

PRESENTED BY TEXAS TECH UNIVERSITY

TAMEST **NATURAL HAZARDS SUMMIT**

*Responding
to and
Mitigating
the Impacts*

LUBBOCK, TEXAS

05.16.2022

#NATURALHAZARDSSUMMIT

Panel:

Improving Resiliency of Infrastructure to Prevent Fatalities and Mitigate Damages

MODERATOR



CHANDRA FRANKLIN WOMACK

Owner and Chief Executive Officer, Aran & Franklin;
Board Chair, Texas
Windstorm Insurance
Association

SPEAKERS



IAN GIAMMANCO, PH.D.

Lead Research Meteorologist & Sr. Director for Standards and Data Analytics, Insurance Institute for Business & Home Safety



MARC LEVITAN, PH.D.

Lead Research Engineer, National Windstorm Impact Reduction Program, National Institute of Standards and Technology



CHRIS LETCHFORD, D.PHIL.

Professor and Chair
Rensselaer
Polytechnic Institute

Covering All The Bases: Building to the Hazards We Face

Ian M. Giammanco, PhD
Lead Research Meteorologist &
Sr. Director for Standards & Data Analytics
Insurance Institute for Business & Home Safety

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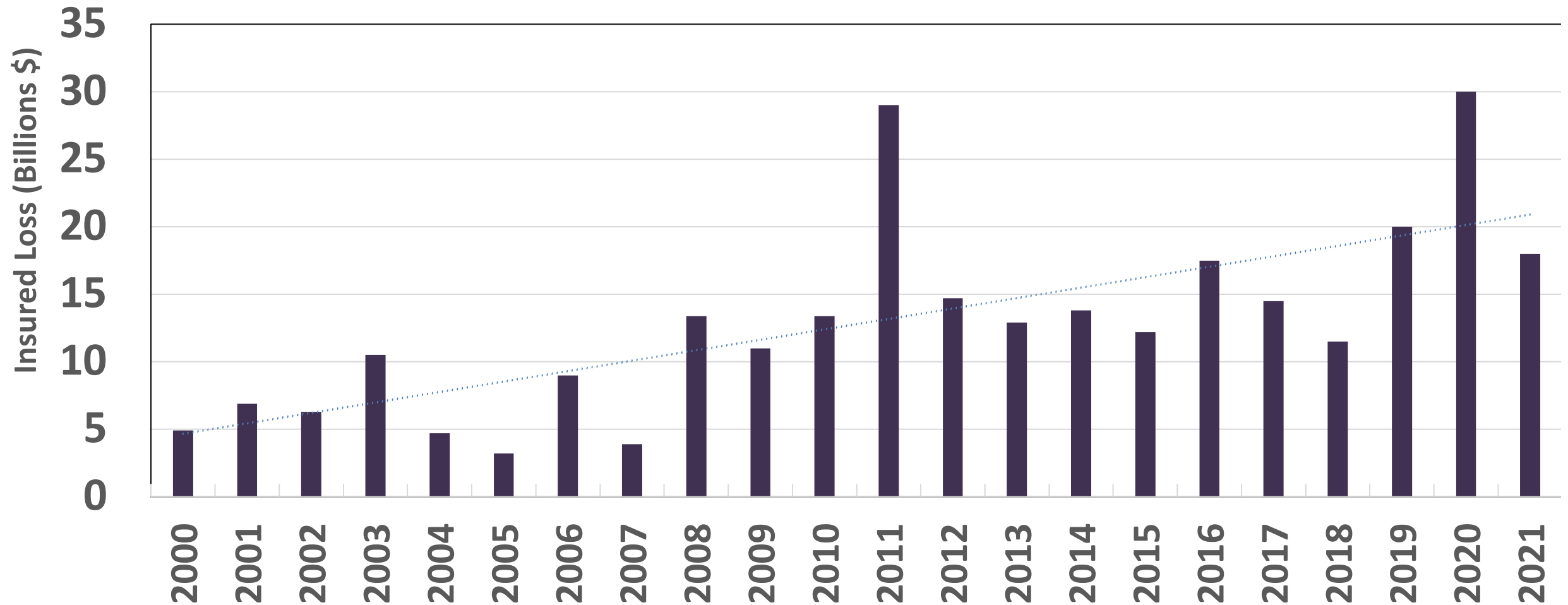
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The background of the slide is a photograph of a vast green field under a dramatic, cloudy sky. The clouds are dark and heavy, suggesting an approaching storm, with some lighter patches where the sun might be breaking through. The field is lush green and stretches to the horizon.

