THE EXTREME WIND WARNING - ITS ROLE IN IMPROVING PUBLIC PREPARATION AND RESPONSE TO EXTREME LANDFALLING HURRICANE WINDS

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J8.5 Symposium on Urban High Impact Weather
89th AMS Annual Meeting
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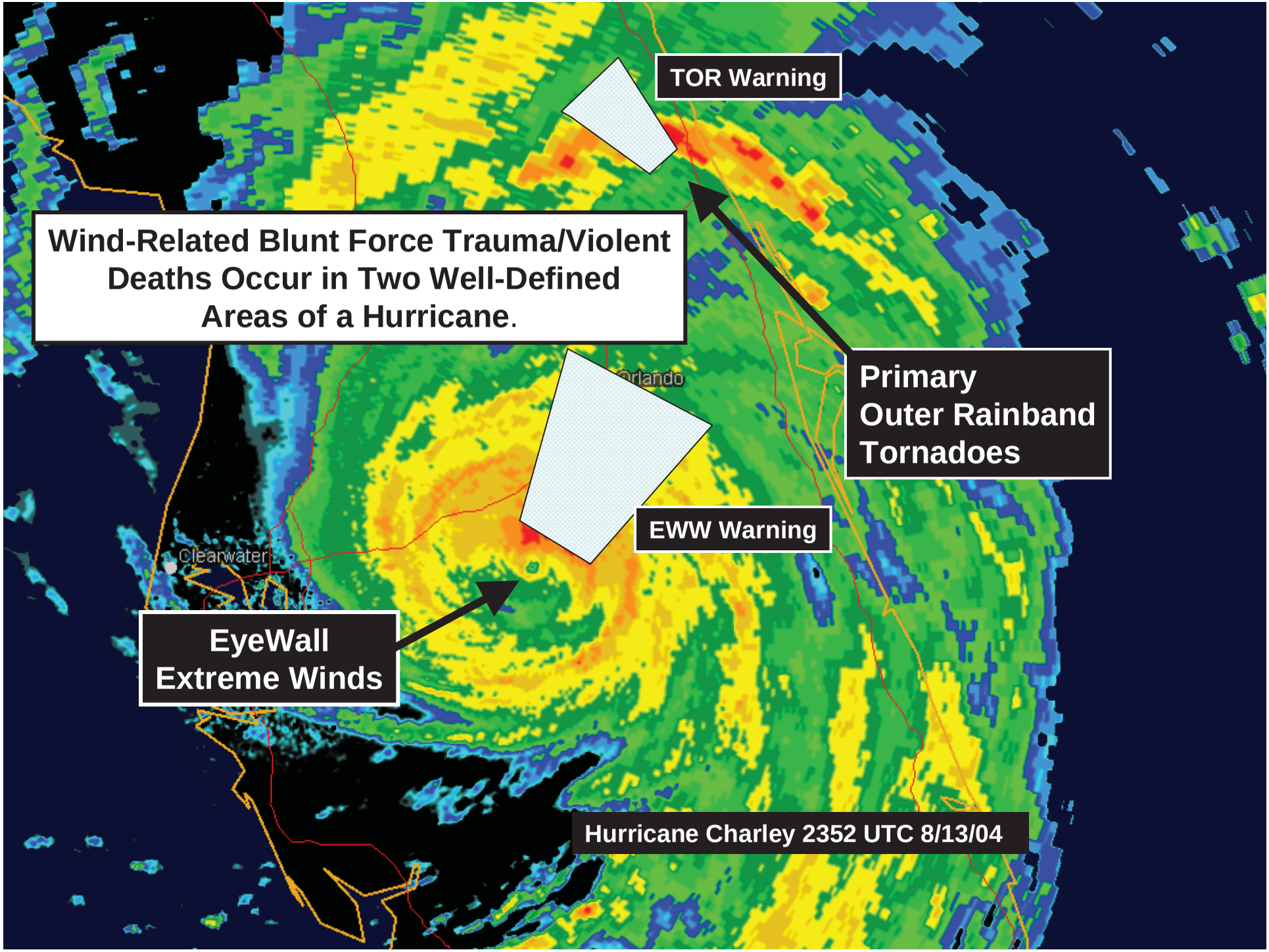
Phoenix, AZ

"Working Together To Save Lives"


TOR Warning
Wind-Related Blunt Force Trauma/Violent Deaths Occur in Two Well-Defined Areas of a Hurricane.
Primary Outer Rainband Tornadoes
Orlando
EWW Warning
Clearwater
EyeWall Extreme Winds
Hurricane Charley 2352 UTC 8/13/04

Extreme Wind Warning (EWW)

inform the public of the need to take immediate shelter in an interior portion of a well-built structure due to the onset of extreme tropical cyclone winds.

