coral news

12th International Coral Reef Symposium | Cairns Queensland Australia | **Wednesday 11 July 2012**

Research in the **clouds**

Clouds have been working overtime above Cairns this week but they are helping to protect the Great Barrier Reef, according to Susannah Leahy, of the ARC Centre of Excellence for Coral Reef Studies at James Cook University.

She indicated that independent research shows that increases in temperature of between 1°C to 2°C could cause "mass coral bleaching".

Some scientists, she said, say that such an outcome would spell the "end of coral reefs by 2050" if this occurred.

She explained to delegates yesterday how clouds were keeping sea-surface temperatures (SST) contained, reducing the likelihood of coral bleaching.

Susannah said that uncertainties regarding cloud feedback mechanisms and their effect on temperatures had limited the quality of climate change predictions.

To help shed some light on the impact of cloud on sea temperatures and possible bleaching events, Ms Leahy studied data from between 2005 and 2008 relating to weather patterns over the Great Barrier Reef.

She said the purpose of the research was to seek out evidence of cloud feedback mechanisms which may limit predicted rises in sea-surface temperatures.

It had revealed that "cloud cover prevents bleaching".

Her work focused on a Moderate Resolution Imaging Spectroradiometer that was placed on two satellites, Terra and Aqua. These made four passes over the reef each day – two during daylight hours and two at night. Images were pre-processed by NASA into Level 2 Cloud Products at 5x5km resolution.

This approach, said Ms Leahy, created a "yes/no" scenario of whether cloud cover was sited in each 5x5km pixel.

Ms Leahy said results indicated that extensive low cloud cover reduces incoming solar radiation, limiting SST and consequent thermal stress on coral.

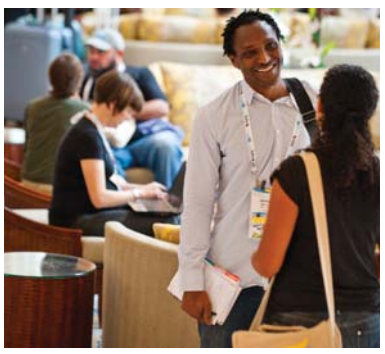
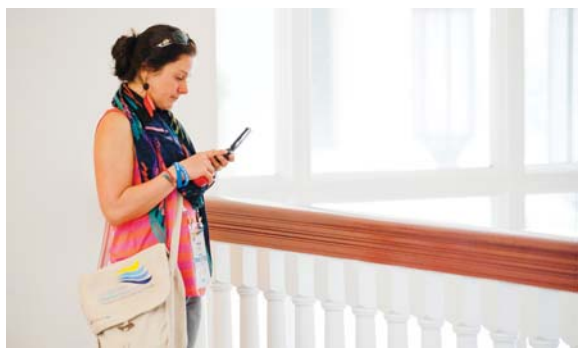
She said areas where extensive cloud cover existed helped explain a 32 per cent variation in sea-surface temperatures.

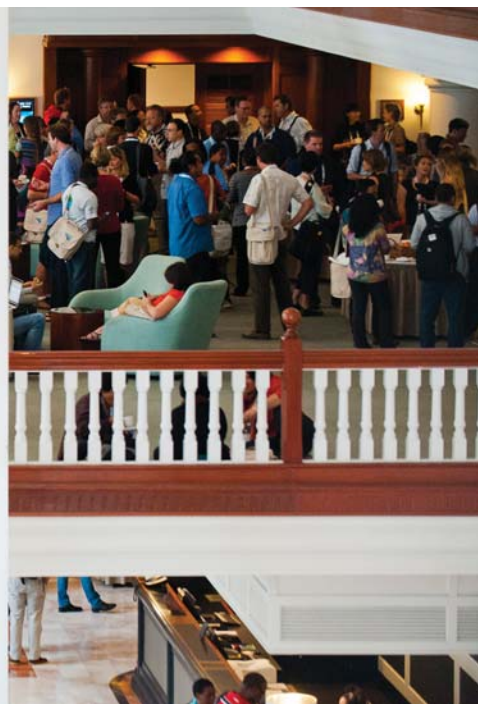
The story was more complex, she said, citing additional variances such as storms, lunar phasing and tidal mixing, and the qualitative differences in cloud type.

"Finally, we have some empirical evidence," she added. "Clouds are good."

