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Engineering and Environmental Services

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So What Is Going On With Pavement Resiliency?

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What Do You Need to Know About Pavements and Resiliency?

- Pavements are important
- The climate is changing
 - Temperatures
 - Hotter for longer
 - Wetter in some places, drier in others
- Climate change is leading to sea-level rise
 - Coastal flooding
- Other changes

TrackBar

CLIMATE CHANGE ADAPTATION FOR PAVEMENTS

<https://www.fhwa.dot.gov/pavement/sustainability/hif15015.pdf>

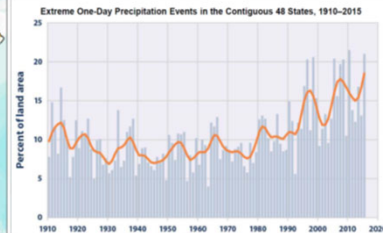
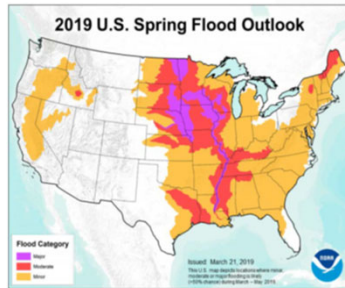
Pavements are Designed for Climatic Conditions

- Material selection for range of temperatures
 - Freezing and thawing
 - Rutting of asphalt pavements
- Moisture condition of unbound subgrade, subbase, and base
- Our understanding is at best mechanistic-empirical and based on historic data
 - Afterall, it is an empirical world



Pavements of the Future Need to Be Designed for Future Conditions

- Resistant to increasing temperatures
- Resistant to increased levels of saturation



<https://www.epa.gov/climate-indicators/climate-change-indicators-heavy-precipitation>



Future Needs

- Pavements will need to be more robust
 - This means more costly
- Must be close coordination between regional climate modelers, planners, and engineers
 - Identify critical links, evaluate risk, and make critical links that are vulnerable less so



Who Are The Stakeholders?

- Agencies
 - Local, State, and Federal agencies
 - Those in charge of resource allocation need to incorporate climate change into the decision-making process
 - Current pavement design and management tools are “looking backwards”
- Consultants
 - The ones conducting planning studies and design
 - Need to get up to speed with the changing environment
- The public
 - They are the ones most directly affected



FHWA Sustainable Pavements Program

- In Year 9 of 10-year effort
- Many products available and more under development
 - <https://www.fhwa.dot.gov/pavement/sustainability/>
- The Sustainable Pavements Technical Working Group (SPTWG) meets twice a year
 - Next meeting (virtual) Nov. 9, 2020 (become a friend)



FHWA Resiliency Efforts

- Pavement resiliency peer-exchanges
 - Two to be held (virtually) on Oct. 6th & 7th and Dec 16th & 17th
 - Report will be available early next year
 - Conduct a one-day workshop (optional)
- Develop and publish final document
- Conduct webinar



Wish Us Luck



Questions?

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