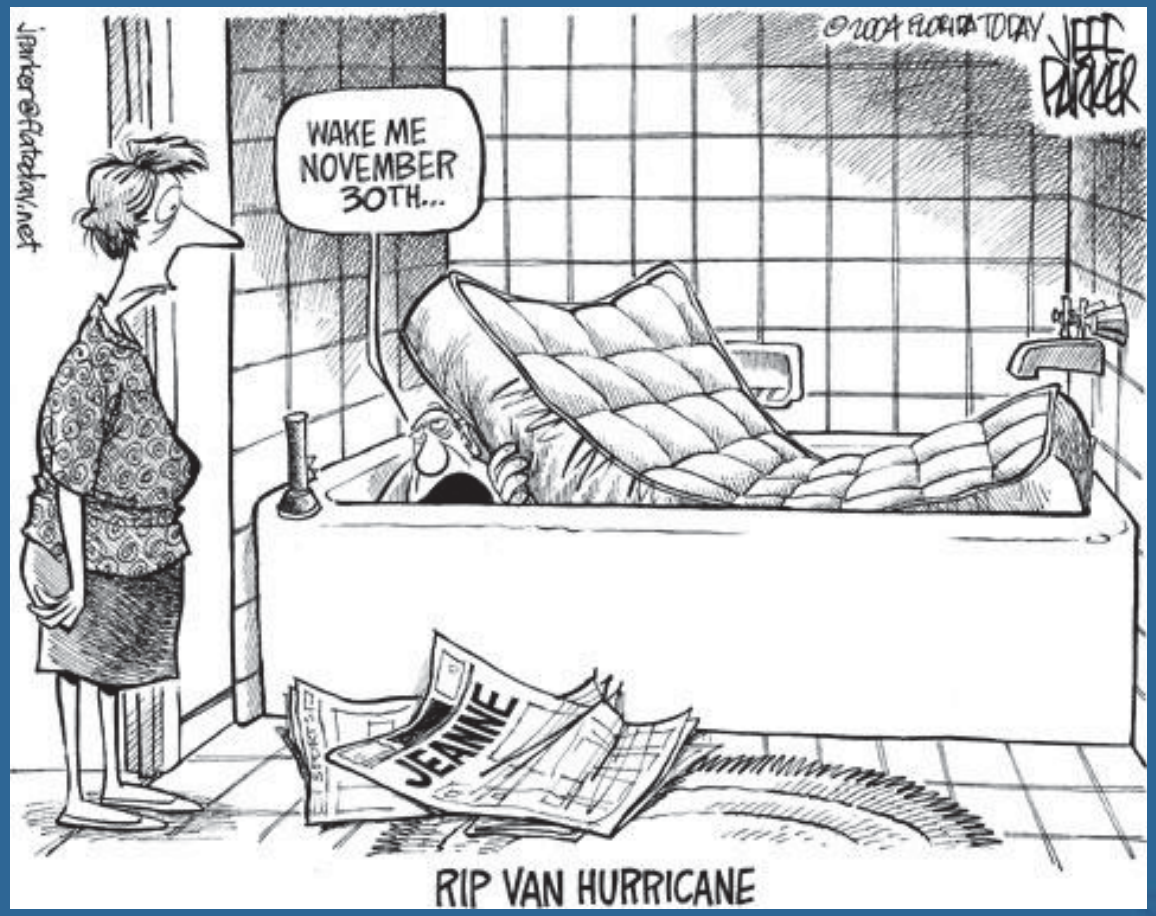
Issuance Criteria - An EWW issued when both of the following criteria are met:

- Tropical cyclone is a CAT 3 or greater.

