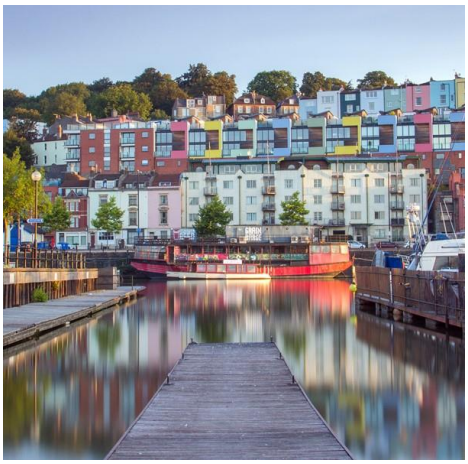


The 3rd Deep-Time Model Intercomparison Project
DeepMIP Conference

M Shed & University of Bristol
Bristol, UK

Wednesday 4th July – Friday 6th July 2018

Delegate Pack

Agenda

Wednesday 4th July

The Event Suite, M Shed, Princes Wharf
Chair: Dan Lunt

Presentation/Discussion	Time
Arrival	09.30-10.00
Dan Lunt, University of Bristol, UK *Welcome and Introduction*	10.00-10.10
Dan Lunt, University of Bristol, UK *Overview of DeepMIP modelling and associated projects*	10.10-10.15
Yannick Donnadieu & Jean-Baptiste Ladant, CEREGE, France *Contribution of the IPSL-CM5A2 model to the DeepMIP exercise*	10.15-10.30
Ed Gasson & Emma Stone, University of Bristol, UK *DeepMIP simulations with HadCM3 and HadCM3L*	10.30-10.45
David Hutchinson, Stockholm University, Sweden *Climate sensitivity at 55 Ma using GFDL CM2.1*	10.45-11.00
Break	11.00-11.30
Akil Hossain, Alfred Wegener Institute, Germany *Deep time simulations with COSMOS*	11.30-11.45
Jesse Nusbaumer, NASA, USA *A high CO2 climate as simulated by GISS ModelE2.1*	11.45-12.00
Zhongshi Zhang, Uni Research Climate, Norway *Progress of NorESM2 development and plan for DeepMIP*	12.00-12.15
Charlie Williams, University of Bristol, UK *Sensitivity AMIP-style Eocene experiments using HadGEM3 - Experimental design and (very) preliminary results*	12.15-12.30
Lunch Break	12.30-13.30
Jiang Zhu, University of Michigan, USA *Simulating the Eocene hothouse climate using the water isotope-enabled Community Earth System Model (CESM1.2)*	13.30-13.45
Arne Winguth, University of Texas Arlington, USA *Simulated Eocene Hothouse Climate – A DeepMIP Study with CESM*	13.45-14.00
Polina Morozova, Russian Academy of Sciences, Russia *Overview of INMCM4 - model components, parameterisations, and evaluation*	14.00-14.10
Alex Farnsworth, University of Bristol, UK *Should we care about accurate reconstructions of the Tibetan plateau?*	14.10-14.20
Michiel Baatsen, Utrecht University, Netherlands *CESM simulation of the middle-late Eocene: geography changes and*	14.20-14.30

radiative forcing	
Alan Kennedy, University of Bristol, UK *Quantifying uncertainty in modelled climatic change at the Eocene-Oligocene Transition*	14.30-14.40
David De Vleeschouwer, Universität Bremen, Germany *Ocean and climate response to North Atlantic seaway changes at the onset of long-term Eocene cooling*	14.40-14.50
Break	14.50-15.20
Model data comparison and paper strategy discussion	15.20-17.00
Social Evening (all)	

