

# Mid-Eocene Thermals record in Istrian Paleogene Basin (Outer Dinarides, Croatia), Neotethys

---

Galović, Ines; Lukić, Renata; Mužek, Katja; Pezelj, Đurđica; Petrinjak, Krešimir; Horvat, Marija; Čosović, Vlasta

**Data management plan / Plan upravljanja istraživačkim podacima**

*Publication year / Godina izdavanja:* **2023**

*Permanent link / Trajna poveznica:* <https://um.nsk.hr/um:nbn:hr:217:467647>

*Rights / Prava:* [In copyright](#) / [Zaštićeno autorskim pravom.](#)

*Download date / Datum preuzimanja:* **2025-03-25**



*Repository / Repozitorij:*

[Repository of the Faculty of Science - University of Zagreb](#)



## DATASET DESCRIPTION

*Title for dataset:* Mid-Eocene Thermals record in Istrian Paleogene Basin (Outer Dinarides, Croatia), Neotethys

*Authors:* Ines Galović<sup>1</sup>, Renata Lukić<sup>2</sup>, Katja Mužek<sup>1,2</sup>, Đurđica Pezelj<sup>2\*</sup>, Krešimir Petrinjak<sup>1</sup>, Marija Horvat<sup>1</sup> and Vlasta Čosović<sup>2</sup>

<sup>1</sup>Croatian Geological Survey, Sachsova 2, 10000 Zagreb, Croatia.

<sup>2</sup>Department of Geology, Faculty of Science, University of Zagreb, Horvatovac 102b, 10000 Zagreb, Croatia.

*Abstract:* Several short sections have been studied in Istria (Outer Dinarides, Northern Adriatic) to determine impact of short-term climate variability during the critical period of Mid-Eocene greenhouse climate evolution on pelagic assemblages from the northern mid-latitudes. In order to determine the age of the deposits and paleoecological conditions of the environment, marl samples were laboratory processed and prepared for microscopic analysis. Further taxonomic determination of calcareous nannoplankton and planktonic foraminifera was done together with quantitative research methods. Planktonic foraminifera tests are recrystallized and not suitable for stable isotope data. Because of that, isotope analyses have been proceeded ( $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$ ) from bulk sediments and  $\delta^{13}\text{C}$  is correlated with regional to global results. Based on new calcareous nannofossil biostratigraphy with regional geochronology (Fornaciari et al., 2010), and implementations of available geochemical data for two hyperthermal intervals (Late Lutetian Thermal Maximum and Middle Eocene Climate Optimum CIE), for the first time these events are going to be more precisely dated from the first attempts made by Jovane et al. (2007), where the age was miscorrelated with 41.5 Ma for the MECO, which is actually the LLTM age dated in Southern Hemisphere.

*Keyword(s):* Eocene hyperthermal events, Calcareous nannoplankton, Planktonic foraminifera

*Supplement to:* Mid-Eocene Thermals record in Istrian Paleogene Basin (Outer Dinarides, Croatia), Neotethys— article in prep., submitted to *Paleoceanography & Paleoclimatology*

*Project(s):* BREEMECO Dinaridic foreland basin between two Eocene thermal optima: a possible scenario for the Northern Adriatic, Croatian Science Foundation Research Project no. IP-2019-04-5775. Leading institution - Department of Geology, Faculty of Science, University of Zagreb.

*Geolocation:* Jakomići I (J 45.2091530 N, 14.05085170 E and Jakomići II (JAK 45.2125950N, 14.050880E), Racani (RAC 45.298855N, 13.927823E) and Gabrijeleći (GAB 45.288864N, 13.959391E)

*Size:* 3 dataset: Galovic et al. 2023 geochemical and isotope data, Galovic et al. 2023 nannofossils, Galovic et al. 2023 planktonic foraminifera