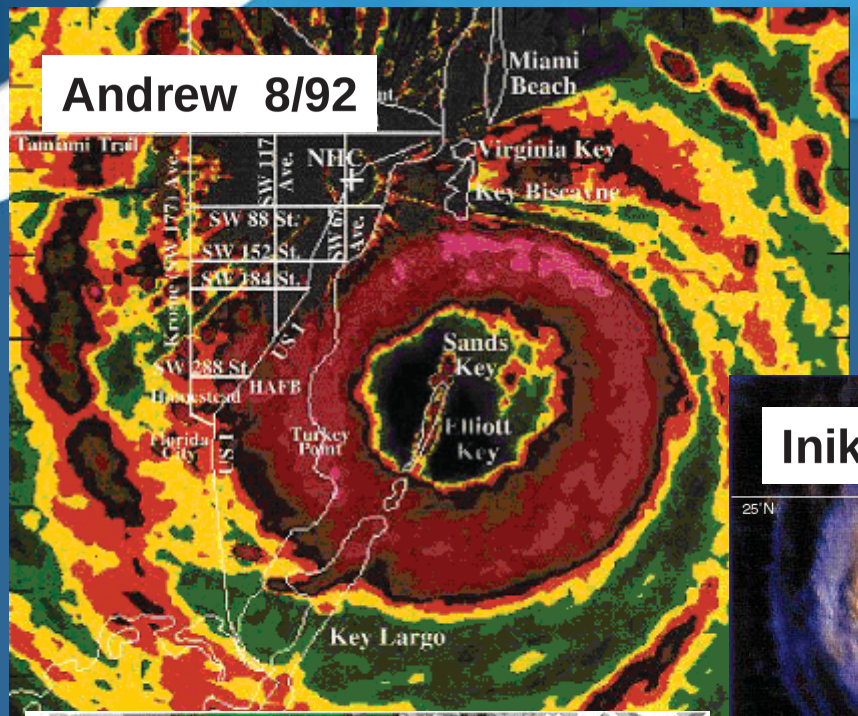
- Sustained winds of 100 knots (115 mph) or greater are expected to occur in a WFO's county warning area within one hour.

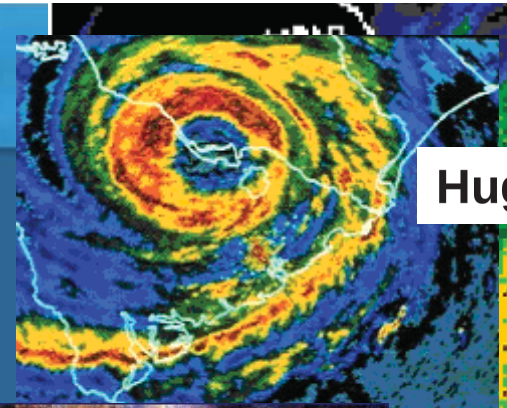
- Valid time 2 hours or less

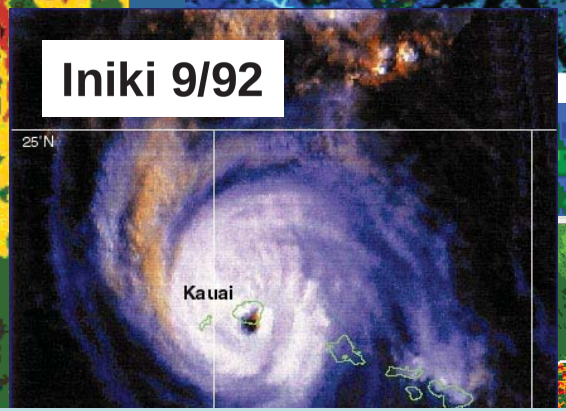
“Hide From the Wind”

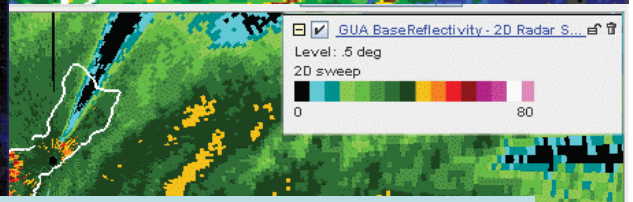


EWW – Trigger to go to that final safe place – in your PLAN!

