

## Editors' Note

We are honoured to act as guest editors for this special edition focusing on geospatial methods in population research, which coincides with the 50th anniversary celebrations of Te Roopu Waihangā Iwi o Aotearoa Population Association of New Zealand. The foundation general meeting of the Demographic Society was held on Friday 18 October 1974, under the chairmanship of Mr R.J. Latimer. At that time there were only a handful of members, and the Population Studies Centre at the University of Waikato had yet to be established.

Issues concerning the first Council included making a submission to the working group on population policy, making a submission to the Commission on contraception, abortion and sterilisation, and doing more to publicise the Society's attitudes to current population issues. Membership was a princely sum of \$4 per annum.

Since that time, the Society has transformed into a thriving and supportive national network and has been renamed the Population Association of New Zealand | Te Roopu Whaka Waihangā iwi o Aotearoa.

As our world continues to change, we are constantly reminded that 'people' and 'place' matter. The research included in this special edition highlights this through a wide range of topics and applications, from developing an Extreme Events Index for Aotearoa, to investigating issues of geospatial data accuracy within national health data sets, all of which have at their essence implications for people. The papers within this edition relate to four key themes: geospatial accuracy and classification, healthy environments and access to services, looking back in time, and future directions.

This first section focuses on a critical but sometimes overlooked issue: the importance of geospatial accuracy and classification in health research. The first study, by Phoebe Eggleton et al., used novel birth cohort data to highlight the potential misclassification that can occur when only using residential addresses to assess disaster exposure. It showcases how a

more precise representation of individuals' locations – for instance, by including both residential and non-residential data – may yield more accurate results. The second study, by Gabrielle Davie et al., investigated discrepancies in domicile codes between national health data sets in Aotearoa New Zealand. It demonstrates that urban-rural classification errors occur more frequently in urban areas but there are still meaningful implications for rural populations as well. These studies underscore and highlight the need for a continued focus on precision in geospatial data to avoid potentially misleading conclusions in health research.

This edition also includes three studies that can be considered under the theme of healthy environments and access to services. Key inequities in access for underserved populations are highlighted through novel data and approaches. The study by Jesse Wiki et al., appreciates the importance of connection to the land for Māori populations by examining access and availability of environmental factors for Māori tamariki and rangatahi in Aotearoa New Zealand. The second study, by Troy Ruhe et al., focuses on the environments of Pacific children and young people. Analysis of nationwide data sets reveals a complexity where young Pacific Peoples live closer to both health-promoting and health-constraining features compared with nonMāori/non-Pacific populations. Finally, Agrani Ratnayake Kumar et al. investigate disparities in health care access in the Waikato region, demonstrating how ethnicity and deprivation may have an impact on the availability of endoscopic sinus surgery. Together, these studies underscore the need for structural changes to address inequities and improve health outcomes for underserved communities.

We are reminded of the importance of looking back in time by Bingyu (Susie) Deng et al. and by Lars Brabyn and Charisse Camacho Hanson. Both studies under this theme use data, including historic data, to examine trends in socio-economic deprivation and migration in Aotearoa New Zealand. These data offer important overviews of changes over time. Deng et al. created a consistent time-series metric for area-level deprivation from 1981 to 1991 and show how deprivation changes over time, while Brabyn and Hanson's focus on modelling migration reveals distinct migration patterns by age and by region. Together, these papers offer a valuable historical and contemporary context for understanding how socio-economic deprivation and migration patterns have transformed over time in Aotearoa New Zealand, informing future research and policy.

The remaining papers take a forward-focused view by examining emerging technologies and key issues that relate to the demographic and environmental changes that will affect us all. Malcolm Campbell discusses new, detailed spatio-temporal data sources, such as mobile phone location data, and big geospatial data that may provide opportunities for better understanding the dynamic processes between people and place. Tessa Pocock et al. outline the development of a new virtual tool that assesses the street environment from a falls-risk perspective to better understand the environments in which falls occur and support interventions to reduce pedestrian falls. And we are delighted to include the winner of the 2023 Jacoby Prize in this special edition. This award recognises the contribution of Dr E. G. Jacoby to New Zealand demography and is awarded by the Population Association of New Zealand for the best paper on a population topic written during a course of university study. The 2023 Jacoby prize winner is Heather McLeod, for her paper “Linking people and climate: The Extreme Events Climate Index for Aotearoa for Stats NZ geographies and iwi rohe”. McLeod, with her master’s supervisor James Renwick, outlines a methodology for an Extreme Events Climate Index for Aotearoa to make the signal of extreme events visible against the noise of daily weather. Miller et al. explore interactive approaches for displaying and understanding data where both geographic and demographic characteristics are important.

The papers included in this special issue reinforce the importance of people and place. A key challenge moving forward is to ensure that data have a high quality of geospatial information. This special edition highlights the innovative research taking place in Aotearoa to better understand the intersection and interface of geography and demography, including through the development of novel geospatial methods and data to help us better understand the changing dynamics of the relationships between people and place.