Science at the **Sebel**





Today's Program **Highlights**

Peter Kareiva

The Nature Conservancy, USA

0830 – 0915 Plenary Hall 2

Peter Karieva is Chief Scientist and Vice President of the Nature Conservancy – the world's largest conservation Non-Government Organisation. Kareiva has authored over 100 scientific articles in such diverse fields as mathematical biology, fisheries science, insect ecology, risk analysis, genetically engineered organisms, agricultural ecology, population viability analysis, landscape ecology and global climate change. He cofounded the Natural Capital Project, which seeks to develop credible tools that allow routine valuation of nature's assets in a way that informs the choices governments and businesses make concerning natural resources. His plenary address today is titled **"Corals: resilient or fragile and how it matters to management?"**

Tomorrow's **Banquet**

As the ICRS 2012 Banquet will be held in a park, please wear casual clothes and comfortable shoes.

Coral networks **grow**

The ARC Centre of **Excellence**

The ARC Centre of Excellence for Coral Reef Studies was established in June 2005 under the ARC Centres of Excellence Program.

Headquartered at James Cook University in Townsville, the ARC Centre partnership includes the Australian Institute of Marine Science, the Australian National University, the Great Barrier Reef Marine Park Authority, the University of Queensland and the University of Western Australia. To date, the Centre has been successful in building collaborative links to 274 institutions in 47 countries.

Major research themes at the Centre include adaptation to climate change, understanding and managing biodiversity, marine reserves, fisheries biology, genomics, conservation planning, social studies, and governance and policy for coral reefs.

To increase public awareness of the importance of coral reef science and management, the ARC Centre engages with the wider community through the media and through a variety of public outreach activities. In this regard, researchers from the Centre participated in 56 outreach events and programs in 2011 alone, reaching audiences locally, nationally and internationally.

Speakers' Preparation Guidelines

If you are presenting a talk, you must upload your presentation at least three (3) hours prior to your presentation, at the same venue where you are giving your talk: MR8 on the mezzanine at the Cairns Convention Centre and the Rosser Room on the first floor at the Sebel Hotel. The Speakers' Preparation Rooms at both venues will be open at these times: Sunday: 1200 – 1700 • Monday-Thurs: 0730 – 1800 • Friday: 0730 – midday

Free WiFi

WiFi is available throughout the Cairns Convention Centre for the duration of the Symposium. WiFi is available throughout the Sebel Hotel for the duration of the Symposium. To access please enter the code **YE6PXZ**

Connect at ICRS 2012 with Social Media

To discuss today's media briefings online, use the following hash tags:
Lessons from the Great Barrier Reef -
#icrs2012 #reef
The State of Coral Reefs -
#icrs2012 #coral

12th International Coral Reef Symposium
9-13 July 2012 • Cairns • Queensland • Australia

ICRS 2012 Program changes

Wednesday 11 July

Norhanis Razalli – Oral presentation at 1015, Sebel Kuranda
Withdrawn.

Kalisi Mausio – Speed talk at 1040, Hall B
Presentation to be given onsite by Kathy Chaston.

Eric Clua – Oral presentation at 1115, Sebel Kuranda
Presentation to be given onsite by Jonathan Werry.

Jennifer McIlwain – Oral presentation at 1400, Hall A
Presentation to be given onsite by TBA.

Barbara Best – Oral presentation at 1500, Sebel Kuranda
Presentation to be given onsite by Dave Gulko.

Dominique Bradbury – Oral presentation at 1645, Plenary Hall 2
Presentation to be given onsite by Morgan Pratchett.

Benjamin Richards – Oral presentation at 1715, Hall A
Presentation to be given onsite by TBA.

Sandra Binning – Oral presentation at 1715, Sebel Mossman
Withdrawn.

Akosita Rokomate-Nakoro – Oral presentation at 1730, Hall A
Presentation to be given onsite by Chris Poonian.

Chelsea Young – Speed talk at 1730, Sebel Bluewater
Presentation to be given onsite by Diego Lirman.

Amro Abd-Elgawad – Speed talk at 1755, Sebel Bluewater
Withdrawn.

Marnie Freckelton – Oral presentation at 1700, MR3
Withdrawn.

Amro Abd-Elgawad – Speed talk at 1755, Sebel Bluewater
Was cancelled, now going ahead.