Thursday 5th July

Studios 1 & 2, M Shed, Princes Wharf
Chair: Jim Zachos

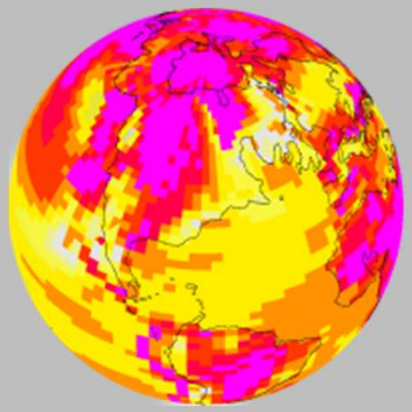
Presentation/Discussion	Time
Arrival	09.00-09.30
Jim Zachos, University of California, USA *Day Introduction*	09.30-09.35
Jim Zachos, University of California, USA *Update on PETM Mid-Atlantic SST and SSS records*	09.35-09.50
Helen Coxall, Stockholm University, Sweden *Proxy observations on late Eocene ocean circulation in the North Atlantic*	09.50-10.00
Margot Cramwinckel, Utrecht University, Netherlands *Synchronous tropical and deep-ocean temperature evolution in the Eocene*	10.00-10.10
David Evans, University of St Andrews, UK *Presentation Title - TBC*	10.10-10.20
Joost Frieling, Utrecht University, Netherlands *Sea surface, air and soil temperatures across the Tasman Gateway during the PETM*	10.20-10.30
Gordon Inglis, University of Bristol, UK *Triumph and tragedy: the application of GDGT-based temperature proxies in terrestrial and marine archives*	10.30-10.40
Eleanor John, Cardiff University, UK *Resurrecting climate data from recrystallised foraminifera*	10.40-10.50
Vittoria Lauretano, University of Bristol, UK *Eocene-Oligocene terrestrial temperature reconstructions from lignite deposits*	10.50-11.00
Break	11.00-11.30

Carrie Lear, Cardiff University, UK *Deep-time Mg/Ca paleothermometry*	11.30-11.40
Mingsong Li, Pennsylvania State University, USA *New methods for astrochronological calibration of paleoclimate proxies and significance for deep time data assimilation*	11.40-11.50
Kate Littler, University of Exeter, UK *A new Late Paleocene – Early Eocene temperature and pH record from the northern Indian Ocean*	11.50-12.00
Sevasti Modestou, University of Bergen, Norway *Clumped isotope thermometry on foraminifera*	12.00.12.10
David Naafs, University of Bristol, UK *Some like it hot; land temperatures during the early Paleogene*	12.10-12.20
Rich Pancost, University of Bristol, UK *Presentation Title - TBC*	12.20-12.30
Emanuela Piga, Cardiff University, UK *A glimpse into the early Eocene Pacific Warm Pool*	12.30-12.40
Dani Schmidt, University of Bristol, UK *Biotic indications for environmental change*	12.40-12.50
Robert Speijer, KU Leuven, Belgium *Paleoclimate records from continental margins*	12.50-13.00
Lunch Break	13.00-14.00
Stephanie Strother, Northumbria University, UK *Global vegetation and terrestrial climate of the super-warm Early Eocene*	14.00-14.10
Bridget Wade, University College London, UK *Planktonic foraminiferal bleaching, recovery and coiling changes at the start of the EECO*	14.10-14.20
Yurui Zhang, University of Brest, France *The contribution of vigorous ocean overturning to warm Southern Ocean during the early Eocene in IPSL simulations*	14.20-14.30
Papers discussion	14.30-15.30
Break	15.30-16.00
Working group breakouts	16.00-17.00
Social Evening (groups)	

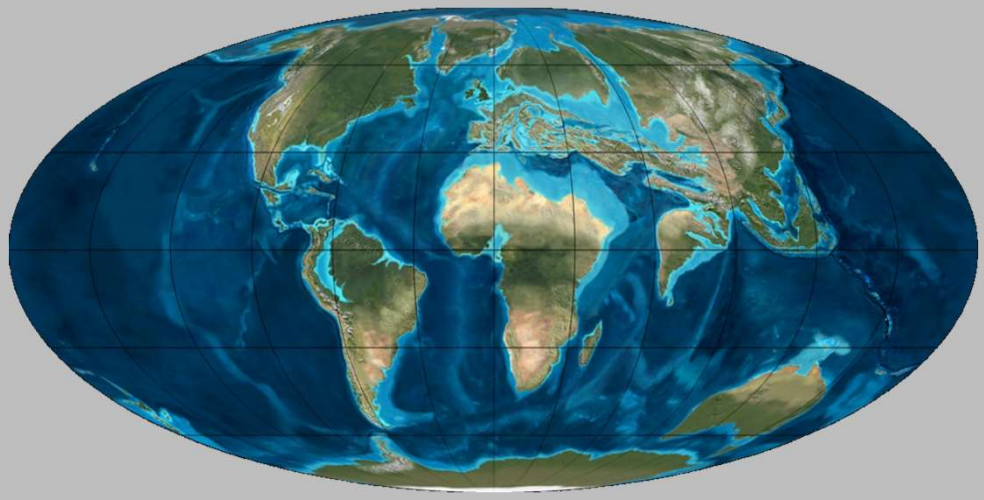
Friday 6th July

The Peel Theatre, School of Geographical Sciences, University of Bristol
Chair: Gavin Foster

