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Protecting People and the Environment

Welcome

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5th Annual NRC PFHA Research Workshop

NRC HQ, Rockville, MD

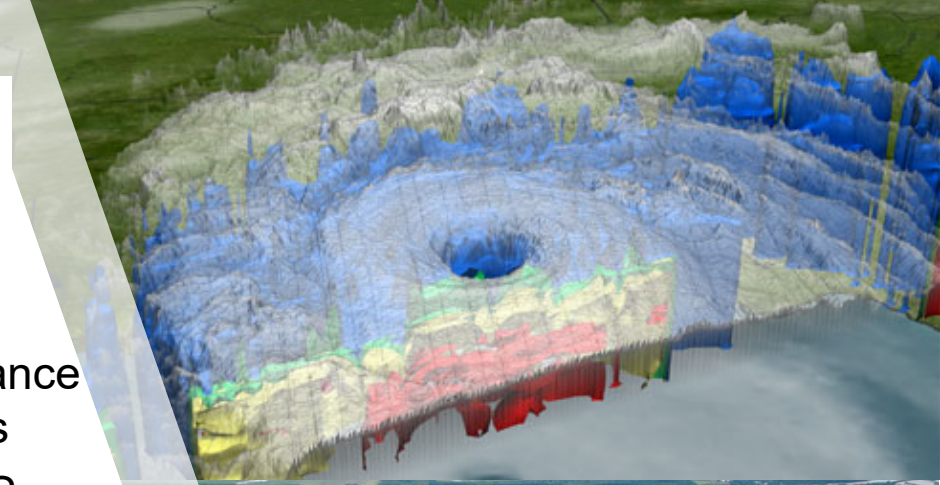
February 19-21, 2020

PFHA Research Objective

- NRC's Risk-Informed Regulatory Policy has been translated into practice in some external hazard areas (e.g., seismic, high winds)
- Flood hazard assessment is a significant gap
  - Deterministic approaches do not quantify uncertainties
- PFHA research is aimed at filling this gap
  - Quantify uncertainties
  - Support risk-informed decisionmaking

Addressing Current and Future Needs

- Recent experience has highlighted importance of risk-informing flood hazard assessments
  - Flooding events at or near NPPs in U.S. and abroad
    - Flooding OpE session in this year's workshop
  - Post-Fukushima flood hazard reevaluations and integrated assessments
- Ongoing and new risk-informed initiatives
  - FLEX, Risk-informed categorization and treatment of SSCs, Risk-informing inspections and other licensing and oversight activities
- Readiness for licensing new and advanced reactor designs



Progress

- Phased Approach
  - Technical basis
  - Pilot Studies
  - Guidance
- Bulk of technical basis research completed
  - Climate
  - Precipitation
  - Riverine flooding
  - Storm surge
  - Reliability of flood protection and mitigation
  - Modeling frameworks

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Current PFHA Research Focus

- In FY20 NRC/RES turned focus towards PFHA Pilot Studies
  - Fine-tune scenario-specific issues
  - Demonstrate development of hazard curves for multiple flooding mechanism and spectrum of impacts
  - Inform development of guidance
- 3 PFHA Pilots
  - Site-scale Flooding (Local Intense Precipitation)
  - Riverine Flooding
  - Coastal Flooding
- Discussion with User Offices on scope and format of guidance
  - PFHA workshops provide valued input from a broad cross-section of partners and stakeholders