Denis' hard cell: focus on **biomineralisation**

Professor of Biology at the University of Nice-Sophia Antipolis and Scientific Director of the Centre Scientifique de Monaco, Denis Allemand, presented a plenary address yesterday entitled Coral calcification: From cell physiology to ocean acidification.

Denis Allemand

Professor Allemand said biomineralization is a major physiological process leading to the formation of minerals by living organisms (hence called biominerals). Among biomineralization processes, coral calcification is responsible for the largest bioconstruction of the world, the coral reefs.

In addition to a huge ecological role, coral skeletons are used for several purposes ranging from taxonomy, environmental archives or as bioimplants for bone surgery. Recent studies suggest that this major process may be altered by a recently-identified threat, ocean acidification, due to dissolution of CO_2 into the sea.

> "Recent studies suggest that this major process may be altered by a recently-identified threat, ocean acidification…"

Optimal use of coral skeletons and understanding the different sensitivity of coral calcification to ocean acidification require perfect knowledge of the mechanisms controlling the formation of coral skeletons, however, if large progresses have been made these last 10 years, a lot of questions are still pending: What is the chemical composition of the extracellular calcifying medium? How ions are supplied to the skeleton? What is the role of intraskeletal organic matrix? How genes regulate the form of the coral skeleton? Why coral are sensitive to a subtle long-term change in ocean pH although they are daily submitted to much larger pH variation?

Professor Allemand answered these and other questions in his presentation using a survey of literature data, as well as the last experimental data acquired within the Centre Scientifique de Monaco using *Stylophora pistillata* as a model organism.

He said coral calcification is a highly-controlled complex process which mechanisms are only beginning to be understood.

Tracking is **'mission impossible'**

Professor in the School of Marine and Tropical Biology at James Cook University and a member of the ARC Centre of Excellence for Coral Reef Studies, Geoff Jones presented a plenary address yesterday entitled Mission impossible: unlocking the secrets of larval fish dispersal on coral reefs.

Geoffrey P. Jones

Professor Jones said one of the enduring mysteries in marine biology is how far larvae disperse away from their natal populations. The fate of offspring has remained a secret because of the seemingly impossible task of tagging tiny eggs and larvae.

"Our superficial knowledge of dispersal has fuelled controversies over how marine populations are regulated, and how marine populations should be managed for conservation and sustaining fisheries," he said.

> "Our superficial knowledge of dispersal has fuelled controversies over how marine populations are regulated…"

In this seminar he reviewed for coral reef fishes - the historical debate, the contemporary dilemma and the emerging resolution. On behalf of many collaborators, he recounted the 15 year mission to measure larval dispersal by detecting parent-offspring relationships using chemical tags and DNA.

"We began with some of the smallest of reef fishes (clownfish), but have since expanded our work to include some of the largest (coral trout, groupers). The unfolding story for all species is a tale of two extremes - from juveniles that have found their way home, to others that have crossed >100km of open water, and found a home away from home.

"We hypothesize that this 2-tailed dispersal strategy promotes population resilience, as natal homing contributes to local persistence, while long-distance dispersal contributes to population recovery. It means that networks of marine reserves can achieve both conservation and sustainable fishing objectives, as reserve populations will retain some of their progeny, while others will be spread to areas open to fishing and to other reserves.

"We argue for pluralism in the management of coral reef fishes, as they have been confronted with many problems, and their innate dispersal abilities offer a range of solutions," he said.

The world is watching: **coral science in the news**

Media reach for the Symposium has already hit global proportions as news outlets across print, television and radio mediums report on the science and statistics surrounding the 12th International Coral Reef Symposium.

Over 50 correspondents have travelled from 14 countries to help drive the key messages surrounding the Symposium. With two formal press briefings each day, and over 1500 individual scientific presentations, media correspondents are enjoying access to unparalleled reporting opportunities.

In the 24 hours since the Symposium has started, over 1000 print and web articles have been tracked across global media including The New York Times, the Huffington Post, Reuters, Associated Press, Britain's Independent, The Guardian, and the Daily Telegraph, ABC Online, the Manila Bulletin, Indian Express, Salt Lake Tribune, New Zealand Herald, The Australian, The Courier Mail, The Sydney Morning Herald and, locally, The Cairns Post.

