

MAKING CLIMATE CHANGE PERSONAL



CLIMATE CHANGE INDIFFERENCE

The consensus among the vast majority of scientists is that global climate change is an escalating threat that needs to be rapidly addressed. However, some of the public continues to lack awareness that climate change is actually happening, that it is a serious problem, or that mitigation strategies are required. They see rising sea levels, shrinking Arctic ice, and increasing extreme weather events as abstract phenomena until they are personally impacted. Researchers at the University of Prince Edward Island (UPEI) are trying to change this.

MAKING CLIMATE CHANGE PERSONAL

The UPEI Climate Research Lab, with input from the Spatial Interface Research Lab at Simon Fraser University in BC, have developed a climate-change visualization tool to communicate scientific information to the public in a way that is intuitive, immersive, and personal. CLIVE (Coastal Impacts Visualization Environment) works by combining historical erosion data, model projections of sea-level rise, drone-based aerial imagery, and high-resolution elevation data to create striking visualizations of climate change. It also leverages 3D game technology to allow users to fly over their own communities and intimately observe changes over time – thirty, sixty, and ninety years into the future. Users can select different climate models to see the full range of sea level rise and erosion predictions, and navigate from any perspective, at any scale.

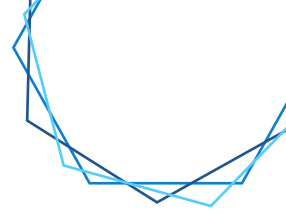
DATA-INTENSIVE WORK

CLIVE's effectiveness lies in its ability to work with terabytes of data from over fifty global climate models and to incorporate huge 3D datasets for realistic terrain modeling. Canada's National Research and

Education Network (NREN) and its provincial partner in New Brunswick and Prince Edward Island, Educational Computer Network (ECN), make this data-intensive work possible. ECN connects research and education institutions in New Brunswick and PEI to their counterparts throughout Canada and the world via the NREN. Twelve provincial and territorial partners and CANARIE form Canada's NREN, which connects

WHAT IS THE NREN?

The National Research and Education Network (NREN) is an essential collective of infrastructure, tools and people that bolsters Canadian leadership in research, education, and innovation. CANARIE and its twelve provincial and territorial partners form Canada's NREN. We connect Canada's researchers, educators, and innovators to each other and to data, technology, and colleagues around the world.



Canada's researchers, educators, and innovators to each other and to data, technology, and colleagues around the world.

CLIVE researchers leveraged this network to build their visualization tool four years ago, producing a report for the provincial government not long after. The report recommended 86 changes in ten key sectors of island society, including changes to crop varieties, land-use planning, tourism, and household insurance. As a result, the PEI government immediately scheduled public consultations with communities across the island, asking researchers to present not only their findings but local visualizations as well.

The dramatic impact to PEI from climate change was universally shocking to residents who were able to see for themselves what their coastlines, cities, and even individual farms would look like in several decades. The reaction on CLIVE's value from the media and other research organizations was also unanimously positive.

INCREASING AWARENESS

Since then, CLIVE and its findings have been repeatedly covered in dozens of articles as well as radio and television spots by various local and national media outlets, including CBC's The National and National Geographic Magazine. Several organizations have contacted UPEI to see if CLIVE could be brought to their communities. UPEI researchers continue to leverage the NREN to work with national and international collaborators, gathering the necessary climate datasets and high-resolution geospatial data to adapt CLIVE for other areas, including a new initiative in Los Angeles.

CLIVE's initial objective to raise awareness and concern by increasing the personal relevance of climate change is well on its way. If early reaction to CLIVE is any indication, it will not only put PEI on the map as a climate-change leader, it could also motivate people to better protect coastal communities around the world.



For more information, visit:

NBPEI-ECN.CA

