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Uranium/Thorium isotopic composition of various mid-late Holocene features collected from twelve islands in French Polynesia.

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Abstract:

Uranium/Thorium isotopic composition of 165 samples from various mid-late Holocene features, such as in situ Porites microatolls, in situ reef flats, conglomerates and reworked reef blocks, collected from twelve islands in French Polynesia. Recommendations of Dutton et al. (2017) were followed for the presentation of U/Th age data. For each parameter, the first column contains the value and the second column the statistical error. All statistical errors are two standard deviations of the mean (2σ mean). All samples have been corrected for initial 230Th by using a 230Th/232Th activity ratio of 0.66 ± 0.2 (Fietzke et al., 2005). Non-reported data consist of 230Th/232Th ratios which became negative due to background corrections. 238U Concentrations are not corrected for the background.

Keyword(s):

French Polynesia [Q](#); low-lying islands [Q](#); mid-late Holocene sea level [Q](#); Porites microatolls [Q](#); reef development [Q](#); storm deposits [Q](#); U-series dating [Q](#)

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Further details:

Dutton, Andrea; Rubin, Ken H; McLean, Noah; Bowring, James F; Bard, Edouard; Edwards, Ross L; Henderson, Gideon M; Reid, Malcolm R; Richards, David A; Sims, Kenneth W W; Walker, James Douglas; Yokoyama, Yusuke (2017): Data reporting standards for publication of U-series data for geochronology and timescale assessment in the earth sciences. *Quaternary Geochronology*, **39**, 142-149, <https://doi.org/10.1016/j.quageo.2017.03.001>

Fietzke, Jan; Liebetrau, Volker; Eisenhauer, Anton; Dullo, C (2005): Determination of uranium isotope ratios by multi-static MIC-ICP-MS: method and implementation for precise U- and Th-series isotope measurements. *Journal of Analytical Atomic Spectrometry*, **20**(5), 395, <https://doi.org/10.1039/B415958F>

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Coverage:

Median Latitude: 16.993393 * Median Longitude: 147.169415 * South-bound Latitude: 14.332200 * West-bound Longitude: 134.939200 * North-bound Latitude: 23.903900 * East-bound Longitude: 152.262400

Event(s):

French Polynesia_BOB (Bora Bora) [Q](#) * Latitude: -16.479000 * Longitude: -151.729800 * Location: French Polynesia [Q](#) * Method/Device: Sampling by hand (HAND) [Q](#)

French Polynesia_FAK (Fakarava) [Q](#) * Latitude: -16.209847 * Longitude: -145.591820 * Location: French Polynesia [Q](#) * Method/Device: Sampling by hand (HAND) [Q](#)

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Parameter(s):

#	Name	Short Name	Unit	Principal Investigator	Method/Device	Comment
1	Event label Q	Event		Hallmann, Nadine Q		
2	Sample ID Q	Sample ID		Hallmann, Nadine Q		
3	LATITUDE Q	Latitude		Hallmann, Nadine Q		Geocode
4	LONGITUDE Q	Longitude		Hallmann, Nadine Q		Geocode
5	Uranium-238 Q	238U	mg/kg	Hallmann, Nadine Q		
6	Uranium-238, standard deviation Q	238U std dev	±	Hallmann, Nadine Q	Calculated Q	
7	Thorium-230 Q	230Th	ng/kg	Hallmann, Nadine Q		
8	Thorium-230, standard deviation Q	230Th std dev	±	Hallmann, Nadine Q	Calculated Q	
9	Thorium-232 Q	232Th	µg/kg	Hallmann, Nadine Q		
10	Thorium-232, standard deviation Q	232Th std dev	±	Hallmann, Nadine Q	Calculated Q	
11	Thorium-230/Thorium-232 activity ratio Q	(230Th/232Th)		Hallmann, Nadine Q	Calculated Q	
12	Thorium-230/Thorium-232 activity ratio, standard deviation Q	(230Th/232Th) std dev	±	Hallmann, Nadine Q	Calculated Q	
13	Uranium-238/Thorium-232 activity ratio Q	(238U/232Th)		Hallmann, Nadine Q	Calculated Q	
14	Uranium-238/Thorium-232 activity ratio, standard deviation Q	(238U/232Th) std dev	±	Hallmann, Nadine Q	Calculated Q	
15	Thorium-230/Uranium-238 activity ratio Q	(230Th/238U)		Hallmann, Nadine Q	Calculated Q	
16	Thorium-230/Uranium-238 activity ratio, error, relative Q	(230Th/238U) e rel	%	Hallmann, Nadine Q	Calculated Q	
17	Uranium-234/Uranium-238 activity ratio Q	(234U/238U)		Hallmann, Nadine Q	Calculated Q	
18	Uranium-234/Uranium-238 activity ratio, standard deviation Q	(234U/238U) std dev	±	Hallmann, Nadine Q	Calculated Q	
19	Age, dated Q	Age dated	ka	Hallmann, Nadine Q	Age, Uranium-Thorium Q	
20	Age, dated standard deviation Q	Age dated std dev	±	Hallmann, Nadine Q	Age, Uranium-Thorium Q	
21	Uranium-234/Uranium-238 activity ratio Q	(234U/238U)		Hallmann, Nadine Q	Calculated Q	Initial
22	Uranium-234/Uranium-238 activity ratio, standard deviation Q	(234U/238U) std dev	±	Hallmann, Nadine Q		Initial

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Hallmann, N; Camoin, G; Eisenhauer, A et al. (2017): (Table S2) Uranium/Thorium isotopic composition of in situ Porites microatolls in French Polynesia. <https://doi.org/10.1594/PANGAEA.883845>

Hallmann, N; Camoin, G; Eisenhauer, A et al. (2017): Measurements of elevations and absolute ages of Mid- to Late Holocene coral microatolls from French Polynesia. <https://doi.org/10.1594/PANGAEA.883846>

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Comboureu-Nebout, N; Vergnaud-Grazzini, C (1991): (Table 1A) Stable oxygen isotope values fore Globigerinoides bulloides and Uvigerina peregrina of the Croton series. <https://doi.org/10.1594/PANGAEA.743030>

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