Hazagation

Integrating climate change into multi-hazard mitigation planning
What is Hazard Mitigation?

- Sustained actions taken to reduce or eliminate long-term risk to people and property from hazards and their affects.

- The purpose of hazard mitigation is to:
  - Protect people and property from natural and manmade hazards; and
  - Minimize the costs of disaster response and recovery.
What is a Local Hazard Mitigation Plan (LHMP)?

- A plan through which a local jurisdiction or Tribe:
  - Identifies and profiles local hazards;
  - Assesses the community’s risk from local hazards; and
  - Develops a hazard mitigation strategy to reduce potential losses identified in the risk assessment

- LHMP’s are required for eligibility for some federal mitigation program funding (44 CFR Part 201)

- A LHMP is not regulatory
A Quick Snapshot

Local Hazard Mitigation Plan Status as of January 15, 2016

- Approved
- Approvable Pending Adoption
- Expiring Within 90 Days
- Expired
- No Approved Plan

https://www.fema.gov/hazard-mitigation-plan-status
Disaster Frequency is Increasing
And...the Climate is Changing
The Danger of Business as Usual
Hazagation

Embedding future climate change considerations into hazard mitigation planning

Existing and Future Risks
LHMP Requirements

Comparing the Local Mitigation Plan Review Crosswalk with the Local Mitigation Plan Review Tool Regulation Checklist

1. REGULATION CHECKLIST

<table>
<thead>
<tr>
<th>Regulation (44 CFR 201.6 Local Mitigation Plans)</th>
<th>CROSSWALK REFERENCE #</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ELEMENT A. PLANNING PROCESS</strong></td>
<td></td>
</tr>
<tr>
<td>A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))</td>
<td>2A, 3A, 4A, 4B</td>
</tr>
<tr>
<td>A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))</td>
<td>4D</td>
</tr>
<tr>
<td>A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))</td>
<td>4C</td>
</tr>
<tr>
<td>A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(1))</td>
<td>4E</td>
</tr>
<tr>
<td>A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(ii))</td>
<td>20A</td>
</tr>
<tr>
<td>A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))</td>
<td>18A, 18B, 18C</td>
</tr>
</tbody>
</table>

**ELEMENT A - CHANGES FROM THE CROSSWALK**

- A2 clarifies the interpretation of the CFR to involve neighboring communities, agencies involved in hazard mitigation and those with authority to regulate development.
- A5 and A6 moves the Plan Maintenance requirements into the Planning Process element.
Example: Worcester County, MD

- Sea level rise identified as a hazard
- Capacity assessment includes Sea Level Rise Response Strategy
- Climate-specific actions (research; planning; policy)
Example: Keene, NH

- Climate Change Adaptation Plan mentioned as part of capacity assessment
- Hazard assessment includes climate changes impact on heat
- Climate change in plan maintenance – specifically to make connections to Climate Adaptation Plan
Example: Austin, TX

- Climate stakeholders on **planning team**
- Austin Climate Protection Program part of **capacity assessment**
- Climate change specific **actions** (tree planting; research; downscaling)
- Climate impacts: flood, wildfire, drought, extreme heat, infectious disease
- **Plan maintenance** – Make connections to CAP
Example: Waveland, MS

- Climate change and sea level rise are assessed in the **Hazard Assessment** (stand alone hazard)

- The vulnerability assessments include a section on “Climate adaptation and X (coastal hazard, erosion, drought, etc.)”
  - Two presentations of vulnerability: with climate change and without

- Invited climate adaptation-related stakeholders to **public** meetings

- Some climate-specific **actions**; many actions that have adaptation value

https://www.ci.keene.nh.us/our-city
Example: Santa Cruz, CA

- All **hazards** include a section on “Climate adaptation considerations”
- Some sections include details about climate change and future risk and probability of hazard occurrences
- Same author for LHMP and Adaptation Plan
- Climate adaptation specific actions: planning; policies
- Climate Adaptation Plan is an appendix – was originally intended to be the LHMP
Baltimore and Boston
# Opportunities for Hazagation

## Existing Required Material per the FEMA Crosswalk

<table>
<thead>
<tr>
<th>Element B: Hazard Identification and Risk Assessment</th>
<th>Opportunity to Integrate Climate Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B1:</strong> Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction?</td>
<td>Consider either: 1) adding climate change as a stand alone hazard; or 2) adding how climate change could affect the type, location, severity, duration, and reoccurrence intervals for all the other hazards in your community. (B1)</td>
</tr>
<tr>
<td><strong>B2:</strong> Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction?</td>
<td>Make sure that climate change is factored into probability calculations for future hazards. (B2)</td>
</tr>
<tr>
<td><strong>B3:</strong> Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction?</td>
<td>Include climate-related changes to hazards in the vulnerability analysis and hazard impact summaries. (B3)</td>
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<tr>
<td><strong>B4:</strong> Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods?</td>
<td>Consider also including structures likely to be flooded in the future given changes to the floodplain likely to take place in a climate-altered future. (B4)</td>
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</table>
Thank You