



The ReefBase Newsletter provides registered users with updates on new additions to the ReefBase database and website. You have received this newsletter as you are a registered user of ReefBase and indicated that you wanted to receive our electronic newsletters.

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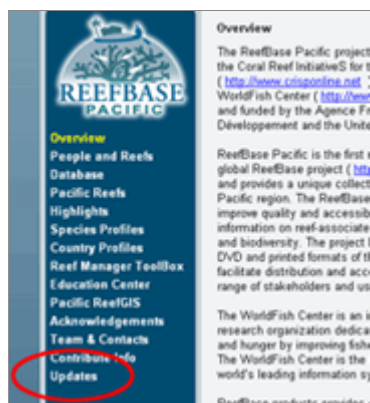
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Announcements

1. ReefBase Pacific Version 2.1 Update Package



The ReefBase team is pleased to announce the latest ReefBase Pacific DVD version 2.1 update packages. The update was released on 29 September 2010 and are available for download at <http://www.reefbase.org/pacific/dvdupdate.aspx>. Please follow the instruction on the website for update.

The main features of the updates contain 408 publication references, 11 images, 8 project summaries, 16 details of people (scientist, project manager, et) and details of 6 organizations.

The update of ReefBase Pacific DVD is ongoing and effort in compiling and improving this collection continue. If you have, or aware of, any relevant

information in the following areas you may share your knowledge, contribute the information to improve and making ReefBase Pacific a valuable information tool for coral researcher and other interested parties. All contribution will be fully acknowledged.

2. Coral Triangle Atlas updated

New datasets for the Coral Triangle Atlas have been contributed by The Nature Conservancy and uploaded for the following sites: Derawan, Kofiau, Misool, Lesser Sunda, Nusa Penida and Wakatobi. This spatial data cover a range of categories (particularly habitats, species and MPAs) and are available to view and download. Mangrove distribution, turtle nesting sites or areas with high cetacean diversity. Please click the following link to have a look through our updated database <http://ctatlas.reefbase.org/default.aspx>

3. Coral bleaching updates

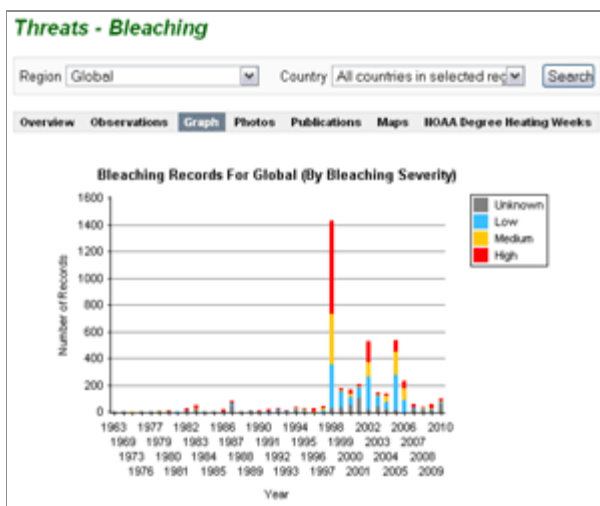
- Coral bleaching has been observed in every ocean and major sea in which coral occurs, from the Persian Gulf to Southeast Asia, the Central Pacific to the Caribbean. The first big coral bleaching event was in 1998 and the second time happened in 2005. 2005 was recorded the worst bleaching events on record for coral, warm-water anomaly was developed across the tropical Atlantic Ocean and greater Caribbean Sea. Dr. Mark Eakin, coordinator of the US National Oceanic and Atmospheric Administration's Coral Reef Watch and his colleagues performed an extensive coral survey to record the effects of bleaching on reefs in 2005. The project involved more than 250 collaborators from 22 countries, and compared satellite data with field surveys to determine how heat stress affected the coral in different places. Researchers who monitored the event have now catalogued the full extent of the disaster and they warn that 2010 was predicted to be as bad as or worse than 2005.

The full paper of the study was published in PLoS One website.

<http://dx.doi.org/10.1371/journal.pone.0013969>

- The updated graph on the global status of coral bleaching by severity (1963-2010) is available on ReefBase website. Click here to view the global status of coral bleaching observation.

<http://www.reefbase.org/redirect.aspx?urlid=50936>



In order to view the graph in specific region or country you may make a selection in the drop down list and search. The graph will then be generated for viewing.

