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Innocents in the Dry Valleys: an account of the Victoria University of Wellington Antarctic Expedition 1958-59

Edited by Collin Bull*
Victoria University Press, Wellington, 2009
ISBN 978-0-864-73594-2. 267 pages. NZ $50

We are now firmly into the "Reminiscence Era" as those whose scientific careers began with the IGY period reach retirement and dust off their diaries and their memories. Whilst many of the books are simply accounts of life in those far off days some aspire to more and give us details of the way science was done. This new book by Colin Bull pulls together the diaries and memories of four pioneers in New Zealand Antarctic science - Colin Bull, Peter Webb, Dick Barwick and Barrie McKelvey - all of whom are commemorated in place names in the McMurdo Dry Valleys. Their exploits, marking the beginning of 50 years of Victoria University expeditions to the Ross Dependency, began in true Kiwi style with Webb and McKelvey (at this point still undergraduates) hitching a ride on the relief ship down to Scott Base in 1957–58. When there they were befriended by Phil Smith from the US Program who arranged helicopter flights to the Dry Valleys for them that fired their enthusiasm for Antarctic geology. Clearly they had to return and this book recounts the story of the first official university expedition to Antarctica in 1958–59. This account of a remarkable summer is both entertaining and very well illustrated with colour photos. Bull's style is deadpan, which suits the rather ramshackle (by today's standards!) approach to the expedition and the extraordinary opportunities the four had before they even graduated.

The overwhelming enthusiasm of this group comes through on every page. Their activities were limited by time but they managed to traverse the Wright Valley and cross Bull Pass to visit McKelvey Valley and Victoria Valley. They did geology, glaciology, survey work and biological studies, publishing a series of papers afterwards that would have been a credit to doctoral students never mind undergraduates. Their comments on their equipment, the mummified seals (including the picture of one for Christmas dinner!) and the bureaucracy make amusing reading.

At the end are various appendices including a list of papers arising from the expedition, a detailed glossary and a section labelled "Aftermath" which gives a potted biography of each of the participants. Barwick went on to become a fish palaeontologist in Australia, Webb moved to the USA and developed a distinguished research career in Antarctic geology being joined there in due course by McKelvey, whilst Bull moved to Ohio State University and continued his Antarctic research in the US Program. Those were clearly adventurous days for young scientists keen to take a chance and the contribution to Antarctic science by the last three has been very considerable indeed!

D.W.H. Walton

* Colin Bull died suddenly on 7 September 2010 on an Antarctic cruise.

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The El-Niño-Southern Oscillation Phenomenon

Edited by Edward S. Sarachik & Mark A. Cane
Cambridge University Press, Cambridge, 2010
ISBN 978-0-521-84786-5. 384 pages. £45

The El-Niño-Southern Oscillation (ENSO) is the largest climatic cycle on Earth on decadal and sub-decadal time scales, and involves changes in the coupled atmosphere-ocean system of the tropical Pacific Ocean. Although regional in its origins, the effects of ENSO radiate out into the mid- and high-latitude areas and have been linked to droughts and floods in many parts of the world, from North America to the African Sahel. Although a number of robust links (or teleconnections) have been identified between ENSO in the Pacific Ocean and weather patterns in mid-latitudes, at higher latitudes it becomes progressively more difficult to find strong connections between the phase of ENSO and the polar climates. This is the case in the Antarctic where signals of ENSO have to cross the belt of strong westerly winds, making detection of ENSO signals in the Antarctic climate records more difficult than at lower latitudes.

This book is a comprehensive account of our current understanding of the ENSO cycle written by two acknowledged experts on the subject. It is very thorough and very mathematical in places, with the emphasis being firmly on the dynamics of the phenomenon and its representation in models, rather than its climatological implications.

It begins with a helpful 20 page introductory section that covers the basics of ENSO in a very accessible style. It deals with the climate of the tropical Pacific, the phases of ENSO, observations, modelling and prediction of the cycle. Subjects that are dealt with in much more detail in subsequent chapters.

There is a comprehensive chapter on our understanding of ENSO based on the available observational data. The chapter starts with fundamental material on the radiation budget, mean climatological fields for the Pacific and ocean conditions, before examining the evolution of ENSO events. The differences between events are considered and the chapter concludes by examining how hurricane occurrences changes between El Niño and La Niña phases of the cycle.

A whole chapter is devoted to the equations of motion that are relevant to atmospheric and oceanic flow. This is followed