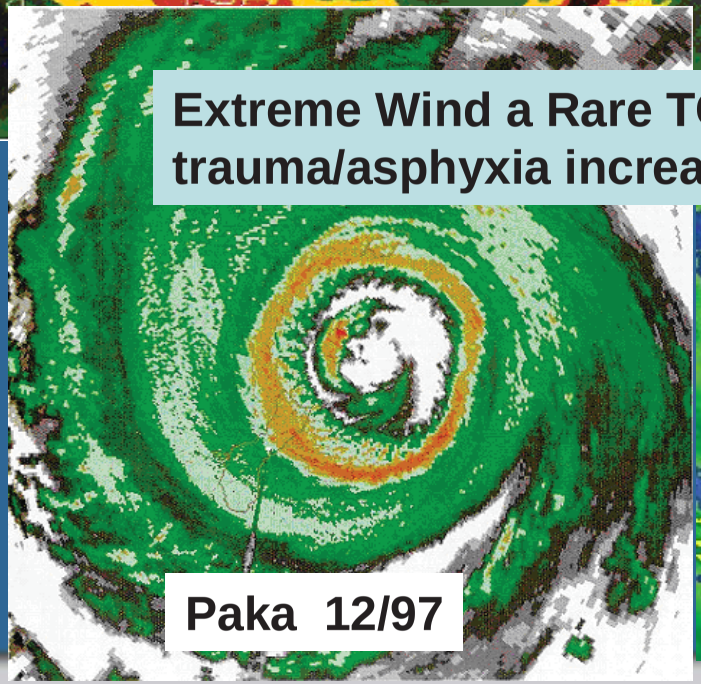


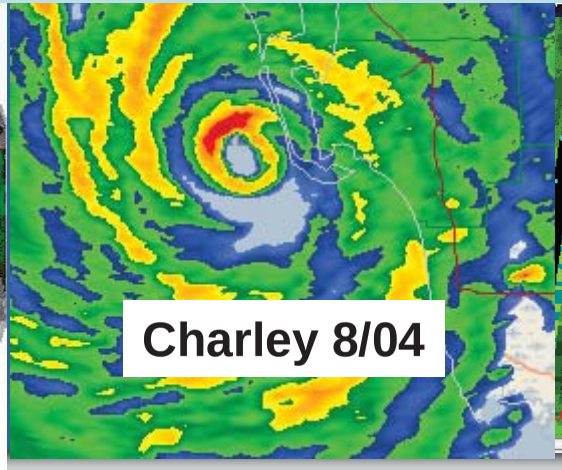


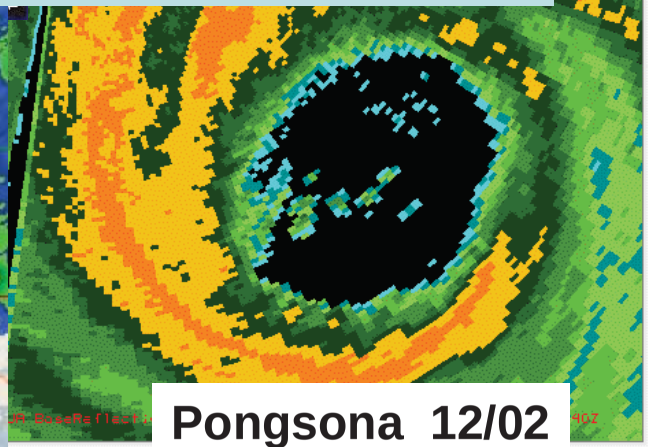




Extreme Wind a Rare TC Impact - Danger of death from blunt force trauma/asphyxia increases dramatically at high end CAT 3 and above!







"Working Together To Save Lives"

"HUNKER DOWN"
Hurricane Ike

"We are still saying: Please shelter in place, or to use the Texas expression, hunker down,"

Harris County Judge Ed Emmett

(Source: AP)

Information on the EWW early on can help form the message to avoid over-evacuation for wind

a warning will be issued if extreme winds do develop in time to go to that final shelter

EWW Concept Helps People Focus Planning on Proper Shelter and Shelter Within Shelter

Thousands of people leave perfectly good single family homes to concentrate in "inland" shelters at motels and public shelters at schools and large open-span public buildings which can be seriously damaged starting at EF2 - or gusts from a high CAT 2 Hurricane.

There is a worst-case extreme wind scenario that is hard to imagine!

Hurricane Charley

They sought refuge and found terror

• The Gaylords and hundreds of others thought the huge Turner Agri-Civic Center in Arcadia was a safe place to ride out Hurricane Charley. They were wrong.

