



## **Lessons From Irene: Facing the Impacts of a Changing Climate**

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by Elizabeth Sawin

Thank you for asking me here tonight to share some reflections. Climate Interactive provides analysis and tools on climate change internationally, and so it has been a remarkable experience to watch friends and neighbors across Vermont grapple with the kind of event that climate science tells us is going to become more and more common.

We've been able to devote some of our time as a project to looking at events in Vermont to try to make sense out of them so that we can share some of what is being learned here with leaders and citizens in other parts of the world. We are still learning and thinking and observing, but I do have a few lessons that are beginning to take shape for me.

The first one comes from watching my daughter Jenna, who began her career as a high school student one-week post-Irene. On top of the ordinary challenges of being the new kid in a new place she ended up taking a route to school each day through a landscape of demolished buildings and washed out roads. Some of the first kids she met were living away from their families, because there was no way to get back and forth from their towns to the school each day. Without water, the school of 700 kids and teachers drank bottled water and used portable toilets. There was also a noticeable spirit of community, co-operation, mutual assistance, and creativity, with kids wielding rakes and shovels, and taking care of each other.

I think that's how it's going to be for her generation and for those that follow. They'll experience all the normal milestones – growing-up, making mistakes finding their purpose, maybe falling in love, maybe becoming parents – but through it all – sometimes in the distance or sometimes right close at hand – will be the disruptions from an increasingly unsettled planetary climate system, asking more of them, testing them, and sometimes rewarding them with clarity about what really matters and the sense of purpose that comes from facing a challenge shoulder to shoulder with others.

That sense of crossing a threshold into something new is the first lesson I've drawn from Irene:

**Here we go. Like it or not we are entering a new era, of new challenges, and possibly new rewards. Hang on for the ride.**



Photo: Tony Talbot, AP

Since the industrial revolution we've had 1.4° F (0.8°C) of warming. Climate models, including one developed by my research group, tell us that even if we miraculously stopped all greenhouse gas pollution tomorrow, we would still see close to 2.5 °F (1.4°C) of warming.

Of course we're not on track for heroic reductions in greenhouse gas pollution tomorrow, so we need to expect more than that 2.5° F of warming. How much more is up to all of us, and our ability to work together to end the era of fossil fuels.

There is a lot we can do to prepare for future Irene's. There's a lot we can do to be ready for even more severe disruptions. Humans are tough and brave and resilient. But there are limits to our toughness and our resourcefulness. The longer fossil fuels are burned, the warmer it gets, the more difficult the weather, the harder it is to cope. Because climate change is irreversible, at least on human time scales, we simply must not push the climate into the realm where it becomes too much to cope with. That is the second lesson I take from Irene:

**Now is the time to come together to end the era of fossil fuels.**

We need to work harder, smarter, faster towards making the addition of more heat trapping pollution to the atmosphere unacceptable everywhere. And what we've just been through together can be a source of the motivation, the strength, and the moral authority we will need to do just that.

We are collecting a lot of stories in our project, stories of survivors and those who came to their aid, and each of those stories offers the kind strength and motivation we are going to need to create a clean energy revolution.

*On Monday I was out handing out food, you know those ice pops? I'll never forget this. Two girls stopped to get one and they said to me 'we just saw our house and it's fine and all of our stuff is still in our bedroom, we saw it!' Later I found out that their house was the one that floated down river and got pushed up against the bridge. They had walked out on the bridge and looked down through their upstairs window into their room. And they weren't crying or anything when they told me, they were probably eight and ten and they were so strong.*

If we are going to ask our kids to be strong enough to endure this kind of challenge then certainly the least we can do is find our own inner strength to limit the magnitude of the challenges they will face.

Irene showed us that it's not just the tiny low-lying islands in the Pacific that are under siege from climate change. We all are. Which means that we all have the moral authority to take a stand and say that enough is enough.

We need to end the burning of fossil fuels, but we've left things so late that, even when we accomplish this, the Earth's climate system will continue to present us with challenges. Irene has offered some lessons about how to prepare for them.



Photo: Hannah Morgan, Climate Interactive

One of the most pleasant surprises for me has been the role that existing organizations – non-profits, churches, and local businesses – played in the immediate aftermath of the flooding. You've all heard the stories. Some of you have lived through them. From restaurants that cooked up their inventory and served the hungry, to the brewery that provide fresh water and ice to several towns, to the food pantries that became clearinghouses for information, volunteers and supplies, it was the existing web of connections that helped

those in need for weeks, before FEMA and the Red Cross and others were able to step in.

Here's one example, from a home repair service organization in the Upper Valley:

*One of the initial things we did right after the flood was to become a clearinghouse right away to funnel volunteers to the homes and businesses that needed them. Then as time went on we helped to direct people to individual towns where they had set up a centralized volunteer program. We also already had a mailing list with three to four hundred volunteers who have helped out over the years, so immediately an email went out to all of them and we immediately got dozens and dozens of responses, so that database was also already in place.*

And we've seen dozens of examples like this, each pointing to something exciting and somehow relieving. Each example says to me that being prepared for disaster is not a whole new program of work that we have to add onto our already busy lives and our already full agendas for social change.

**Being prepared for disaster may be just more of the same, more of what we already want, communities that take care of each other, organizations that serve the most vulnerable, business woven into community, people who know and care about their neighbors.**

A final lesson I've taken is that the immediate aftermath of a disaster doesn't provide much of a window of opportunity for doing things differently.

In the first day or two after the flooding, I thought that there would be a chance to rebuild bridges, roads, and homes in ways that increased their resilience to future flooding. It seemed natural to me, and we saw some of that. But, while the Governor and a few others clearly linked the flooding to climate change, and warned that we should expect more of the same in the future, by and large the pressure to get back to normal, so that kids could go to school, people could get to work, ambulances could get to sick people, and the economy could keep going, meant that most rebuilding ended replicating the pre-existing infrastructure.

This does not appear to be something unique to Vermont. A colleague who ran a large aid agency after last year's flooding in Pakistan reported the same enormous pressure to, as she put it, "Pour concrete as fast as possible to rebuild what had just been flattened." And another colleague who advises governments on climate change adaptation said bluntly that the post-disaster window of opportunity is a myth.

So that is, for me a forth lesson:

**Being prepared for climate change – building differently, understanding the likely nature of upcoming stresses – can't be an occasional question that we take up in the aftermath of crises. It needs to become an every day question, a part of every decision.**

For every new house built, every farm decision, every road repair, we need to start asking, what is the future this road, this home, this farm will exist through, and what is the best decision with that future in mind?

This is work for all of us, not those just hit by a disaster. Adaptation and resilience require all of us doing things differently every day, with every decision, year after year after year.

There are likely many more lessons than these four. But for now these are the ones that stand out the most sharply for me, and I'd like to close by repeating them:

1. We are entering a new era. Get ready for the ride.

2. We need to come together and limit the burning of fossil fuels. What we've just been through offers motivation, strength and moral authority for doing just that.
3. Building community cohesion and connection is an excellent preparedness strategy.
4. Preparation needs to be an every-day, every-decision strategy, not something that we do occasionally in the aftermath of a disaster.

I wish I had more time, to share more of the anecdotes and the lessons we are drawing from them. We hope to write and explore more about this in the coming months, and you can follow our thinking on our website: [www.ClimateInteractive.org](http://www.ClimateInteractive.org).

Thank You.



Photo: Hannah Morgan, Climate Interactive

*Much of the field research underlying these lessons was collected by Hannah Morgan.*

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