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Towards a North Atlantic Marine Radiocarbon Calibration Curve

William Austin (1,2), Paula Reimer (3), Maarten Blaauw (3), Charlotte Bryant (4), James Rae (1), and Andrea Burke (1)

(1) University of St Andrews, Geography & Geosciences, St Andrews, United Kingdom (bill.austin@st-andrews.ac.uk), (2) Scottish Association for Marine Science, Scottish Marine Institute, Oban, United Kingdom, (3) 14CHRONO, Queen's University Belfast, Belfast, United Kingdom, (4) NERC Radiocaron Laboratory, East Kilbride, United Kingdom

Service du dejeuner! Twenty years ago, in 1995, I sailed as a post-doctoral researcher based at the University of Edinburgh (UK) on the first scientific mission of the new Marion Dufresne II. In this presentation, I will provide an update on the work that first quantified North Atlantic marine radiocarbon reservoir ages, highlighting how advances in marine tephrochronology over the last twenty years have significantly improved our understanding (and ability to test) land-ice-ocean linkages. The mechanistic link that connects marine radiocarbon reservoir ages to ocean ventilation state will also be discussed with reference to the Younger Dryas climate anomaly, where models and data have been successfully integrated. I will discuss the use of reference chronologies in the North Atlantic region and evaluate the common practice of climate synchronization between the Greenland ice cores and some of the key MD records that are now available. The exceptional quality of the MD giant piston cores and their potential to capture high-resolution last glacial sediment records from the North Atlantic provides an exciting opportunity to build new regional marine radiocarbon calibration curves. I will highlight new efforts by my co-authors and others to build such curves, setting-out a new agenda for the next twenty years of the IMAGES programme.