



## Hazus User of the Year!

### 2011 2nd Quarter

Congratulations to Ed Whitford, Senior GIS Analyst at Tetra Tech, for his outstanding work with Hazus. During the past five years, Mr. Whitford has developed Hazus models for clients in Washington, California, Idaho and Oregon. These models involved the development of Level 2, user-defined data sets for updating general building stock, and for analyses on specific hazards such as dam failure, flood, earthquake and tsunami. These analyses utilized inventory data that included detailed updates to general building stock from County Assessors, first floor elevations from the Federal Emergency Management Agency (FEMA) elevation certificates, and occupancy classes from private sector insurance statistics.

Mr. Whitford helped pioneer the use of Hazus as a public information tool in several mitigation planning efforts. He utilized Hazus workstations that displayed risk information for specific properties at public meetings. Mr. Whitford has refined outputs from these workstations to illustrate risk, allowing citizens to leave public meetings with tangible risk based information for their properties. This tool has been well received by both the local governments preparing mitigation plans as well as the public.

Mr. Whitford has performed Hazus analyses that have provided vital information in the form of loss information necessary to support benefit cost analyses under FEMA 404 and 406 mitigation grant programs. Using data such as recorded high water marks or damage photos, historic events can be simulated in Hazus to create the inputs necessary to complete the FEMA benefit-cost analysis model. These efforts involve developing detailed, user defined models of historic events that include validation of Hazus results versus historic loss data, where it exists. He also has supported several jurisdictions with applying for and receiving grant funding to use Hazus.

Building upon his application of Hazus, Mr. Whitford led the effort to perform a "risk-based" analysis of multiple setback levee alignments in King County, WA. The 180th-200th street levee alternative project along the Green River has become a model project for the use of "risk-based" analysis of capital projects. This project looked at three different levee alignments, plus existing conditions, at three different dam operation locations for four flow scenarios. This involved construction of 48 sets of depth grids and 40 different analyses all built upon a user-defined inventory. Using his experience in support of hazard mitigation grant application preparation, outputs from these analyses were interfaced with FEMA's Benefit Cost Analysis Re-engineering (BCAR) model to calculate annualized avoided damages of each levee alignment. The analyses will help to guide King County decision-makers in the identification of the project alignment that will provide the highest degree of risk reduction, thus justifying the capital expenditure.

FEMA is proud to present Ed Whitford with the 2nd Quarter 2011 Hazus User of the Year Award for his outstanding commitment and achievement to the Hazus Program.

# Congratulations!



# FEMA

