



Launch of Catlin Global Reef Record is a Sea Change for Ocean and Climate Science

Massive Online Portal Combines Dynamic 360-degree Imagery and Data Sets for Baseline Scientific Research; Reveals Wonders of Coral Reefs to the World



Click image for high-resolution download - and [here](#) for more images. Videos for the Bermuda expedition and Catlin Global Reef Record and be accessed [here](#).

Bermuda - The [Catlin Seaview Survey](#), a pioneering scientific expedition revealing the state of the world's coral reefs, today announced the launch of the Catlin Global Reef Record (www.globalreefrecord.org), sponsored by international insurer Catlin Group Limited.

The Catlin Global Reef Record is a first-of-its-kind global database and online standardized research tool relating to major coral reef ecosystems. The Catlin Global Reef Record will enable scientists around the world to collaborate on understanding changes to coral reefs and related marine environments as a result of over-exploitation, pollution and climate change. It is estimated that 500 million people globally depend on coral reefs for food and income and between one third and one half of corals around the world have been lost in the last 50 years.

The launch of such a database is prescient in that it falls just before the release of the first working group report of the Intergovernmental Panel on Climate Change (IPPC) 5th Assessment Report. This important document will report the scientific consensus on the physical and chemical changes of oceans associated with the rise of greenhouse gases such as carbon dioxide. Studies all over the world are finding that oceans are storing the excess heat associated with human caused climate change and are becoming more acidic - damaging marine life and changing ecosystems such as coral reefs.

Revealing the Reefs

Freely available to the scientific community and public at large, the Catlin Global Reef Record features hundreds of thousands of 360-degree panoramic images along with numerous other additional scientific data sets. The Catlin Seaview Survey team collected

the groundbreaking visuals and data for the Catlin Global Reef Record during expeditions of the Great Barrier Reef, coral reefs across the Caribbean and its most recent expedition in Bermuda, which launched on September 18.

Beyond the Catlin Seaview Survey images and data, the Catlin Global Reef Record also incorporates critical data and research methods on coral reef health from a host of scientific collaborators to establish a much-needed common methodology in research and measurement. These key collaborators include:

- [The Global Change Institute \(GCI\) at The University of Queensland in Australia](#) is focused on bringing together multidisciplinary expertise to contribute solutions to major global challenges in areas such as climate change, oceans, food security and renewable energy technology. Global projects such as the Catlin Seaview Survey, building one of Australia's first zero carbon buildings and some of Australia's largest solar energy fields typify the thought leadership associated with the Global Change Institute and its partners. GCI scientists are leading the gathering of the scientific data around the world, and the analysis of that data.
- [The National Oceanic and Atmospheric Administration \(NOAA\)](#) is incorporating its Coral Reef Watch data across the Catlin Global Reef Record. Specifically, all reefs recorded by the Catlin Seaview Survey are being set up as a virtual station, which is like having a temperature sensor in the water next to a reef, but it is completely based on satellite remote sensing measurements. Users can access up-to-date maps showing global sea surface temperatures, thermal stress and coral bleaching alerts, automated email systems will allow scientists and park managers to immediately become aware when ocean temperatures grow dangerously high for corals.
- [Scripps Institution of Oceanography at UC San Diego](#) scientist, David Kline, is working with GCI to develop autonomous assessments of the hundreds of thousands of panoramic images taken of the reefs using their sophisticated semi-automated image recognition software to analyse the per cent coverage of the main benthic organisms (e.g. corals, algae, other invertebrates) in the photographs.
- [The World Resources Institute](#) is incorporating data and findings from its seminal "Reefs at Risk" reports. More info on those contents can be found here: <http://www.wri.org/project/reefs-at-risk>

By hosting standardized scientific data across important coral reef regions worldwide, the Catlin Global Reef Record will set a benchmark in coral reef science that will support and host follow-up monitoring programs. Within the next two years, the Catlin Global Reef Record will also include Catlin Seaview Survey baseline visuals and data from additional major coral reef regions of Southeast Asia, the Indian Ocean, the Middle East, and the Pacific in addition to the surveys already completed in Australia and the Atlantic Region (Bermuda and Caribbean). Over time, the Catlin Global Reef Record will also seek to expand to other reef related datasets, becoming the central resource for data regarding the world's most biologically diverse yet highly threatened ecosystems.

Additional Benefits

Beyond its ability to address the need for a standardized approach, accessibility to data and regional resource constraints, the Catlin Global Reef Record will also serve as an important management tool for marine park managers. These park managers can use the database to publicize their marine parks, both to locals and tourists, to promote the profile of the marine park and the reasons for protecting it. The database will also allow park managers to track damage to the reefs caused by explosives, pollution and coastal development – providing an accountability that was previously non-existent.

Because it's public facing and easily accessible, the Catlin Global Reef Record will serve as a knowledge platform and provide an educational gateway for secondary schools and universities to increase students' understanding of the biology and ecology of coral reefs, as well as the challenges they face.

