

**United States House of Representatives  
Select Committee on the Climate Crisis**

**Hearing on November 20, 2019  
“Creating a Climate Resilient America:  
Reducing Risks and Costs”**

**Questions for the Record**

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**The Honorable Kathy Castor**

**1. What is the appropriate role for the federal government in managing flood risk?**

The federal government has multiple roles in managing flood risk. Three primary roles are listed below. Perhaps the most important role is the provision of data and information. Given the large reach of federal agencies, data is key to effective decision making. That is why ASFPM wholeheartedly supports FEMA’s National Flood Mapping Program, the USGS 3DEP program to collect LIDAR (topography) for the nation, USGS and NWS streamgaging, and the Digital Coast Act (which focuses on curating coastal data sets). We testified that a critical gap or need is to have a robust program to update precipitation frequency information. While NOAA produces Atlas 14, there no substantial ongoing funding or mandate to have that data updated every 5-10 years which is what ASFPM thinks is needed

Another role is providing leadership through promoting effective standards, effective program execution, and eliminating perverse incentives to not be flood resilient in federal programs. In 2012, ASFPM research determined that over 150 federal programs had the potential to impact sound floodplain management objectives; however, not all of these are oriented to ensure long term flood resiliency. For example, the tax code casualty loss deduction provides relief to individuals who did not take the step to purchase flood insurance, even if they were required to. An example of a perverse incentive is the authorization of a new flood control project by the USACE as long as it meets National Economic Development objectives. This may mean, a new levee that is built to less than a 100-year standard versus having a minimum standard or requirement for levee resiliency based on public safety (for example the Netherlands uses a 10,000 year standard). ASFPM strongly supported Executive Order 13690 which would have required agencies to consider future flood conditions and adhere to a higher standard than the NFIP is presently. An example of effective program execution is how FEMA does not hold its on-the-ground Federal Coordinating Officers to account for any kind of minimum requirement for building hazard mitigation into public assistance programs or for ensuring hazard mitigation projects get to a certain state of development before making decisions to close or scale back Joint Field Offices. Yet the policy goal of both Congress and FEMA is that both should be implemented fully and expediently.

Finally, a role is to provide incentives and resources to build and local capacity in flood risk management. The Federal government cannot do it all, nor should it. Flood risk management is a joint federal, state, local, individual and private sector responsibility. Too often these days federal program try to be implemented directly at the community level while states are either not included or overlooked. It is much more efficient and effective to build capacity and delegate authority to states.

**2. What role should states play in assisting communities to build resilience to climate change? Are all states capable of providing such assistance? If not, how could that capability be improved?**

1) Developing more specific, downscaled data; 2) providing state resources through state level resilience programs, 3) developing state plans and standards for resilience, and 4) providing training and building capacity at the local level. Presently few states are capable of providing this assistance. However this capability could be improved through a mix of carrots (incentives) and sticks (penalties). For example, if the availability of public assistance (by far the largest source of post-disaster aid) was conditioned on the requirement that a community had to have a valid mitigation plan as well as participate in additional resiliency program depending on the hazards they face, they undoubtedly would do it (stick approach – currently if a community doesn't have a hazard mitigation plan the only penalty is that hazard mitigation funding is unavailable). In fact, many more forms of disaster assistance, including CDBG-DR should be tied to hazard resilience activities.

**3. How might states and communities use information about future sea-level rise and flood risk to manage flood risk and reduce future losses?**

In a lot of ways. ASFPM and the American Planning Association just released a new report<sup>1</sup> on incorporating flood resilience into capital improvement planning (because infrastructure projects are typically a community's largest investment). Future Sea Level Rise information is beginning to be used in communities along the US Coastline (i.e., New York City, Norfolk VA, State of California) for planning and to implement both land use and building standards. It is being used by state Department of Transportation to do long-range repair/replacement planning.

**4. How can federal programs that use a Benefit-Cost Analysis better measure and integrate resilience into those analysis, and prioritize mitigation investments toward more resilient outcomes?**

A couple of thoughts. First, is that the discount rate, at least for FEMA's benefit-cost analysis needs to be lowered. The effect of the artificially high discount rate in the FEMA BCA methodology limits FEMA's ability to approve mitigation projects that are, in fact cost effective. This is a recommendation recently made in the November 2019 FEMA National Advisory Council report<sup>2</sup> which recommended the discount rate be lowered from 7% to 2-3%. Second, is that most benefit-cost analysis modules do not account for social impacts.