- In order to get a better global picture of the condition and severity of coral bleaching, ReefBase would like request the contribution for any information related to coral bleaching event in your region or area. Kindly refer our offline form <http://www.reefbase.org/contribute/bleachingreport.aspx> for further details. The collected data will be available for access through ReefBase global coral bleaching database. It

will be also used to update the new Reefs At Risk report. Please send your information to ReefBase through our online contribution page (<http://www.reefbase.org/contribute/bleachingreport.aspx>) or email the observation data to reefbase@cgiar.org. Your contribution will be fully acknowledged.

ReefBase Publication Database

1. Effects of Coral Bleaching on Coral Reef Fish, Fisheries, and Ecosystem Services in the Western Indian Ocean region

- The project evaluated the effects of coral bleaching and mortality on the coral reef communities, fish and fisheries in the western Indian Ocean through a combination of field studies before and after the coral bleaching event in 1998, and the development of a historical database on benthic and fish communities. Investigators repeated fish community survey in Kenya, Tanzania, Seychelles, Mauritius, Maldives and Reunion before 1998 to determine the changes in fish communities. A database of all historical published and unpublished studies on benthic and fish abundance and production in the Western Indian Ocean produced a meta analysis of the spatial and temporal patterns of change. In addition, the proposal undertook a survey of fishing communities in five countries (Kenya, Tanzania, Madagascar, Mauritius and Seychelles) to determine their independence and likely responses to disturbance on coral reef resources. Finally, the project providing support for coral reef and fish landing monitoring program of the Wildlife Conservation Society in Kenya.

McClanahan T.R. 2009. The Effects of Coral Bleaching on Coral Reef Fish, Fisheries, and Ecosystem Services in the Western Indian Ocean region. MASMA Final Technical Report. WIOMSA book series. No. 9. viii + 52 pp.

http://www.reefbase.org/resource_center/publication/main.aspx?refid=72604&linksource=nl

2. Bleaching and Related Ecological Factors CRTR: Working Group Findings 2004-2009

- Coral reefs are the most biologically diverse marine ecosystems on Earth. In addition to their role in providing habitat for over a million species, coral reefs also provide goods and services to over 500 million people across tropical and subtropical regions. These provisions include food, building materials, income, cultural benefits and the protection of coastlines from ocean waves. They also drive billion-dollar fishery and tourist industries, which provide much-needed income to communities and nations. Unfortunately, the health of coral reefs is in steep decline, and studies over the past 40 years have indicated coral cover decline by over 40% in many regions of the world. These changes have come about because of the expanding activities of humans along the coastlines adjacent to coral reefs. These activities include the overexploitation of reef species, destructive activities associated with tourism and fishing, pollution and declining water quality as urban areas, coastal agriculture, and aquaculture have expanded. Climate change is now exacerbating the pressures on coral reefs, with increasing stress from elevated sea temperatures and acidity as atmospheric carbon dioxide has increased. This report describes the scientific outcomes, major training achievements, and the outreach activities and outputs undertaken by the BWG within the CRTR Program. Most importantly, this report describes a series of exciting and innovative contributions to the understanding of how climate change is, and will, affect the world's most diverse and important marine ecosystem.

Hoegh-Guldberg O., Y. Loya, J. Bythell, W. Fitt, R. Gates, R. Iglesias-Prieto, M. Lesser, T. McClanahan, R. van Woesik and C. Wild. 2009. Bleaching and Related Ecological Factors CRTR: Working Group Findings 2004-2009. Coral Reef Targeted Research & Capacity Building for Management Programme, Brisbane, Australia. 128 pp.

http://www.reefbase.org/resource_center/publication/main.aspx?refid=72526&linksource=nl

3. Climate, Carbon and Coral Reefs

- Oceans cover 70 per cent of the Earth's surface area, forming the largest habitat on the planet. Coastal and shallow-water areas contain some of the world's most diverse and productive ecosystems, including mangroves, coral reefs and seagrass beds. In the past two decades, coral reefs have come under siege by a growing global threat: increasing concentrations of carbon dioxide (CO₂) in the atmosphere. High CO₂ emissions lead to "double trouble" for coral reefs. First, the trapping of heat in the atmosphere leads to ocean warming, which can cause extensive coral bleaching events and mass mortalities. The global devastation of coral reefs from record warming of the sea surface in 1997/98 was the first example of what is likely to occur in the future under a warming climate. Second, high CO₂ levels lead to ocean acidification, which reduces the ability of coral reefs to grow and maintain their structure and function. Coral reefs are some of the most species-rich habitats in the world, and they are also among the most sensitive to our current high-emission path. This publication summarizes the CO₂ threat to coral reefs, the science supporting projections and the solutions that are needed to prevent the loss of one of the world's natural wonders.

