NASA's Global Climate Change Education
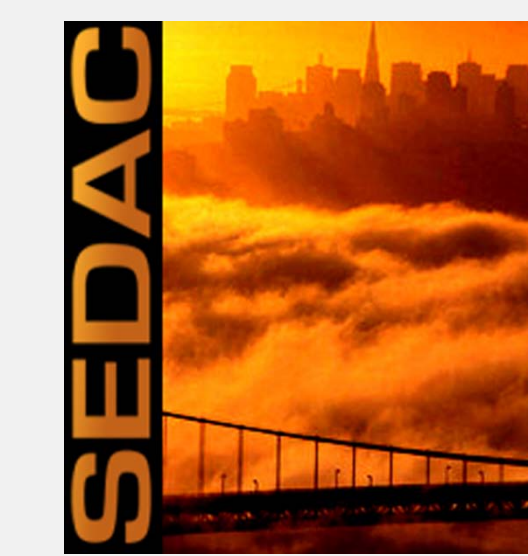
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VISION

The objective of NASA's Global Climate Change Education (GCCE) project is to provide educators the tools and resources to engage students in critical thinking about the global climate change and the potential impact on human health across the globe at secondary, and post-secondary school level, by using NASA climate information.

STRATEGY
Building Lesson Plans

The core of this project is the construction of a series of interactive exercises for students to explore the effects of climate change predictions and the potential impact on human health within their local environments and compare their findings with the effects predicted for other regional, national, or international environments.

