

AIMS scientist Dr William Skirving. Photo: STEWART McLEAN SM343005

BELOW: Coral bleaching on the Great Barrier Reef



NOAA was working on ways of predicting bleaching events based on sea surface temperatures.

Scientists from the US organisation visited AIMS to see how Dr Skirving and his team were using data from NOAA polar satellites, were impressed with what they saw and suggested a collaboration.

"They were quite impressed with where we were at with the resources we had," Dr Skirving said.

"They asked whether they could borrow me for three years and AIMS said okay."

Dr Skirving is working on a theory that "hot" and "cold" spots in coral bleaching events are basically predictable which, he says, conflicts with conventional wisdom.

"The World Bank doesn't have enough money to fix the world's problems, they need to know where to target spending — a tool which tells them which coral reefs are more or less susceptible to bleaching would be a fantastic tool," he said.

He also saw implications for reef managers in deciding protected areas and for marine biologists investigating how corals acclimatise.

AIMS director Professor Stephen Hall said yesterday he was pleased that NOAA, the world's leading remote-sensing organisation, believed it could learn from an AIMS scientist.

"It is an honour for Dr Skirving, who has worked hard for many years to improve knowledge of coral bleaching through good interpretation of satellite data," he said.

"The institute's very strong partnership with NOAA on this issue has developed, in large measure, as a result of his efforts."

Dr Skirving and his wife, Delia, leave for the US next Wednesday. He will be working for NOAA's National Environmental Satellite Data Information Service.

They have rented an apartment in the Arlington district of Washington, with a reminder of the terrorist attacks on the US last September.

"My apartment looks down into the hole in the Pentagon," Dr Skirving said.

"I think September 11 has made flying safer, but I am not sure whether I am walking into the most unsafe place or the safest."

Beyond the pale

The work done by AIMS scientist Dr William Skirving on predicting where coral bleaching is likely to occur has made him a hot property. He is about to head to Washington on the request of the World Bank. Story by IAN FRAZER

WILLIAM Skirving has a room with a disturbing view and an invitation to visit the World Bank awaiting him in Washington next week.

There is also a desk for him at the National Oceanographic and Atmospheric Administration, better known in the United States by its antediluvian acronym, NOAA.

Dr Skirving starts work in Washington next Friday, gleaning ocean temperatures from satellite signals, as he has done at the Institute of Marine Science for the past 12 years.

The leader of an AIMS team investigating remote sensing of tropical waters since 1991, he said on Wednesday he had been seconded to Washington to develop a way of predicting reefs at risk from global warming.

He said on Wednesday that data his team collected by satellite during prolonged sunny, calm weather on the Great Barrier Reef last month and in 1998 suggested that coral bleaching hot spots were "totally predictable".

The World Bank and UNESCO were interested in this work because of its im-

plications for fisheries management in developing countries, hence his appointment to a World Bank committee on the impact of coral bleaching.

Dr Skirving, 41, sees global warming, caused by greenhouse gases, as a reality.

"The big question is how much of a global warming event are we in and what are its effects going to be," he said.

"We know the Great Barrier Reef is going to change as a result of global warming, but we don't know what change."

This was among the issues which he discussed with other scientists, reef managers and World Bank and UNESCO officials at a coral bleaching workshop on Magnetic Island last month.

The workshop brought together scientists and officials from AIMS, NOAA and the Great Barrier Reef Marine Park Authority, after the three agencies agreed last year to work together on monitoring stressed coral reefs.

Dr Skirving said he had been seconded to NOAA for three years through this link.

"My going to Washington is recognition that we are

making a significant contribution to science," he said.

"By getting me over there for three years they believe the work will be done quicker.

"We are collaborating on developing satellite-based tools to map and monitor the health of coral reefs."

Dr Skirving, a dairy farmer's son from Sheffield in central Tasmania, has travelled cross-country now and then on his way to becoming a world authority on satellite oceanography.

A classmate of cricketer David Boon in his junior years at Launceston Grammar School, William left school with runs on the board in mathematics and science rather than cuts and hooks.

He went to the University of Tasmania in Hobart planning to become a computing systems analyst, but was sidetracked into geography.

"Growing up in a rural environment, I understood nature," he said.

"I found physical geography totally obvious. I really liked climatology and remote sensing."

He did honours in remote sensing, that is studying how to convert reams of figures from scores of satellites

orbiting 800km above the earth into instantaneous data about conditions such as ocean surface temperature.

But then he accepted a scholarship for a doctorate to research the hydrology of suspended sediments.

Some way into this project, he visited a friend in Townsville, met scientists at AIMS and decided he really wanted to study climatic influences on coral.

He moved to Townsville in 1987 to teach geography at JCU and started a doctorate in physics, based on improving the accuracy of ocean surface temperature readings from satellite data.

He joined the AIMS re-

mote sensing unit in 1990 and became the team leader a year later.

"I developed new and improved technologies for using NOAA satellites to measure sea surface temperatures in the Great Barrier Reef region," he said.

The problem was working out formulas to allow for the angle of the satellite above each one square kilometre scanned and also taking into account the effect of varying amounts of water vapour on the light energy detected by the satellite.

By 1998 when prolonged calm conditions and sunny weather caused coral bleaching through the Pacific and Indian oceans,



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