Presentation/Discussion	Time
Arrival	08.30-09.00
Gavin Foster, University of Southampton, UK *Day Introduction*	09.00-09.05
Gavin Foster, University of Southampton, UK *Towards a multiproxy ocean-based CO2 record for the Cenozoic*	09.05-09.20
Eleni Anagnostou, ETH Zurich, Switzerland *Higher resolution CO2 time series*	09.20-09.30
Tom Dunkley Jones, Kirsty Edgar & Yvette Eley, University of Birmingham, UK *Towards multi-proxy sea surface temperature and pCO2 reconstructions of the early Eocene Climatic Optimum from the Rockall Trough, NE Atlantic*	09.30-09.40
Richard Zeebe, University of Hawaii, USA *Paleo-atmospheric CO2 and ocean chemistry*	09.40-09.50
Stephen Jones, University of Birmingham, UK *Palaeogeographic evolution of the North Atlantic - Arctic gateway in response to mantle dynamic support*	09.50-10.00
Paul Markwick, University of Leeds, UK *An updated palaeogeographic workflow for building geographic boundary conditions for Earth system modelling*	10.00-10.10
Break	10.10-10.40
Working group breakouts	10.40-12.10
Dan Lunt, University of Bristol, UK *Meeting summary/discussion*	12.10-12.30
Lunch Break	12.30-13.30
Working group breakouts/free for discussion	13.30-14.30
Break	14.30-15.00
Working group breakouts/free for discussion	15.00-16.00
Meeting close	



