. He holds three degrees in geography from the University of Waikato, a diploma in project management and PMDPRO2 certified.
Raleigh Seamster Google Earth Outreach	**Storytelling with Google Earth** Google Earth is a detailed representation of the planet, including worldwide satellite imagery, 3D buildings and terrain for hundreds of cities, and Street View. We'll explore how Google Earth's vast, photorealistic 3D map can be used as a canvas for stories and maps that immerse an audience in Indigenous landscapes. Learn how you can use this platform to tell your stories and bring them to life with compelling visuals and commentary. **Biography** As a Google Earth Outreach Senior Program Manager, Raleigh's focus is on supporting Indigenous communities in mapping and monitoring their cultural and natural resources. She has worked with partners on many projects, including This is Home (g.co/thisishome), the Surui Cultural Map and training community members at the Indigenous Mapping Workshops in Aotearoa, Canada and Australia. Raleigh has been at Google for 12 years. Before Google, she served as a U.S. Peace Corps Volunteer in Ukraine, worked at the nonprofit American Councils for International Education, and studied cultural anthropology at James Madison University. She lives in Oakland, California, USA.

	ASSETS
Nathan Heazlewood **Graeme Henderson** Eagle Technology Group Ltd	**Thinking Strategically About Your GIS** Modern GIS is about much more than just making maps. As your organisation and stakeholders understand more of what the possibilities are they will want more and more, whether it is editing GIS data on their mobile phones or rapidly processing data from drones. This presentation will help you to think about the long term view as your use of GIS grows and how to make the most effective strategic decisions. **Biography** Graeme Henderson & Nathan Heazlewood (Te Aitanga a Mahaki) Graeme heads up the Business Development Group at Eagle Technology and is passionate about the benefits that geospatial can bring to organisations and people. As part of his role he actively works with the Emergency Management and Civil Defence Communities and has had a longstanding involvement in various conservation and community initiatives. Nathan is passionate about geospatial technology and the difference it can make in efficiency and better decisions for commerce, government and the environment. Recently he has been involved with initiatives to assist young professionals as they transition from education into their early years in the workforce. He is the Senior Advisor to the New Zealand Emerging Spatial Professionals Group: a group that seeks to aid geospatial professionals in the early years of their careers.
Sean Bragg Te Rūnanga o Ngāi Tahu	**GIS @ Te Rūnanga o Ngāi Tahu** Ngāi Tahu identity is strongly tied to our whenua, moana and mahinga kai practices. We see GIS as a tool that allows us to strengthen these ties and better plan for our future - Mō tātou, ā, mō kā uri ā muri ake nei – For us and our children after us. GIS has been fundamental in managing our mahinga kai resources via a network of customary protection areas which are spread across Te Waipounamu and Rakiura / Stewart Island. Moving forward, GIS is allowing us to be proactive in planning and responding to future challenges our iwi will face. In 2018, we launched a Climate Change Strategy so that we can effectively respond to the risks and opportunities that climate change will present at an iwi, hapū and whanau level. Events such as the Kaikōura earthquake and Edgecumbe floods have led us to setting up emergency response protocol so that we can better respond to a likely increase in climate driven events. This mahi has involved a strong focus on building capacity at a marae level and working closely with regional and government agencies. **Biography** Ko Motupōhue taku maunga, Ko Te Ara-a-Kiwa taku moana, Ko Te Rau Aroha taku marae, Ko Ngāi Tahu rātou ko Ngāti Kahungunu ko Whakatōhea aku iwi, Nō Awarua ahau, Ko Sean Bragg taku ingoa. I have been working for Te Rūnanga o Ngāi Tahu for the past four years, firstly as part of an two year internship based in Christchurch. Through this internship I discovered the world of GIS and have since been employed by the iwi in this space for the past two years. I love the variety of mahi I get to be involved in with working for my iwi and seeing where GIS can be

