



## THE GLOBE AND MAIL

December 6, 2010

### B.C. scientists map out the ocean's destiny

By MARK HUME

From Tuesday's Globe and Mail

*3D mapping program brings gaming technology to bear on the science of predicting future changes to the ocean climate and ecosystem*

With a \$12-million grant from Japan's Nippon Foundation, scientists at the University of British Columbia will lead a research project that aims to give people a look into the future of the world's oceans, using 3D gaming technology.

Led by Daniel Pauly and Villy Christensen, both of UBC's Fisheries Centre, the project will engage a network of 30 marine scientists globally, to predict the future health of the oceans.

"We've all heard how there is a big problem in the ocean. But we need to get the attention of policy makers," says Dr. Christensen in an interview from Tokyo. "As scientists we're good at going out with spreadsheets, but now we will use 3D gaming as a credible way of creating this underwater world, not just by numbers, but by showing it."

He says rather than showing politicians and members of the public reports that line up rows of statistics to represent how fisheries are declining, they will translate the data into animations "that take them on a field trip under the ocean."

"One of the biggest challenges for conservation of fisheries is that most people can't see the state of our oceans with their own eyes because from the surface everything seems unchanged," says Dr. Pauly, who in 1998 developed a groundbreaking theory on measuring the decline of fisheries globally.

"This program will bring the real impacts of our decisions and actions right before our eyes," he said in a written statement.

Two pictures, produced by the UBC Fisheries Centre in conjunction with the funding announcement, show what a healthy ocean would have looked like in 1950, versus what an unhealthy ocean might look like in 2014. The first picture shows an ocean, filled with an abundance of medium- and large-sized fish swimming above dense schools of bait fish, while the 2014 picture is of an ocean largely vacant of marine life, but crowded with boats on the surface.

The UBC Fisheries Centre just last week published a research paper that concluded the Earth has run out of room to expand fisheries.

That paper, published in the journal PLoS ONE, says fisheries expanded at a rate of one million square kilometres a year from the 1950s through the 1970s. During the same period, there was nearly a fivefold increase in catch, going from 19 million tonnes in 1950 to a peak of 90 million tonnes in the late 1980s, before dropping to 87 million tonnes in 2005.

"While many people still view fisheries as a romantic, localized activity pursued by rugged individuals, the reality is that for decades now numerous fisheries are corporate operations that take a mostly no-fish-left-behind approach to our oceans until there's nowhere left to go," Dr. Pauly says.

The study concluded that about the only waters not now exploited are found near the poles.

The \$12-million grant from the Nippon Foundation, an international non-profit organization, comes to the UBC Fisheries Centre just after Dr. Pauly's theory on "fishing down the food web," which he first published 12 years ago, was challenged in the journal Nature.


The study, led by Trevor Branch, an assistant professor, School of Aquatic and Fishery Sciences at the University of Washington, set off a public spat among scientists last month by questioning Dr. Pauly's theory that fisheries exploit the top species in a given area first.

Dr. Pauly has long said that if such fishing practices continue, the Earth's oceans will eventually be full of jellyfish and little else - much like the image of the oceans in the 2014 projection. He has dismissed the criticism of his theory as "a hatchet job."

The grant from the Nippon Foundation will give Dr. Pauly a chance to expand on his work, in collaboration with colleagues at Princeton University, Duke University, Stockholm University, Cambridge University, the United Nations Environment Program and the World Conservation Monitoring Centre.

CTVglobemedia Publishing, Inc

---

 CTVglobemedia Publishing Inc. All Rights Reserved.. Permission granted for up to 5 copies. All rights reserved.  
You may forward this article or get additional permissions by typing [http://license.icopyright.net/3.8425?icx\\_id=/icopyright/?artid=1827565](http://license.icopyright.net/3.8425?icx_id=/icopyright/?artid=1827565) into any web browser. CTVglobemedia Publishing, Inc and Globe and Mail logos are registered trademarks of CTVglobemedia Publishing, Inc . The iCopyright logo is a registered trademark of iCopyright, Inc.