**We must consider
ALL the hazards
a home or business
faces.**

Annual Severe Convective Storm Insured Losses - AON



Severe Convective Storm Hazards and Loss



Hail

Hail accounts for 70% of annual average loss. In any given year hail is 60-80% of the damage produced by severe convective storms



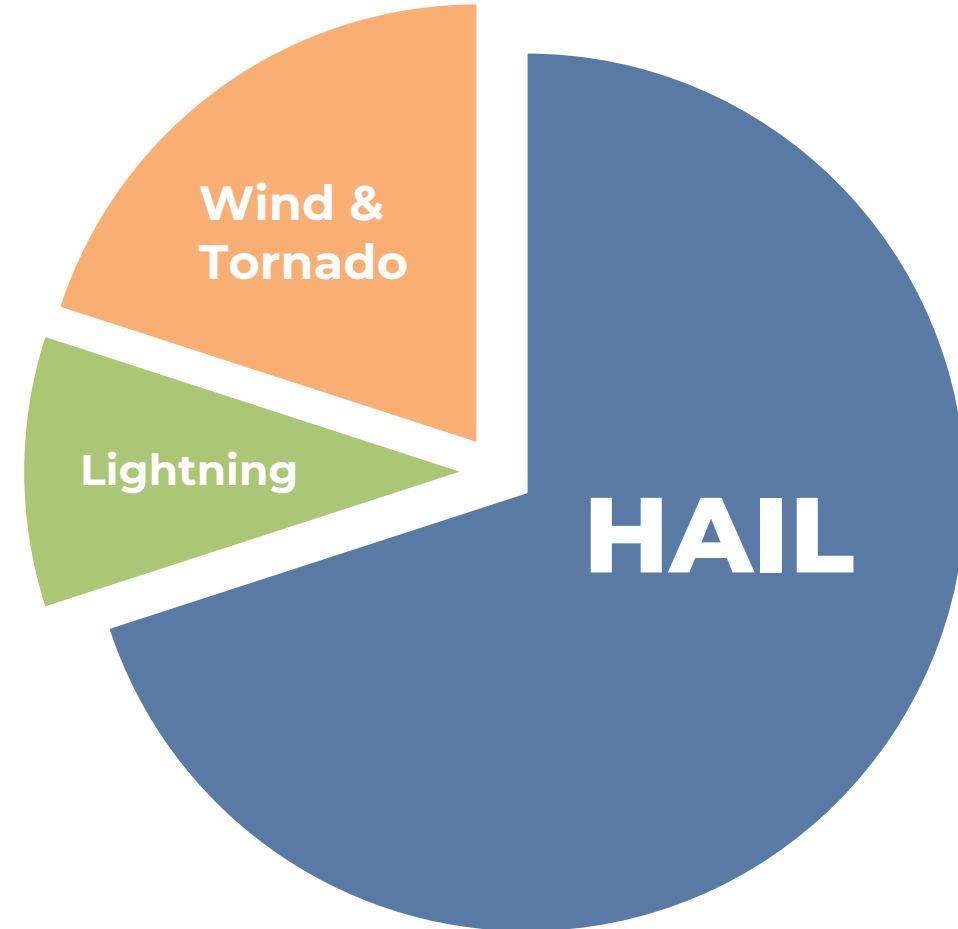
Wind & Tornadoes

Severe winds both from straight-line wind events and tornadoes account for about 20% of average annual loss.



