



Towards a global WWW Database of modeled marine Reservoir Ages for the last 40,000 years

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Late Quaternary marine sediments are frequently dated by means of their radiocarbon content. Natural imbalances in the carbon cycle cause the radiocarbon age of a marine sample to be higher than that of a coeval atmospheric sample. This difference, known as reservoir age, has to be corrected because it leads to systematic errors. Unfortunately, past variations in reservoir ages are only poorly constrained by reconstructions. Our project aims at quantifying marine reservoir ages spatially differentiated at a global scale for the last 40,000 years. The data will be produced by the UVic ESCM (University of Victoria Earth Climate System Model) with carbon and radiocarbon included in the three dimensional ocean and the well mixed atmosphere following the OCMIP-2 (Ocean Carbon-Cycle Model Intercomparison Project - Phase 2) protocol. Variations in atmospheric radiocarbon content are calculated based on reconstructed paleomagnetic intensities.

Time-dependent reservoir ages will be made available to the scientific community through a web interface. The database will provide global reservoir ages for a given calendar age with a horizontal resolution of $3.6 \times 1.8^\circ$. In the vertical data will be available for several depths down to the ocean bottom. The temporal resolution will be 10 years. Alternatively, the reservoir age at a specific location can be saved as function of calendar age. In addition the database will provide access to modeled atmospheric and marine ^{14}C ages for all calendar ages. We will present an overview of the database functionality and an initial set of reservoir ages.