Example Questions lessons will explore:
- What are the potential Tsunami impacts on people living on low elevation coastal zones in Japan?
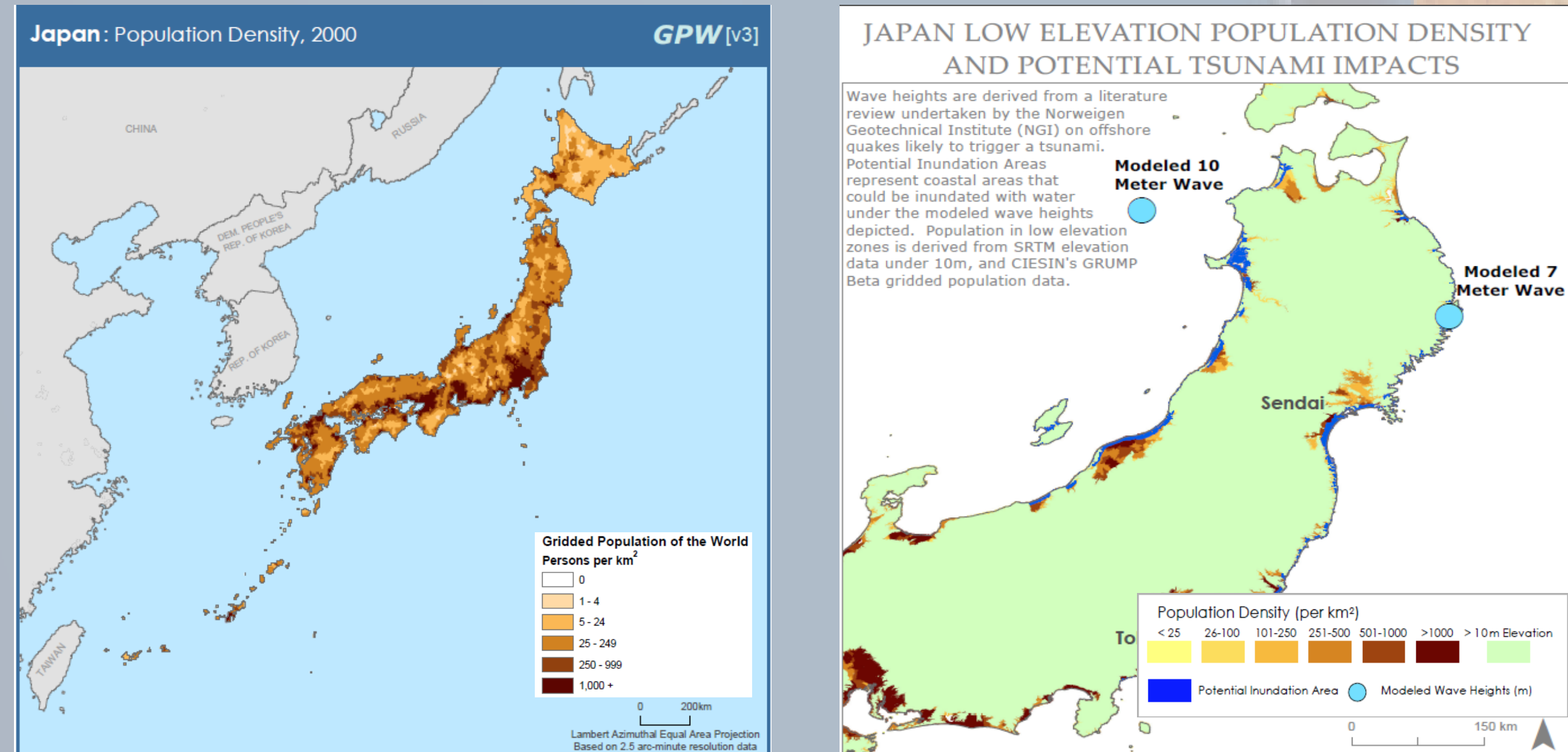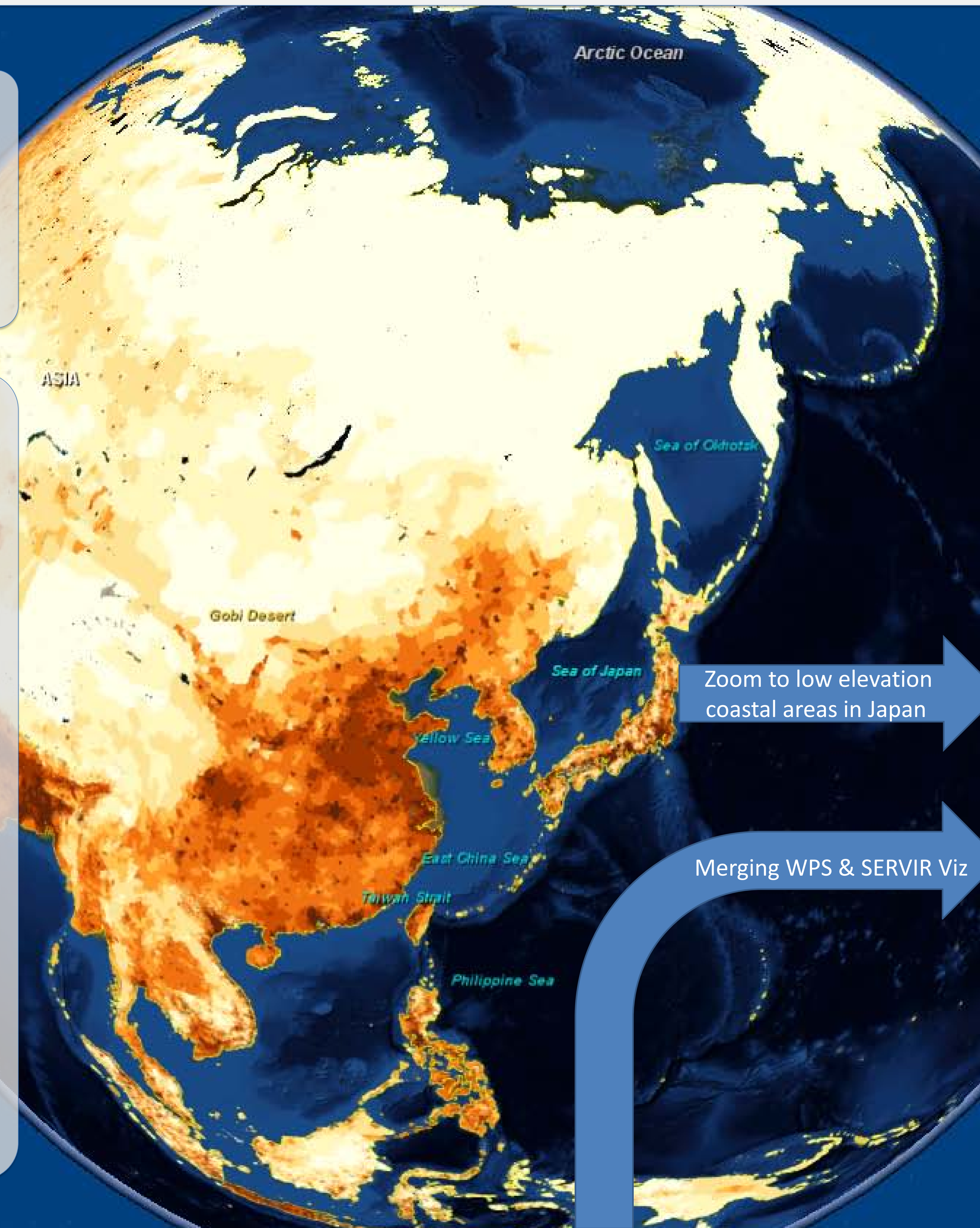

Fig 1. Maps depicting low elevation population density and potential Tsunami impacts

Zoom to low elevation coastal areas in Japan

Merging WPS & SERVIR Viz

APPLICATION
NASA GCCE World Wind Tool

To enrich the learning experience for teachers and students working with global climate change information, IAGT and CIESIN have developed and enhanced the NASA World Wind 3D Visualization tool.

