

WSSPC Awards in Excellence

2018 Nomination Form

Nominated Program, Project or Product:

Program, Project or Product Name: USGS ShakeMap Scenario Suite		
Nominated Administering Organization: U.S. Geological Survey		
Contact Name/Title: Eric Thompson		
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Email: emthompson@usgs.gov		

Nominating Individual or Group (must be nominated by someone outside the nominated organization)

Nominating Individual or Group: Jesse Rozelle, Hazus Program Manager		
Agency Affiliation: FEMA HQ		
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Telephone: 303-968-6712	Fax:	
Email: jesse.rozelle@fema.dhs.gov		

Award Category (check all that apply):

<input checked="" type="checkbox"/>	Educational Outreach (choose all that apply from the following 3 sub-categories)	<input checked="" type="checkbox"/>	Multi-jurisdictional Planning
<input checked="" type="checkbox"/>	Outreach to Business/Government	<input checked="" type="checkbox"/>	Mitigation Efforts
<input checked="" type="checkbox"/>	Outreach to General Public	<input checked="" type="checkbox"/>	Non-Profit Agency Efforts
<input checked="" type="checkbox"/>	Outreach to Schools	<input checked="" type="checkbox"/>	Research Projects
<input checked="" type="checkbox"/>	Innovations	<input checked="" type="checkbox"/>	Response Plans/ Materials
<input type="checkbox"/>	Legislation	<input checked="" type="checkbox"/>	Use of New Technology

Evaluation of Program, Project or Product (use as much space below each question as needed)

- How long has the nominated program, project or product been operational?
(Note: to be considered for an award, it must have been operational at least one year prior to nomination.) Since: Month _____ Year(s) _____ Several _____

We're recognizing a radically-improved delivery and suite of scenarios that build on the early efforts of the USGS ShakeMap Group. Earlier legacy scenario "catalogues" were very limited; the new BSSC Catalogue for the U.S. contains over 800 scenarios that are fully consistent with the input of the USGS National Seismic Hazard Map (2014).

2. What is the major purpose of the program, project, or product? What problem or issue was it designed to address?

The USGS ShakeMap Scenario Suite for the Conterminous U.S. is a collection of over 800 events that can be used for scenario exercises, planning, education and outreach. FEMA has run several of these scenarios for National Level and other planning Exercises.

3. Describe the specific activities and operations of the program, project, or product.

The ShakeMap Scenario Suite provides “off-the-shelf” collection of very useful ShakeMap scenarios for the Conterminous U.S. The development and delivery of the ShakeMaps require concerted efforts on the scientific, algorithmic, and delivery via web and GIS platforms. Likewise, substantial interaction with critical users in the private, government, utility and response communities is required to make these products useful. Groups like FEMA can use the maps to produce losses with Hazus that are then widely used for earthquake planning exercises and drills.

4. What new and creative approach or method does the program, project, or product use to address an issue or problem?

The effort to make this new Scenario collection consistent with the US National Seismic Hazard Map (NSHM) required algorithmic advances to the ShakeMap system, including the use of multiple-weighted GMPEs and other technical solutions. Also, the deployment and delivery of the 800 scenarios in an ArcGIS platform required significant software and rendering efforts.

5. What was the start-up budget and source(s) of funding?

Budget: \$ ~30K Source: USGS Internal Funds

6. What are the annual operational costs and source(s) of funding?

Budget: \$ ~25K Source: USGS Internal Funds

7. How many employees (full-time equivalent) work(ed) with the program or project, or on the product? ~ 1/3 FTE

8. Where did this program, project or product idea originate?

Originated within the nominated organization

Adapted from another source

- Original source: Guidance provided by FEMA on scenario needs

9. Has the program been fully implemented? Yes No

10. If the program has not been fully implemented, what actions remain to be taken?

Their current collection (catalog) of scenarios is complete and fully functional and available online. However, there is need for more catalogues that focus on specific regions including CEUS, AK, HI, PR, PNW, and other regions. Setting up and running these scenarios require more R&D as well as further interaction with the main users and scientists in these regions.

11. Is there evidence that the program has been effective in achieving its stated purpose? Briefly summarize evaluations (pro and con) of how well the program has addressed the defined problem or issue.

The new Catalogue of scenarios has been used by FEMA, States of Colorado, Wyoming, Idaho, Montana, Nebraska; Idaho DOT, widely in California, the U.S. Military, many counties (including Snohomish, WA) and dozens of other critical users primarily in WSSPC States. Both FEMA and USGS now can point many users/requests to the main scenario [ArcGIS server](#), which can be searched geographically or with text strings. This saves time for these agencies and gets the right “off-the-shelf” scenarios easily in the hands of users.