DeepMIP



Paleoclimate records from continental margins

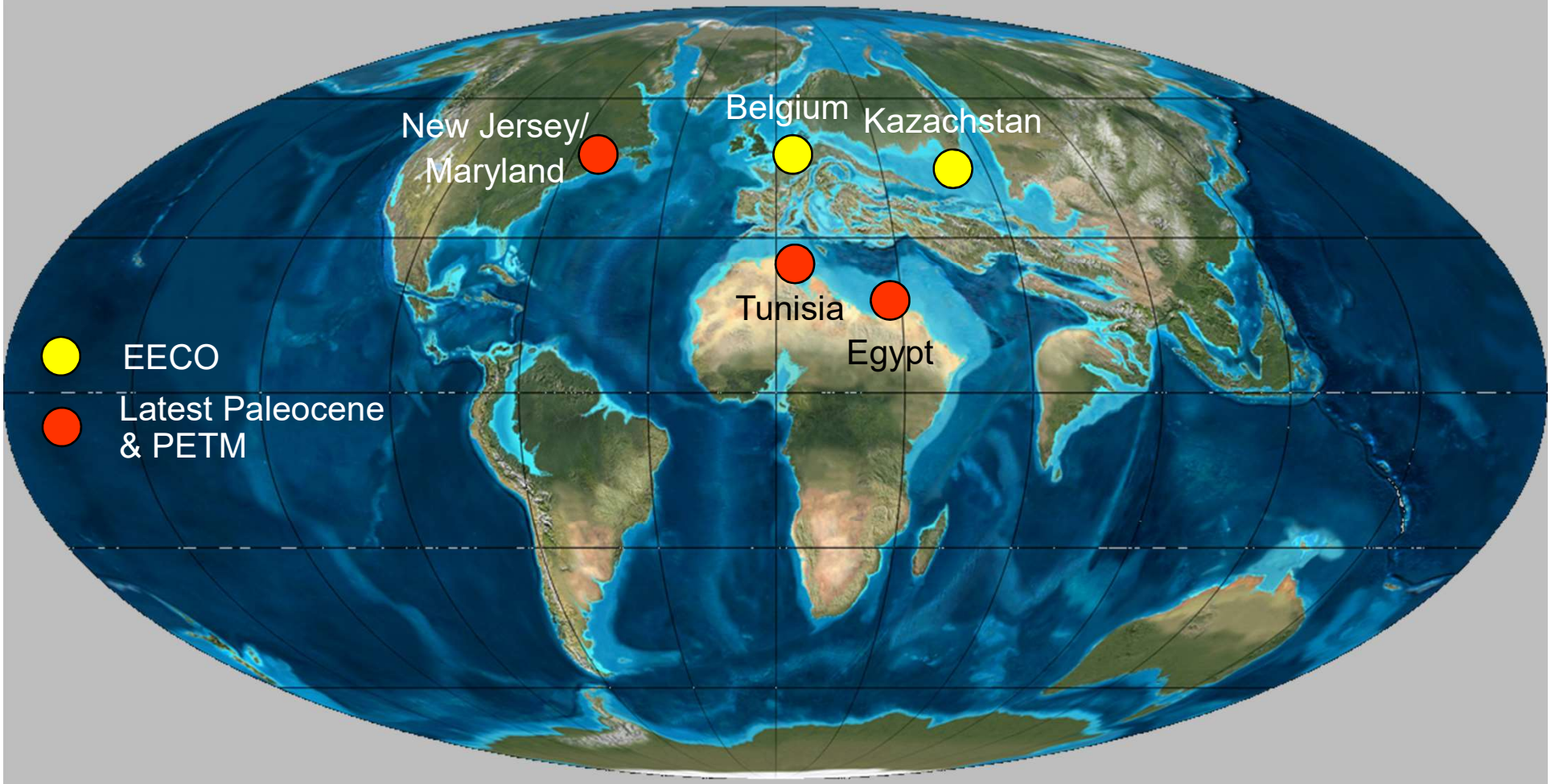
Robert P. Speijer

DEPARTMENT OF **EARTH AND ENVIRONMENTAL SCIENCES**
KU Leuven - BELGIUM

KU LEUVEN

Biogeology Research Group

Continental margin paleotemperature data



Core business: Linking Paleogene climate change and biosphere developments along depth transects

Faunal data (benthic forams) and geochemical proxies ($\delta^{18}O$, Mg/Ca)

KU LEUVEN

Biogeology Research Group

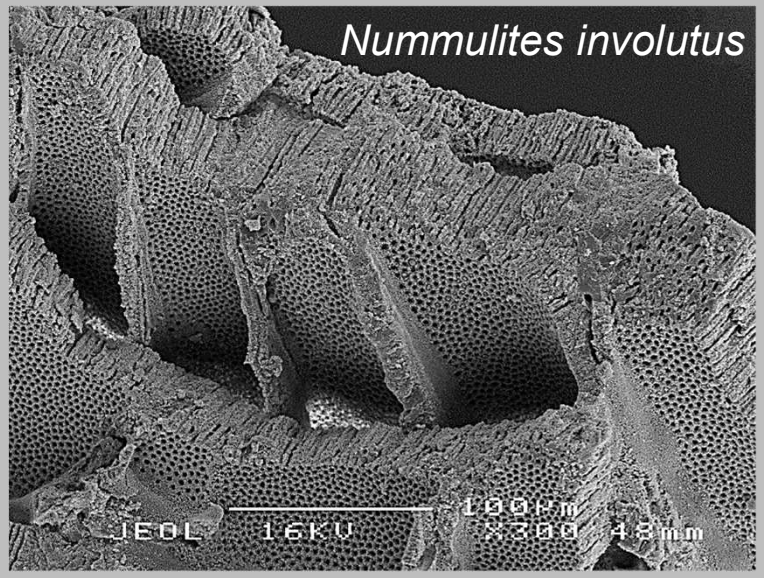
Continental margin paleotemperature data

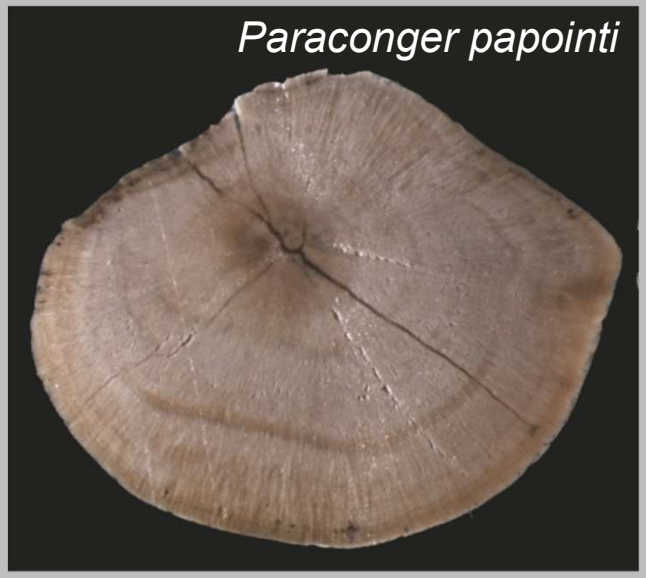
Offer for inclusion into DeepMIP model – data comparisons: proxy data ($\delta^{18}O$, Mg/Ca) from shallow marine benthic organisms

- Benthic foraminifera (latest Paleocene – PETM – EECO)

EECO seasonality signatures from

- Mollusks (Vellekoop et al. in prep.)
- Fish otoliths (Vanhove et al. 2011, 2012, in prep.)
- Nummulites (Martens et al. in prep.)

