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In 2013, the Intergovernmental Panel on Climate Change is set to release its next report, which will include several computer-modeled scenarios regarding the state of the planet in 2100. Based on just some of the environmental studies reported in the past year— species worldwide being threatened by the loss of their habitats, the record ice melt in the Arctic, oceans becoming more acidic as the waters absorb increased levels of carbon emissions, and calls to make large-scale changes to global cycles through geoengineering to counter climate change—the scenarios in the IPCC's report may not offer hopeful outcomes.

As another year starts then, and resolutions are likely to include plans to change behaviors and lifestyles, it might be worth considering how to best direct any effort that seeks to positively impact the environment. One such project was reported back in August, when a team of American researchers from the University of Washington focused on establishing what the people in Cebu's Santander municipality already knew and what concerns they would like to see addressed. As reported in the Journal of Environmental Management, they particularly looked at how aware the people who live in this coastal area are of the effects of climate change upon their lifestyles.

The team found that regardless of their educational backgrounds and economic situation, the people in the barangays of Santander were generally aware of environmental changes resulting from global climate change, albeit from different sources. For example, the fishermen who depended on the seas for their daily income had noted increased wind speeds while those with urban jobs noted temperature shifts based on media reports. As a community, the common concerns in Santander were how climate change translated to the number and severity of storms hitting the area and the impact of rising sea levels on their homes. The researchers said establishing such baselines could help communities more effectively deliver information and better channel their environmental efforts.

Computer simulation

Even as we project behavioral outcomes and future global scenarios based on what we know now, we ourselves might be part of a computer simulation developed by members of the civilization that takes over after humans have gone extinct. Given the environmental outcomes researchers have projected at various time points in the future, some may even find comfort in the thought that we may be part of a virtual universe. The idea might sound like a plotline explored in several science fiction TV shows and movies, but was proposed by a philosopher a decade ago. In a paper that appeared in November in the journal Arxiv, another team of American physicists, also from the University of Washington proposed a way of proving this theory.

The team based their own argument on the trend in ever-increasing computing— supercomputers have been running extremely large data sets for IPCC climate modeling simulations—and the fact that researchers are already running simulation of universes at a very, very tiny scale. Given these ongoing projects, they said, at some point, computers will become powerful enough to combine the two, resulting in very detailed simulations not just of a cell or a human being but of some portion of the universe itself.

“If you make the simulations big enough, something like our universe should emerge,” said University of Washington physicist and study coauthor Martin Savage in a statement.

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