

Joint Task Force - Homeland Defense enables situational awareness for disaster response and national security using Google Earth Enterprise



At a glance

What they wanted to do

- Ensure a safe and secure APEC summit in 2011
- Bring geospatial visualization tools to multiple agencies
- Empower security and safety professionals in the field with a common, current operating picture
- Find a reliable GIS visualization solution that would work across multiple information handling needs
- Share information from and across federal, state, and local agencies
- Improve coordination and inform quick response

What they did

- Implemented Google Earth Enterprise and Google Earth Pro to model and provide awareness for disaster response and civil support missions
- Mobilized Google Earth for a common operational picture that successfully ensured a safe and secure APEC summit
- What they accomplished:
 - Shared GIS visualization among federal, state, and local agencies
 - Combined data from multiple sources
 - Created a virtual globe ensuring appropriate information handling across an interagency environment
 - Enabled environmental situational awareness in contingency operations with low-bandwidth and no-network connectivity

Organization

Joint Task Force - Homeland Defense (JTF-HD) maintains situational awareness of all domains within the JTF-HD Joint Operations Area. The organization is assigned mission command of the land domain to conduct Homeland Defense operations to deter and defeat threats to critical infrastructure and key resources. When requested, JTF-HD conducts civil support operations in response to hazards to mitigate human suffering and reduce infrastructure damage. The organization's missions include support to disaster response, national security special events, and defending the United States throughout the Pacific.

JTF-HD is a subordinate organization to the U.S. Pacific Command (USPACOM), a Unified Combatant Command of the U.S. Armed Forces responsible for roughly half of the earth's surface, stretching from the west coast of the U.S. to the western border of India, and from Antarctica to the North Pole.

When it comes to visualization for response in the event of a disaster or ensuring safe and secure events, JTF-HD chooses Google Earth Enterprise and Google Earth Pro for the common operational picture because of its reliability in a low-bandwidth environment, ability to share information appropriately with partners and capacity to integrate across information systems.

Challenge

JTF-HD operationally responds to requests for civil support. This includes responses to the American Samoa, Chile, and Japan tsunamis; military aviation assists for fire support; satellite re-entries across the Pacific; and delivery of vaccines across the JTF-HD JOA. The organization conducts regular emergency preparedness exercises. JTF-HD provides situational awareness powered by geospatial visualization technologies for its partner organizations including the Federal Emergency Management Agency, the Hawaii State Civil Defense and Guam Homeland Security/Office of Civil Defense.

In 2011, JTF-HD's national security capabilities were put to the test when the U.S. hosted the Asia-Pacific Economic Cooperation (APEC) summit in Honolulu, Hawaii. President Obama and First Lady Michelle Obama welcomed leaders from APEC member economies including Australia, Canada, Chile, Japan, the People's Republic of China and Russia.

To ensure a safe and secure APEC summit, JTF-HD needed to share geospatial information—receiving data from and providing awareness to federal organizations, military and local government. Specialized GIS workstations requiring multi-thousand dollar software licenses would be too expensive to distribute among all the necessary interagency partners. The official use of the data required specialized handling for sharing among federal and local partners.

About Google Earth Enterprise

Google Earth Enterprise connects geographic data to your people, work and processes by providing a fast and simple to use interface for non-specialist users to explore and interact with massive datasets of your own geospatial data. Asset tracking, marketing properties and site surveying are a few examples of the business processes that Google Earth Enterprise simplifies. Data only gets used if people can find and consume it—and there's not a better way to find and visualize it than with Google Earth!

For more information visit

<http://earth.google.com/products.html>

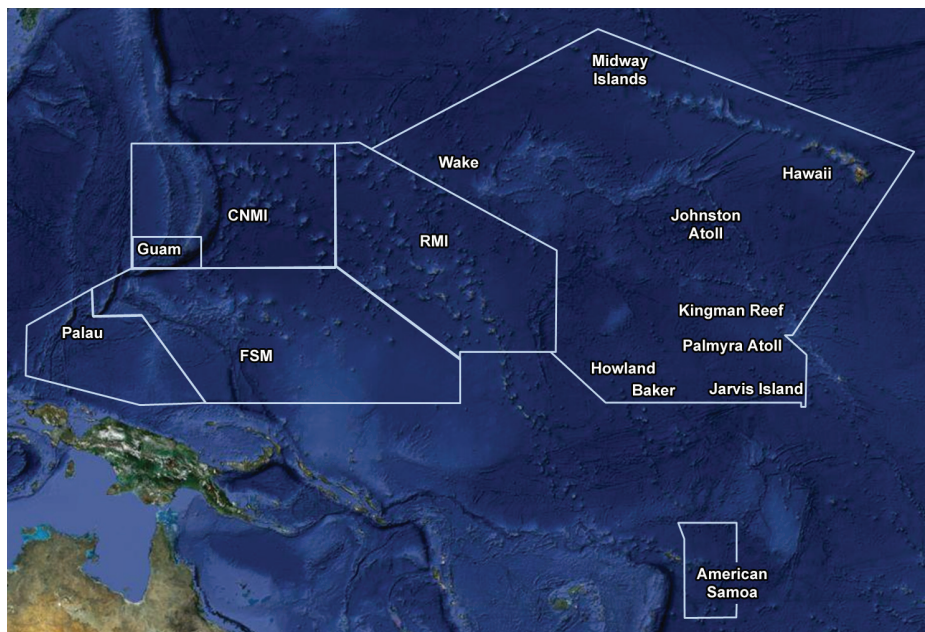
"Google Earth's strong visualization capabilities allow it to provide the geospatial baseline for JTF-HD, ensuring situational awareness for all levels of decision-makers "

Solution

JTF-HD used Google Earth Enterprise and Google Earth Pro as the visualization tool to ensure situational awareness among all participants. All federal, military, state and local organizations were able to maintain control of their data contributions while also able to share in an interoperable, interagency environment. The resulting situational awareness provided a real-time, common operational picture for all participants including overviews for senior leadership through detailed plans for operators.

Using the Google tools, JTF-HD can create "mash ups" with landing zones, road closures and emergency information such as live ocean buoy wave height for tsunami warnings. These feeds into the globe update in real-time to ensure that all agencies involved can view a map of the latest situation. Teams of responders can visualize the information on an intuitive map, even when in the field without an Internet connection.

JTF-HD uses a range of GIS tools for disaster response and other civil support. JTF-HD chooses Google Earth for the common operational picture because of its reliability in a low-bandwidth environment, ability to share information appropriately with partners and capacity to integrate across information systems.



The JTF-HD joint operations area as seen in the common operational picture in Google Earth.

Results

With Google Earth, JTF-HD provides multiple levels of government with a common view, enabling immediate response times to mitigate the effects of disasters and hazards across the JOA. The next advancement with Google Earth Enterprise Portable enables contingency responders to view full imagery and map layers on-the-go without Internet connectivity.

The shared situational awareness was pivotal in ensuring a safe and secure APEC summit in 2011. It provided one view to multiple organizations whose domain-specific expertise kept the public and participants from harm.

Google Earth provides the geospatial baseline for JTF-HD's official-use common operational picture. During the first few hours after a disaster when networks are strained and information needs to be shared safely with interagency partners it provides important situational awareness for the decision-making process.