Jesse Whitehead  
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(Guest Editors)

## Tuhipoka Kaitakatā

**K**ua rangatira māua i te tono kia mahi hei kaitatakā manuhiri mō tēnei putanga motuhake e aro ana ki ngā tikanga mokowā ā-nuku i te rangahau taupori, e ōrua ana me ngā whakanuinga huritau 50 o Te Roopu Waihanga Iwi o Aotearoa. I tū te hui ā-tau tuatahi o te Demographic Society i te Paraire te 18 o Oketopa 1974, ā, ko R.J. Latimer te heamana. I taua wā he tokoiti noa iho ngā mema, ā, kāore anō kia whakatūria te Population Studies Centre i Te Whare Wānanga o Waikato.

I roto i ngā take i mua i te aroaro o te Kaunihera tuatahi ko te tuku tāpaetanga ki te rōpū mahi mō te kaupapahere taupori, te tuku tāpaenga ki te Kōmihana e pā ana ki te ārai hapū me te kokoti-uru, me te nui ake o ngā mahi whakatairanga i ngā waiaro o te Rōpū ki ngā take taupori. Ko te utu mematanga he \$4 ā-tau noa iho.

Mai i taua wā, kua hurihia te Rōpū hei kōtuitui ā-motu ngaruru me te taupuhipuhi, kua whakaingoatia anō hei Te Roopu Waihanga Iwi o Aotearoa.

I te panoni haeretanga o tō tātou ao e whakamaumahara tonutia ana tātou ki te hiranga o 'ngā tāngata' me 'te wāhi'. E miramiratia ana tērā e ngā rangahau i tēnei putanga motuhake mā te whānuitanga o ngā kaupapa me ngā whakahāngaitanga, mai i te whakawhanake i te Tauine Āhuarangi Hūkerikeri Ake mō Aotearoa, ki te mātai i ngā take e pā ana ki te tōtika mokowā ā-nuku i roto i ngā huinga raraunga hauora, ā, kei te iho o ērā mea katoa ko ngā pānga ki te tangata. Ka taea te whakarōpū ngā tuhinga kei tēnei putanga motuhake ki raro i ngā tāhuhu matua e whā: te tōtika me te whakarōpū mokowā ā-nuku; ngā taiao hauora me te āhei ki ngā ratonga; te hoki o ngā whakaaro ki mua; me ngā aronga mō āpōpō.

Ko te arotahi o te wāhanga tuatahi o te putanga motuhake ko tētahi take waiwai, engari ka mahue i ētahi wā: te hira o te tōtika o te mokowā ā-nuku me te whakarōpūtanga i te rangahau hauora. He mea whakamahi e te rangahau tuatahi nā Eggleton mā ngā raraunga pūhoi whānautanga i te āhua rerekē hei miramira i te tūpono whakarōpū hē ka puta ina whakamahia ngā wāhi noho anake ki te aromatawai i te noho whakaraerae ki te tūpono aituā. E āta whakaatu nei ka pēhea he whakaaturanga pū ake o ngā tauwāhi o ngā tāngata, hei tauira, mā te whakauru raraunga whare noho, ehara i te whare noho anō hoki, e whakaputa ai i ngā hua tōtika atu.

Ko tā te rangahau tuarua nā Davie mā he tūhura hapanga i ngā waehere tauwāhi i waenga i ngā huinga raraunga hauora ā-motu i Aotearoa. E whakakakau ana he nui ake te tūpono kā hē te whakarōpūtanga tāone-tuawhenua i ngā wāhi tāone, engari he pānga whaitake anō hoki mō ngā taupori tuawhenua. E whakaū ana aua rangahau me te miramira i te hiahia kia arotahi tonutia tēnei mea te hāngai pū i ngā raraunga mokowā ā-nuku kia karohia ai ngā otinga tuapeka pea i ngā rangahau hauora.

Kei tēnei pānui kaitakatā hoki e toru ngā rangahau ka whakaarohia pea i raro i te tāhuhu o ngā taiao hauora me te āhei ki ngā ratonga. Kua miramiratia ētahi tautika-kore matua mō ngā taupori e takarepa ai ngā ratonga nā ngā raraunga me ngā ara hou. E āhukahuka ana te rangahau tuatahi nā Wiki mā i te hira o te tūhono ki te whenua mō ngā taupori Māori mā te mātai i te āhei me te wātea o ngā āhuatanga taiao mā ngā tamariki me ngā taiohi Māori i Aotearoa. Ko tā te mea tuarua nā Ruhe mā hei aro i ngā taiao o ngā tamariki me ngā rangatahi Moananui-a-Kiwa. E puiaki ana te tātaritanga o ngā huinga raraunga ā-motu i te matatini e pātata ake ai te noho o ngā rangatahi Moananui-a-Kiwa ki ngā āhuatanga whakatairanga hauora me ērā e aukati ana i te hauora ina whakatauritea ki ngā taupori ehara i te Māori, ehara hoki i te Moananui-a-Kiwa. Hei whakakapinga, ka whakatewhatewha a Wood mā i ngā tautika-kore ki te āhei ki te tiaki hauora i te rohe pōtae, me te whakaatu i te pānga pea o te mātāwaka me te pakukore ki te āhei atu ki te hāpara pākohu ihu mā te pūtiro rāroto. Huia katoatia, e whakaū nei ēnei rangahau i te hiahia ki ngā panoni hangahanga hei whakakore i ngā tautika-kore me te whakapai ake i ngā putanga hauora mō ngā hapori i takarepa ai ngā ratonga.