Originally posted on December 19, 2004

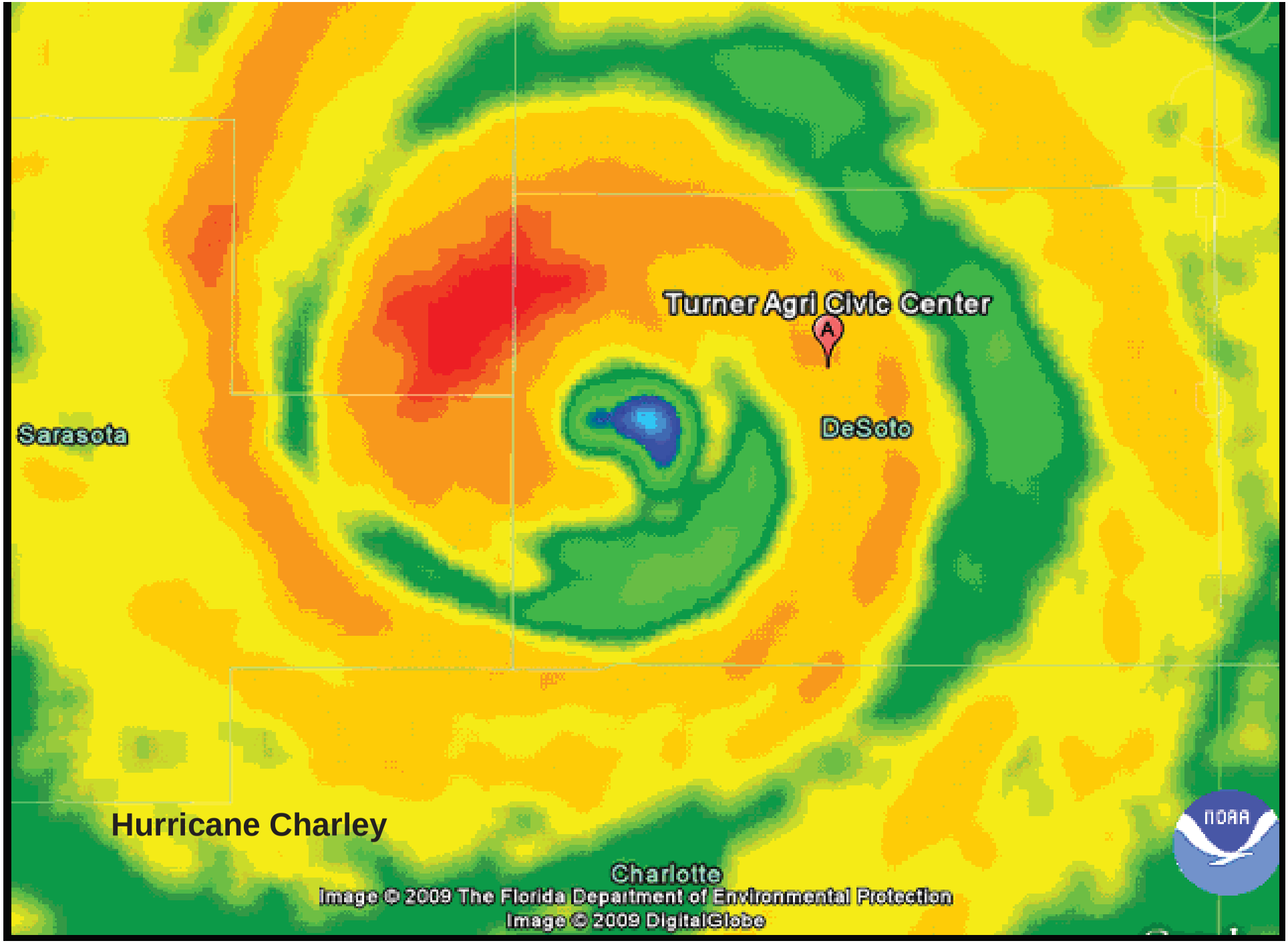
My name is David Gaylord, and my family and I reside in north St. Petersburg.

