

Adapting to Climate Change

Chesapeake Bay STAC Workshop

Debra T. Ballen

IBHS General Counsel and SVP, Public Policy

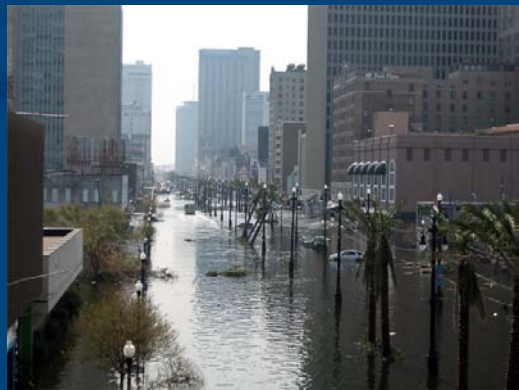
March 15, 2011

**Institute for
Business &
Home Safety®**



Institute for Business & Home Safety[®]

**Where building safety research
leads to real-world solutions**





“It just seemed like it was back-to-back and it came in waves. The term '100-year event' really lost its meaning this year.”

– FEMA Administrator Craig Fugate





Some Environmental Benefits of Mitigation

- ✓ Less waste in landfills
- ✓ CO₂ and other greenhouse gas effects of fire
- ✓ Wildfire → landslides (loss of vegetation)
- ✓ Consistent with natural floodplain/coastal management
- ✓ Carbon footprint of community reconstruction

- **Hurricane Katrina created 22 million tons of debris**
- **By comparison, the World Trade Center wreckage = 1.5 million tons**



Greater wind resistance



Keeps wind & water out



Insulated, fire-resistant



**Build for where
– not just how –
you want to live**

**Institute for
Business &
Home Safety®**

Bolivar Peninsula Pre-Ike



Bolivar Peninsula Post-Ike





**Wildfire-adaptive Community
Post- 2007 Wildfire
San Diego County, Calif.**



**Traditional Neighborhood
Post- 2007 Wildfire
San Diego County, Calif.**

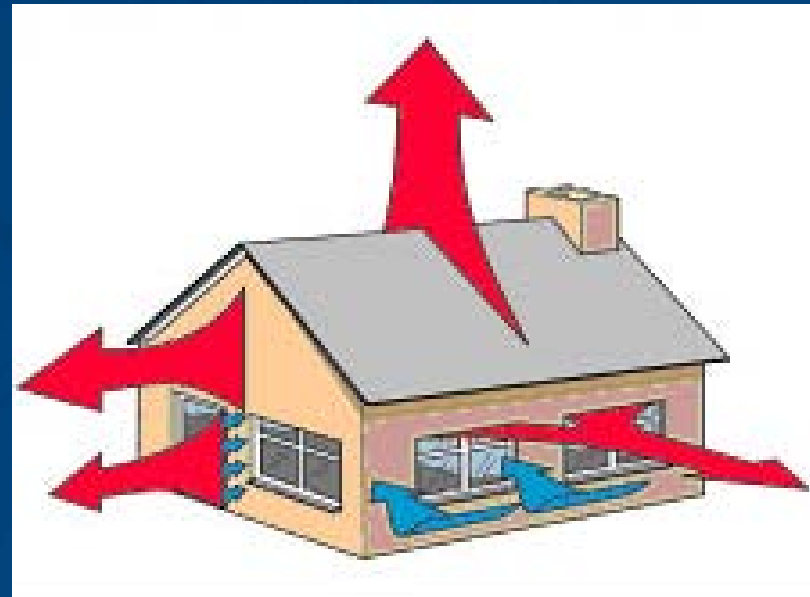
Going Green and Building Strong

- Durability *should be* 100% compatible with sustainability, but:
- Potential for property **loss reduction**
- Potential for **increased losses**