Scientists at the ICRS 2012 have also benefited from a strong television and radio presence with ABC (Australia), Channel Seven and Channel Nine News all reporting live from Cairns. ABC Radio National has provided airtime for the Consensus Statement on the call for action to prevent rising sea temperatures, ocean acidification, overfishing and pollution from the land. ABC Television will be producing a specially filmed Futures Forum on the evening of Wednesday 11 July 2012, which will be broadcast nationally on 22 July 2012.

At the time of going to press over 144,000 web hits to the icrs2012.com website have been reported.

The ICRS provides a much needed quadrennial opportunity for the world's best coral reef researchers to join forces and have their collective voices heard.

Over 50 correspondents have travelled from 14 countries to help drive the key messages surrounding the Symposium.

Coral: a natural beauty

New report on **Coral Triangle**

Human activity alone is threatening the future of 85 per cent of reefs in the Coral Triangle (CT), claims a new report released at the Symposium this week.

Coastal development and "watershed-based pollution" are leading causes of the threat, say authors of Reefs at Risk Revisited in the Coral Triangle.

Co-author Lauretta Burke says "The threats are incredibly high."

"Reefs are resilient. They can recover from coral bleaching and other impacts, particularly if other threats are low.

"Coastal communities depend on coral reefs for food, livelihoods and protection from waves during storms. The benefits reefs provide are at risk, which is why concerted action to mitigate threats across the Coral Triangle is so important."

Authors say the amount of reef under threat goes up to 90 per cent when additional risks of rising ocean temperatures and coral bleaching are added.

The Coral Triangle embraces the countries of Malaysia, Indonesia, the Philippines, Timor-Leste, Papua New Guinea and the Solomon Islands.

It contains almost one-third of all reefs and more than 3,000 species of fish – twice the number found elsewhere in the world.

Five of these countries have been identified by the report as having populations who are most vulnerable to the social impact of disappearing reefs.

It is estimated that 130 million people living in the CT region rely on the reef ecosystem for food, employment and revenue from tourism.

The report, published by the World Resources Institute, finds only 16 per cent of coral reefs within the CT are in Marine Protected Areas (MPA), compared with a global average of 28 per cent.

Less than one per cent of MPAs in the CT are fully effective at reducing the threats of over-fishing and destructive fishing.

Contributing author Maurice Knight, who is Team Leader for the Coral Triangle Support Partnership, says "The region-wide perspective on the status of coral reefs, as depicted in this report, demonstrates the urgency of the situation."

The report was developed by the WRI in collaboration with the USAID Coral Triangle Support Partnership, the WWF, The Nature Conservancy and Conservation International.

How green is your **convention centre**?

Synergies between the Cairns Convention Centre, Australia's first environmentally-designed major public building, and ICRS 2012 are a match made in heaven, with the facility dedicated to reducing its environmental impact.

Situated between two World Heritage listed natural wonders, the Great Barrier Reef and the ancient wet tropics rainforests, environmental considerations in the construction of the Cairns Convention Centre were always going to be high on the agenda.

Cairns Convention Centre

The centre, unlike previous public buildings being built at the time, was formed from a combination of steel and laminated plantation timber, producing a more crafted architecture that responds to environmental issues.

The design of the building allows for a 50 per cent saving on water usage through rainwater storage. The centre's double layer pleated plate roof was designed to capture the seasonal tropical downpours, channelling water directly into storage tanks. This feature provides half of the centre's grounds and garden watering needs, reducing its use of treated town water.

The centre's water usage has been reduced further by the installation of water flow restrictors on all outlets, giving it a 25-30 per cent saving on total water needs.

Solar hot water provides between 30 and 35 per cent of the centre's hot water requirements, producing a 30 per cent energy saving.

Shading devices installed along the eastern side of the structure further assist in energy reduction (by five per cent), by reducing the level of air conditioning needed to keep the building cool.

Care has also been taken internally with R134a refrigeration machines installed. This model does not use chlorofluorocarbons (CFCs) as its refrigeration agent, ensuring there is no ozone layer damage should a refrigeration leak occur.

Environmental strategies at the centre are ongoing, with the facility aiming to promote better sustainability through compliance with all relevant environmental legislation and adhering to all required standards and benefits.

