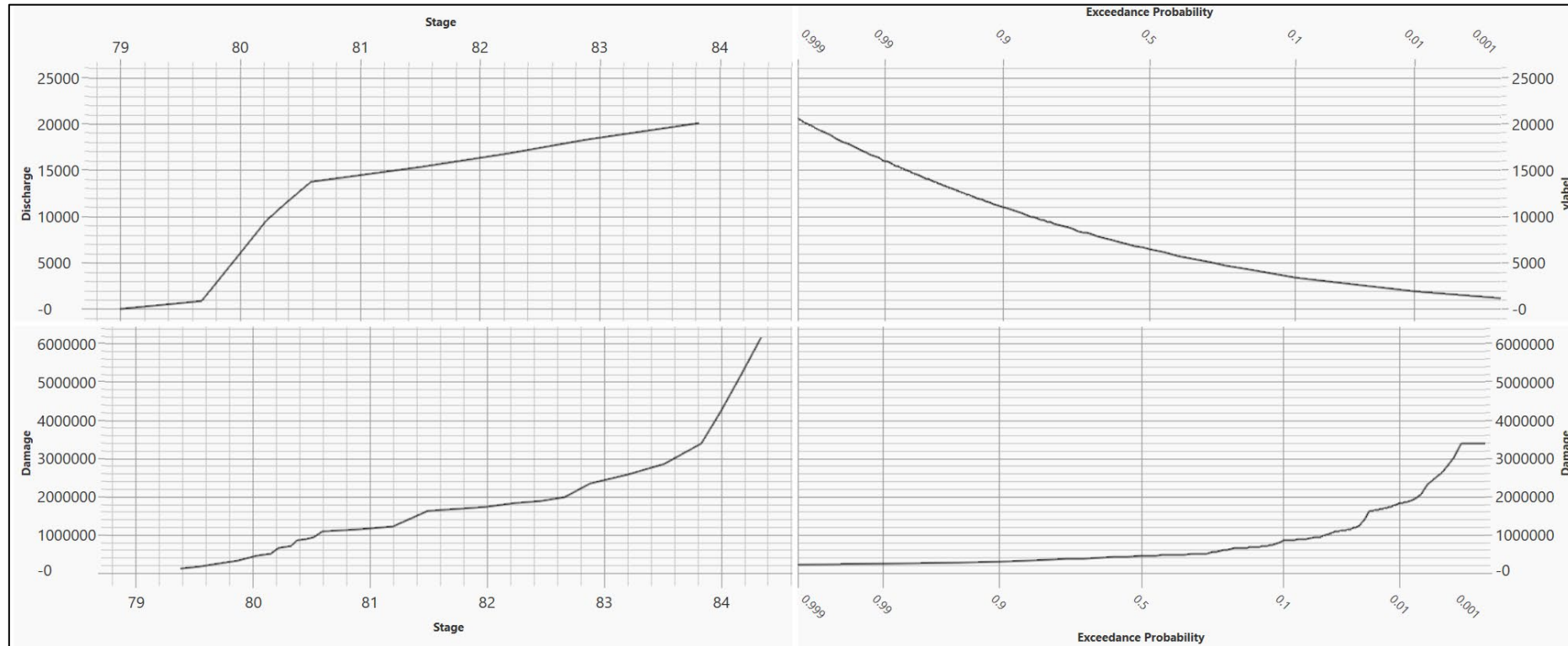


HEC-FDA 2.0 RELEASE WEBINAR



Jordan Lucas, HEC
Eric Thaut, FRM-PCX

Brennan Beam, HEC
Dr. Richard Nugent, HEC



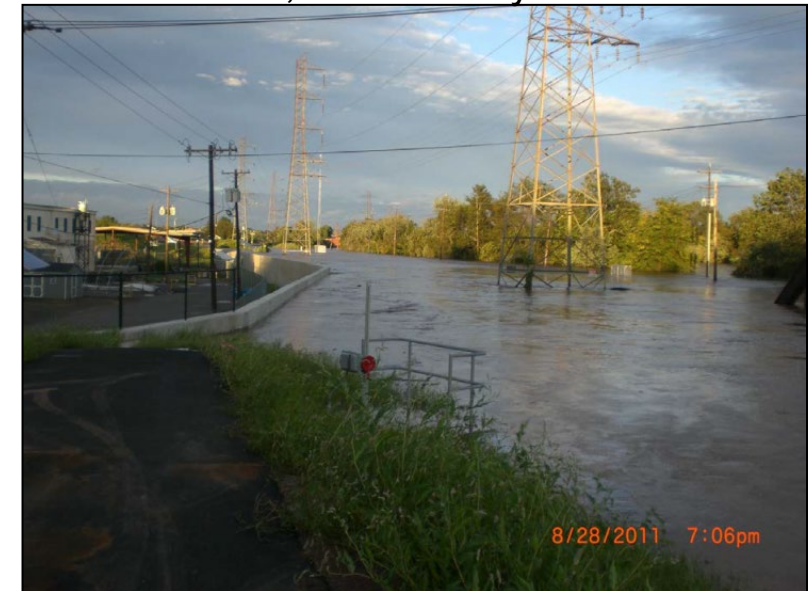
BACKGROUND

- Used to assess economic flood risk
 - Probabilistic H&H conditions > economic conditions > economic risk
- History
- Expected (equivalent) annual economic damages
 - BCR, net benefits, NED
- Supported 49 chief's reports in previous decade
 - \$5 billion in annual benefits identified
 - \$44 billion in FRM investment recommendations