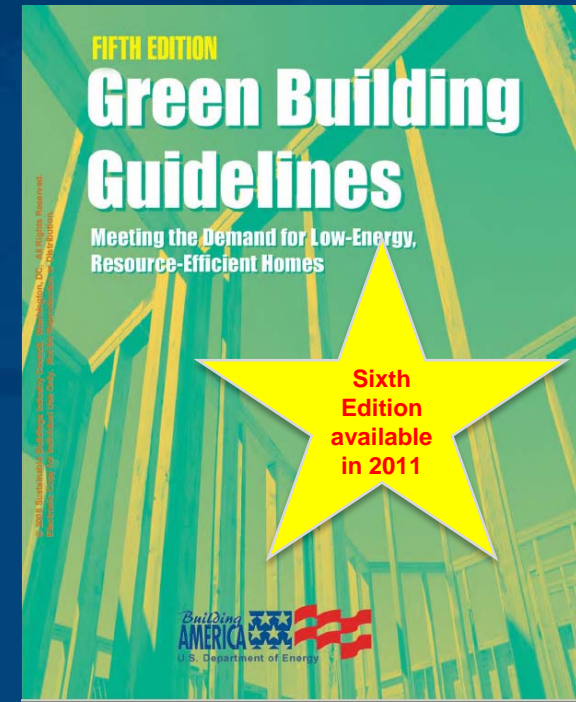
LEED Issues

- Individual LEED elements are optional; mitigation best achieved with systems approach
- LEED could weight durability elements more heavily (“win-win” for environment)
- Recognize “mitigation busters” are not good for environment



IBHS & Sustainable Buildings Industry Council

- Sixth Edition will include Disaster Safety Chapter written by IBHS:
- Includes peril-specific solutions for new and existing homes;
- Integrates FORTIFIED programs into the green building vernacular;
- Highlights complimentary relationship between green building and FORTIFIED;
- Case studies spotlight success stories and affordability in disaster-resistant design concepts.



High Performance Building Requirements for Sustainability

➤ Developed in partnership with IBHS and Portland Cement Association

What is the goal?

Integration of functional resilience as a key component to the design and construction of “sustainable” or “green” buildings by modifying the International Building Code.

Why is it needed?

The Brookings Institution projects that by 2030, one-third or 82 billion square feet of the current building stock will have been demolished due to a lack of sustainable construction techniques.

The average annual direct property loss due to natural disasters in the United States exceeds \$35 billion, according to NOAA databases.



IBHS Research Center



**Institute for
Business &
Home Safety®**

IBHS Research Center Programs



- **Wind**
- **Hail**
- **Wildfire**
- **Wind-driven water**

Large Test Chamber



✓ **145 ft W x 145 ft L x 70 ft H test chamber**

✓ **60 ft W x 30 ft H wind inlet**

✓ **Variable droplet-sized rain (up to 8 in/hr)**

✓ **Realistic hailstones & hailstorms being developed**

✓ **Firebrand generation being developed**

✓ **High-speed cameras & TV lighting**

**Institute for
Business &
Home Safety®**

Initial Research Focus: Roofs

- **Residential shingle performance**
- **Commercial rooftop equipment wind loads and anchorage**
- **Residential and commercial photovoltaic systems (solar arrays)**



Keeping Up With IBHS



DISASTER SAFETY BLOG

The Official blog of the Institute for Business & Home Safety and the IBHS Research Center.

Home Archives Profile Subscribe

JANUARY 04, 2011

Disasters and losses reached new highs in 2010, new report reveals

Natural disasters worldwide cost insurers more in property losses in 2010, according to a new report.

The new analysis by Munich Re, [a member of the Institute for Business & Home Safety \(IBHS\)](#), reveals insurers paid

\$37 billion in claims, which exceeded the 10-year average of \$35 billion. This



**Institute for
Business &
Home Safety**

[Subscribe to this blog's feed](#)

TWITTER

IBHS Urges Business Owners to Prepare for Winter Weather
<http://www.disastersafety.org/newsroom/view.asp?id=13444&Mode=List> 2 days ago

Disasters and losses reached new highs in 2010, new report reveals <http://bit.ly/hQ8wgC> 3 days ago

Tornado damage estimates emerge from Midwest storms <http://bit.ly/fl2sZQ> 4 days ago

[follow me on Twitter](#)



www.DisasterSafety.org

**Institute for
Business &
Home Safety**

THANK YOU.

Any questions?

DISCLAIMER

IBHS SHALL HAVE NO LIABILITY, IN NEGLIGENCE, TORT OR OTHERWISE WITH RESPECT TO THE USE OF ANY OF THE INFORMATION AND/OR PRACTICES DESCRIBED IN THIS SLIDESHOW. ALTERATIONS OR MODIFICATIONS TO ANY OF THE CONTENT OF THIS SLIDESHOW ARE THE SOLE RESPONSIBILITY OF THE PERSON AND/OR BUSINESS MAKING SUCH ALTERATIONS OR MODIFICATIONS. NOTHING CONTAINED IN THIS SLIDESHOW IS INTENDED OR WRITTEN TO BE USED, NOR MAY IT BE RELIED UPON OR USED, BY ANY PERSON AND/OR BUSINESS AS LEGAL ADVICE.