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<sup>1</sup> <https://www.planning.org/publications/report/9192800/>

<sup>2</sup> [https://www.fema.gov/media-library-data/1576076713587-c1ae1017f2adb4b836ad3db0c26d3578/November\\_2019\\_NAC\\_Report\\_final.pdf](https://www.fema.gov/media-library-data/1576076713587-c1ae1017f2adb4b836ad3db0c26d3578/November_2019_NAC_Report_final.pdf)

**5. How well do the consensus-based model codes address flood risk? What sorts of changes would you recommend to the model codes to address sea-level rise and extreme rain events? Why do you think the model codes haven't integrated the sorts of freeboard requirements that are already in place in so many states and communities?**

While consensus based codes have progressed over the years to begin to more proactively address flood risk, they are still far from what is desirable, especially as it comes to resiliency against future flooding conditions. Given that two trends we are seeing in the science is that sea level rise estimates are likely too conservative and slow, a meaningful requirement should reflect the useful life of the type of building which the code applies. For a residential home, this may be well over 100 years. That means we need to begin to build estimates of SLR out to 2125 and beyond. Because model building codes are not land use codes (how to build in a risky area more safely versus whether you should be building there in the first place), the minimum freeboard requirement should be 2 feet and in coastal areas should be 3 feet. Critical facilities should be 3 feet or the 500-year elevation whichever greater. One trend ASFPM is beginning to see is communities adopting the 500-year flood level above the FEMA mapped floodplain as a proxy for future conditions. Another requirement would be to use future conditions floodplains especially for critical facilities.

Model codes haven't integrated the sort of freeboard requirements that are already in place in many states and communities because the process is very hard to get forward thinking ideas approved. And this is typically due the outsized presence of the homebuilding industry in the process.

**6. What are the most effective ways to assist communities so that they can build resilience to climate change into their plans and actions?**

The most effective way is to have FEMA map future conditions floodplains and include them in the package of information they give communities immediately. While FEMA has been required to include future conditions into their flood map updates as a result of the 2012 reform of the NFIP (after they had been advised by the TMAC as to how to do it), FEMA has yet to implement this future conditions requirement. As was answered in question 1, another aspect of this is that as a nation we must have a mandatory, frequent update of rainfall-frequency information (currently the program to update Atlas 14 does not have consistent funding nor a mandate). Another critical aspect is to help them interpret future conditions scenarios. For example, today, New York City is planning for 6 feet of Sea Level Rise by 2100, while the State of Hawaii is planning for 3.2. Why? This is partially due to the future condition scenario that was picked. Another effective way is to invest in quality datasets and tools that can be used by communities. A great example of this is the Digital Coast initiative by NOAA.<sup>3</sup> In fact, ASFPM supports Congressional passage of the Digital Coast Act (already passed by the House) which would build success on the initiative.

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<sup>3</sup> <https://coast.noaa.gov/digitalcoast/>

**7. How do communities use Hazard Mitigation Plans before and after disasters? What is the relationship of Hazard Mitigation Plans to comprehensive plans, zoning, and building codes?**

Hazard mitigation plans are typically developed prior to a disaster but are hardly ever referenced after the disaster or adjusted in the immediate aftermath of a disaster (which would be a best practice). Even worse, there has not been a lot of success integrating these plans into comprehensive plans, zoning, and building codes. There are numerous reasons for this but one of the primary ones is that hazard mitigation plans are often produced by the local emergency manager and comprehensive plans, zoning are led by the local planning department – these silos do exist at the local level too. The FEMA publication<sup>4</sup> Integrating Hazard Mitigation Into Local Planning pages 2-4 and 2-5 is a good summary of where these points of intersection and opportunities for integration exist.

In an ideal world, the hazard mitigation plan, once developed or updated, would be used to then feed into the update of a community comprehensive plan which would, in turn, lead to updated zoning and building code standards. A new approach, the Plan Integration for Resilience Scorecard or PIRS created at Texas A&M University is a hands on, facilitated approach that gets participation from different local government agencies and uses a scorecard to identify points of consistency and points of inconsistency. A link to a webinar on this approach can be found here.<sup>5</sup>

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<sup>4</sup> [https://www.fema.gov/media-library-data/20130726-1908-25045-0016/integrating\\_hazmit.pdf](https://www.fema.gov/media-library-data/20130726-1908-25045-0016/integrating_hazmit.pdf)

<sup>5</sup> [https://www.floods.org/ace-files/training/SLIDES\\_PlanIntegration\\_PIE\\_Webinar\\_10.4.2017.pdf](https://www.floods.org/ace-files/training/SLIDES_PlanIntegration_PIE_Webinar_10.4.2017.pdf)