The centre aids regeneration where possible through support of locally accredited environmental organisations as a means to offsetting clients, delegates, and its own footprint.

The centre continually reviews, monitors and aims to reduce its impact on the environment by assessing and setting targets on energy consumption, water consumption, waste production, paper, cleaning and pesticide use by reducing, recycling and reusing.

Coral Reef **Photographic Competition**

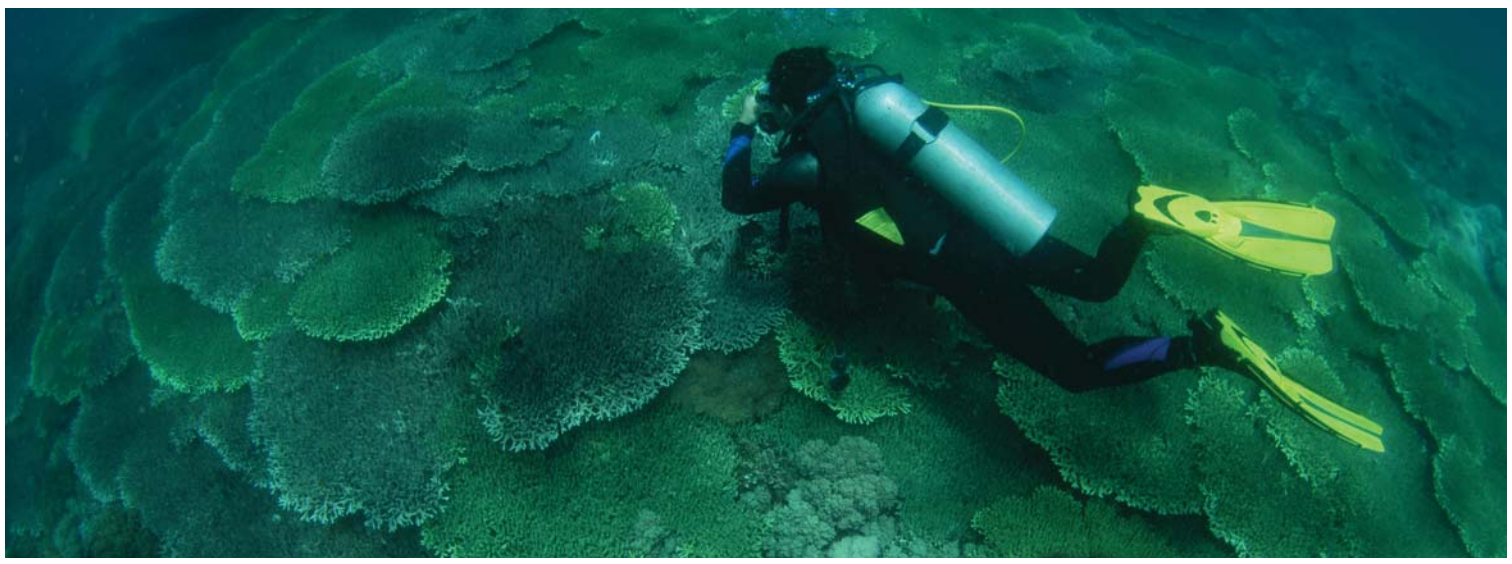
Spectacular images from around the world on display

Delegates travelling to Cairns for the 12th International Coral Reef Symposium were given an opportunity to submit personal photos to showcase the beauty of coral reefs as well as their photographic skills via the symposium website at www.icrs2012.com.

Judged by a professional photographer and marine biologists, entrants in the six categories of Scientific Image, Macro, Wide-Angle Underwater Reefscape, Animal Portrait, Animal Behaviour, and People and the Reef will receive prizes based upon their images sharpness, impact, creativity, originality and scientific interest.

Congratulations to the 411 entries that have been received from all over the world. The top three photographs from each of the six categories are now on display in the ICRS 2012 exhibition area.

The winner of each category will be announced at the ICRS 2012 Banquet tomorrow, 2012 with prizes presented from Olympus and InDepth Cases.



Jerry Konjansow

Asami Takahashi

Alex Wolf

Climate change will change what reefs look like **in the future**

The impacts of a warming climate on reefs is not a future event—complex changes have already begun that could fundamentally change what reefs look like in the future.

