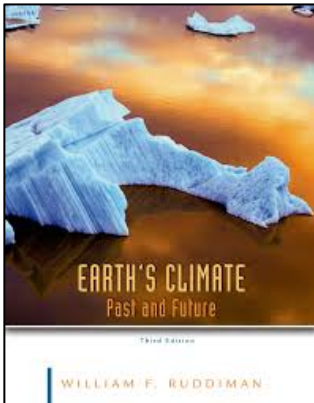


Paleoceanography and Paleoclimatology-1: Literature

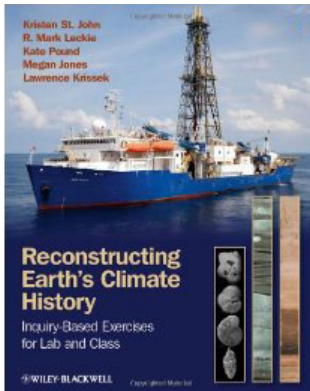
Course textbook



Earth's Climate: Past and Future, W.F. Ruddiman, 2014

W.H. Freeman, 3rd edition
 ISBN: 9781429255257:
 – **Required.**

Reconstructing Earth's Climate History: Inquiry-based Exercises for Lab and Class, 2012, St John, K., Leckie, MR., Pound, K., Jones, M., Krissek, L., ISBN: 978-0-470-65805, Wiley-Blackwell, p. 528.



- **Recommended.** This book is the sources of most of the set exercises and introduces you to subject material from a very basic level. The idea is to supports your learning through exposure to many different data sets and exercises.

Below follows a list of resources for topics covered over the weeks. Handouts and/or recommendations for additional readings will be provided by the various lecturers. Many of the extra readings, and all of the research articles that form the focus of seminars and/or laboratory exercises, will be made available on MONDO.

[Introduction and general background \(including for the first week, v. 44 \)](#)

* identifies the assigned reading for the first week. The other suggested readings will provide revision on aspects of marine geology relevant to this course as well as background to the ocean circulation component. Circulation and climate will be covered in subsequent weeks (A. de Boer). You are advised to start the background reading ahead of time.

Ocean basins

The Ocean Basins: Their Structure and Evolution (Second Edition), 1998, Open University, Butterworth-Heinemann, ISBN: 9780080537931. **(SU e-bok).**

Chapter 2 The Shape of Ocean Basins; p. 26-54

Chapter 3 The Evolution of Ocean basins; 55-67

Ocean circulation

Open University course team. Second edition. 2001. Chap. 3. Ocean Currents. In: Bearman, G. (ed) Ocean Circulation. Oxford : Pergamon Press in assoc. with the Open University, **SU E-book.**

Open University course team. 2001. Chap. 6. Global Fluxes and the deep circulation. In: Bearman, G. (ed) Ocean Circulation. Oxford : Pergamon Press in assoc. with the Open University. **SU E-book**.

Good introduction to Atlantic circulation and variability:

Oppo, D. W., and Curry, W. B., 2012, Deep Atlantic Circulation During the Last Glacial Maximum and Deglaciation: Nature Education Knowledge, v. 3, no. 10.

<http://www.nature.com/scitable/knowledge/library/deep-atlantic-circulation-during-the-last-glacial-25858002>

Geochemical cycles

* *Earth System History: Stanley, S.M. and Lucjaz, J.A., 2015, Fourth Edition, Freeman and Company, New York, 587 p. Chapter 10 Major Geochemical cycles.*

Cenozoic and Cretaceous climate history and methods

Hay, W. W., 1988, Paleooceanography: A review for the GSA Centennial: Geological Society of America Bulletin, v. 100, p. 1934-1956.

*ODP Greatest Hits, 1997.

http://www.odplegacy.org/pdf/outreach/brochures/odp_greatest_hits.pdf

(PDF on MONDO)

*ODP Greatest Hits 2, 2004.

http://www.odplegacy.org/PDF/Outreach/Brochures/ODP_Greatest_Hits2.pdf

(PDF on MONDO)

International Ocean Discovery Program, 2011, Illuminating Earth's Past, Present, and Future: The International Ocean Discovery Program, Exploring the Earth Under the Sea (Science Plan for 2013–2023). 84 pp. [p. 11-24].