Quotes

- "Our oceans are in an unprecedented state of decline due to pollution, over-fishing and climate change, said Prof. Ove Hoegh-Guldberg, director of the Global Change Institute at The University of Queensland, and Chief Scientist of the Catlin Global Reef Record. "The data archive provided by the Catlin Global Reef Record and its partners will empower countries with information and analysis of the coral reef ecosystems at scales never before imagined so we can better protect these beautiful and important places before they disappear."
- "The Catlin Global Reef Record reaffirms Catlin's commitment to financing impartial environmental research, which began in 2009 with the Catlin Arctic Survey and renewed in 2012 with the Catlin Seaview Survey," said Stephen Catlin, Chief Executive of sponsor, Catlin Group Limited. "As a company that helps clients manage risk, we are thrilled to be part of international efforts to develop truly game-changing science that helps everyone better understand the risks of tomorrow."
- "Studying our oceans on a global scale and working together across public, private and academic sectors to share information and analysis is critically important," said Dr. Mark Eakin, Coordinator of NOAA's Coral Reef Watch. "Integrating our virtual station information in the Catlin Global Reef Record connects data on one of the biggest threats to coral reefs, climate change; with observations from one of the first and hardest hit ecosystems."
- "The dramatic decline of coral reefs has been hidden from the world for too long. Now with the Catlin Global Reef Record this decline will be clearly visible for all to see," said Richard Vevers, Project Director, Catlin Seaview Survey. "We hope it will help scientists to find global solutions and ignite a new level of support for coral reef protection."

Bermuda: A Sentinel of Climate Change and its Impact in the Atlantic

Corals are considered the "canary in the coal mine" when it comes to impacts of climate change and ocean acidification. While Bermuda's reefs are proving to be resilient to

change, conditions in the Atlantic are changing rapidly, which exemplifies the need for the Catlin Global Reef Record to establish important baselines in partnership with the scientists of the Bermuda Institute of Ocean Sciences (BIOS) and other local scientific partners.

The Catlin Seaview Survey kicked off its latest expedition on September 18 and is currently surveying the shallow and deep reefs around Bermuda. Among the scientific findings, the team has found that reefs 40 to 60 feet below the surface are currently undergoing a small amount of coral bleaching – confirming an alert originally announced by NOAA’s Coral Reef Watch (CRW) Satellite Bleaching Alert (SBA) system. The area is under a Level 1 alert, which indicates that high water temperatures have been sustained for more than four weeks, causing algae growing inside the corals to become toxic. Some areas close by are in Level 2 alert, which means mortality is likely. Scientists from the project will be testing how effective the SVII camera and image recognition procedures are at detecting and measuring the amount of bleaching on Bermuda’s reef systems.

“This could represent a powerful technique for rapidly responding to stress events such as mass coral bleaching and mortality,” said Professor Ove Hoegh-Guldberg. “Enabling rapid yet highly accurate techniques such as these will almost certainly improve our ability to understand and respond to the threats posed by warming seas.”

Live Google + Hangout

In recognition of the launch of the Catlin Global Reef Record and the overall need to better understand the health of our corals, the Catlin Seaview Survey is hosting a public Google+ Hangout with some of the leading minds in ocean science. The group will discuss how technological advancements are creating new ways to research, record and reveal the ocean’s health. Questions to the panel can be addressed via Twitter or Google+ using the hashtag #SeaviewSurvey.

Where: The live Google + Hangout can be accessed here: <http://bit.ly/SeaViewHangout>. After the Hangout, a recording can be found at www.catlinseaviewsurvey.com

When: September 23, 2013; 7:30 a.m. PT/10:30 a.m. ET/11:30 a.m. AT

Who:

- Professor Ove Hoegh-Guldberg, Director, Global Change Institute and Chief Scientist, Catlin Seaview Survey
- Richard Vevers, Project Director, Catlin Seaview Survey
- Stephen Catlin, Chief Executive, Catlin Group Limited
- Dr. David Kline, Project Scientist, Scripps Institution of Oceanography at UC San Diego
- Dr. Mark Eakin, Coordinator of Coral Reef Watch, NOAA
- Dr. Sylvia Earle, Legendary Oceanographer and *TIME* Magazine’s first Hero of the Planet

About the Catlin Seaview Survey

The Catlin Seaview Survey is a pioneering scientific expedition revealing more than ever before the impact of environmental changes on the world's coral reefs. The Survey aims to significantly expand the data available to scientists about global coral reef systems. The Catlin Seaview Survey launched in late 2012 with its groundbreaking scientific study of the Great Barrier Reef. The team took more than 100,000 360-degree panoramic images, at 32 separate locations, along the entire length of the 2,300-km reef, using specially built cameras. The images are being used to create a vital scientific baseline study of the reef that can be used to monitor change, as well as being used to reveal it to the world through Street View in Google Maps - in partnership with Google. More information about the Catlin Seaview Survey can be found here:

<http://www.catlinseaviewsurvey.com>. You can also engage with the Catlin Seaview Survey and its 3 million followers on Google+ here: <https://plus.google.com/+CatlinSeaviewSurvey/posts>

About Catlin

Catlin Group Limited is a global specialty property/casualty insurer and reinsurer operating worldwide through six underwriting hubs: London/UK, Bermuda, the United States, Asia Pacific, Europe, and Canada. The Catlin Seaview Survey is the second major scientific project Catlin has sponsored. The Catlin Arctic Survey (2009-2011) investigated the impact of environmental changes in the Arctic. Catlin believes that insurers must take a leading role in improving the understanding of potential changes to our environment, changes that could affect how risks are managed in the future. Catlin's contribution is to sponsor independent, impartial research that is freely distributed to the world's scientific community. <http://www.catlin.com/>

Note to Editors:

High-resolution videos and photographs are available for download at a Zenfolio site: http://catlinseaviewsurvey.zenfolio.com/global_reef-record

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