"Tropical coral reef waters are already significantly warmer than they were and the rate of warming is accelerating," said Janice Lough of the Australian Institute of Marine Science. "With or without drastic curtailment of greenhouse gas emissions we are facing, for the foreseeable future, changes in the physical environment of present-day coral reefs."

Lough said, over the past century global temperatures have warmed by 0.7°C and those of the surface tropical oceans by 0.5°C. This raising of baseline temperatures has already resulted in widespread coral bleaching events and outbreaks of coral diseases. Current projections indicate that the tropical oceans could be 1-3°C warmer by the end of this century.

Lough focuses on long-term growth histories from skeletons of massive corals. Even with the modest amount of warming to date —compared to future projections—coral growth rates are responding to these observed temperature changes.

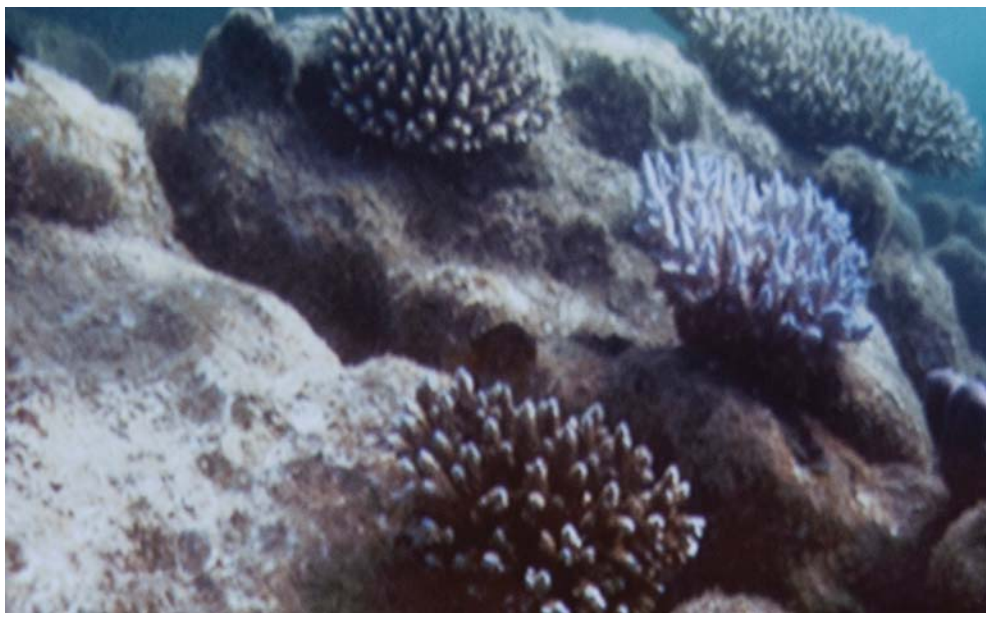
Philip Munday of James Cook University said changes to coral reef habitat caused by climate change will also potentially lead to changed fish populations. The direct impacts, which are already occurring, are reduced coral cover resulting in less habitat structure for fish.

"That will mean fewer species and lower fish abundance," Munday said. "Some species will fair better than others. For example, fish that eat coral will be more severely impacted, but overall we can expect a decline in fish numbers."

Over time, he said, the increased carbon dioxide dissolved in the ocean can also cause abnormal behavior in fish leading to reduced survival. In a recent study, Munday and his team examined the changes to fish in tanks with artificially high levels of carbon dioxide. They found neurological changes that resulted in fish being less effective at avoiding predators, because of adverse impacts to their sense of smell and an increased tendency to stray further from reef areas where they can hide. At the same time, some fish showed, over generations, an ability to adjust to temperature changes.

"Like coral, there will be winners and losers and the communities of fish we see on reefs in the future are likely to be different to those of today," Munday said.

Roberto Iglesias-Prieto of the National Autonomous University of Mexico underscored that these changes will ultimately have severe impacts on the millions of people worldwide who depend on reefs for food, income and storm protection. Reefs also contribute to national economies through such sectors as tourism and commercial fisheries.



"To truly understand the impact of climate change on reefs, you have to be an ecologist, an economist and a political scientist," Iglesias-Prieto said.

Shining a **light**

The quest to improve the algorithm to assess Light Stress Damage (LSD) to reefs is continuing apace with efforts being undertaken to gain access to satellite imagery taken from Russian and Chinese satellites.