	applied to support iwi, hapū and whanau aspirations.
Kasey Oomen Land Information NZ	**Resilience – what we've achieved so far, and what are the outcomes for Māori?** The Land Information NZ (LINZ) Resilience and Climate Change Team is tasked with the key challenge of supporting efforts to prepare for, mitigate and adapt to the impacts on land and sea of climate change and one-off events, and works with teams within and outside of LINZ to improve the current state of this Challenge. This Challenge focuses on three problem areas: key datasets and their fitness for purpose, LINZ's formal emergency response, and assisting in issues relating to the current regulatory system. If you have a view on any of these focus areas, we'd love to hear from you! **Biography** Kasey Oomen (descendant of Ngāti Porou) is a Resilience Advisor within the team at Land Information NZ (LINZ) representing the Resilience and Climate Change Challenge. Before her time at LINZ she studied Environmental Science and worked in the industry of Exercise. Alongside her day job, she enjoys activities in the outdoors, and is currently practicing for the upcoming Te Kōnohete.
Ted Taylor Eagle Technology Group Ltd	**ArcGIS Online** It'll be a surprise. **Biography** Always striving to empower others through GIS, and an active member of the spatial community with involvement in events locally and nationally. Passionate about cartography, earth science, and technology. A keen sportsman and outdoorsman dabbling in swimming, skiing, surfing, and tennis, and always eager to give new activities a crack
Jade Weideman GBS Solutions Ltd	**ArcGIS Online for web and field workflows: A freshwater sampling example** ArcGIS Online (AGOL) can be all you need as a small organisation. You can manage your data as an asset and then managing that data to produce information which enhances your decision making. All of this is done through an AGOL account without the need for desktop or infrastructure. Design and built exactly what you require in a browser and distribute through field apps available through your Organisation AGOL account. We will show how simple and easy it is and how AGOL can be your full solution. **Biography** Jade is an Esri technical consultant at Geographic Business Solutions with experience supporting the implementation of a wide range of geospatial projects.

	COMMUNICATION
Mark Palmer University of Missouri (USA) Via Skype.	**Enhancing World Heritage Maps using Indigenous Toponyms, Stories, and Interpretive Attributes** Maps and GIS used for the nomination and subsequent management of UNESCO World Heritage sites are used primarily for bureaucratic resource management purposes. However, bureaucratic maps lack the richness to represent associative cultural landscapes, intangible cultural elements, and the geographies of Indigenous peoples. Indigenous toponyms can be found on many World Heritage maps at sites located with settler societies like New Zealand, Australia, the United States, and Canada. Currently, bureaucratic heritage maps do not emphasis or even have a method for representing the meaning and significance of Indigenous toponyms. The names are represented as static, inanimate objects void of meaning. This presentation proposes a simple conceptual story mapping model that supports a type of rights-based and Indigital GIS. The conceptual model includes Indigenous toponyms, stories, interpretive attributes, and requires indigitization. **Biography** Mark H. Palmer is a cultural geographer interested in the co-construction of geographic information systems (GIS) and society. Palmer's research is positioned at the intersection of research on GIS and society, indigenous geographies, and American Indian Studies. The goal of his research is to describe and explain the sociotechnical history of institutional GIS development and explore alternative ways in which indigenous peoples can participate in the development of institutional geographic information constructs. The methods he uses include archival research, ethnography, and geographic information systems (GIS) informed by actor-network theory (ANT) and postcolonial theory. Contributions: Palmer's publishing record includes fifteen peer-reviewed articles and book chapters. Of the fifteen articles, ten are single author and five are co-authored. This includes publications in peer-reviewed journals like the Annals of the Association of American Geographers, Sustainability Science, Current Anthropology, Futures, Cartographica, and American Indian Culture and Research Journal. Palmer participated in thirty-one conference paper and panel sessions, and has co-authored two peer-reviewed articles and one book chapter with graduate students. Intellectual Merit: Palmer's data driven historical, constructivist, and postcolonial research advances geography's understanding of the social and bureaucratic implications of GIS. It advances research on the alternative representations in GIS and society through the incorporation of American Indian perspectives, language, and discourses into the literature. This involves the bridging of indigenous and geographic knowledge systems through cross-disciplinary research on curriculum, fieldwork, and network building.
Dean Walker Geospatial Research Institute, University of Canterbury	**Geospatial tools for community and rūnanga-led settlement planning** Māori have a long tradition involving the design and planning of settlements. While acknowledging the Treaty of Waitangi, resource management and planning legislation and practice in Aotearoa is not necessarily responsive to the needs and aspirations of Māori. Local authorities are required to engage and consult with iwi, however the power differential is unequal. There have been calls for a bi-cultural approach to the planning of settlements, beyond consultation, where initiatives are led by Māori and informed by local mātauranga and tikanga. This collaborative research project involves two Māori communities, Ōhinemutu in Rotorua, and Tuahiwi in the Waimakariri District, for the co-creation of two geospatial tools.

