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STATEMENT OF PURPOSE:

After a long debate on whether or not ray-tracing and hydrodynamic techniques can be interchangeably used to represent tsunamis, the visuals from this project show while these methods are not 'interchangeable', they definitely supplement each other based on their purpose. The audience to the results of this work can be both the scientific researchers and the public. The data and visuals from this work can help researchers analyse the theoretical basis of energy propagation of tsunamis. Ideas such as triplication and amplification of tsunamis are easily verifiable in our results. For the layman's eye, the interesting videos from this study demonstrate how tsunamis form, and move in oceans. This is done by avoiding the complex color palettes and removing the corresponding numerical representation of tsunami propagation. In this fashion, the audience does not need to know any pre-assumptions to enjoy the science. The visuals can easily be used in introductory Earth Science/Geophysics classes to motivate the idea of energy propagation both in and on the Earth. Finally, some of our visuals also take advantage of lighting techniques (light/shadow, brightness/contrasts, etc) as well as graphic props (analogies in speed, etc) to add more meaning to the audience's experience of observing tsunami behavior. We have added these visual aids to let the audience make much more sense of the data compared to regular tsunami animations. Again, this is particularly useful as it avoids presenting the viewer with simply a series of numbers for the time passed by tsunamis and their behavior and raises their awareness of the potential tsunami hazard in the oceans.

DESCRIPTION OF DATA SETS:

- DART tsunami gauge data: this data is publicly available at the NOAA website. - Virtual tsunami simulation data from earthquakes in the Pacific ocean. The data are created using a combination of methods and can reach several terabytes.