William Skirving, of the National Oceanic and Atmosphere Administration (NOAA), revealed to delegates efforts by the University of Queensland and other stakeholders to further expand the ability of satellite algorithms to predict the impact of coral stress.

The addition of more satellite coverage would provide an almost total coverage required for the work to be conducted successfully.

"We would have a 5km-blended product that covers the entire globe," Professor Skirving said.

Currently, complete coverage is available for the Caribbean and Pacific.

Professor Skirving said the aim was to develop a suite of satellite-based algorithms that should improve the accuracy of predictions related to where coral bleaching might strike.

Ideally, the algorithm would estimate the severity of bleaching, as well as possible recovery time or mortality, and the impact on the immediate ecosystem.

"The aim is to make the algorithm an operational reality, and fully develop the satellite version of the LSD product suite using light and temperature (data) only," Professor Skirving said.

"We need to shore-up the current LSD algorithm and look at other aspects, such as adaptation (of the immediate environment) that might affect the algorithm."

"We would have a 5km-blended product that covers the entire globe"

This included issues such as salinity, water quality and nutrients.

"We need to look at light and temperature, and how to combine them," he said.

Dealing with the "thermal threshold" was going to be difficult.

"The corals near the Equator behave very differently, and there are of course different species of coral to consider," Professor Skirving continued.

There were three stages to the project.

Microcosm experiments would be conducted on a number of coral species from multiple sites.

A network of small "in situ" pulse amplitude modulated (PAM) flourometers would be developed to close the gap between the results from the microcosm experiments and field observations.

This would help validate the satellite algorithms, he said.

Finally, microcosm experiments that mimic several climate scenarios would be conducted to predict the impact of climate change.

With UQ, the other stakeholders in this work are NOAA, Australian Institute of Marine Science, Great Barrier Reef Marine Park Authority and Universidad Autonoma Nacional de Mexico.

Book hits remote **senses**

A sneak preview of a book on the various technologies and approaches for remote sensing of coral reefs was given to Symposium delegates yesterday.

Co-editors James Goodman, Samuel Purkis and Stuart Phinn revealed the book is the first of its kind and would be published next January.

Called *Coral Reef Remote Sensing*, the idea for the book emerged at the last ICRS in Fort Lauderdale in 2008.

Mr Goodman, who is president and chief executive of HySpeed Computing, said the book was aimed at explaining the various technologies available for remote sensing to the non-expert.

Managers and students were among the target audiences.

The book explains the various technologies available on satellites, ocean vessels and on land.

Co-editor Mr Purkis thanked members of the science community for peer-reviewing the work, which he jokingly described as a "loathsome process".

"But the book is so much better for your efforts," an appreciative Mr Purkis told the audience.

Remote sensing is now a fundamental tool for mapping, monitoring and managing coral reef ecosystems.

Mr Phinn said the book was designed to offer advice on the most suitable technologies for specific research challenges.

"We have highlighted what can and cannot work with these various technologies," he said.

"It is a guide on how to select the right data gathering process, and it will help evaluate specific products."

The book features separate examples of how each remote sensing technology is applied to coral reef research.

The technologies featured include visible and infra-red sensing, LiDAR remote sensing and integrated LiDAR and hyperspectral sensing.

Ship-based acoustic equipment and thermal and radar approaches are also discussed.

Mr Phinn said the book would be important in the field because many government decisions on environmental protection were based on spatial data sets.

And these decisions were "being placed

under increasing scrutiny".

"We must move towards placing our science and data in the public domain if our work is going to be understood and accepted," he said.

He predicted there would be greater efforts made to build publicly available knowledge bases, such as the Australian Ocean Data Network.

"When papers are published now, there is an increasing expectation that we will make our data sets available, too," Mr Phinn continued.

"We are moving to a new era of open data and techniques that will ultimately push the science further."

Delegates march on their **stomachs**

Work behind the scenes of any conference is always conducted at fever pitch. And it is no different in the kitchens of the Cairns Convention Centre.

Executive Chef Perry Stevens leads a team of 125 who are dedicated to cooking and serving food to delegates throughout this week.

The 2,000 attendees at this Symposium are a hungry bunch – and Perry's shopping list is impressive.

