Leveraging university resources to integrate climate adaptation and hazard mitigation in the Eno-Haw Region

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Outline

- Eno-Haw regional hazard mitigation plan
- Adaptation and hazard mitigation
- Capstone course
- Benefits and limitations







Barriers to Adaptation

55

50



Money



Technical Capacity



| Natural Hazard Considered | Was this hazard considered significant/appropr iate enough to be addressed in the plan at this time? | How was this determination made? | Why was this determination made? |
|------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OTHER HAZARDS | | | |
| Climate Change | Yes | By consensus of the Eno-Haw HMPT. | The HMPT feels that it is necessary to address changes in the climate and the effects those changes may have on identified natural hazards. |

Adaptation and Hazard Mitigation

| Opportunities | Challenges |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Better understanding of risk in the future Adaptation strategies complements mitigation Better protect citizens Make longer-lasting investments | Timing of action |

Adaptation and Hazard Mitigation

- States required to address climate change
- Local governments encouraged in 2013 "Local Mitigation Planning Handbook"





CITY OF BERKELEY 2914 LOCAL HAZARD MITIGATION PLAN

CPE1.994



Capstone Course

- 11 UNC-CH Seniors
- 1 Semester

- Review literature on how climate change will affect hazards
- Analyze existing plans
- Propose potential mitigation/adaptation strategies

Climate Change Affect on Hazards

| | Hazard | Frequency | Magnitude |
|------|------------------------------|-----------|-----------|
| ے | Flooding | 1 | ^ |
| Hig | Winter Weather | 1 | ^ |
| | Hurricane/Tropical Storms | | ↑ |
| lisk | Drought/Extreme Heat | 1 | ↑ |
| | Thunderstorms/Lightning/Hail | | |
| | Dam/Levee Failure | | |
| | Tornadoes | | |
| Low | Wildfires | 1 | ↑ |
| | Landslides | | |

Climate Change Affect on Hazards

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|------|------|------------------------------|-----------|---------------------|
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| | | Hurricane/Tropical Storms | | ↑ |
| | | Drought/Extreme Heat | 1 | 1 |
| lisk | lisk | Thunderstorms/Lightning/Hail | | |
| | | Dam/Levee Failure | | |
| | | Tornadoes | | |
| | MC | Wildfires | 1 | $\mathbf{\uparrow}$ |
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| | | Hurricane/Tropical Storms | | 1 |
| | | Drought/Extreme Heat | ^ | 1 |
| | | Thunderstorms/Lightning/Hail | | |
| | 6 | Dam/Levee Failure | | |
| | | Tornadoes | | |
| | NO | Wildfires | ^ | 1 |
| | | Landslides | | |

Potential Adaptation Strategies



Benefits

- Dedicate time to project (500+ hours)
- Provide foundational information

Benefits

- Dedicate time to project (500+ hours)
- Provide foundational information
- Students have opportunity to conduct meaningful research
- Students learn about hazard mitigation and climate change
- Students engage with local government

Limitations

- Based on existing publications and resources
- Does not build local government capacity
- Did not engage decision makers and public in process
- Significant effort still needed to assess strategies and move to implementation

Other University Programs



CAROLINA CENTER for PUBLIC SERVICE Connecting Carolina and Communities

Conclusion

- Creative partnerships may help overcome barriers to adaptation
- There are multiple opportunities for local governments to collaborate with universities