12. What limitations or obstacles were encountered? How were they overcome?

The effort to put the Scenario collection online required extensive metadata and quality control to assure consistency with state-of-the-art ground motion prediction equations, site conditions, and fault orientations. Eric Thompson provided substantial work interacting with the scientific and user communities to make sure the scenario collection would be widely acceptable to all parties.

13. Additional information for the WSSPC Board to consider in evaluating the program, project or product. Supporting documentation, samples, or other items may be attached.

Link to main scenario [ArcGIS server](#).

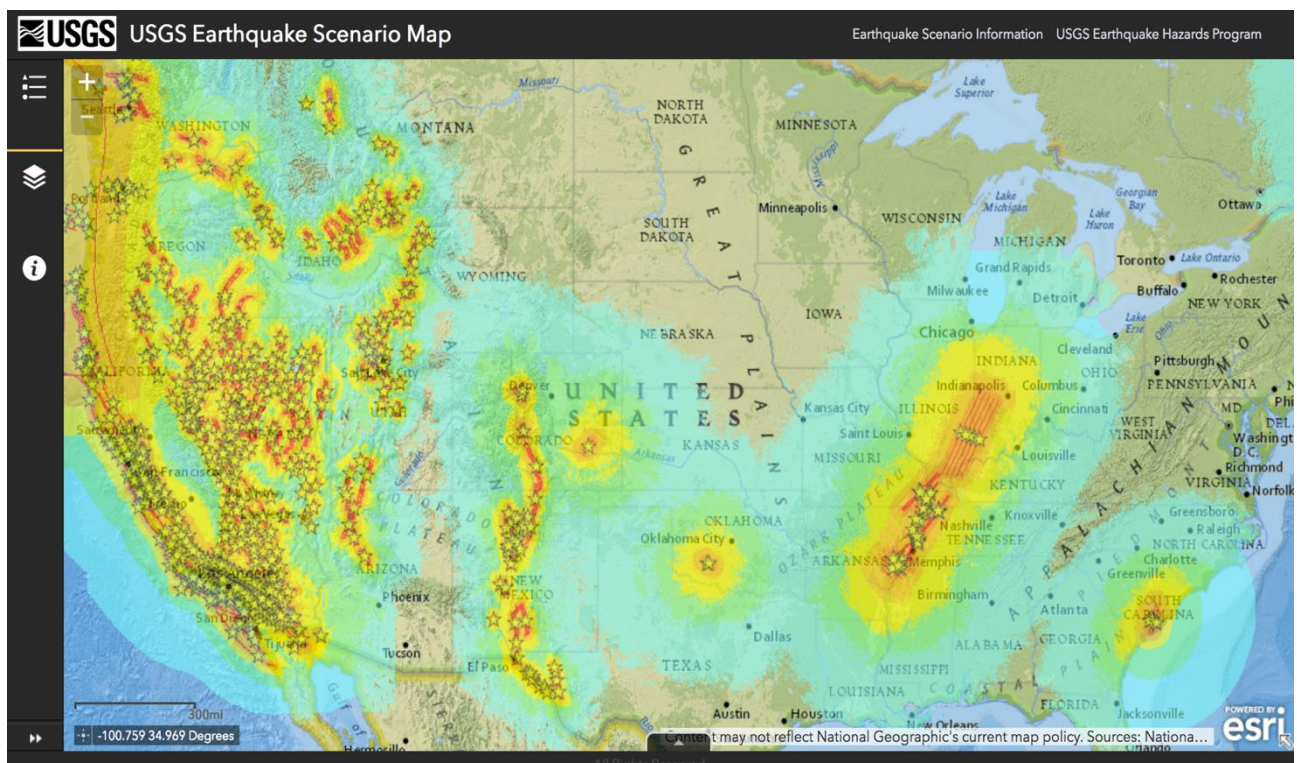


Figure 1. Example of interactive web page for the new ShakeMap Scenario Collection.

Submit the nomination form and all supporting documents to Program Manager Erin Mommsen at emommsen@wsspc.org. Documentation that cannot be sent electronically may be mailed to: WSSPC, 801 K Street, Suite 1236, Sacramento, CA 95814. If you have any questions, please feel free to contact us at 916-444-6816. **Deadline is Friday, January 5,**