The GCCE project aims to engage a younger generation of net savvy users through the use of an intuitive visual technologies, including gaming trends and increased use of geospatial technologies in educational settings.
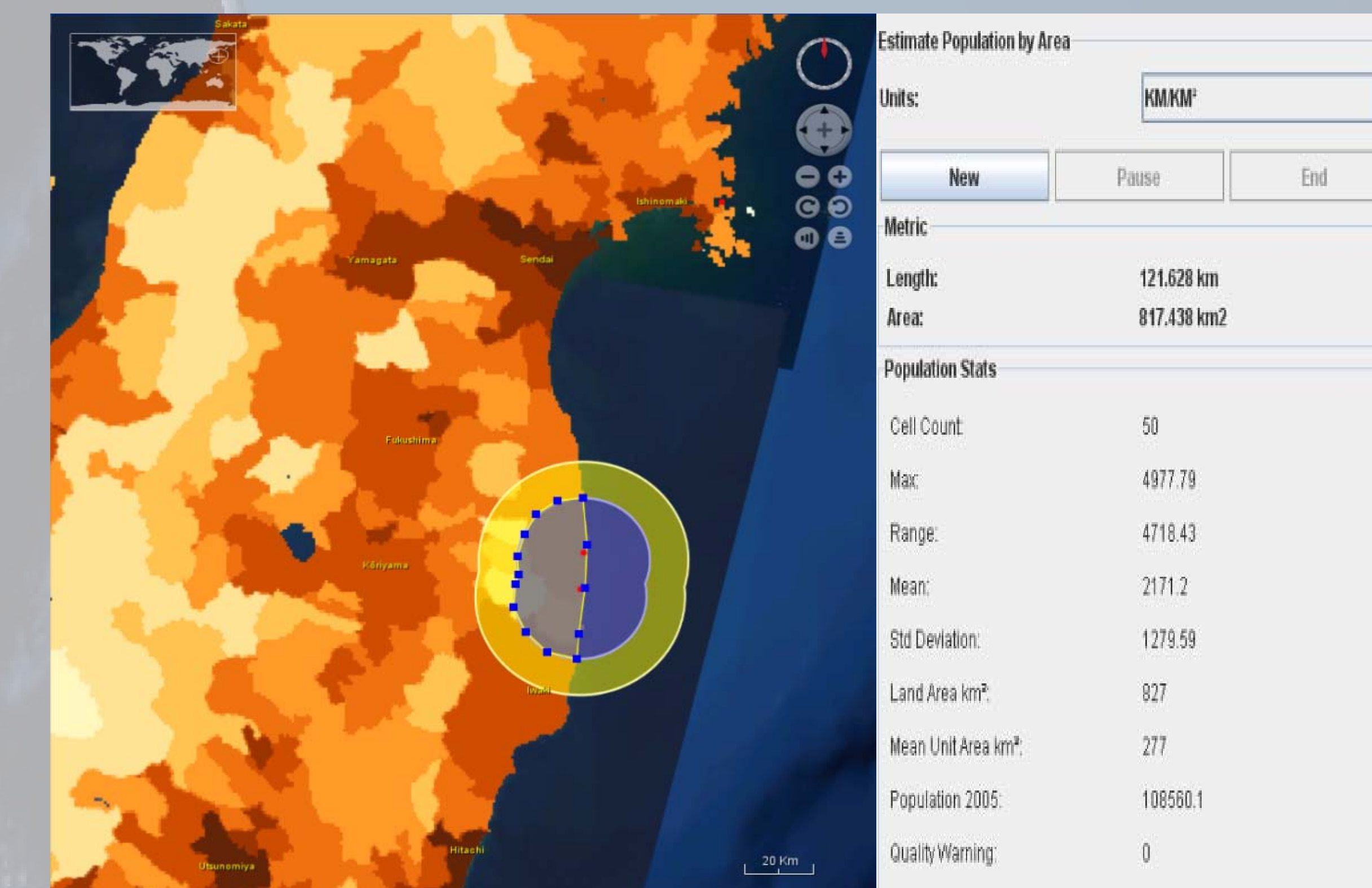

Fig 4 Estimate of population living within 12 mile radius of Fukushima (Japan) nuclear plants

TARGET AUDIENCE

The target audience of the enhanced NASA educational school tool:
1. Secondary school students
2. Post-secondary school students

EXECUTION
Using Existing Web-based Resources

SEDAC's Population Estimation Service

The Population Estimation Service is a Web Processing service(WPS) for estimating population totals and related statistics within a user-defined region. It enables users to quickly obtain estimates of number of people residing in specific areas.

