Ocean depth and ice no longer a barrier to Climate change

11:31 am GMT+12, 05/04/2011

By Pita Ligaiula, in Cairns Australia

A climate change science programme generating unprecedented volumes of data is about to venture deeper and into previously hidden corners of the world oceans to confirm rising ocean temperatures, a climate change conference, Greenhouse 2011 was told

Most excess heat being absorbed by the earth is stored in the oceans, and half of this excess heat has gone into warming the southern hemisphere oceans.

“Within a decade, scientists will be receiving a three dimensional view of the ocean from the surface to the seafloor and beneath expanding and retreating sea ice from a new generation of sensor equipped robots,” says U.S Oceanographer Dr Dean Roemmich.

Dr Roemmich from the Scripps Institution of Oceanography was speaking at the Science of climate change conference, GreenHouse 2011 in Cairns, Australia

“In the past 10 years scientists have constructed a 30 nation comprehensive observing systems that has altered what we know of the oceans from the surface layer down to 2000 m and the major influences they exert on the global climate change.

“Below those surface layers the scientific ‘dots’ have been sparse but we Are now looking at the opportunity to join them together and expand our knowledge of all the ocean processes – their deepwater circulation patterns, temperatures and salinity and the manner in which they can store away carbon and other greenhouse gases.

“Because 90 percent of the excess heat being absorbed by our planet is stored in the oceans with comprehensive measurements of ocean temperature we are now able to describe the global pattern of climate warming.

“Moreover, a finding from our data is that over half of this excess heat has gone into warming the southern hemisphere oceans between 30S and 60S,” Dr Roemmich said

Dr Roemmich said with each robotic profiler reporting every 10 days, and some having done so for the past seven or more years, scientists now have access to an unprecedented bank of ocean data that will expand as new censors are tested and installed in new deployments of profilers.

For example, he said additional oxygen sensors will indicate sub-surface change that has implication for ocean productivity and the security of food supplied by the oceans.

“We now have a 140 year historical record of ocean temperatures, from the first purely oceanographic voyage by the Challenger in the 1870s through to today with ocean profilers below the surface and satellites generating constant surface information.

“It is beneath the ice and those deeper corners of the ocean where we need to be now focusing our attention as engineers and oceanographers,” Dr Roemmich said…

PACNEWS coverage of the Science of Climate Change, GreenHouse 2011 conference in Cairns, Australia is made possible with funding assistance from CSIRO Australia under the Pacific Climate Change Programme.

SOURCE: PACNEWS