



GLOBAL CORAL REEF
MONITORING NETWORK

STATUS OF
CORAL REEFS
OF THE WORLD:
2004

VOLUME 2

EDITED BY CLIVE WILKINSON



Australian Government



AUSTRALIAN INSTITUTE
OF MARINE SCIENCE

Dedication

This book is dedicated to those people around the world who monitor coral reefs and assist in their conservation. Often they do this voluntarily because of a sincere wish to save these magnificent ecosystems. The book is also dedicated to the International Coral Reef Initiative and partners, the Management Group of the GCRMN, and the Australian Government acting through the Australian Institute of Marine Science. A particular dedication is to the Government of the USA, which has provided considerable support and encouragement to the GCRMN through the Department of State, the US National Oceanographic and Atmospheric Administration and Ruth Kelty.

Front Cover: Madang, Papua New Guinea- *Amphiprion percula* (Photo Courtesy of Dr. Gerald Allen, Tropical Reef Research);

Back Cover: Christopher McClelland © 2004

Maps were provided by UNEP-WCMC through ReefBase, The World Fish Center and we thank Nasir bin Nayan for their current format.

Graphics for Chapter 3: map from UNEP-WCMC, sourced from A. Freiwald; Table, cold-water - warm-water coral comparisons, from Birkeland, 1996, Veron, 2000, Spalding et al., 2001, Wilkinson, 2002, Cesar et al., 2003; Trawl sketch, Joe Shoulak, MCBI; Healthy/degraded coral reef photos, John Reed, HBOI.

© Australian Institute of Marine Science, 2004

Office Locations:

Townsville, Queensland
PMB No 3, Townsville MC Qld 4810
Telephone (07) 4753 4444
Facsimile (07) 4772 5852

Darwin, Northern Territory
PO Box 40197 Casuarina NT 0811
Telephone (08) 8945 9524
Facsimile (08) 8946 6847

Perth, Western Australia
PO Box 83, Fremantle WA 6959
Telephone (08) 9433 4440
Facsimile (08) 9433 4443

www.aims.gov.au

ISSN 1447-6185

CONTENTS

VOLUME 1

Foreword	iii
Countries, States and Territories	vii
Acknowledgements	xi
Co-sponsors and supporters of GCRMN	xiii
Introduction	1
The Executive Summary	7
État des Récifs Dans le Monde en 2004	51
1. Global Threats to Coral Reefs	67
2. New Initiatives in Coral Reef Monitoring, Research, Management and Conservation	93
3. The Status of the Cold-water Coral Reefs of the World	115
4. Status of Coral Reefs in the Red Sea and Gulf of Aden in 2004	137
5. Coral Reef Status in the ROPME Sea Area: Arabian/Persian Gulf, Gulf of and Arabian Sea	155
6. Status of Coral Reefs in East Africa 2004: Kenya, Tanzania, Mozambique and South Africa	171
7. Status of the Coral Reefs of the South West Indian Ocean Island States	189
8. Status of Coral Reefs in South Asia: Bangladesh, Chagos, India, Maldives and Sri Lanka	213
9. Status of Coral Reefs, Coral Reef Monitoring and Management in Southeast Asia, 2004	235
10. Status of Coral Reefs in East and North Asia: China, Hong Kong, Taiwan, Korea and Japan	277

VOLUME 2

11. Status of Coral Reefs in Australia and Papua New Guinea in 2004	303
12. Status of Coral Reefs in the South West Pacific: Fiji, Nauru, New Caledonia, Samoa, Solomon Islands, Tuvalu and Vanuatu	337
13. A Century of Change in Coral Reef Status in Southeast and Central Pacific: Polynesia Mana Node, Cook Islands, French Polynesia, Kiribati, Niue, Tokelau, Tonga, Wallis and Futuna	363
14. Status of the Coral Reefs in Micronesia and American Samoa	381
15. Status of Coral Reefs in the Hawaiian Archipelago	411
16. Status of Coral Reefs in the U.S. Caribbean and Gulf of Mexico: Florida, Flower Garden Banks, Puerto Rico, U.S. Virgin Islands, Navassa	431
17. Status of Coral Reefs in the Northern Caribbean and Western Atlantic Node of the GCRMN	451