West Shore Lake Pontchartrain, Louisiana



Green Brook, New Jersey



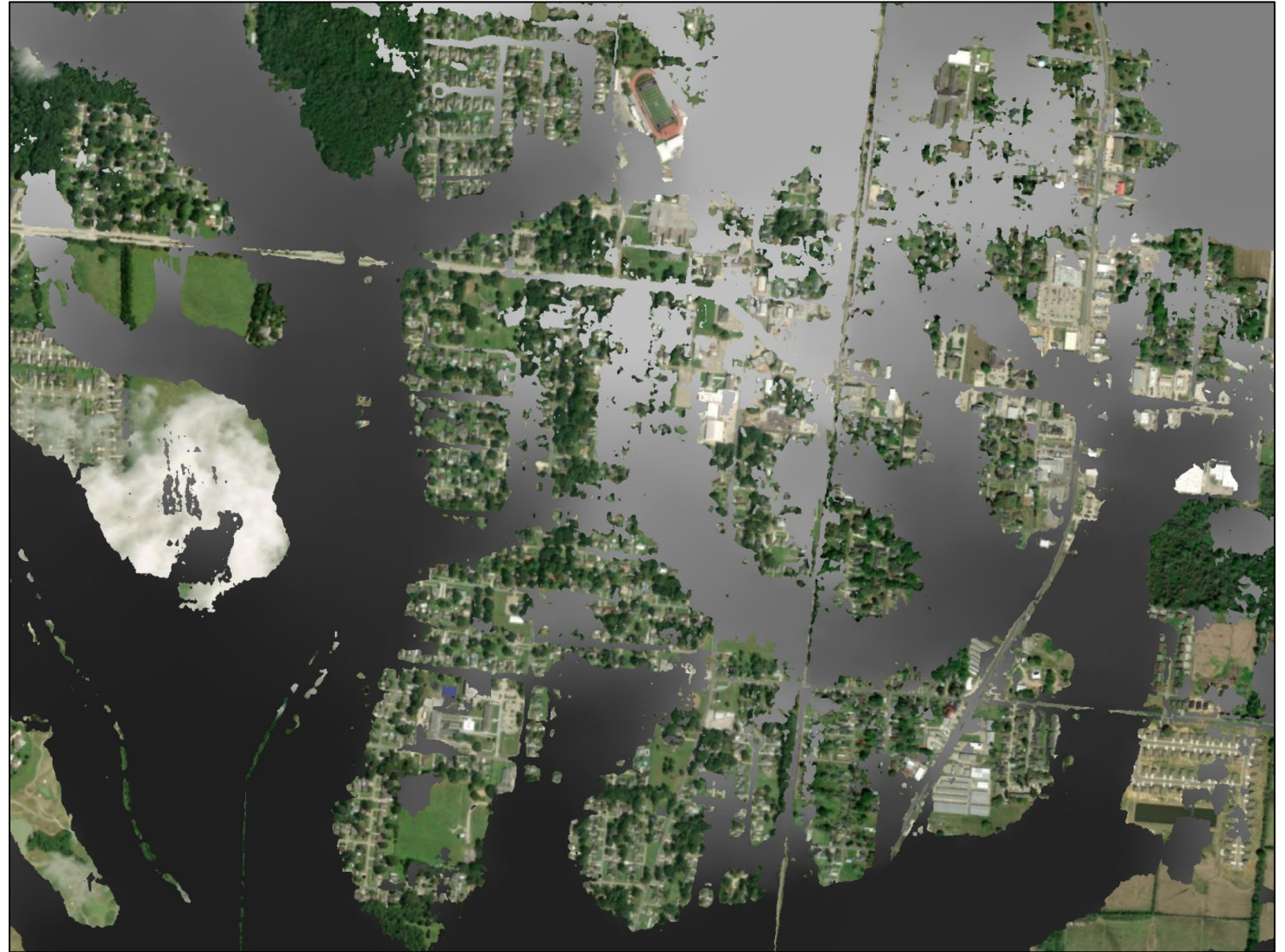
Folsom Dam, California





NEW FUNCTIONALITY

- Copy-paste
- Geospatial inputs, not text files
- Characterizing uncertainty around key variables
 - Uniform distribution
 - Content value uncertainty
- Total risk
- Levee performance stats without economic inputs
- Failure above top of levee
- 90% assurance of AEP

