

# UC Merced

## Frontiers of Biogeography

### Title

Noted with interest

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## Books noted with interest

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### **Spatial and Spatio-temporal Bayesian Models with R-INLA**

Marta Blangiardo and Michela Cameletti

2015, 308pp. Wiley–Blackwell

<http://www.wiley.com/wiley-blackwell>

Bayesian statistical approaches have revolutionised our ability to extract parameters from complex spatial and temporal datasets. Nevertheless, conventional MCMC methods become computationally intractable for very large datasets, which is where Integrated Nested Laplace Approximation (INLA) offers particular efficiency advantages. The R-INLA package makes these techniques available to anyone with basic competency in R. No statistical test should be applied without a full awareness of its procedures and assumptions, on which this book provides a thorough grounding. The mathematical content is advanced, but for those willing to put in the effort it will open up new ways of approaching big data.

### **Remote Sensing and GIS for Ecologists Using Open Source Software**

Martin Wegmann, Benjamin Luetner and Stefan Dech (editors)

2016, 333pp., Pelagic Publishing

<http://www.pelagicpublishing.com/>

Satellite remote sensing and GIS were once the preserves of a small number of well-financed groups, but the field has been democratised by open-source software. QGIS and R are covered by this textbook aimed at a practitioners who want to know how to obtain, process and analyse remotely sensed data. It provides excellent guidance on designing studies and recognising both the potential and limitations of remotely sensed data. Later chapters cover common ecological applications, including distribution modelling and land cover pattern analysis. The book is printed in high quality with numerous colour figures. It would make an excellent companion to a workshop.

### **Routledge Handbook of Forest Ecology**

Kelvin S-H Peh, Richard T Corlett and Yves Bergeron (editors)

2015, 652 pp., Earthscan

<https://www.routledge.com/sustainability>

Whereas *Forests: A Very Short Introduction* (Ghazoul, 2015, OUP) condensed the vast subject of forest ecology into an accessible and brief volume, this latest attempt has a little more breathing space, with 86 contributors to its 44 chapters. The opening five chapters cover the main forest biomes, followed by sections on their dynamics and the many other groups of organisms that depend upon forests. Chapters follow on ecosystem functions, conservation, management, climate change and interactions with humans. Each is an impressively concise introduction and a gateway to key studies. This will earn its place on many bookshelves as a standard reference.

### **Europe's Changing Woods and Forests: From Wildwood to Managed Landscapes**

Keith J Kirby and Charles Watkins (editors)

2015, 363 pp., CABI

<http://www.cabi.org/bookshop/>

Historical ecology broadens the evidence base for understanding the composition and distribution of communities. This book could almost be a festschrift for Oliver Rackham, to whose memory it is dedicated, and whose influence pervades every chapter. While the content will be of interest to many working on woodland policy or conservation, the approach towards understanding the long-standing influence of humans has implications beyond forests or Europe. Biogeographers working on any system would do well to see how historical insights have changed our views of the working of supposedly wild nature and consider assumptions applied elsewhere as being ripe for challenge.

**Earth's Climate Evolution**

Colin P. Summerhayes

2015, 394 pp., Wiley–Blackwell

<http://www.wiley.com/wiley-blackwell>

Climate change is nothing new; our planet has passed through many cooler and (mostly) warmer phases during the period of its occupation by land plants, the 450-million-year focus of this book. More a history of the field of palaeoclimatology than of earth's climate, the text focusses on how the narrative was built through discoveries and debates. It draws attention to the work of individual scientists throughout, frequently quoting at length from their original works. Dense and erudite, the small number of black-and-white illustrations deprives this book of potential visual impact. Its greatest appeal is likely to be to fellow scientists.

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