

Description of Additional Supplementary Data

Increasing opal productivity in the late Eocene Southern Ocean: Evidence for increased carbon export preceding the Eocene-Oligocene glaciation

Özen *et al.*

Southern Ocean Diatom Diversity

Represents Southern Ocean diatom diversity data from Özen *et al.*, (subm. 2025 to The Journal of Micropaleontology). The column names and their meanings are as follows:

rawdiv	: Raw diversity (observed diversity)
chao1	: Chao1 estimation
lci:	: Lower confidence (95%) interval of Chao1 estimation
uci	: Upper confidence (95%) interval of Chao1 estimation
sample_age_ma	: Sample age in Ma

Southern Ocean Diatom MAR

Compiles diatom, radiolarian, and ebridians (only for ODP 748B) raw counts, estimated absolute abundance (See Methods, equation 1, also below), and accumulation rates.

$$ab = N \times \left(\frac{Ab}{Am} \right) \times \left(\frac{Vp}{Vu} \right) \times \frac{1}{w}$$

The area of used beaker (**6079 mm²**) : **Ab**

Correspondence between column names in the dataset ('SO_diatom_MAR.csv') and symbols used in the equation:

diatoms_counted	: N (for diatoms)
radiolarian_counted	: N (for radiolarians)
ebridians_counted	: N (for ebridians)

diatom_slides_volume_used	: Vu
diatom_slides_volume_total	: Vp
diatom_slides_mass_seds_prepared	: w
diatom_slides_area_counted	: Am
diatoms_per_g	: ab