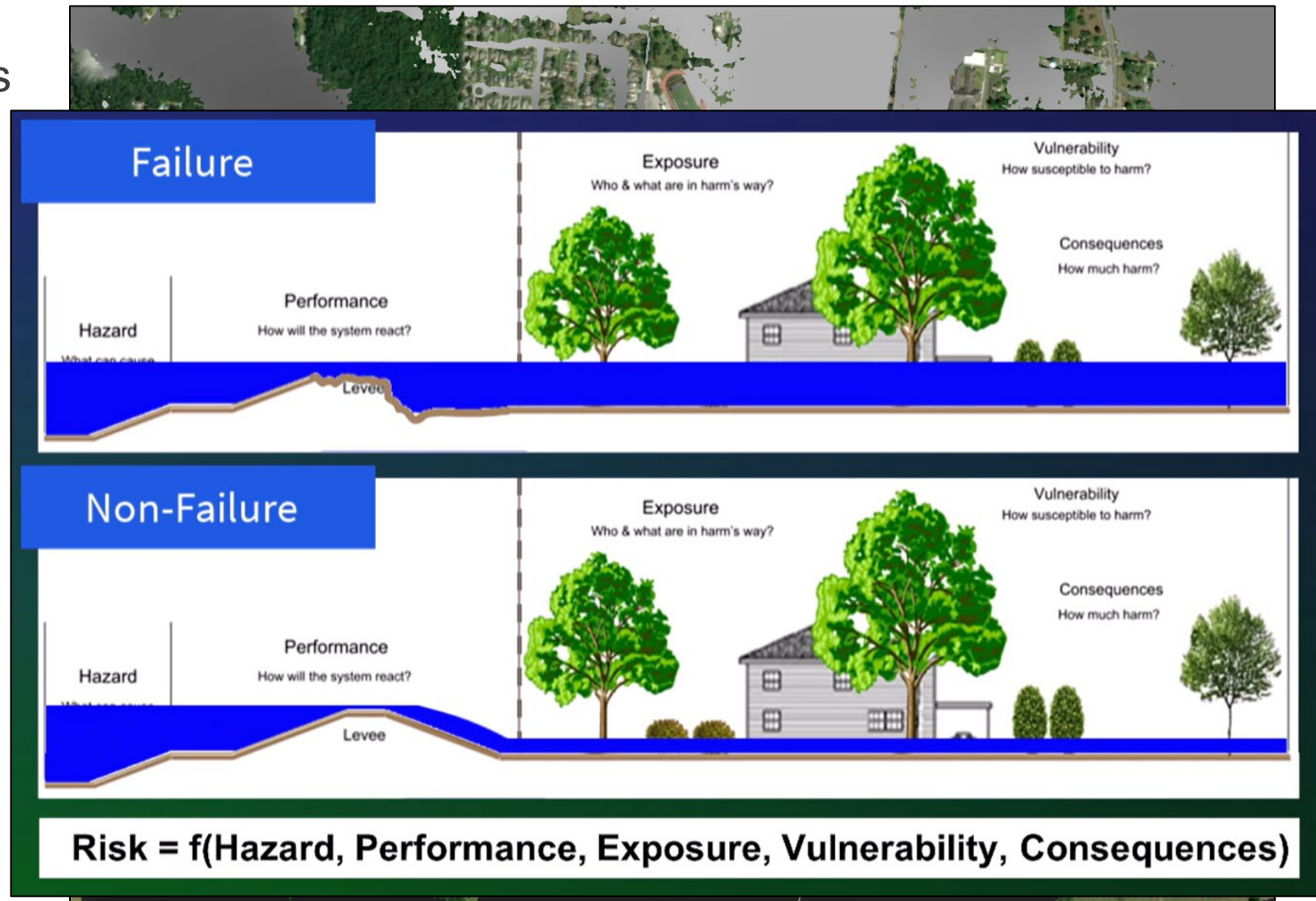




NEW FUNCTIONALITY



- Copy-paste
- Geospatial inputs, not text files
- Characterizing uncertainty around key variables
 - Uniform distribution
 - Content value uncertainty
- Total risk
- Levee performance stats without economic inputs
- Failure above top of levee
- 90% assurance of AEP





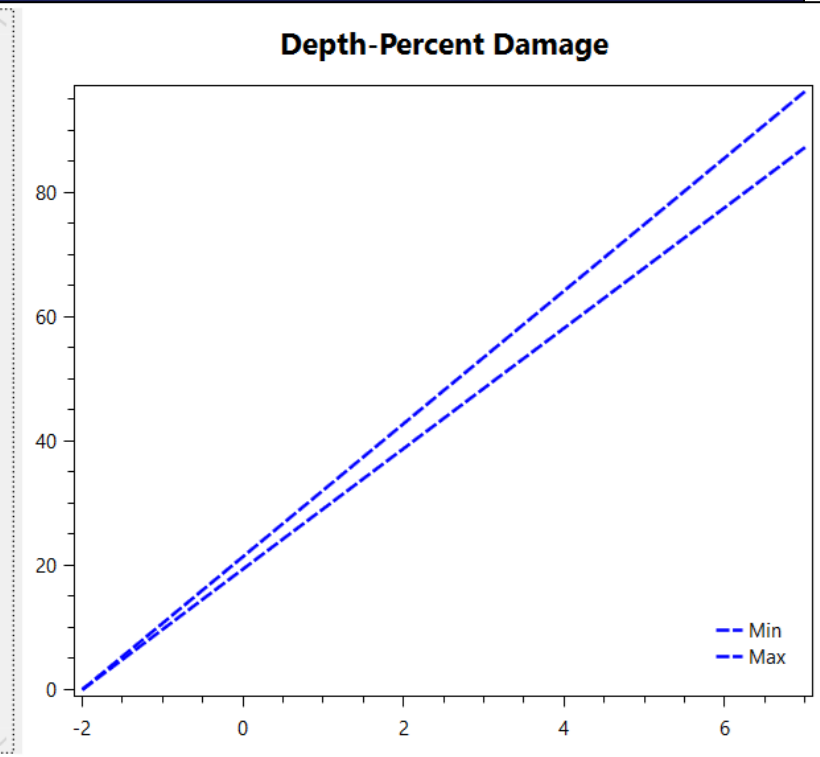
NEW FUNCTIONALITY

- Copy-paste
- Geospatial inputs, not text files
- Characterizing uncertainty around key variables
 - Uniform distribution
 - Content value uncertainty
- Total risk
- Levee performance stats without economic inputs
- Failure above top of levee
- 90% assurance of AEP



