



Inland drift sand landscapes, edited by Josef Fanta & Henk Siepel, 2010. KNNV Publishing, Zeist, The Netherlands (order through: www.knnvpublishing.nl). Hardback, 384 pages. Price EUR 49.95 (excl. postage). ISBN 978-90-5011-350-2.

Drift sands are eolian deposits that occur mainly as fairly thin sand patches in areas that developed under periglacial to temperate conditions at the transition from the last ice age to the Holocene. The material consists primarily of wind-blown fluvioglacial particles. It is interesting that such areas seem to develop much less frequently nowadays, although periglacial conditions are found on the northern hemisphere over extensive areas, in both northern America and Eurasia. Drift sands should not be confused with cover sands, the sands that form belts in periglacial areas between the ice cap and the adjoining fluvioglacial deposits on one side and loess on the other side. These cover sands developed in areas without vegetation, whereas drift sands formed where some vegetation had already returned. The difference is expressed in, among other characteristics, the morphology of the areas covered by these sands and the patchy versus semi-continuous occurrences.

Drift sands must have been extensive at the beginning of the Holocene, but many of them have disappeared when vegetation became denser during amelioration of the climate, but also due to human activity. The relatively sparse occurrence of these sands, their limited thickness (the sands are thin even in comparison to most other Quaternary deposits, and they commonly form patches rather than laterally extensive deposits) have made them an unattractive object for most geological researchers. International literature is therefore also relatively scarce.

In the Netherlands, where hardly any hard rock is exposed, and where most geological research is concentrated on the Quaternary, drift sands do receive the attention that they deserve. About 2-3% of the surface area of the country is covered by drift sands, but only some 2% of this area consists of active drift sands. The predominantly Dutch interest in drift sands is reflected in this book: in spite of the title, which suggests a worldwide approach, the data presented deal almost exclusively with the Dutch situation. It must be noticed, however, that most of the chapters deal with the subject in such a way that the data can easily be “translated” to other countries. Quaternary geologists from all over the world should therefore take advantage of the know-how gathered in this book.

The book is subdivided into five parts, which deal with all possible aspects of drift sands. The geological (particularly sedimentological) and geomorphological aspects are well described, but other aspects receive equal attention: the authors of the various chapters that do not deal with typical earth-scientific aspects are specialists in prehistory, archaeology, mycology, ecology, etc. The result is fascinating: the environment of drift sands is dealt with through a multi-disciplinary approach. This has

great advantages for those who really want to understand how these sands were formed, how they developed, by which processes they were affected, and what was the role of our ancestors in their shaping. It thus becomes clear that human occupation, flora and fauna and numerous natural processes (eolian erosion, transport and deposition, rainfall, gravity, precipitation, etc.) all interacted and in many places still interact. Without insight in these interactive processes, the sands are not well understandable. The book is therefore a classical example of a work that shows how the earth sciences cannot function well if the other natural sciences get insufficient attention. In spite of all data collected thus far with the objective of understanding how drift sands originated and how they developed, it must, however, still be admitted that the behavior of this rare environment remains unpredictable (p. 66). There is still much research required from sedimentologists!

The presence of numerous full-color photographs is one of the many strong points of the book. The publisher has rightfully chosen a type of paper that allows high-quality photos, but that simultaneously makes reading the text easy, even under artificial light: I wish more publishers paid this much attention to the choice of paper. The photographs depict not only the sands under various conditions, but also the flora and - probably much more surprising for most readers - the varied fauna. Knowing about flora and fauna will certainly help earth scientists recognize the influence that organisms have on this rare environment.

Although the book is well produced, and although most chapters are well written, the book is unfortunately not without flaws, but this seems mostly the result of inadequate care by the authors (and, in some cases) the editors: decimal points are sometimes wrongly indicated as decimal commas, genus and species names are not always in italics, captions are not always sufficiently clear, units are in some chapters a mess (kg/ha/yr , kg/ha.yr , $\text{kg.ha}^{-1}.\text{yr}^{-1}$ instead of $\text{kg.km}^{-2}.\text{a}^{-1}$), etc. This leads only sporadically, however, to potential misunderstanding. But if ever a second edition of the book will be published (and I hope so, because it deserves a wide distribution), such shortcomings should be improved. One thing is also dearly missed in this book: an index. But it seems a bit unreasonable to complain if so many positive points are present: the book left me with a very positive feeling. One could only wish that comparable books were published for all natural environments. And sedimentologists (and their colleagues from other earth-science disciplines) should take care that such books will not - like most books about specific environments - deal (almost) exclusively with flora and fauna, but also - like this book - with the sedimentological and other earth-science aspects that keep natural environments actively developing.

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