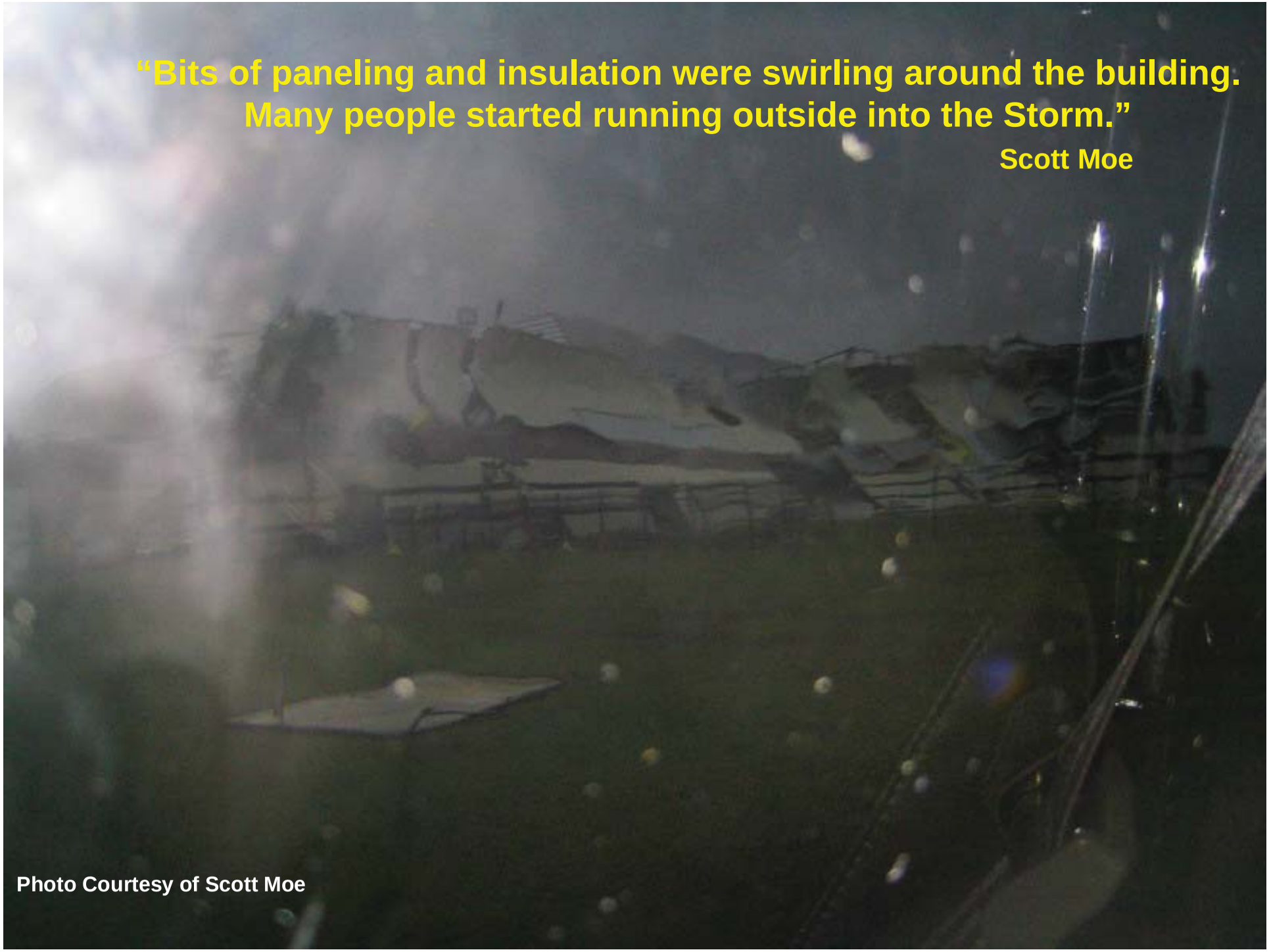
During the week of Aug. 9, my wife, my 2-year old son and I listened intently to the weather reports of Hurricane Charley heading our way. On Thursday, Aug. 12, after hearing several reports on the upcoming watches and warnings of this destructive storm, we decided to evacuate Pinellas County and head to Arcadia, my wife Michelle's hometown.