Yesterday, we ate 140 litres of Madras curry sauce and another 140 litres of Korma.

Some 260kg of beef went into the Madras, which also featured 70kg of potato and 40kg of diced onion.

A further 70kg of chickpeas went into the korma.

The empty serving plates that were returned to the kitchen suggest delegates downed a mighty 190kg of rice.

"There was not much left of the rice, I can tell you," jokes Perry.

So far this week, he has got through 350kg of flour.

For lunch on Monday, we ate 500kg of reef mackerel that was covered in 50kg of bread crumbs.

The reef fish came from a Cairns supplier, ISP Seafoods, which has its own trawlers.

"I try to buy local produce at all times," says Perry.

Beef used for yesterday's lunch came from Morgan Berry Farm, less than one hour's drive away.

The convention centre also sources its honey and coffee locally. The cheese selected for this week is Gallo, made on the nearby Atherton Tablelands.

For catering staff, the day starts early to keep up with the appetite of 2,000 delegates – the most the Cairns Convention Centre will host for a single symposium this year.

Swiss-trained pastry chef Hanna Wilson, who originally hails from Indonesia, opens the kitchen with two assistants at 5am.

Other staff are something of a league of nations, coming from Cuba, Korea, Japan, Britain and Australia.

"I have rostered 55 staff for the kitchens this week and another 70 for front of house activities," says Perry.

"This is a busy week."

Perry is the original Executive Chef at the convention centre, which opened in 1996.

He established all the work processes and said he took on the challenge because he was determined to improve the standard of food often served at convention centres.

"I like to think we changed how conventional centres do their catering," he said.

"We do restaurant meals rather than an industrial, commercial, or institutional food.

"We kicked some big goals with the food we were serving 16 years ago when we opened. I like to think that other convention centres have followed us, and we were at the ground floor of change."

Faces and voices from **around the world**

We asked some of the Symposium delegates about their attendance at ICRS 2012 and what they have enjoyed about being in Cairns.

Stephen Nimrod
St George's University, Grenada

Attending ICRS 2012 as an oral presenter to discuss the differences between the ecosystems from the Caribbean in comparison to the Great Barrier Reef.

Has enjoyed learning about the diversity of corals around the world.

Francesa Benzoni
University of Milano, Italy

Meeting with colleagues and enjoying the networking opportunities.

Paul Fisher
Victoria University of Wellington, New Zealand

ICRS 2012 is the biggest and best event held every four years.

The Symposium has been a great opportunity to meet with and collaborate with colleagues face-to-face.

"…embraced the warmth and welcoming nature of the scientists who have been keen to share their research with others."

Sara Edge
Florida Atlantic University at Harbor Branch Oceanographic Institute, USA

Coming to ICRS 2012 has enabled her to fulfil her lifelong dream to visit Australia – and will be a rewarding career development for her.

She plans to go camping and to visit the Daintree Rainforest following the Symposium.

Peter Tomiak
University of Bristol, UK

In his final year of his PhD the highlight of the Symposium has been the Denis Allemand plenary which summarised his own research so succinctly.

Julia Spaet
King Abdullah University of Science & Technology, Saudi Arabia

Has attended for the mini-symposia on sharks – her own speciality.

Meeting colleagues face to face for the first time has been a major highlight – and looking forward to visiting Hinchinbrook following the Symposium.

Erik Lehnert
Stanford University School of Medicine, USA

First time attending an ICRS – and first time to Australia.

Has enjoyed wearing his own t-shirt designed especially for the Symposium and is looking forward to sending one to his local name badge artist.

"The Symposium has been a great opportunity to meet with and collaborate with colleagues face-to-face."

Steinar Johansen
University of Tromso, Norway

His focus is genomics.

Meeting the coral community and diving on the Great Barrier Reef have been personal highlights – also enjoying the warmer waters as opposed to the colder waters of Norway.

Bintang Krisanti
Media, Indonesia

Attending as a journalist reporting about the conservation and science being presented at ICRS 2012 and how it relates to Indonesia in particular.

Has embraced the warmth and welcoming nature of the scientists who have been keen to share their research with others.

Ma'ruf Kasim
Haluoleo University, Indonesia

Is very grateful to be invited by Terry Hughes, Convenor to present his work as an invited speaker.

Has enjoyed the friendly atmosphere in Cairns.