



Sea Rise AR at MIT Media Lab

Prelude:

Earth's global sea levels are rising – and are doing so at an accelerating rate. Waters in the ocean are expanding as they absorb massive amounts of heat trapped by greenhouse gases in the Earth's atmosphere. Glaciers and ice sheets are adding hundreds of gigatons of meltwater into the oceans each year. The land surface along the coasts is also creeping up and down, affecting relative sea level rise. People are feeling the impacts, as seemingly small increments of sea level rise become big problems along coastlines worldwide. <https://www.nasa.gov/specials/sea-level-rise-2020/>

Who is to blame for global warming - sea rise? Islands are disappearing. Then comes the fading cultures, threats to entire tribes – who pays for the damages?

Sea level rise is an increase in the level of the world's oceans due to the effects of global warming. Burning fossil fuels is one of the causes of global warming because it releases carbon dioxide and other heat-trapping gasses into the atmosphere. The oceans then absorb the majority of this heat. As water becomes warmer, it expands. This results in ocean levels rising worldwide.

<https://education.nationalgeographic.org/resource/sea-level-rise>

The United Nations Development Sea Rise Programme Team classifies many of the Pacific Islands as resource poor, “least-developed countries”, that are “extremely vulnerable” to the effects of climate change. Porous, salty soil has made much of the ground almost totally useless for planting, destroying staple Pulaka crops and decreasing the yields of various fruits and vegetables.

<https://www.theguardian.com/global-development/2019/may/16/one-day-disappear-tuvalu-sinking-islands-rising-seas-climate-change>

Augmented Reality, Sea Rise Project at the MIT Media Lab

The MIT Media Lab is a research laboratory at the Massachusetts Institute of Technology, growing out of MIT's Architecture Machine Group in the School of Architecture. Its research does not restrict to fixed academic disciplines, but draws from technology, media, science, art, and design. As of 2014, Media Lab's research groups include neurobiology, biologically inspired fabrication, socially engaging robots, emotive computing, bionics, and hyper-instruments.

https://en.wikipedia.org/wiki/MIT_Media_Lab

The Experiment

No research project to date has built a mock-up of a sea edge using the super computers at the Media Lab like the Sea Rise Team. It will offer a realism and graphic punch for the Project Layers:

Sea Rise AR Project Layers (in sequence):

1. Use *historical sea level data* for Base map 1 video

2. *Present day conditions* - Base map 2 videos
3. *Over-dubbing, text, plus photo images* - Base 3 graphic data
4. *AR Projection with goggles* – the final video, Base 4 data base (including 1.- 3.)

The objective for The Sea Rise AR Team is to educate the public through their non-profit streaming channel with the final AR video (4.) and forecast where land will remain livable after the world's coasts are cut-off.

Options to compact sea rise – such as constructing a floating island – are also being explored, as is importing refuse from Australian mines to construct an energy wall to ring the atolls, breaking up the power of the sea as it smashes towards the islands. How the reef ecosystem would survive such a wall has not been explained. ([IBID](#))

Other ideas include creating natural structures such as barrier islands, oyster and coral reefs, mangroves, seagrass, and salt marshes can work alone or in unison with built infrastructure, like seawalls, to absorb storm surge.

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<https://www.planetshifter.com/>