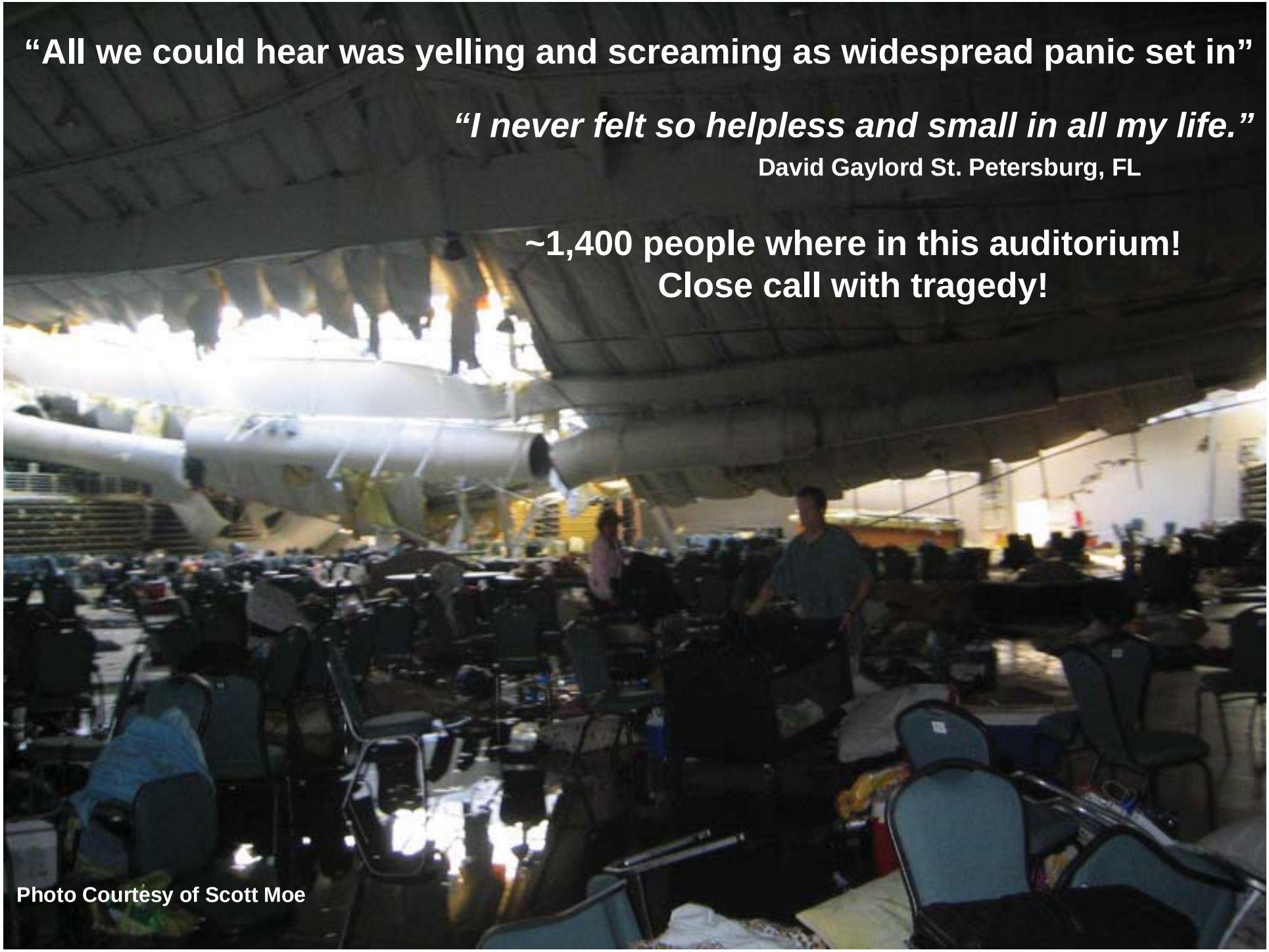
We decided to stay with our good friends, Karla and Lee McManus. So in the car went my wife and I, our son and his "blankie."