Distribution Type: (Depth, Percent Damage)

X Value	Min	Max
-2.0000	0.0000	0.0000
-1.0000	9.7000	10.7000
0.0000	19.4000	21.4000
1.0000	29.1000	32.1000
2.0000	38.8000	42.8000
3.0000	48.5000	53.5000
4.0000	58.2000	64.2000
5.0000	67.9000	74.9000
6.0000	77.6000	85.6000
7.0000	87.3000	96.3000



Risk = f(Hazard, Performance, Exposure, Vulnerability, Consequences)



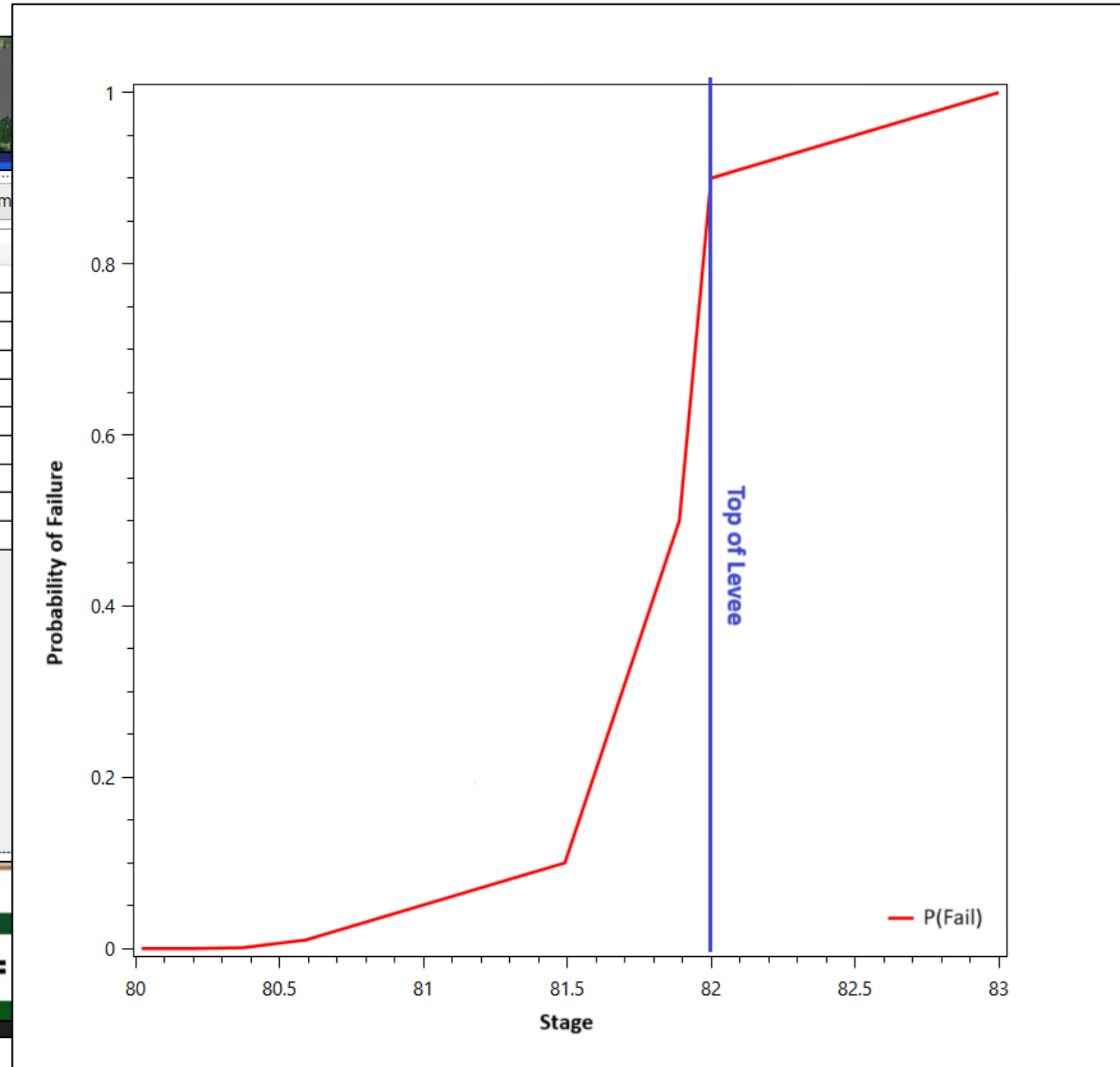
NEW FUNCTIONALITY

- Copy-paste
- Geospatial inputs, not text files
- Characterizing uncertainty around key variables
 - Uniform distribution
 - Content value uncertainty
- Total risk
- Levee performance stats without economic inputs
- Failure above top of levee
- 90% assurance of AEP

Distribution Type: Uniform

X Value	Min	Max
-2.0000	0.0000	0.0000
-1.0000	9.7000	10.7000
0.0000	19.4000	21.4000
1.0000	29.1000	32.1000
2.0000	38.8000	42.8000
3.0000	48.5000	53.5000
4.0000	58.2000	64.2000
5.0000	67.9000	74.9000
6.0000	77.6000	85.6000
7.0000	87.3000	96.3000