*Zachos, J.C., M. Pagani, L.C. Sloan, K. Billups, and E. Thomas, 2001. Trends, rhythms, and aberrations in global climate 65 Ma to present, Science 292, 686-693, doi: 10.1126/science.1059412.

Resources for 'IODP Core-assignment'

- Google Earth: Down load at: <https://www.google.com/earth/download/ge/agree.html>
- DSDP, ODP and IODP publications, available at:
<http://www.iodp.org/scientific-publications/>
- The peer-reveiwed scientific literature
- LITERATURE SEARCHES USING WEB DATABASES:
e.g. SCOPUS, Web of Science/Web of Knowledge
<http://www.sub.su.se/start/sok/soktraff.aspx?librisid=12745854>

v. 45-46 Atmosphere/Ocean circulation

Atmosphere, Ocean, and Climate Dynamics: An Introductory Text; John Marshall and R. Alan Plumb. Academic Press, 2008. (SU e-bok).

Other resources for background reading:

Open University course team. 1989. Chap. 3. Ocean Currents. In: Bearman, G. (ed) Ocean

Circulation. Oxford : Pergamon Press in assoc. with the Open University,

Open University course team. 1989. Chap. 6. Global Fluxes and the deep circulation. In: Bearman, G. (ed) Ocean Circulation. Oxford : Pergamon Press in assoc. with the Open University.

v. 47 Marine sediments and microfossils, stratigraphy and correlation

Chapter 4, Marine Sediments in Trujillo, Thurman, 2011. Essentials of Oceanography (**handout**). Pearson Ed.

Selected sections of Chapter 2 and 3: in Hüneke H, Mulder T, editors. Deep-sea sediments. Amsterdam: Elsevier; 2011: available as ebook from the library, several copies available.

*Berger, W. H. 1976. Biogenous Deep Sea Sediments: Production, preservation and interpretation. In: Riley, J. P. and Chester, R. (eds) Chemical Oceanography, volume 5, 2nd edition. Academic Press, London. 266 – 388.

Walker, M., 2005. Quaternary Dating methods. Wiley & Sons Ltd. Chichester, 286 pp.

Vorren 2003, Subaquatic landsystems: continental margins. In Evans, Glacial Landsystems). (PDF MONDO)

Other resources for background reading:

Open University course team. 1995. Chap. 1. The distribution of deep sea sediments. In: Bearman, G. (ed) Ocean chemistry and deep sea sediments. Pergamon Press in assoc. with the Open University, Milton Keynes.

Open University course team. 1995. Chap. 4. The supply of sediment to the deep sea. In: Bearman, G. (ed) Ocean chemistry and deep sea sediments. Pergamon Press in assoc. with the Open University, Milton Keynes.

v. 49 Geochemical & biological paleoceanographic proxies

Hillaire-Marcel, C., de Vernal, A. 2007. Methods in Late Cenozoic paleoceanography: introduction. In: Hillaire-Marcel, C., de Vernal, A. (eds). Proxies in Late Cenozoic paleoceanography, Elsevier, Amsterdam, 1-15. (SU e-bok).

*Vaughan, A. P. M., 2007. Climate and geology – a Phanerozoic perspective. In: Williams, M., Haywood, A. M., Gregory, F. J. & Schmidt, D. N. (eds). Deep-time perspectives on climate change: marrying the signal from computer models and biological proxies. The Micropaleontological Society, Special Publications. The Geological Society, London, 5 – 59. (Dropbox PDF)

*Wefer, G. Berger, W.H. Bijma, J., Fischer, G. 1999. Clues to ocean history: a brief overview of proxies. In: Fischer, G. and Wefer, G (eds) Use of proxies in paleoceanography. Springer-Verlag, Berlin, 1 – 68. (Dropbox PDF).

v. 50 High resolution deep sea proxies and time series analysis

Palike, H. 2006. Incorporation of Geologic Cycles in Establishing Geologic Timescales: Exercise Notes, Paleontological Society Papers, v.12:125-144. The Paleontological Society, USA. (Dropbox PDF)

Raymo, M.E., D.W. Oppo, B.P. Flower, D.A. Hodell, J. McManus, K.A. Venz, K.F. Kleiven, and K. McIntyre, 2004, Stability of North Atlantic water masses in face of pronounced climate variability during the Pleistocene, *Paleoceanography*, v. 19, PA2008, doi:10.1029/2003PA000921. (Dropbox PDF)