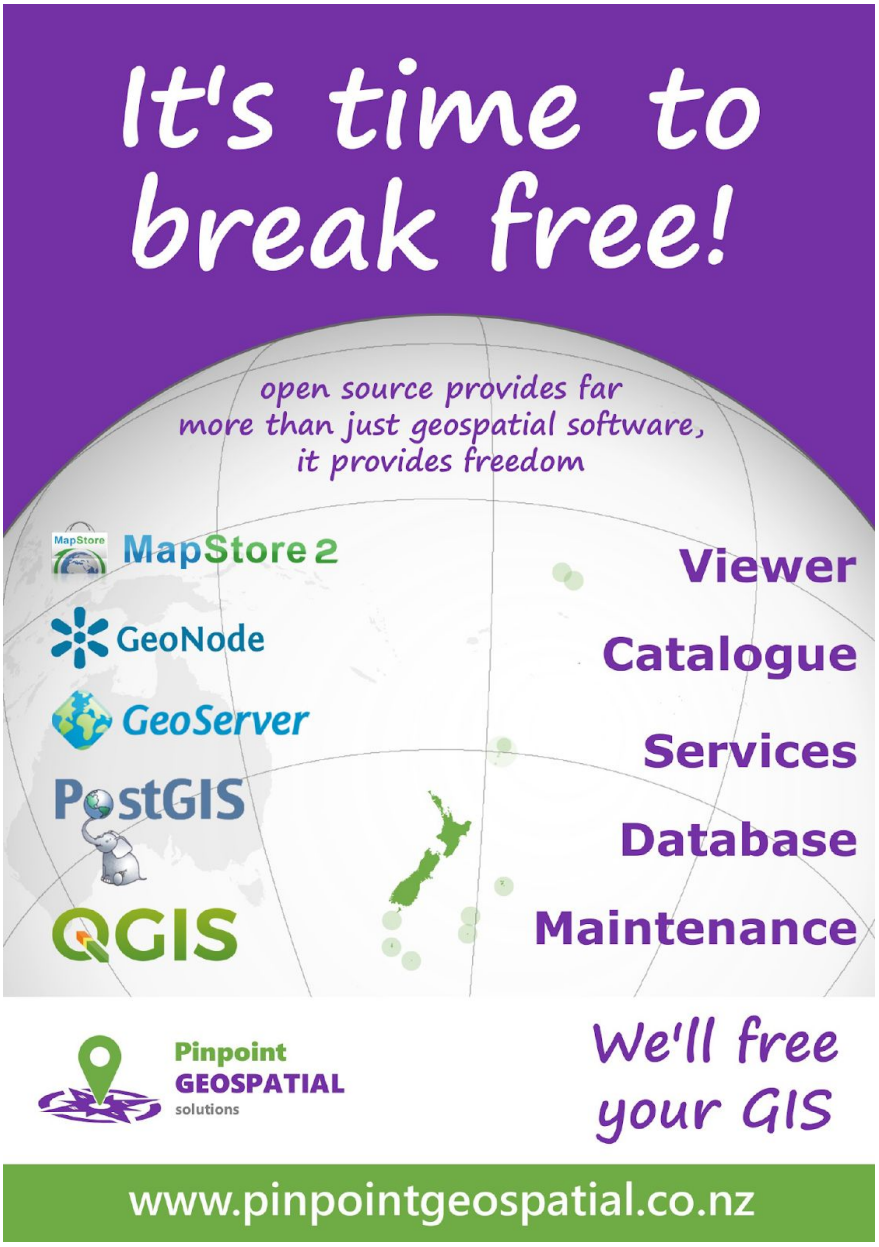
	A commonality of the two case studies is a desire by both communities to document and hold iwi and whānau narratives firstly, so that they are not lost and secondly, so they are able to be drawn upon when needed. Cultural narratives can include ancient legends through to collective histories and lived experiences. They can include pūrākau, waiata, whakataukī, mōteatea and other mahi toi in the form of text, still photos, audio or video files. The two geospatial tools aim to support the two Māori villages in urban regeneration processes, addressing their own specific planning needs and aspirations, while offering a better understanding of such dynamics to planning authorities. **Biography** Dean is a Research Associate at the Geospatial Research Institute, University of Canterbury. Prior to this he worked as a resource management advisor in Nelson for over 20 years. Much of his work has been with iwi groups including the development of GIS, culturally-based environmental monitoring tools and the facilitation of cultural impact assessments. In his current role he is working with Ngāti Whakaue in Rotorua and Ngāi Tūāhuriri in Waimakariri co-creating 'flax-roots' geospatial tools to enable community groups to be more engaged in the planning process.
Wendy Shaw Land Information New Zealand / New Zealand Geographic Board	**New Zealand Gazetteer: Evolution, Linking and Discovery** "The New Zealand Gazetteer is our country's authoritative list of place names, including Māori place names. For over 70 years the New Zealand Gazette has provided 'conclusive evidence' of official place names, which are then added to the Gazetteer. However, the way official (and unofficial) place names are recorded, distributed, accessed and used in the Gazetteer, has changed significantly, as has the form of the Gazetteer. In 2008, the New Zealand Geographic Board Ngā Pou Taunaha o Aotearoa (the Board) launched its first online Gazetteer as a series of spreadsheets. In 2013 the online Gazetteer changed to a map-based system. Enhancements in 2018 and 2019 focused on the user experience, extending map coverage to include the full naming jurisdiction of the Board, and providing better spatial context. It also moved to a modular platform (Leaflet) to provide flexibility for updates as technology changes, offering unique URLs to encourage easy and linkable re-use. Goals, challenges and successes are identified. And examples of stories, now discoverable for many Māori place names, are highlighted. **Biography** Wendy Shaw has been the Secretary for the New Zealand Geographic Board for over two decades. She has worked at Land Information New Zealand and its predecessor departments for nearly 42 years in several areas including Survey Processing, Digital Cadastral Database and the Protection Mechanism. The Board's role is to make place names official in New Zealand, its continental shelf and the Ross Dependency of Antarctica. Wendy manages a small Secretariat to support the Board's work by advising on and processing place name proposals. She helps the Board to achieve standardised, consistent and accurate best practice place naming, through informed, robust and enduring decision-making.
Suzanne Bergman Kenex Ltd	**Simple land use classification with QGIS and free data** Land use classification doesn't necessarily have to be expensive and complicated: you can get a good high level representation of current and potential land-use for a land block using freely available data and software. The results of a simple analysis can be used to create profit forecasts for your land that can be used in your land management plan.