Risk =



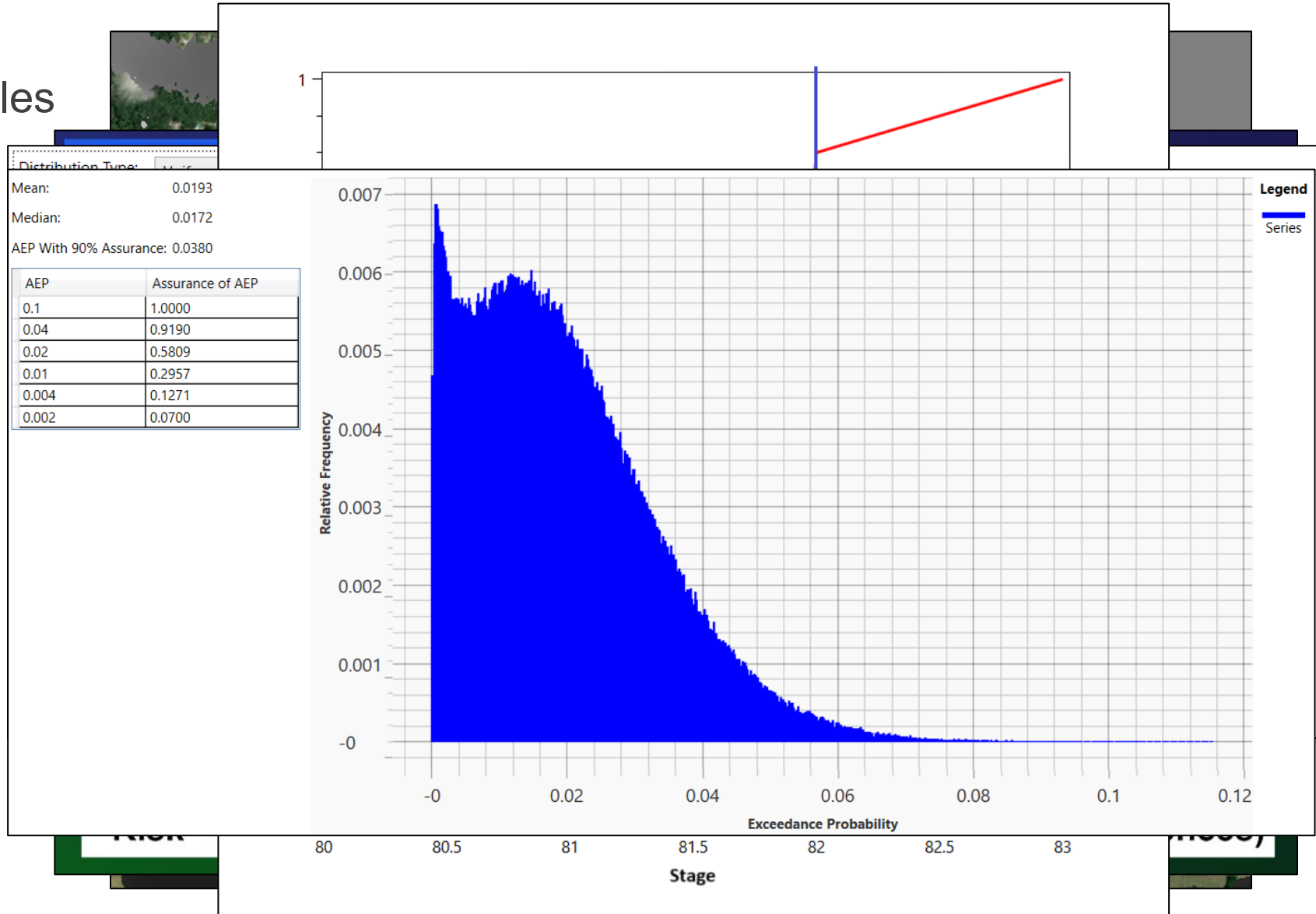
6

ences)



