

## BOOK REVIEW

THE WEATHER AND CLIMATE OF AUSTRALIA AND NEW ZEALAND (SECOND EDITION) by Andrew Sturman and Nigel Tapper. Oxford University Press. Published 2006. xviii + 541 pages. \$NZ115.

The first edition of this excellent textbook was described by Turton (1996) in this journal as “a welcome addition to the rather limited range of textbooks dealing with atmospheric processes and phenomena in the Australasian region” and “the work is destined to become a standard climatology/meteorology text in universities throughout Australia and New Zealand”. The latter comment was prophetic because the book was reprinted in 1997 (twice), 2000, 2001, 2002, and 2004. Now ten years later the authors have felt the need to update their text. It has increased in size from 476 to 541 pages and cosmetic changes have been made in its style; there is a new typesetter and a new (Chinese) printer. Most of these are for the better; for example the figures are now embedded in the text rather than appearing at the top or bottom of pages and their captions are beneath them rather than at the side in the rather wide margins of the first edition. This may be a disadvantage to students who still wish to annotate their textbooks. Boxes have been restyled with clearer and larger titles.

The four Sections of the first edition have become four Parts here but the number of chapters remains the same although the content of some has changed. The references have been moved from the end of the volume to the end of each chapter - a format this reviewer prefers - and increased in number to cover work that has been done in the years between the two editions.. There is little change in the first six

chapters which make up the majority of Parts 1 (Global setting) and 2 (Synoptic-scale processes and phenomena). Perhaps Figs 2.9 and 2.10 on global radiation could have been redrawn to centre on our southern hemisphere summer. This new edition could have corrected minor blemishes of the English language such as using the term ‘contour’ correctly and not as a synonym for ‘isopleth’ or ‘isohyet’ in the captions to several figures in Chapters 3 and 7. This might seem like nit-picking but it is a feature that has been unfortunately promulgated by meteorologists, in particular, in the last thirty years.

The second half of the book, from Chapter 7 onwards, contains most of new material. Chapter 7 on Weather Systems is still biased towards Australia despite useful new material on anticyclones, the Madden-Julian Oscillation, and tropical cyclones (including TC Aivu in March 2005); New Zealand also suffers the occasional tropical cyclone and quite a lot of anticyclonic blocking. In another edition perhaps the section on ‘other tropical-mid-latitude weather interactions’ could be expanded to include New Zealand. The Weather Forecasting chapter (Chapter 8) includes updated material on observational material, aircraft data, satellites and their instruments (including microwave radiometers and their products), parameterization, extreme weather forecasting and recent developments in numerical weather prediction. In Chapter 9 a discussion of the local winds in Auckland would be useful if we win the America’s cup next year. When we lost it much was made of the data that was available to the various teams. This chapter includes new material on the barrier winds of South Island and scale interactions of thermally-induced wind systems based on work published in 2005. In Chapter

10 there is also much new material on the energy balance approach to climatology (in Australia), agricultural climatology (fungal infections in pip fruit), and urban climatology (where a Canadian example has been replaced by work in Melbourne). Either this chapter or Chapter 7 might have been a useful place to include work on New Zealand climatology and its regionalisation such as Mullan (1998). There are an additional 17 references at the end of this chapter which has a total of 98. There is much new and updated material in Chapter 11 on the Climatic Record including 35 new references (out of 95). These include updated material on the influence of volcanoes, the instrumental record in both Australia and New Zealand, the interdecadal Pacific Oscillation and ENSO, the Australian monsoon, and the 40-50 day oscillation. In a new edition perhaps the geological record could be explained with one set of units. In this edition we have Ga, Ma, and the values written in words; this is an improvement on the 1st edition which used only Ga and Ma although the current standard is to use standard numerical notation with 'y' or 'yr'. A new edition should also explain reanalysis data which is only briefly mentioned on page 449 yet has been around since it was first muted in 1991 (Giles, 2006). Much of Chapter 12 on climate change processes and climate scenarios has been updated with half of the references being new and post 1996.

This new edition has maintained the high standard of the 1st edition both in scholarship and production and it will continue to be the pre-eminant textbook on the climatology and meteorology of Australia and New Zealand.

### References

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Mullan, A.B. 1998. Southern hemisphere sea surface temperatures and their contemporary and lag associations with New Zealand temperature and precipitation. *International Journal of Climatology*, **18**, 817-840.

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