

Cambridge University Press

978-0-521-43042-5 - El Niño: Historical and Paleoclimatic Aspects of the Southern Oscillation

Edited by Henry F. Diaz and Vera Markgraf

Table of Contents

[More information](#)

Contents

<i>List of contributors</i>	x
<i>Acknowledgment</i>	xiii
1 Introduction	1
HENRY F. DIAZ AND VERA MARKGRAF	
SECTION A ENSO in the modern record	5
2 Atmospheric teleconnections associated with the extreme phase of the Southern Oscillation	7
HENRY F. DIAZ AND GEORGE N. KILADIS	
3 El Niño/Southern Oscillation and streamflow in the western United States	29
DANIEL R. CAYAN AND ROBERT H. WEBB	
4 Coupled climate model simulation of El Niño/Southern Oscillation: implications for paleoclimate	69
GERALD A. MEEHL AND GRANT W. BRANSTATOR	
SECTION B Use of historical records in ENSO reconstructions	93
5 Historical and prehistorical overview of El Niño/Southern Oscillation	95
DAVID B. ENFIELD	
6 A study of Southern Oscillation-related climatic activity for A.D. 622–1990 incorporating Nile River flood data	119
WILLIAM H. QUINN	

7 Historical El Niño/Southern Oscillation variability in the Australasian region	151
NEVILLE NICHOLLS	
8 A comparison of Southern Oscillation and El Niño signals in the tropics	175
HENRY F. DIAZ AND ROGER S. PULWARTY	
9 Long-term changes in the frequency of occurrence of El Niño events	193
ROGER Y. ANDERSON	
SECTION C Paleoclimate reconstructions of El Niño/Southern Oscillation from tree-ring records	201
10 Using tree rings to study past El Niño/Southern Oscillation influences on climate	203
EDWARD R. COOK	
11 An index of the Southern Oscillation reconstructed from western North American tree-ring chronologies	215
J. M. LOUGH	
12 Spectral properties of tree-ring data in the United States Southwest as related to El Niño/Southern Oscillation	227
DAVID M. MEKO	
13 A tree-ring reconstruction of New Mexico winter precipitation and its relation to El Niño/Southern Oscillation events	243
ROSEANNE D. D'ARRIGO AND GORDON C. JACOBY	
14 Temporal patterns of El Niño/Southern Oscillation – wildfire teleconnections in the southwestern United States	259
THOMAS W. SWETNAM AND JULIO L. BETANCOURT	
15 Secular variability of the Southern Oscillation detected in tree-ring data from Mexico and the southern United States	271
MALCOLM K. CLEAVELAND, EDWARD R. COOK, AND DAVID W. STAHL	
SECTION D Records from ice cores and corals	293
16 Reconstructing interannual climate variability from tropical and subtropical ice-core records	295
L. G. THOMPSON, E. MOSLEY-THOMPSON, AND P. A. THOMPSON	
17 A comparison of proxy records of El Niño/Southern Oscillation	323
JOEL MICHAELSEN AND L. G. THOMPSON	
18 Coral monitors of El Niño/Southern Oscillation dynamics across the equatorial Pacific	349
JULIA E. COLE, GLEN T. SHEN, RICHARD G. FAIRBANKS, AND MICHAEL MOORE	

Cambridge University Press

978-0-521-43042-5 - El Niño: Historical and Paleoclimatic Aspects of the Southern Oscillation

Edited by Henry F. Diaz and Vera Markgraf

Table of Contents

[More information](#)*Contents*

ix

SECTION E Low-resolution paleoclimate reconstruction of El Niño/Southern Oscillation: marine and terrestrial proxy indicators	377
19 Fishery catch records, El Niño/Southern Oscillation, and longer-term climate change as inferred from fish remains in marine sediments	379
GARY D. SHARP	
20 Long-term changes in El Niño/Southern Oscillation: evidence from marine and lacustrine sediments	419
ROGER Y. ANDERSON, ANDY SOUTAR, AND THOMAS C. JOHNSON	
21 El Niño/Southern Oscillation climatic variability in Australasian and South American paleoenvironmental records	435
M. S. McGLONE, A. P. KERSHAW AND VERA MARKGRAF	
22 Synthesis and future prospects	463
HENRY F. DIAZ, VERA MARKGRAF, AND MALCOLM K. HUGHES	
Index	473