NEW FUNCTIONALITY

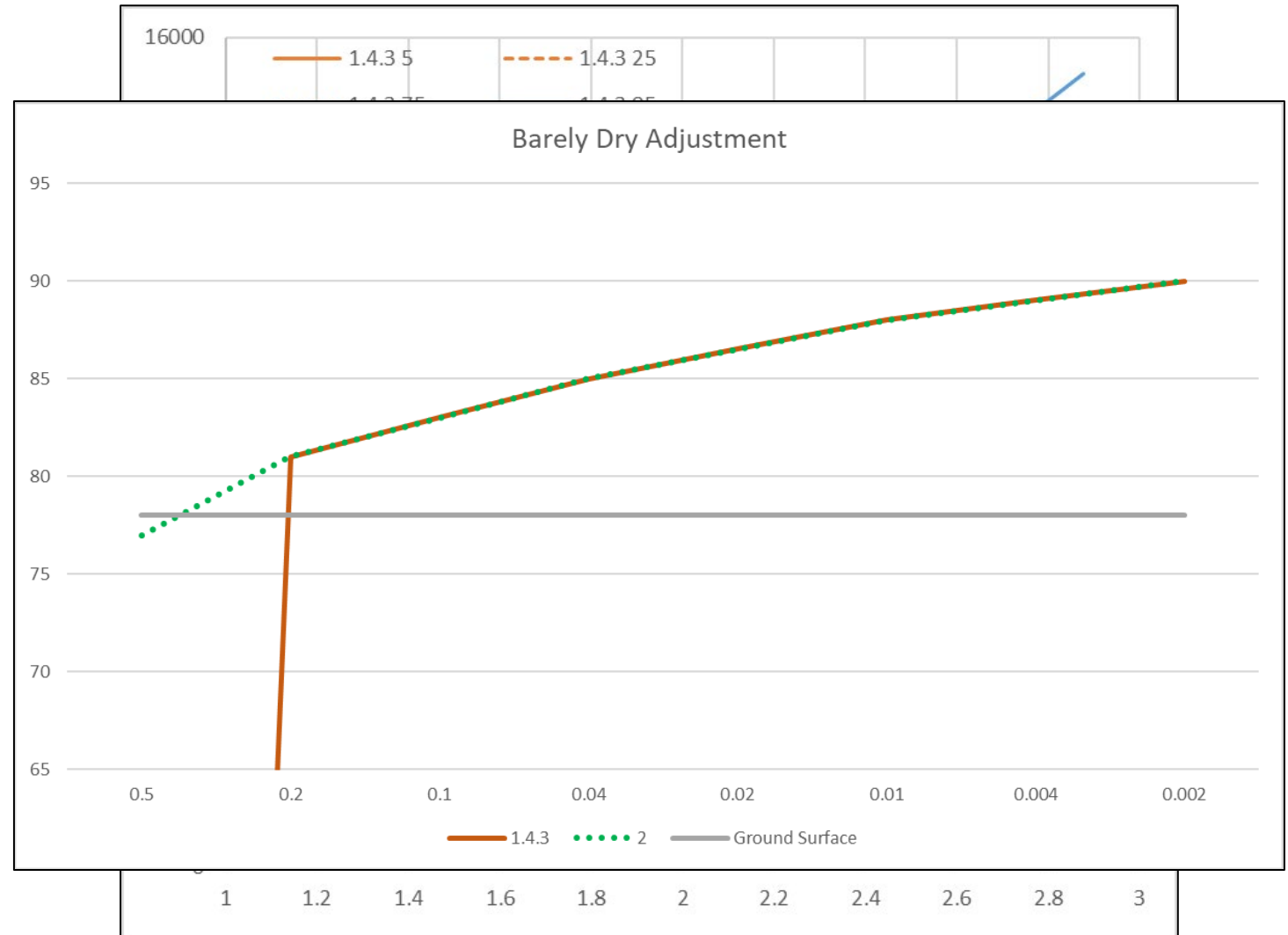
- Copy-paste
- Geospatial inputs, not text files
- Characterizing uncertainty around key variables
 - Uniform distribution
 - Content value uncertainty
- Total risk
- Levee performance stats without economic inputs
- Failure above top of levee
- 90% assurance of AEP





METHODOLOGICAL CHANGES

- Some changes to the way we treat uncertainty
 - Analytical flow-frequency, USGS Bulletin 17C
- Aggregated stage-damage function
 - Empirical instead of normal distribution
 - Correlation of economic error
 - Barely dry adjustment
 - WSE below ground
- Most differences amount to 10% or less change in EAD

