Recommended reading list – BIO 250 Palaeoecology, autumn 2018

The reading list will be updated before the course starts, and additions can be made during the course. The list is based on published papers selected for the different topics and themes the course will cover and is not at all meant to be a complete list of all papers mentioned in the course.

Papers will be discussed during classes, and those will be distributed prior to discussions and presentations. Updates will be given on MittUiB.

Introduction to palaeoecolgoy

Birks, HJB. 2008. Palaeoecology. Encyclopedia of Ecology, 2623-2634.

Dietl, G.P. & Flessa, K.W., 2011. Conservation paleobiology: putting the dead to work. *Trends in Ecology & Evolution*, 26, 30–37.

Seddon, A. 2012. Palaeoecology. http://www.oxfordbibliographies.com/view/document/obo-9780199830060/obo-9780199830060-0058.xml

Glacials and interglacials

Cheddadi, R. et al. 2005. Similarity of vegetation dynamics during interglacial periods. *PNAS*, 102, 13939-13943.

Tzedakis, P. 2007. Pollen records, last interglacial of Europe. *Encyclopedia of Quaternary Science*, 2597-2605.

Tzedakis, P.C., Emerson, B.C. & Hewitt, G.M., 2013. Cryptic or mystic? Glacial tree refugia in northern Europe. *Trends in Ecology & Evolution*, 28(12), pp.696–704.

Bhagwat, SA & Willis, KJ. 2008. Species persistence in northerly glacial refugia in Europe: a matter of chance or biogeographical traits? *Journal of Biogeography*, 35, 464-482.

Birks HH & Birks HJB. 2013. Vegetation responses to late-glacial climate changes in western Norway. *Preslia*, 85, 215-237.

Jackson, S.T. & Overpeck, J.T., 2000. Responses of plant populations and communities to environmental changes of the late Quaternary. *Paleobiology*, 26, 4, 194–220.

Colinvaux, P.A., De Oliveira, P.E. & Bush, M.B., 2000. Amazonian and neotropical plant communities on glacial time-scales: The failure of the aridity and refuge hypotheses. *Quaternary Science Reviews*, 19, 1-5, 141–169.

Robin, V. et al., 2016. Too early and too northerly: evidence of temperate trees in northern Central Europe during the Younger Dryas. *New Phytologist*, pp.n/a–n/a.

Tree-lines

Bjune, AE. 2005. Holocene vegetation history and tree-line changes on a north – south transect crossing major climate gradients in southern Norway – evidence from pollen and plant macrofossils in lake sediments. *Review of Palaeobotany and Palynology*, 133: 249-275.

MacDonald, GM. et al. 2007. Climate change and the northern Russia treeline zone. *Phil Trans R Soc B*, 363, 2285-2299.

Paulsen & Körner 2014. A climate-based model to predict potential treeline position around the globe. *Alp Botany*, 124, 1-12.

Forest dynamics & fire

Bradshaw, RHW & Lindblad M. 2005. Regional spread and stand-scale establishment of Fagus sylvatica and Picea abies in Scandinavia. *Ecology*, 86, 7, 1679-1686.

Ohlson, M. et al. 2011. Invasion of Norway spruce diversifies the fire regiome in boreal European forests. *Journal of Ecology*, 99, 395-403.

Kuosmanen, N. et al. 2014. Role of forest fires in Holocene stand-scale dynamics in the unmanaged taiga forest of Northwestern Russia. *The Holocene*, 24, 11, 1503-1514.

Rolstad, J. et al. 2017. Fire history in a western Fennoscandian boreal forest as influenced by human land use and climate. *Ecological Monograph*s, 87, 2, 219-245.

Biodiversity and Ecosystem Services

Willis, KJ et al. 2010. Biodiversity baselines, thresholds, and resilience: testing predictions and assumptions using palaeoecological data. *Trends in Ecology and Evolution*, 25, 10, 583-591.

Birks, H., Felde, V.A. & Seddon, A.W., 2016. Biodiversity trends within the Holocene. *The Holocene*. DOI: 10.1177/0959683615622568

Dearing, J.A. et al., 2012. Extending the timescale and range of ecosystem services through paleoenvironmental analyses, exemplified in the lower Yangtze basin. *Proceedings of the National Academy of Sciences of the United States of America*, 109, E1111–E1120.

Dawson, T.P. et al., 2011. Beyond predictions: Biodiversity conservation in a changing climate. *Science*, 332, 6025, 53–58.

Willis, K.J. et al., 2010. 4 degrees C and beyond: what did this mean for biodiversity in the past? *Systematics and Biodiversity*, 8, 3–9.

Multi-proxy studies

Davidson, TA et al. 2005. A 250 year comparison of historical, macrofossil and pollen records of aquatic plants in a shallow lake. *Freshwater Biology*, 50, 1, 1671-1686.

Seddon, A.W.R. et al., 2014. A quantitative framework for analysis of regime shifts in a Galápagos coastal lagoon. *Ecology*, 95, 11, 3046–3055.

Mackay, A. et al 2017. Holocene carbon dynamics at the forest–steppe ecotone of southern Siberia. *Global Change Biology*, 23, 1942–1960.

Community Palaeoecology

Jackson, S.T. & Blois, J.L., 2015. Community ecology in a changing environment: Perspectives from the Quaternary. *Proceedings of the National Academy of Sciences*, 112, 16, 4915–4921.

Jackson, ST & Williams, JW. 2004. Modern analogs in Quaternary Paleoecology: Here today, gone yesterday, gone tomorrow? *Annu Rev Earth Planet Sci* 32, 495-537.