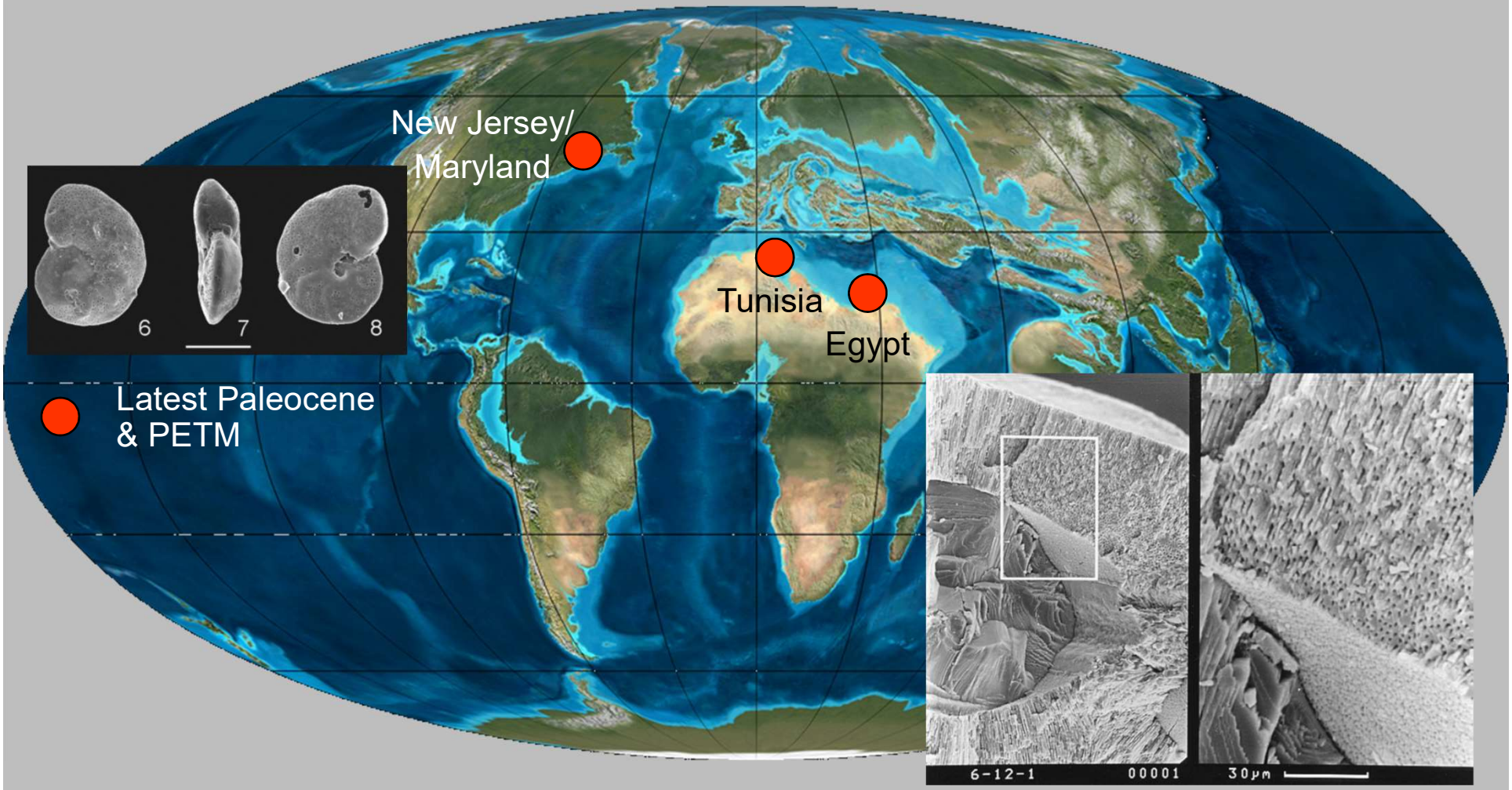




KU LEUVEN

Biogeology Research Group

Continental margin paleotemperature data



Tunisia & Egypt: often well preserved forams but mostly infilled by secondary calcite