Lightning

Lightning, including fires started by lightning accounts for about 10%



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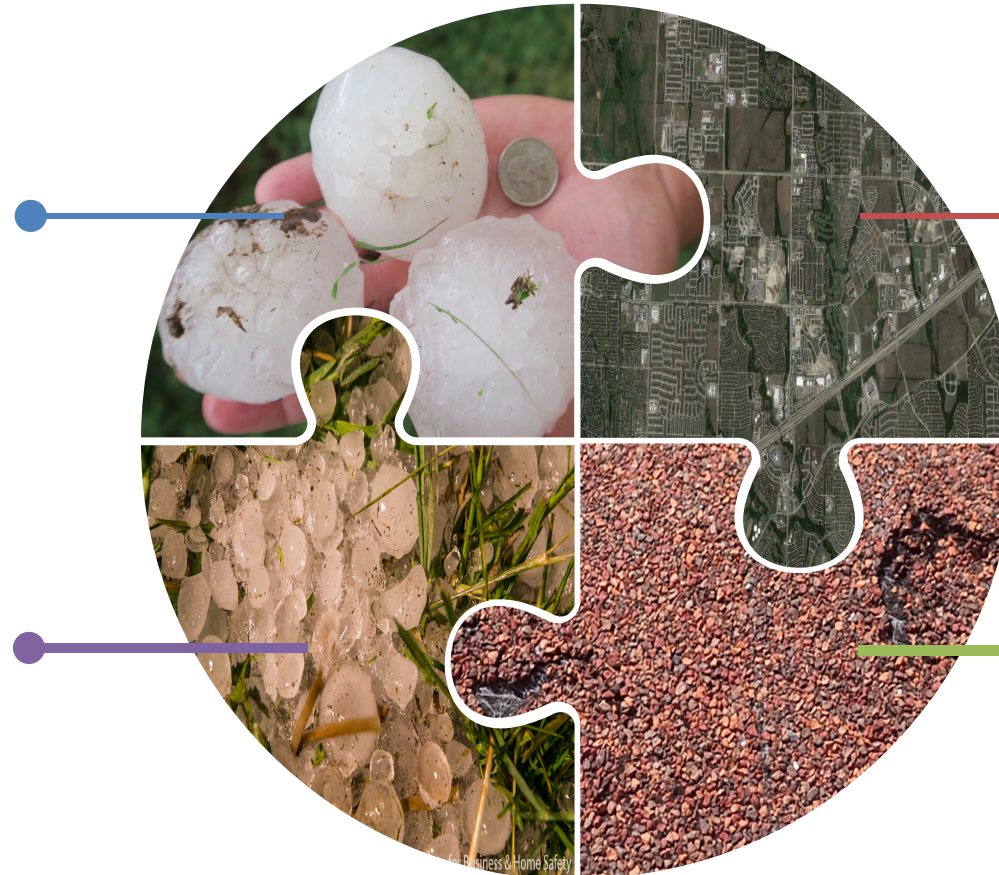
Ingredients for a Catastrophic Hailstorm

Big Hail

Damage to structures begins often at hail sizes above 1.5 inches (3.8 cm)

Lots of Hail + Wind

High concentrations of hail embedded in strong winds make even small hailstones damaging



Major metro

Our suburban environment is growing quickly. We build larger and closer together than ever before

Vulnerable Roof Covers

U.S. & Canada only countries that the dominant roof cover is asphalt shingles

Most building materials are not designed to resist large hail

CLAIMS ANALYSIS

Single Large carrier: \$280 Million
12 most active hail days 2018-2020

87% of claims occurred at radar-estimated hail
sizes below 2 inches

By using better roof products,
\$100-210 million in potential savings

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We have to create the right nudges to do better...

More and more tools are
Becoming available

ROOF SHINGLE HAIL IMPACT RATINGS

Manufacturer/ Brand	Overall Rating	Dents/ Ridges	Tears	Granule Loss
 ATLAS StormMaster® Shake				
 Malarkey Roofing Products Vista®				
 CertainTeed Roofing NorthGate®				
 OWENS CORNING TruDefinition® Duration FLEX™				
 OWENS CORNING TruDefinition® WeatherGuard® HP				
 GAF Timberline® Armorshield™ II				
 IKO® Nordic™				
 Malarkey Roofing Products Legacy®				
 TAMKO BUILDING PRODUCTS Heritage® IR				

Key  Excellent  Good  Marginal  Poor