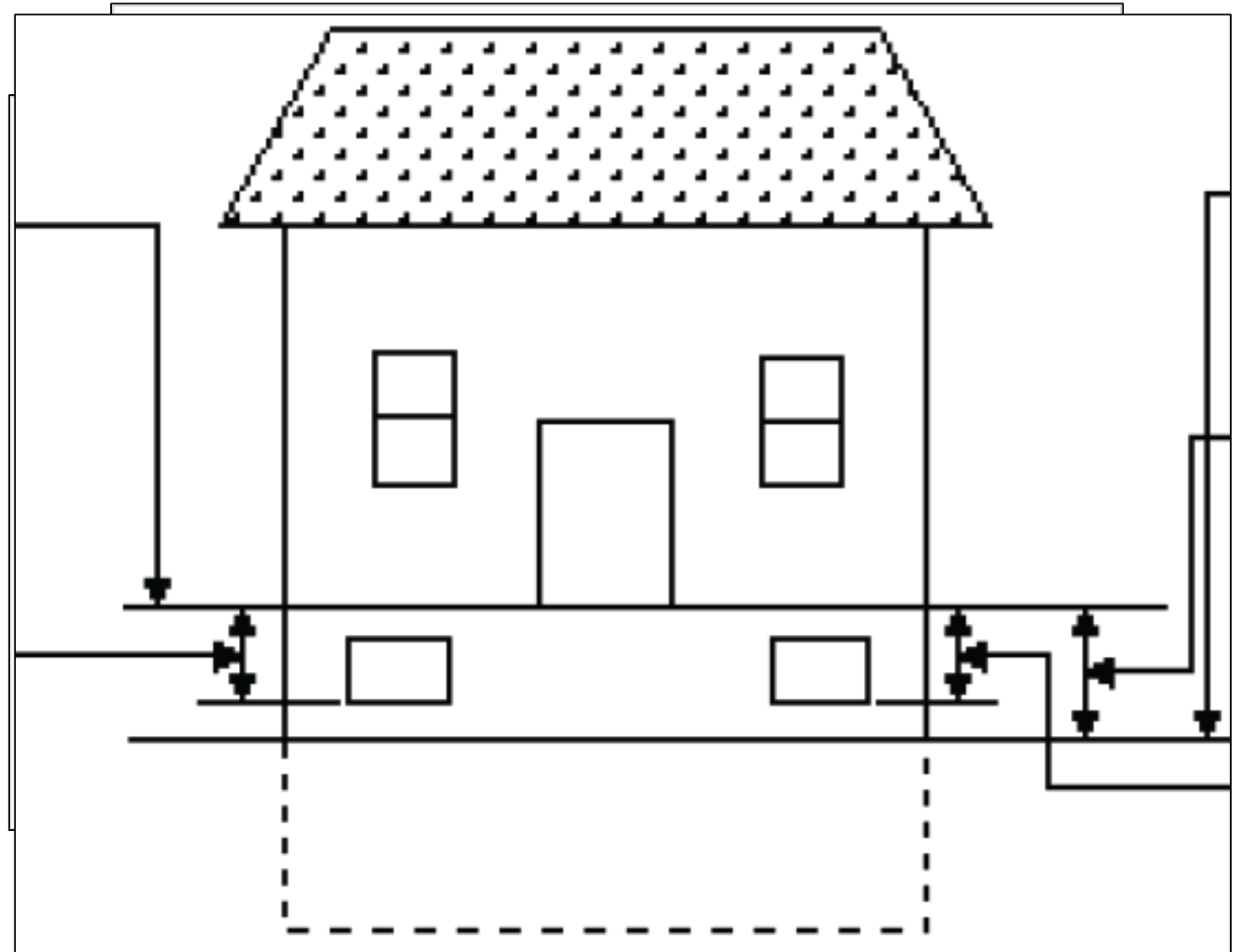




METHODOLOGICAL CHANGES



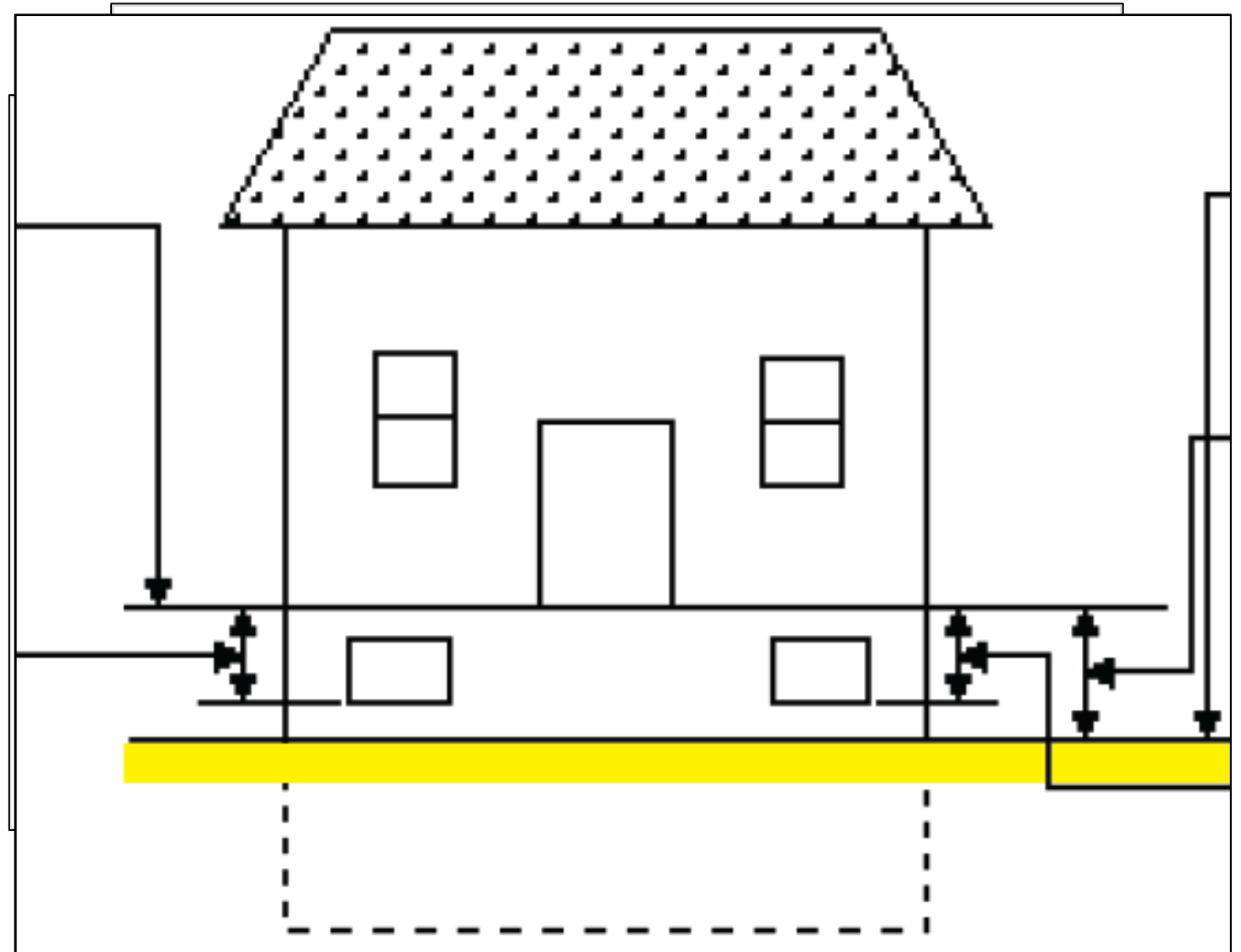
- Some changes to the way we treat uncertainty
 - Analytical flow-frequency, USGS Bulletin 17C
- Aggregated stage-damage function
 - Empirical instead of normal distribution
 - Correlation of economic error
 - Barely dry adjustment
 - WSE below ground
- Most differences amount to 10% or less change in EAD





