



2017 SOA  
**Annual Meeting  
& Exhibit**

Oct. 15-18, 2017  
Boston, MA

## Session 031 PD - Hurricane Harvey: Flood Catastrophe Risk Financing and Modeling

### Moderator:

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### Presenters:

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# Hurricane Harvey: Flood Catastrophe Risk Financing and Modeling

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Managing Director of Research  
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Session 31  
SOA Annual Meeting  
October 2017



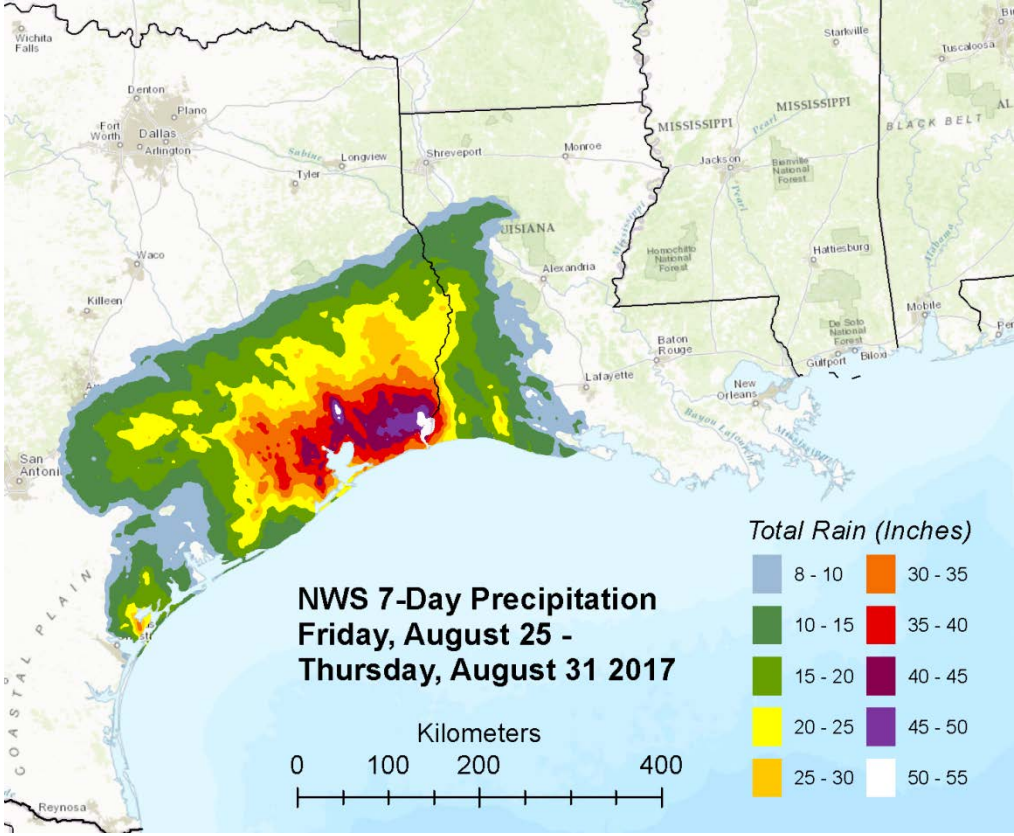
# Hurricane Harvey Struck Texas as a Category 4 Hurricane

- Images courtesy AIR Worldwide
- Harvey made landfall 30 miles east-northeast of Corpus Christi, TX
- Maximum sustained winds of 130 mph
- Minimum central pressure of 938 mb



# But Subsequent Flooding Devastated the Region, Centering to the North Around Houston

- Stall following landfall
- Rain for 4+ days
- >50" of rain fell in some places and many areas received >40" of rain











FILE PHOTO: AP/WIDEWORLD





- Harvey:
  - Privately insured property: \$3B
  - Privately insured vehicle: \$5B
  - NFIP property: \$11B
  - Total economic loss = ?
  
- NFIP:
  - Harvey \$11B
  - Irma \$9 – 11B
  - 2016 Yearend Debt \$24B

## Additional Resources / Updates

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- The National Flood Insurance Program: Challenges And Solutions
- <https://www.actuary.org/files/publications/FloodMonograph.04192017.pdf>
- OMB recommendation for funding and reform, Oct 2017
- <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/Letters/Letter%20regarding%20additional%20funding%20and%20reforms%20to%20address%20impacts%20of%20recent%20natural%20disasters.pdf>
- NFIP was set to expire Sep 30, 2017
- Extended in early September to Dec 8, 2017