

July 30, 2010 Friday 19 Av 5770 14:51 IST  Print

THE JERUSALEM POST BETA

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Photo by: Prof. Zvy Dubinsky

BIU prof. gets €3m. for global warming study on coral reefs

By EHUD ZION WALDOKS
07/07/2010

Research into how Mediterranean and Red seas affected by global warming.

Global warming is heating up the oceans and making them more acidic. How will these changes affect the coral reefs in the Mediterranean and Red Seas? Bar-Ilan University researcher Prof. Zvy Dubinsky just launched a €3-million, five year project this month to find out.

Entitled "Corals and Global Warming: the Mediterranean versus the Red Sea," Dubinsky will head up a team of 15 people – 10 from Bar-Ilan and the rest from the University of Bologna, Italy, and even some Palestinian scientists – under the auspices of the European Research Council.

"Carbon dioxide levels are rising and more and more is getting trapped in the atmosphere, creating the greenhouse effect. The greenhouse effect raises the temperature of the oceans, and there's also another aspect: The Ph of the oceans is also decreasing, making them more acidic," Dubinsky told *The Jerusalem Post* Tuesday, the day before he flew off to examine coral reefs situated near a volcano. Such reefs might indicate how coral survive under hotter temperatures.

"Bleaching as a result of global warming has killed more than a third of coral worldwide because of the higher acidification," he said.

Dubinsky is a firm believer in man-made global warming. He said he was convinced by the close connection between human industrialization and the planet heating up.

Bleaching is the process by which the microscopic plants which live on the coral and are its major energy source are detached and wash away. Within a few weeks, the coral turns white – as the plants drift away – and dies. The hotter temperatures and more acidic water cause the plants to detach at a vastly increased rate. Isolated incidents have been observed in connection with the El Nino phenomenon, but the overall rate is increasing.

"Over the last 30 years, the phenomenon has become much more frequent. We were in the Seychelles looking at [what used to be] one of the most beautiful reefs in the world – 95 percent of it had died," Dubinsky recalled.

Coral plays a varied role, Dubinsky explained, as a food source, a source for medicine and a coastal area protector. The 2004 tsunami was vastly more destructive in areas where the reefs had been destroyed than in other areas, according to the researcher.

The project will include several phases, including on-site exploration, such as the one Dubinsky flew off to today near Panarea, part of the Aeolian Islands, a volcanic island chain north of Sicily.

There, coral has lived in hotter and more acidic water for centuries and perhaps millennium, which might give the scientists an indication of what to expect worldwide over the next 50-100 years. Samples will be sent to Bologna for analysis. At Bar-Ilan, Oren Levy, a former Dubinsky student, will run 15 aquariums which will examine varying temperature and Ph levels on coral.

The aquariums will follow IPCC (Intergovernmental Panel on Climate Change) projected scenarios of global warming levels.

"Right now, some coral species are becoming extinct even before they can be catalogued," Dubinsky lamented.

Dubinsky is a leading researcher of aquatic photosynthesis at Bar-Ilan University's Mina and Everard

Goodman Faculty of Life Sciences. His partners in the project are coral biologist Stefano Goffredo and Guisepe Falini, an expert in bio-mineralization, of Italy's University of Bologna, as well as a team of scientists including Luca Pasquini, of the University of Bologna, and Oren Levy, a molecular biologist at Bar-Ilan.

Palestinian scientists and students from Al-Quds University will also participate in the project.



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