METHODOLOGICAL CHANGES

- Some changes to the way we treat uncertainty
 - Analytical flow-frequency, USGS Bulletin 17C
- Aggregated stage-damage function
 - Empirical instead of normal distribution
 - Correlation of economic error
 - Barely dry adjustment
 - WSE below ground
- Most differences amount to 10% or less change in EAD

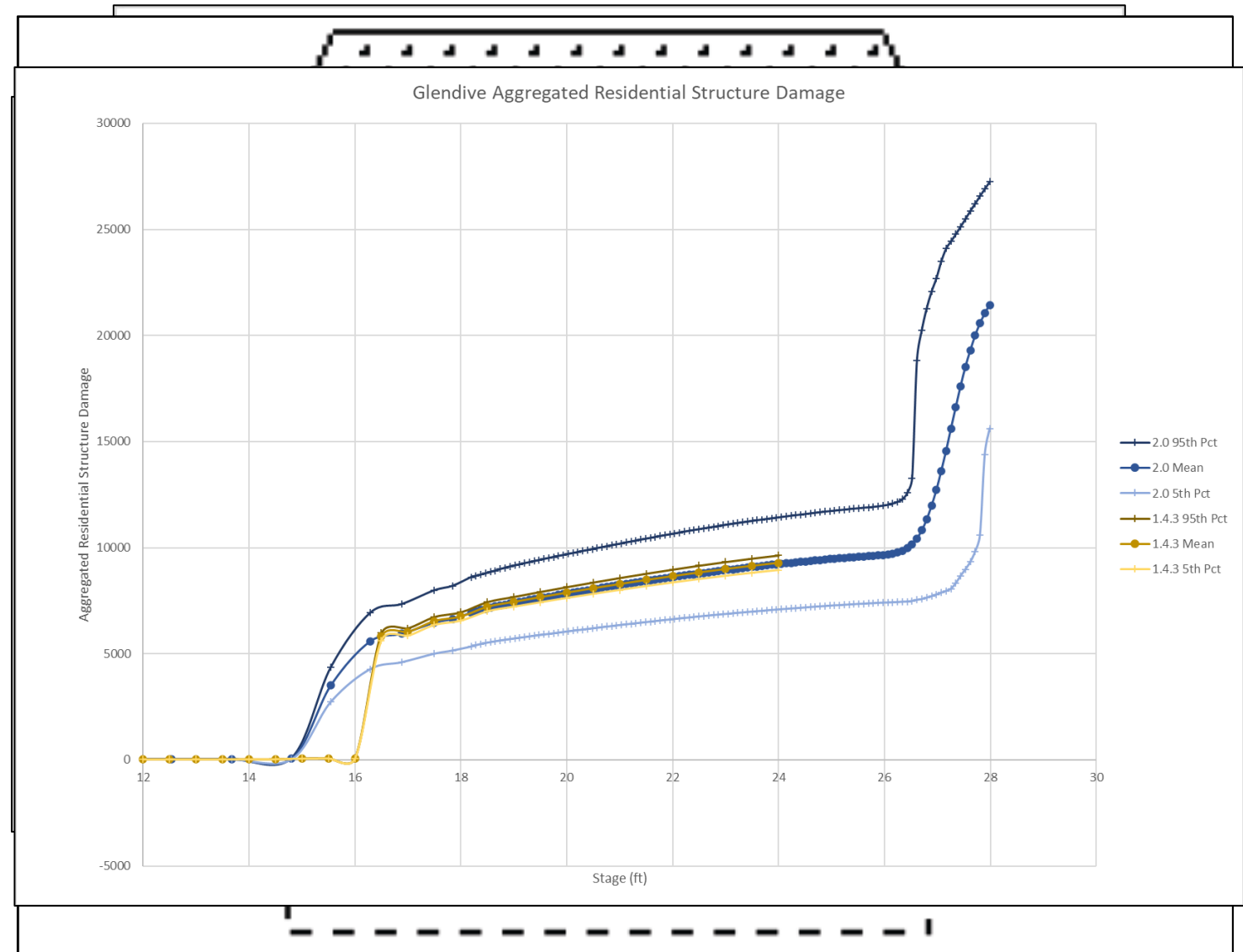




METHODOLOGICAL CHANGES

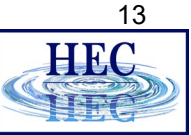


- Some changes to the way we treat uncertainty
- Analytical flow-frequency, USGS Bulletin 17C
- Aggregated stage-damage function
 - Empirical instead of normal distribution
 - Correlation of economic error
 - Barely dry adjustment
 - WSE below ground
- Most differences amount to 10% or less change in EAD





AVAILABLE RESOURCES



- Brennan.B.Beam@usace.army.mil
- Jordan.M.Lucas@usace.army.mil
- Richard.J.Nugent@usace.army.mil
- Online Resources:
 - [Discourse](#) (forum for common user issues)
 - [Quick Start Guide](#) (for users with 1.4.3 experience getting started with 2.0)
 - [User's Manual](#) (for advanced user instructions)
 - [Technical Reference Manual](#) (for technical details)
- Other Information About FDA 2.0 Release:
 - Certification Memo (Dec 2024)
 - Transition Plan (Dec 2024)
 - [Release Notes](#)
- Software Download – [HEC Website](#)