

Development of palaeorecords across the last interglacial-glacial cycle from New Zealand swamp kauri tree-rings

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New Zealand swamp kauri are relic *Agathis australis* trees preserved in former northern New Zealand bogs. They are massive in proportion to other native New Zealand trees, they attain great ages, and are suitable for dendrochronology. We outline recent work on swamp kauri scientific research, and show a meta-analysis of radiocarbon data for temporally "floating" kauri chronologies and replicated sample depth to-date. At present, swamp kauri tree-ring samples are discontinuously spaced across the last interglacial-glacial, and suggest there is aperiodic preservation of wood spanning from MIS5e through late MIS3, during the Lateglacial, and the Holocene. We know of no other tree ring resource globally that has a similar coverage. We evaluate the potential to build "ultra-long" swamp kauri chronologies that are many millennia in length from our current collections. Secondary analyses (such as radiocarbon and isotopic analyses) that have potential to add to ring-width reconstructions indicate this archive has great potential to improve our understanding of Late Quaternary changes.