3D Models for web based climate education

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Effectively informing the public about anthropogenically accelerated climate change and sustainable energy is one of the most immense challenges of our age. However, web-based 3D environments are cost-effective, accessible tools that can combat many of the challenges associated with global outreach, especially during the COVID-19 pandemic. This presentation explores how 3D CAD modeling, visual texturing, Three.JS (a WebGL rendering software), and web design can coexist to create effective tools for educators across the world. By applying these simulations, learners are able to examine individual components of objects and break down complex systems into their fundamental parts for simpler understanding. Moreover, by breaking down these systems, individuals are able to more effectively understand the complex physical phenomena that drive our world. In addition, these environments are not limited by topic or language and therefore the spectrum to which we can apply these ideas is not limited. Translating the simulations is relatively straightforward and with the expertise of individuals who can lead this front, the reach of this type of technology can grow even wider. Climate change is a global issue and so work in the field must be addressed as such as well. As a result, these models have the ability to transform the way we learn about global issues and can be a powerful tool in education about sustainable energy, climate change and science in general.