Fig 2.Estimate of population living in proximity of Fukushima Nuclear Power Plants, Japan

SERVIR Viz and the Climate Mapper

The Climate Mapper, a plug-in developed for World Wind/SERVIR Viz, allows users easy access to global climate change projections around the world for the 2030s and 2050s and historical precipitation and temperature data for 1961-1990
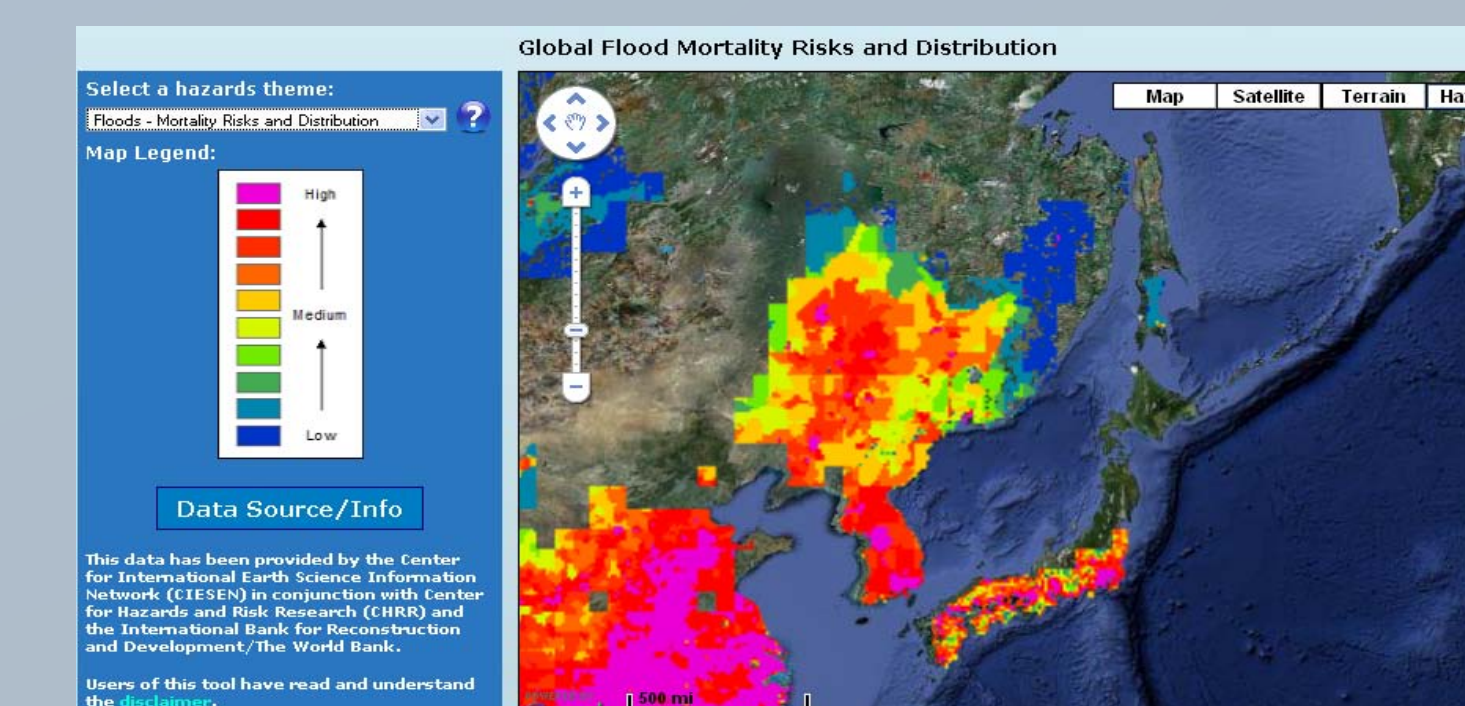

Fig 3. Flood Mortality risks and distribution of flood events in Japan

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