



## **Global peak in atmospheric radiocarbon provides a potential definition for the onset of the Anthropocene Epoch in 1965**

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Anthropogenic activity is now recognised as having profoundly and permanently altered the Earth system, suggesting we have entered a human-dominated geological epoch, the 'Anthropocene'. To formally define the onset of the Anthropocene, a synchronous global signature within geological-forming materials is required. Here we report a series of precisely-dated tree-ring records from Campbell Island (Southern Ocean) that capture peak atmospheric radiocarbon ( $^{14}\text{C}$ ) resulting from Northern Hemisphere-dominated thermonuclear bomb tests during the 1950s and 1960s. The only alien tree on the island, a Sitka spruce (*Picea sitchensis*), allows us to seasonally-resolve Southern Hemisphere atmospheric  $^{14}\text{C}$ , demonstrating the 'bomb peak' in this remote and pristine location occurred in the last-quarter of 1965 (October-December), coincident with the broader changes associated with the post-World War II 'Great Acceleration' in industrial capacity and consumption. Our findings provide a precisely-resolved potential Global Stratotype Section and Point (GSSP) or 'golden spike', marking the onset of the Anthropocene Epoch.