

National Flood Risk Characterization

Jeffrey Jensen and Pete Rabbon

National Flood Risk Management Program

Institute for Water Resources

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US Army Corps of Engineers
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Background

USACE is investigating how to develop a nationally-oriented flood risk characterization in order to:

- Characterize flood risk at a national level
- Provide a relative risk characterization that would illustrate areas/regions of high risk to inform and prioritize flood risk management investments
- Identify potential alignment of those investments with other agencies' and watershed priorities, and support examination of program effectiveness and potential policy implementation



Background

In coordination with other agencies, USACE wishes to:

- Assess the potential benefits and uses of national flood risk characterization approaches
- Evaluate existing approaches, noting their supporting tools and datasets, for potential in further developing national flood risk characterization
- Establish information-sharing and explore the potential for collaboration mechanisms to move toward a more consistent national flood risk characterization approach that can address USACE and other agency needs



Examples of how national flood risk characterization could be used

- Develop a national and regional baseline for measuring progress (or lack of) in reducing flood risk
- Determine historical change in flood risk and what factors drove those changes
- Project future change in flood risk and impact of factors driving the change
- Identify regions to focus our resources and activities to reduce flood risk
- Test how policy and program changes might change future flood risk trends
- Characterize USACE's contribution to reducing flood risk
- Identify opportunities for collaboration horizontally across federal agencies and vertically with State and local governments



Why consider a national flood risk characterization?

SEC. 2032. WATER RESOURCE PRIORITIES REPORT.

(a) IN GENERAL.—Not later than 2 years after the date of enactment of this Act, the President shall submit to Congress a report describing the vulnerability of the United States to damage from flooding, including—

- (1) the risk to human life;
- (2) the risk to property; and
- (3) the comparative risks faced by different regions of the United States.

(b) INCLUSIONS.—The report under subsection (a) shall include—

- (1) an assessment of the extent to which programs in the United States relating to flooding address flood risk reduction priorities;
- (2) the extent to which those programs may be encouraging development and economic activity in flood-prone areas;
- (3) recommendations for improving those programs with respect to reducing and responding to flood risks; and
- (4) proposals for implementing the recommendations



Current applications of national flood risk characterization in multi-agency forums

1. Federal Interagency Floodplain Management Task Force Work Plan, updated 24 January 2013

“Conduct a study that can provide information on future conditions that could inform current floodplain management decisions”

2. Mitigation Framework Leadership Group Federal Flood Risk Reduction Standard, December 2013

“To improve the nation’s resilience to flooding and to better prepare the United States for the impacts of climate change, the President’s Climate Action Plan directs agencies to ‘update their flood-risk reduction standard’.”



What should be the approach?

- Maximize use of existing available data sources
- Present/represent in a GIS framework
- Provide comparative representation at a regional, watershed level
- Represent life and property risk
- Account for existing infrastructure presence and performance
- Expandable for potential use beyond USACE
- Results for their intended use accepted by other agencies

Ideally will be able to account for:

- Total risk for a range of probabilities
- Risk reduced by some hazard reduction effort (structural, non-structural)
- Possible effects of future what-if scenarios