Kathleen Lyons, S. et al., 2015. Holocene shifts in the assembly of plant and animal communities implicate human impacts. *Nature* 529, 80–83 doi:10.1038/nature16447

Ecological Palaeoecology

Deevey, E.S., 1969. Coaxing history to conduct experiments. *Bioscience*, 19, 40–43.

Williams, J.W. et al., 2013. Model systems for a no-analog future: species associations and climates during the last deglaciation. *Climate Change and Species Interactions: Ways Forward*, 1297, 29–43.

Walker, D. (1970). Direction and rate in some British post-glacial hydroseres. In: Studies on the Vegetational History of the British Isles (eds Walker, D. & West, R.G.). Cambridge University Press, London, 117–139.

Johnson, E.A. & Miyanishi, K., 2008. Testing the assumptions of chronosequences in succession. *Ecology Letters*, 11, 5, 419–431.

Willis, K.J. et al., 2007. Testing the impact of climate variability on European plant diversity: 320 000 years of water-energy dynamics and its long-term influence on plant taxonomic richness. *Ecology Letters*, 10, 8, 673–679.

Hobbs et al. (2012) A 200-year perspective on alternative stable state theory and lake management from a biomanipulated shallow lake. *Ecological Applications* 22, 5, 1483-1496.

Wilis, KJ and MacDonald, G.M 2011 Long-term ecological records and their relevance to climate change predictions for a warmer world. *Ann Rev Ecol Evol*, 42, 267-287.

Giesecke, et al 2008. Exploring Holocene continetality changes in Fennoscandia using present and past tree distributions. Quat Sci Rev, 27, 1296-1308.

Megafauna extinctions and their consequences

Gill, J.L. et al., 2009. Pleistocene megafaunal collapse, novel plant communities, and enhanced fire regimes in North America. *Science*, 326, 1100–1103.

Rule, S. et al., 2012. The Aftermath of Megafaunal Extinction: Ecosystem Transformation in Pleistocene Australia. *Science*, 335, 6075, 1483–1486.

Barnosky, A.D., 2004. Assessing the Causes of Late Pleistocene Extinctions on the Continents. *Science*, 306, 5693, 70–75

Rewilding

Mitchell, F.J.G., 2005. How open were European primeval forests? Hypothesis testing using palaeoecological data. *Journal of Ecology*, 93, 1, 168–177.

David Nogués-Bravo et al. Rewilding is the new Pandora's box in conservation. *Bioscience*, 26, 3, pR87–R91, 8 February 2016

Svenning, J.-C. et al., 2016. Science for a wilder Anthropocene: Synthesis and future directions for trophic rewilding research. *Proceedings of the National Academy of Sciences*, 113, 4, 898–906.

Dating & chronology

Blaauw, Maarten. 2010b. *Out of tune: The dangers of aligning proxy archives [http://www.sciencedirect.com/science/article/pii/S0277379110004087]*. [class:dataSetItem-database]

Appleby, Peter. G. 2008. Three decades of dating recent sediments by fallout radionuclides: A review. *The Holocene* 18:83–93.

Telford, Richard J., Ejnar Heegaard, and H. John B. Birks. 2004. All age-depth models are wrong, but how badly? *Quaternary Science Reviews* 24: 2173–2179.

Quantitative reconstructions

Birks, H. John B., J. M. Line, Steven Juggins, A. C. Stevenson, and C. J. F. ter Braak. 1990. Diatoms and pH reconstruction. *Philosophical Transactions of the Royal Society B* 327.1240: 263–278.

Giesecke, Thomas, and Sonia Fontana. 2008. Revisiting pollen accumulation rates from Swedish lake sediments. *The Holocene* 18.2: 293–305.

Jackson, ST. 2012. Representation of flora and vegetation in Quaternary fossil assemblages: known and unknown knowns and unknowns. *Quaternary Science Reviews*, 49, 1-15.

Sugita, Shinya. 2007. Theory of quantitative reconstruction of vegetation I: Pollen from large sites REVEALS regional vegetation composition. *The Holocene* 17.2: 229–241.

Samartin, S. et al 2017. Warm Mediterranean mid-Holocene summers inferred from fossil midge assemblages. *Nature Geoscience*, 10, 3, 207-212.

Long-term ecology & conservation

Willis, KJ & Birks, HJB. 2006. What is natural? The need for a long-term perspective in biodiversity conservation. *Science*, 314, 1261-1265.

Jackson, S.T., 2007. Looking forward from the past: history, ecology, and conservation. *Frontiers in Ecology and the Environment*, 5, pp.455–455.

Bennion, H, Fluin, J and Simpson, GL. 2004. Assessing eutrophication and reference conditions for Scottish freshwater lochs using sub-fossil diatoms. *Journal of Applied Ecology* 41: 124–138.

LAB and Field work

Bunting, J.M. and Hjelle, K.L. 2010. Effect of vegetation data collection strategies on estimates of relevant source area of pollen (RSAP) and relative pollen productivity estimates (relative PPE) for non-arboreal taxa. *Veg Hist Archaeobot*, 19, 365-374.

Færi, K & Iversen, J. 1989. Textbook of pollen analysis. Chapters 3 and 4.

Renberg, I & Hansson, H. 2008 The HTH sediment corer. *J Paleolimno*, 40, 655-659.

Seppä, H. 2013. Pollen analysis, Principles. *Encyclopedia of Quaternary Science*, 3, 794-804.

Troels-Smith, J. 1955, Karakterisering af løse jordarter. Characterisation of unconsolidated sediments. Geological Survey of Denmark. IV series, vol 3, no 10.

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