E whakamaharatia ana tātou ki te hira o te hokinga o ngā whakaaro ki mua nā Deng mā, nā Brabyn rāua ko Hanson anō hoki. E rua, e rua tā ēnei rangahau, i raro i taua tāhuhu, whakamahi raraunga, tae atu ki ngā raraunga aronehe, ki te mātai i ngā ia i te pakukore ohapori me te hekenga i Aotearoa. E tuku ana aua raraunga i nga tirohanga whānui hira nei i roto i te wā. Ka hanga a Deng mā i te inenga houanga ōrite mō te pakukore ā-wahi mai i 1981 ki te 1991, me te whakaatu ka pēhea te pakukore e panoni ai i roto i te wā. Ko tā Brabyn rāua ko Hanson arotahi ki te whakatauiria hekenga e whakaatu ana i ngā tauira hekenga ā-pakeke, ā-rohe e mārama ana. Ka tuku tahi nei ēnei tuhinga i te horopaki hira aronehe, ā mohoa noa nei hoki, e mārama ai te tangata ki te panoni haere o ngā tauira pakukore me te hekenga i roto i te wā i Aotearoa, ka mutu, ka āwhina kia

whakahaeretia ngā rangahau me ngā kaupapahere ā muri atu i runga i te mōhio.

Ko tā te toenga o ngā pepa kei tēnei putanga motuhake he whai i te aronga whakamua kaha atu e mātaihia ai ngā hangarau me ngā take matua e maiea ake ana e pā ana ki ngā hurihanga hangapori me te taiao ka pā ki a tātou katoa. Ka matapaki a Campbell i ētahi puna raraunga mokowā-wā āmiki me te hou, pērā i ngā raraunga tauwāhi waea pūkoro, me ngā raraunga mokowā ā-nuku rarahi e whakarato arawātea ana e pai ake ai pea te mārāma ki ngā tukanga hihiri o te tangata me te wāhi. E whakarāpopoto ana a Pocock mā i te whakawhanaketanga o tētahi utauta mariko hou ka aromatawai i te taiao tiriti mā te whakatau i te tūponotanga ka hinga te tangata i reira, kia pai ake ai te mārāma ki ngā taiao e hinga ai te tangata me ngā hāpaiora tautoko hei whakaiti i aua hinganga. E harikoa ana mātou ki te whakauru i te toa o te Tohu Jacoby 2023 ki roto i tēnei putanga motuhake. E āhukahuka ana tēnei tohu i te whai wāhi a Tākuta E G Jacoby ki te Mātai Hangapori o Aotearoa, ā, ka whakawhiwhia e Te Roopu Whaka Waihanga Iwi O Aotearoa mō te pepa tino pai rawa ka tuhia mō tētahi kaupapa taupori i roto i tētahi akoranga i te whare wānanga. Ko te toa o te tohu Jacoby 2023 ko Heather McLeod, mō tana pepa 'Te Hono Tangata me te Āhuarangi: Te Tauine Āhuarangi Hūkerikeri Ake mō Aotearoa mō ngā rohe tauanga a Tatauranga Aotearoa me ngā rohe ā-iwi'. E whakarāpopoto ana a McLeod rāua ko Renwick i tētahi tikanga hanga i te Tauine Āhuarangi Hūkerikeri mō Aotearoa kia āta kitea ngā "tohu" mō ngā āhuarangi hūkerikeri i te "heihei" ā-tohu nei o te huarere ā-rā. E torotoro ana a Miller mā i ngā huarahi pāhekoheko mō te whakaatu me te noho mārāma ki ngā raraunga e hira tahi ai ngā āhuatanga matawhenua me te hangapori.

Ka whakapakari ngā pepa i roto i tēnei putanga motuhake i te hira o te tangata, te wāhi, me te taiao. Ko tētahi wero nui mō muri ake ko te whakarite kia teitei te kounga o ngā mōhiohio mokowā ā-nuku i roto i ngā raraunga. Kei te āta whakakite tēnei putanga motuhake i ngā rangahau aronga hou e mahia nei i Aotearoa kia pai ake ai te mārāmatanga ki te pūtahitanga me te hononga o te matawhenua ki te hangapori, taea noatia te whakawhanaketanga o ngā tikanga me ngā raraunga mokowā ā-nuku hou e pai ake ai te mārāma ki ngā nekeneke hurihuri i waenga i te tangata me te wāhi.