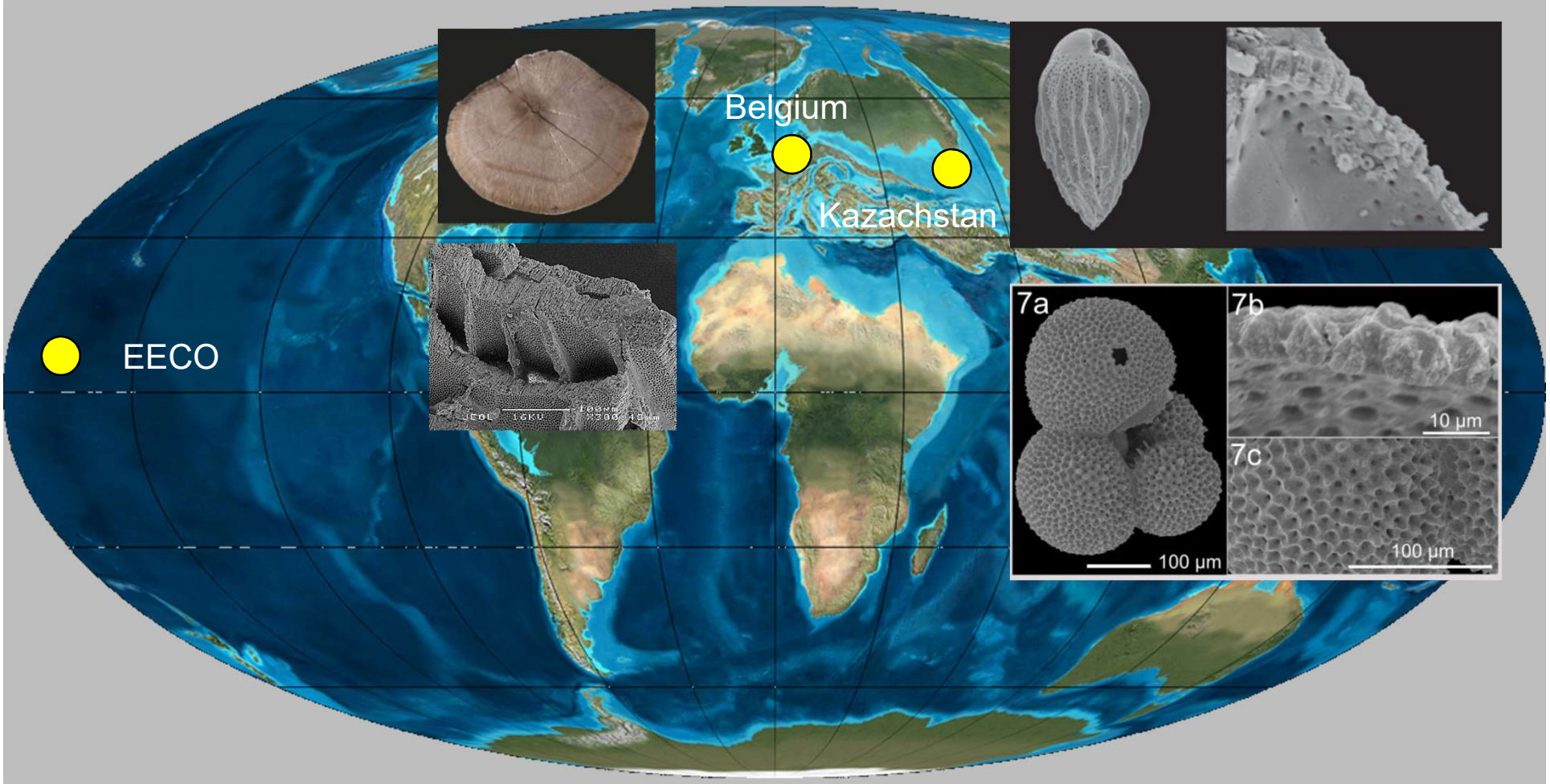
Maryland & New Jersey: often well preserved forams, not infilled

(Various papers by Stassen et al. and PhD project by Monika Doubrawa)