In this short demo, we will use QGIS plugins and free data to create a land cover classification from satellite images, a slope analysis from the terrain model, and a land capability classification using the LandCare LUC database. We will then combine the results together to find out what areas of a land block are suitable for horticulture, pasture and forestry.

Biography

Land use classification doesn't necessarily have to be expensive and complicated: you can get a good high level representation of current and potential land-use for a land block using freely available data and software. The results of a simple analysis can be used to create profit forecasts for your land that can be used in your land management plan.

In this short demo, we will use QGIS plugins and free data to create a land cover classification from satellite images, a slope analysis from the terrain model, and a land capability classification using the LandCare LUC database. We will then combine the results together to find out what areas of a land block are suitable for horticulture, pasture and forestry.



Te Kahui Manu Hokai is pleased to have the support of the New Zealand Esri Users Group in supporting PLACE19!

Te Kahui Manu Hokai is pleased to welcome the support of Nga Whenua Rahui to PLACE19, the Maori GIS Association Conference.

The Ngā Whenua Rāhui Fund supports the protection of indigenous biodiversity on Māori-owned land while honouring the rights guaranteed to landowners under Te Tiriti o Waitangi.

The principles of the fund are geared towards the owners retaining rangatiratanga (ownership and control) of their land. In its kaupapa and role, Ngā Whenua Rāhui is reaffirming the bond between tangata whenua and the land

Kaupapa mō te Rāmere 15th Whiringa

8:30 am	00:30	**Registration Desk open**		
9:00 am	00:10	Day 3 opening		
9:10 am	00:05	**Education: Sponsor Message**		
9:15 am	00:20	Keynote 7	Ko taku taunahanahataka, ko taku tōpuni ki te whenua. My names are the treasured cloak which adorns the land.	Takerei Norton
9:35 am	00:15	1st Presentation	NZ GiC, helping conservation and Iwi groups in New Zealand	Parker Jones
9:50 am	00:15	2nd Presentation	Society for Conservation GIS: Train-The-Trainer Summit	Aaria Dobson-Waitere
10:05 am	00:30	Technical Demo	Kōrero Pūrākau! Storytelling with 3D Maps	Duane Wilkins
10:35 am	00:15	Kapu Ti		
10:50 am	00:15	Lightning Talks 3	3 x 5 minute lightning talks.	
11:05 am	00:15	Panel Session	Presenters and Guests	
11:20 am	00:05	Close stream		
11:25 am	00:30	Close Review		
11:55 am	00:30	Poroporaki		
12:25 pm		Kuamutu		