18. Status of Coral Reefs of the Mesoamerican Barrier Reef Systems Project Region, and Reefs of El Salvador, Nicaragua and the Pacific Coasts of Mesoamerica	473
19. Status of Coral Reefs in the French Caribbean Islands and other Islands of the Eastern Antilles	493
20. Southern Tropical America: Coral Reef Status and Consolidation as GCRMN Regional Node	509
21. Sponsoring Organisations, Coral Reef Programs and Monitoring Networks	523
Appendix I. Suggested Reading	539
Appendix II. List of Acronyms	545
Appendix III. Second International Tropical Marine Ecosystems Management Symposium Action Statement	547

COUNTRIES, STATES AND TERRITORIES

American Samoa	Chapter 14	381
Antigua and Barbuda	Chapter 19	493
Australia	Chapter 11	303
Bahamas	Chapter 17	451
Bahrain	Chapter 5	155
Bangladesh	Chapter 8	213
Belize	Chapter 18	473
Bermuda	Chapter 17	451
Brazil	Chapter 20	509
Brunei	Chapter 9	235
Cambodia	Chapter 9	235
Cayman Islands	Chapter 17	451
Chagos	Chapter 8	213
China	Chapter 10	277
Colombia	Chapter 20	509
Comores	Chapter 7	189
Cook Islands	Chapter 13	363
Costa Rica	Chapter 20	509
Cuba	Chapter 17	451
Djibouti	Chapter 4	137
Dominica	Chapter 19	493
Dominican Republic	Chapter 17	451
Egypt	Chapter 4	137
El Salvador	Chapter 18	473
Eritrea,	Chapter 4	137
Federated States of Micronesia	Chapter 14	381
Fiji	Chapter 12	337
French Polynesia	Chapter 13	363
Grenada	Chapter 19	493
Guadeloupe	Chapter 19	493
Guam	Chapter 14	381
Guatemala	Chapter 18	473
Haiti	Chapter 17	451
Hawaii	Chapter 15	411
Honduras	Chapter 18	473
Hong Kong	Chapter 10	277
Iran	Chapter 5	155
India	Chapter 8	213

Indonesia	Chapter 9	235
Israel		153
Jamaica	Chapter 17	451
Japan	Chapter 10	277
Jordan	Chapter 4	137
Kenya	Chapter 6	171
Kiribati	Chapter 13	363
Korea	Chapter 10	277
Kuwait	Chapter 5	155
Madagascar	Chapter 7	189
Maldives	Chapter 8	213
Malaysia	Chapter 9	235
Marshall Islands	Chapter 14	381
Martinique	Chapter 19	493
Mauritius	Chapter 7	189
México	Chapter 18	473
Mozambique	Chapter 6	171
Myanmar	Chapter 9	235
Nauru	Chapter 12	337
New Caledonia	Chapter 12	337
Nicaragua	Chapter 18	473
Niue	Chapter 13	363
Northern Marianas	Chapter 14	381
Oman	Chapter 5	155
Pakistan	Chapter 8	213
Palau	Chapter 14	381
Panama	Chapter 20	509
Papua New Guinea	Chapter 11	303
Philippines	Chapter 9	235
Puerto Rico	Chapter 16	431
Qatar	Chapter 5	155
Reunion	Chapter 7	189
Samoa	Chapter 12	337
Saudi Arabia	Chapter 4 and 5	137&155
Seychelles	Chapter 7	189
Singapore	Chapter 9	235
Solomon Islands	Chapter 12	337
Somalia	Chapter 4	137
South Africa	Chapter 6	171
Sri Lanka	Chapter 8	213
St. Kitts and Nevis	Chapter 19	493
St. Lucia	Chapter 19	493
St. Vincents and Grenadines	Chapter 19	493
Sudan	Chapter 4	137
Taiwan	Chapter 10	277
Tanzania	Chapter 6	171
Thailand	Chapter 9	235

Trinidad and Tobago	Chapter 19	493
Tokelau	Chapter 13	363
Tonga	Chapter 13	363
Turks and Caicos	Chapter 17	451
Tuvalu	Chapter 12	337
United Arab Emirates	Chapter 5	155
USA (Florida, Gulf of Mexico)	Chapter 16	431
US Virgin Islands	Chapter 16	431
Vanuatu	Chapter 12	337
Venezuela	Chapter 20	509
Vietnam	Chapter 9	235
Wallis and Futuna	Chapter 13	363
Yemen	Chapter 4	137