World Meteorological Organization (WMO). 2010. Climate, Carbon and Coral Reefs. World Meteorological Organization (WMO). Geneva 2. Switzerland. 32 pp.

http://www.reefbase.org/resource_center/publication/main.aspx?refid=72602&linksource=nl

4. Global Ocean Protection Present Status and Future Possibilities

- The important commitments made by the international community at the 2002 World Summit on Sustainable Development and the Convention on Biological Diversity to put in place ecologically representative and effectively managed networks of MPAs by 2012 and to effectively conserve at least 10% of each of the world's marine and coastal ecological regions have sparked important efforts towards ocean conservation. The total ocean area protected has risen by over 150% since 2003. The total number of MPAs now stands at approximately 5880, covering over 4.2 million km² of ocean. This figure equates to only 1.17% of the marine area of the world, but the focus remains largely on continental shelf areas where MPA coverage is some 4.32%. Off-shelf protection stands at just 0.91%. Although it is not possible to develop an exact account, fully protected, no-take areas cover only a small portion of MPA coverage, while a large proportion of MPAs are ineffective or only partially effective. Therefore this publication provides an overview of the different types of marine protected areas and other area-based management measures and the benefits they provide. The report particularly focuses on examining and analyzing a commonly agreed global indicator- global MPA coverage - looking both at the jurisdictional and the biogeography coverage and identifies areas where more progress may be needed, what efforts have been particularly successful, and that may be useful models for replication at larger scales elsewhere in the world.

Toropova, C., Meliane, I., Laffoley, D., Matthews, E. and Spalding, M. (eds.) 2010. Global Ocean Protection: Present Status and Future Possibilities. Brest, France: Agence des aires marines protégées, Gland, Switzerland, Washington, DC and New York, USA: IUCN WCPA, Cambridge, UK : UNEP-WCMC, Arlington, USA: TNC, Tokyo, Japan: UNU, New York, USA: WCS. 96 pp.

http://www.reefbase.org/resource_center/publication/main.aspx?refid=72606&linksource=nl

5. Directory of Remote Sensing Applications for Coral Reef Management

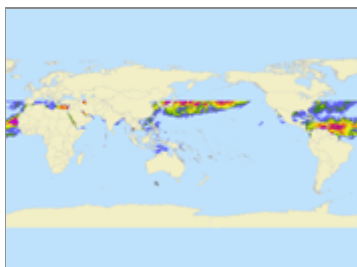
- Remote sensing has underpinned coral reef management activities for nearly four decades. The predominant role of remote sensing has been to map coastal resources as part of a marine spatial planning activity. With the advent of new, improved sources of data these maps are now more detailed and accurate than ever before. However, the boom in satellite information has not simply granted practitioners access to better maps; there now exist a wide range of truly useful tools for managers. Examples include mapping the potential response of reefs to thermal stress, mapping the locations of critical nursery habitats for fisheries, and mapping hotspots of marine diversity. This directory is part of a suite of tools aimed to help reef managers make better use of remotely sensed data (see below). The directory is deliberately brief and aims to familiarize managers with the opportunities provided by remote sensing. The overall limitations of the methods are indicated together with major considerations for implementation.

Directory of Remote Sensing Applications for Coral Reef Management. 2010. The Coral Reef Targeted Research & Capacity Building for Management (CRTR). Global Change Institute. 32 pp.

http://www.reefbase.org/resource_center/publication/main.aspx?refid=72601&linksource=nl

Online GIS

1. November 2010 NOAA Coral Reef Watch's Satellite Monitoring Products



This map shows the global observations of coral bleaching occurrences combined with NOAA Coral Reef Watch's satellite monitoring products including Sea Surface Temperature, Sea Surface Temperature Anomaly, Bleaching HotSpot and Degree Heating Weeks. These datasets are added into ReefBase Online GIS each month.

To view the latest November 2010 maps, click here.

<http://reefgis.reefbase.org/redirect.aspx?urlid=50938&linksource=nl>

ReefBase::A Global Information System For Coral Reefs

Website: <http://www.reefbase.org> Email: reefbase@cgiar.org