

## Urgent Computing Aids Haiti Relief Effort

UT's Center for Space Research and Texas Advanced Computing Center enable real-time decision-making for scientists and first responders

The magnitude 7.0 earthquake that rocked Haiti on Jan. 12, 2010, unleashed the greatest natural disaster in the history of the Western hemisphere. In the days that followed, first responders arrived in Haiti to distribute aid and medical relief and to assist in the search and rescue effort.

The coordination of the rescue and relief efforts in Haiti is being carried out with the help of highly accurate satellite and aerial imagery provided by the Center for Space Research (CSR) at The University of Texas at Austin. CSR, through its Mid-American Geospatial Information Center (MAGIC), is a repository of remote sensing data drawn from a variety of sources. The MAGIC team collects this imagery and uses geospatial analysis to provide support for disaster response by offering access to vital information.

CSR depends on the Texas Advanced Computing Center (TACC) for the cyberinfrastructure, information technology, and computing expertise required to store and organize the enormous amounts of collected data, and to provide it to the first responders who need it.

"We rely on TACC to access these very intense, very large data sets that have to be manipulated quickly and in an organized way," said Gordon Wells, program manager and principal investigator for MAGIC.

TACC's premier data resource, Corral, was built with this kind of dynamic, data-driven computing in mind. In emergency situations like the earthquake in Haiti, the value of these supercomputing assets quickly becomes apparent.

"With Corral, you have unlimited storage that can be very flexibly allocated and can serve multiple purposes at the same time," said Chris Jordan of TACC.

There are many instances where you can point to lives that have been saved by these technologies, said Wells, but more generally, they help preserve the life and property of the citizens in that region. "If you were to attempt to do this relief effort without any of this information, your horizon of knowledge would be so limited."

This research began in January 2010.



Satellite assessment of earthquake damage in Port-au-Prince, Haiti on Jan. 13, showing the extent of building damage.

### Questions

1. Describe the type of support, specifically as related to technology, provided by TACC, to aid the Haiti relief effort.
2. What role did the Center for Space Research (CSR) at UT play in this study?
3. What kinds of information can one gather from satellite imagery and how might this information have helped decision-makers in the wake of the Haiti earthquake?

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