KU LEUVEN

Biogeology Research Group

Continental margin paleotemperature data



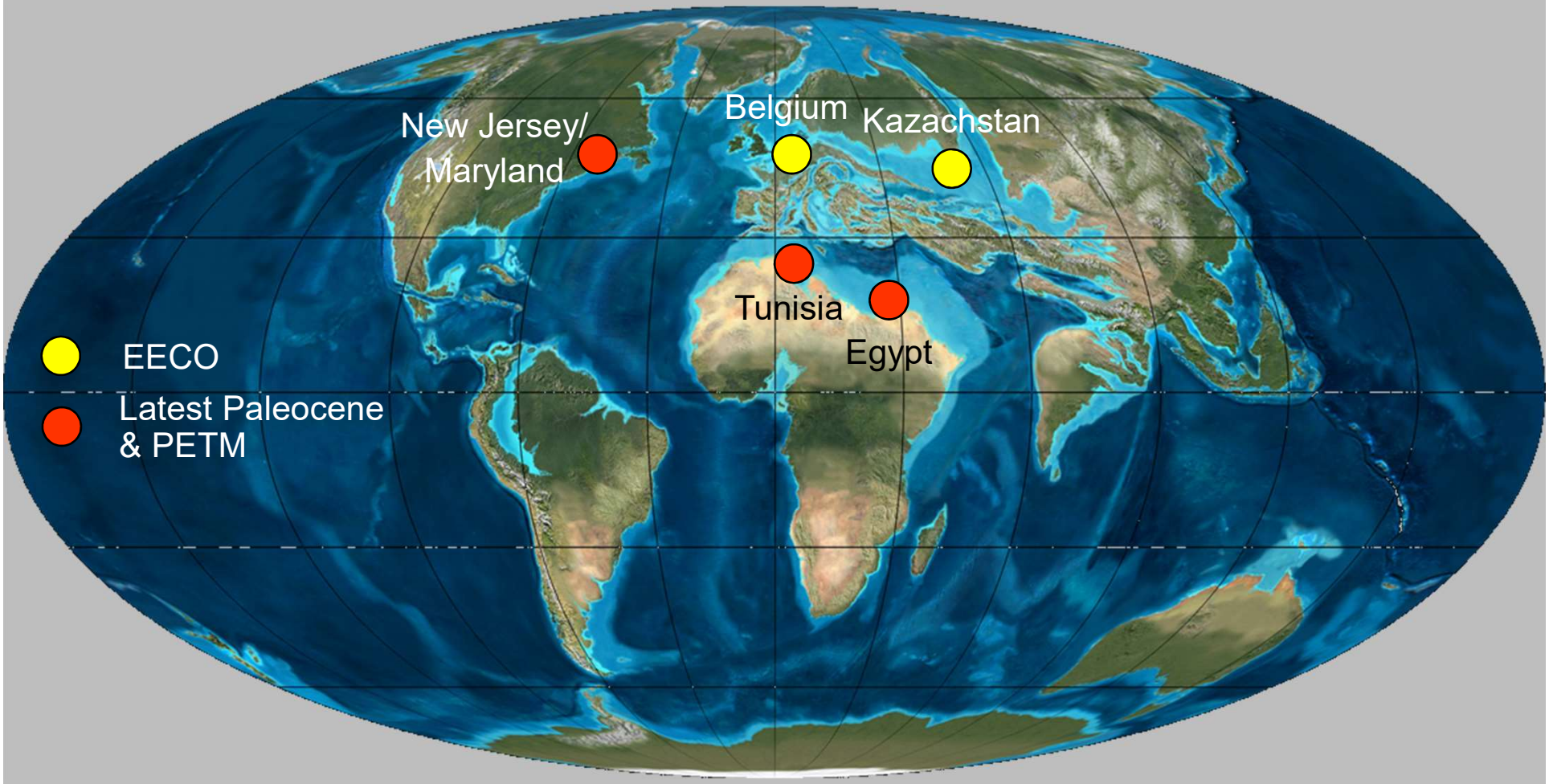
Kazachstan: excellent preservation of benthics and planktics (Deprez et al. 2014)

Belgium: Well-preserved smaller and larger forams and otoliths (Vanhove et al. 2011, 2012 and PhD project by Lise Martens on seasonality in *Nummulites)*

KU LEUVEN

Biogeology Research Group

Continental margin paleotemperature data



Some work published, most not yet published or in progress

KU LEUVEN