Friday Abstracts and Presenter Biographies

	EDUCATION
Takerei Norton Te Rūnanga o Ngāi Tahu	**Ko taku taunahanahataka, ko taku tōpuni ki te whenua.** **My names are the treasured cloak which adorns the land.** Kā Huru Manu is an iwi-driven project that brings Ngāi Tahu history to life. In 2017 Ngāi Tahu launched Kā Huru Manu (www.kahurumanu.co.nz) an online digital atlas that features over 1000 traditional Māori place names, a selection of ara tawhito, and historical Māori land allocations within the Ngāi Tahu rohe. The bulk of the research was completed by Ngāi Tahu marae communities and kaumātua over 10 years of wānanga. Kā Huru Manu has become a time and cost-effective method for iwi representatives and whānau to access historical knowledge, particularly for central and local Government statutory processes. In many cases, it is bringing readily accessible historical and cultural information about Ngāi Tahu into the public domain for the first time, and is helping to meet the ongoing demand from within the iwi and from the wider public, for accurate and appropriate information about Ngāi Tahu history. Fast becoming the authoritative source of Ngāi Tahu place names and histories in Te Waipounamu, Kā Huru Manu and was recently accepted by the New Zealand Geographic Board as an authoritative publication.

	Biography Takerei Norton (Ngāi Tahu) is the manager of the Ngāi Tahu Archive Team. Takerei was involved in organising the first Māori GIS Conference at Christchurch in 2009 and is a former member of Te Kāhui Manu Hōkai, Takerei worked for nearly ten years as an Environmental Advisor for Te Rūnanga o Ngāi Tahu protecting sites of cultural significance. Since 2007 Takerei has managed the Ngāi Tahu Cultural Mapping Project recording Ngāi Tahu values on the tribal Geographical Information System, which culminated in the release of Kā Huru Manu (www.kahurumanu.co.nz) in 2017.
Parker Jones NZ GIS in Conservation	**NZ GiC, helping conservation and Iwi groups in New Zealand** The presentation will showcase a number of GIS based conservation projects that NZ GiC has helped deliver to conservation groups and Iwi over the last 6 years at no cost to those groups. It will also cover the Society for Conservation GIS scholarship program and how non commercial conservation groups and Iwi can get access to volunteer GIS mentors, powerful GIS licences and training at little to no cost. **Biography** Parker has been involved with GIS since the late 1980's, selling solutions based on the Esri suite of software to Local, Central, Regional Government, Crown Research Institutes, commercial companies, NZ Archeology Association, QEII trust etc. In retirement, he saw a need to offer this smart technology to conservation groups at little to no cost, so he created the NZ GIS in Conservation charitable trust that now has over 140 skilled GIS volunteers. The trust has helped over 70 Conservation and Iwi groups with GIS software licencing, software development, training and solution delivery.
Aaria Dobson Waitere Zealandia - Te Māra a Tāne	**NZ GiC, helping conservation and Iwi groups in New Zealand - Society for Conservation GIS: Train-The-Trainer Summit** "Aaria Dobson-Waitere has recently returned from attending the first international Train-The-Trainer Summit in California which is an extension of two previous scholarships she has received from the Society for Conservation GIS (SCGIS). As part of her scholarship this year, she attended two international conferences, and took part in a 3-week specialized training course alongside other international trainers who are building GIS capacity for the conservation of both nature and culture. In this presentation, Aaria will share from her experience overseas and discuss her aspirations for supporting iwi to utilize GIS throughout their organizations to address their unique and complex challenges as sovereign nations. An emphasis will be put on the importance of education in enabling skills to organize and analyze data, as well as collaborate and communicate on various issues, particularly in the areas of natural resource management, and cultural and historical preservation. **Biography** Aaria is currently the Kaitiaki Ranger in the conservation team at Zealandia – Te Māra a Tāne. Her role includes carrying out key species management tasks, including overseeing of the takahē. She is also identifying ways to incorporate mātauranga Māori into the conservation work being done at Te Māra a Tāne, while building a relationship with local mana whenua, Taranaki Whānui. Providing opportunities for whanau to reconnect and engage with the whenua is a key aspect of her role.

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

Land Information New Zealand
Toitū te whenua

EAGLE TECHNOLOGY

esri Official Distributor

Pinpoint GEOSPATIAL solutions

Ngāti Rangiwewehi

NEW ZEALAND esri USERS GROUP

GBS Smarter Location Intelligence

Ngā Whenua Rāhui
our nature, our people, our future

Notes

Notes

Notes