Opening Remarks
4th NIST Workshop on Disaster Resilience
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- Good morning and welcome to the fourth NIST Workshop on Disaster Resilience.

- Thank you for taking the time out of your busy schedules to participate ---- and to provide your insights and experience to the Disaster Resilience Framework.

- Some of our attendees are alumni of previous workshops. Thanks for your dedication—and, dare I say, *resilience*, especially for those who aren't fond of daylong meetings.

- You don't have to search far and wide for reasons to be here. Last year, wildfires scorched Southern California and Washington, and Napa was rocked by an earthquake. In fact, there were 45 major disaster declarations last year.

- And 2014 was relatively quiet, at least in terms of raw numbers.

- In fact, the last time there were fewer than 50 major disaster declarations was 2002.

- And since 2002, the U.S. has endured seven of the 10 most costly disasters in its history, with Hurricane Katrina and Superstorm Sandy at the top of the list.

- And as we look ahead, we know that the disaster risks will only increase. Recent studies have warned of increased coastal flooding, megadroughts, and Katrina-scale storms blasting the Northeast, just to name a few of the predicted impacts of climate change.

- So, achieving disaster resilience should be a top priority for the nation, states, businesses, citizens, and, especially, *communities*.

- Communities — where we live, work, raise families—are the necessary focal point. Communities are 'ground zero' when a hazard event strikes. And communities bear the brunt of recovery, which can span many years.

- But communities also bear the responsibility to become more resilient so that random, yet almost inevitable hazards do not become disasters. They are challenged to be proactive—to take steps so that they can better withstand, adapt, and recover quickly when nature throws a violent punch or when they are assailed by human-caused catastrophe.

- But what steps? And how and when should communities take them?

- Well, that's why you're here --- and that's why NIST has undertaken this collaborative, nationwide effort to develop the Disaster Resilience Framework. Communities want actionable information and guidance to support their decision-making and their investments in resilience.

- With reliable information, methods, and tools, communities can assess their strengths and their vulnerabilities. They can identify their blind spots. And they can develop an integrated view of what resilience looks like so that **all** the key players will be involved in helping to make it a reality.

- Now nobody disagrees—I hope—that disaster resilience is important. In fact, resilience has become somewhat of a buzz word and catch-all term. In a recent letter to the journal *Nature*, which was prompted by an article on flood resilience, the writer claimed that there are over 70 different definitions of resilience in the scientific literature.

- While I agree that consistent terminology is important, I think we have strong and building consensus on the key points to begin operationalizing the goal of *community disaster resilience.*

- Clearly, we can do this for the built environment—the focus of the framework. In fact, we must do it!

- Communities are ready for a new approach that reduces damage levels and speeds recovery.

- Our challenge is to clear and mark the path that leads to the goal of reducing the impacts of hazard events on our society and economy by enhancing the resilience of buildings and infrastructure systems in our communities.

- To do this, it is necessary to shift our thinking from the old way—designing and operating buildings and infrastructure as independent systems--to a new way--as an *integrated system-of-systems*. We also must interweave resilience planning into a community's social and economic systems, since they are supported by the physical infrastructure and the vital services it enables.

- Providing communities with guidance to avoid disastrous consequences can make a tremendously positive difference. Helping communities to make resilience an integral part of their long-term planning and development is an incredible two-for-one deal.

- It not only will increase resilience to disruptive events -- and reduce their enormous toll on people and the economy;   it also will make our communities better places to live and more desirable locations for business and industry.

- As many of you know, NIST's efforts are part of a much larger Federal effort to enhance the resilience of our communities   and by extension, the resilience of the Nation to the hazards we face.

- The Department of Commerce, of which NIST is a part, has made resilience an element of its strategic plan. Many parts of the Department are engaged in efforts to improve the resilience of our communities and the nation.

- The NIST resilience program is a part of -- and contributes to -- interagency efforts to prepare the Nation for the effects of a changing climate, as documented in the President's Climate Action Plan.

- Many of you have contributed to the progress of the Framework as it has progressed from a rather rough draft last summer to the current 75% draft that NIST posted to its website last week.

- The development of the Framework has benefitted *greatly* from the input that we have gathered at the previous three workshops --- and written comments submitted to our team by e-mail. **Again, we thank you for your support of this important effort.**

- NIST also posted the first version of a compendium of codes and standards that support resilience. The compendium is intended to be a companion to the Disaster Resilience Framework. It is also a living reference, and we invite your continued input regarding available standards, codes, and guidance that address resilience.

- Since the last workshop in October, we have added nine Disaster Resilience Fellows to our team, whom you will meet during the next two days. The Disaster Resilience Fellows have contributed substantially to the drafting of the Framework.

- This workshop is our last working session to help prepare the Disaster Resilience Framework for release as a complete draft for public comment in April.

- While that milestone is important, our work and our engagement with the stakeholder community do not stop there.

- Much of the discussion over the next two days is focused on the Framework, but some of you will be engaged in the very important task of shaping the charter for the Disaster Resilience Standards Panel.

- The Panel will be composed of stakeholders from many different perspectives to help advance the guidance for resilience planning—that is, the Framework -- and the Model Resilience Guidelines that will support implementation.

- The Panel will only be successful with broad stakeholder support and participation. Even if you are not participating in the discussions over the next two days, I encourage you to consider being involved with the Panel as it forms later this spring and begins its work during the summer.

- The efforts I have just described are only a part of NIST's commitment to improving the resilience of our Nation's communities.

- NIST has also undertaken a research effort to develop the technical basis and tools to measure resilience at the community scale, accounting for the interconnections among buildings and infrastructure and the social systems that depend on them.

- In addition, the Applied Economics Office in NIST's Engineering Laboratory is working on an economics-based, decision-support tool to be used in conjunction with the Resilience Framework.

- So, thank you again for coming and for sharing your ideas. I look forward to a productive workshop.

- Let's get to work!