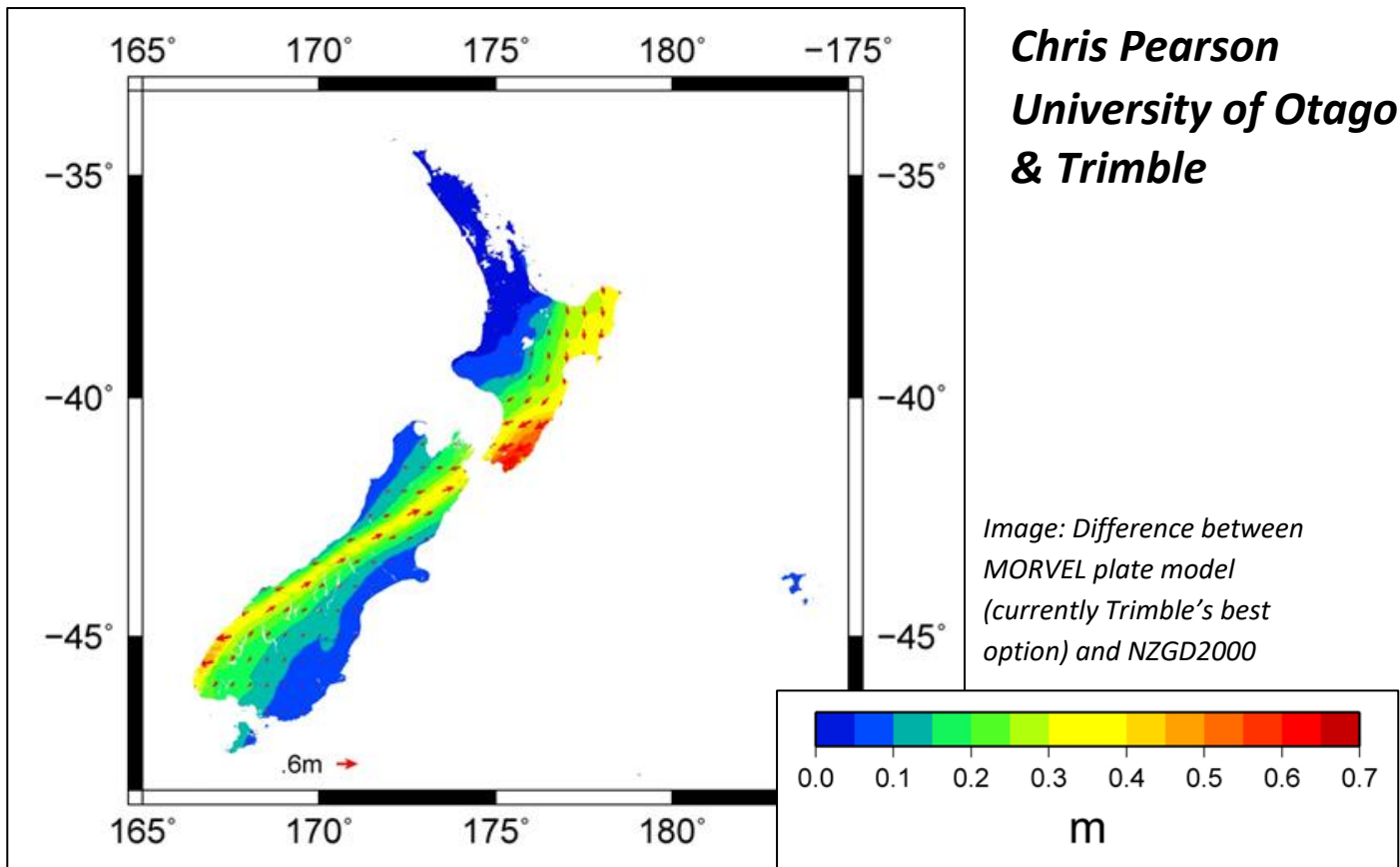


Dynamic datums and deformation models: Why do they matter?

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GNSS baselines and coordinates basically reflect the world at the time of measurement however due to tectonic motion and other effects like IGA (isostatic glacial adjustment) landslides etc. these measurements will not be consistent with the reference epoch of national datums. Sometimes this is spectacular as in the case of a major earthquake where shifts in excess of 10 m are possible however even when earthquakes are absent, tectonic activity will create shifts of 1 m over a decade or two. To deal with these effects, many countries are introducing semi-dynamic datums which contain numerical models (national deformation model or NDM) to correct epoch of measurement coordinates and baselines to the reference epoch of the datum. Up until recently these were used internally by organizations like LINZ but they are not supported by commercial software which makes them hard to use. In addition, many countries do not have deformation models.

The advent of disruptive technologies like PPP and SBAS mean that user coordinates will have to be corrected for tectonic motion if these technologies are to be used to their potential. This in turn means that all countries will have to adopt datums that will support accurate time shifts and vendor software will have to support time dependent datum transformations and deformation models. This talk discusses recent progress in supporting the more widespread adoption of modern datums in the developing world and adding functionality in commercial software to properly supporting these datums.

School of
Surveying
Te Kura Kairāri

12:00 noon, Thursday, 19 September 2019

L1 Lecture Theatre

School of Surveying, 310 Castle Street

Join remotely: <https://otago.zoom.us/my/surveyingseminar>

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