Turner Agri-Civic Center Arcadia, FL

45 nm (75 km) inland along the path of Charley


Turner Agri Civic Center
A
Sarasota
DeSoto
Hurricane Charley
Charlotte
Image © 2009 The Florida Department of Environmental Protection
Image © 2009 DigitalGlobe
NOAA


"Bits of paneling and insulation were swirling around the building.
Many people started running outside into the Storm."
Scott Moe
Photo Courtesy of Scott Moe


"All we could hear was yelling and screaming as widespread panic set in"
"I never felt so helpless and small in all my life."
David Gaylord St. Petersburg, FL
~1,400 people where in this auditorium!
Close call with tragedy!
Photo Courtesy of Scott Moe

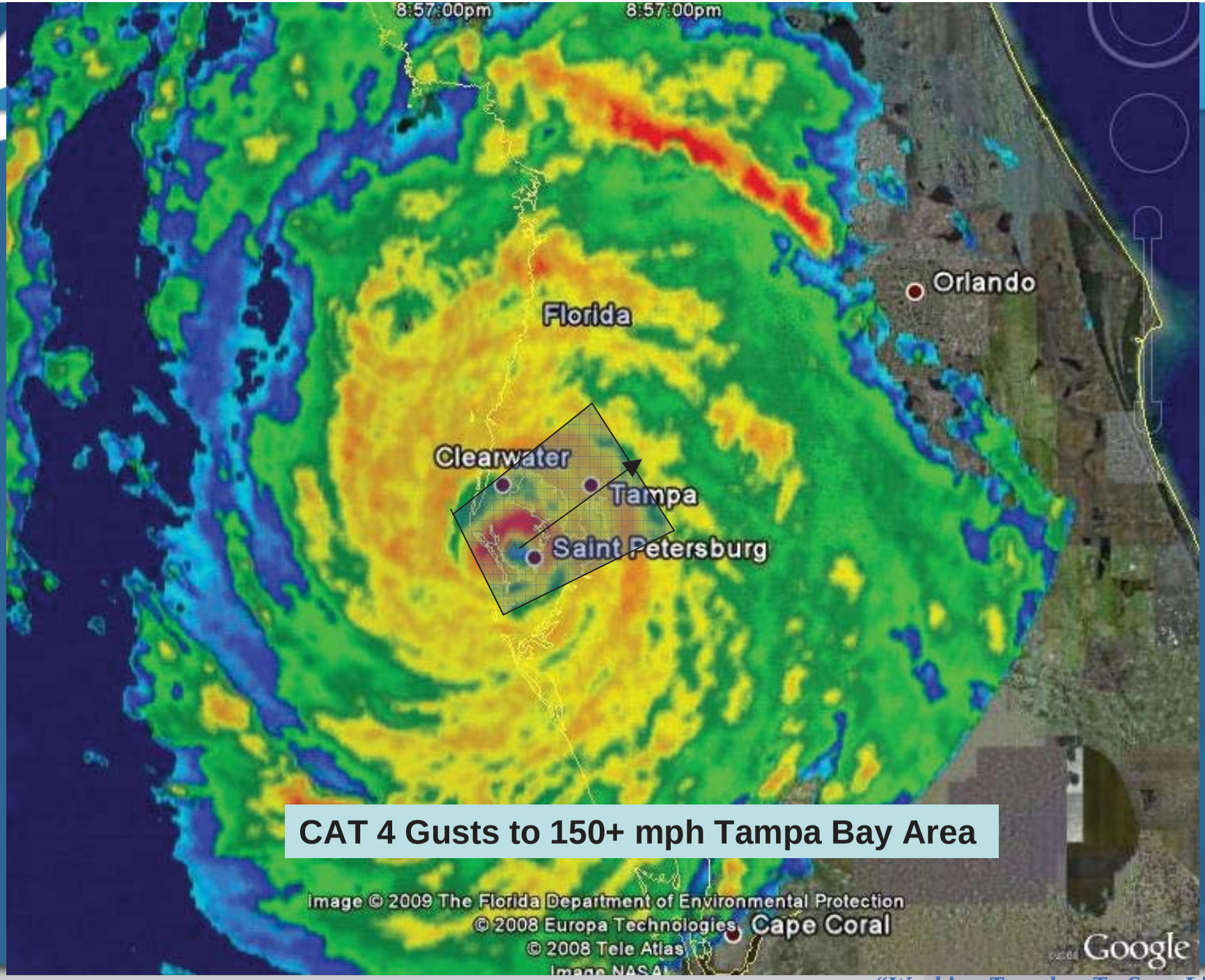
In 2004 and 2005 seasons many public hurricane shelters were comprised – and winds weren't that strong!

Concept of final shelter for extreme hurricane winds needs to be included in all plans - from heads of families to public shelter managers – the ultimate goal is to preserve life!

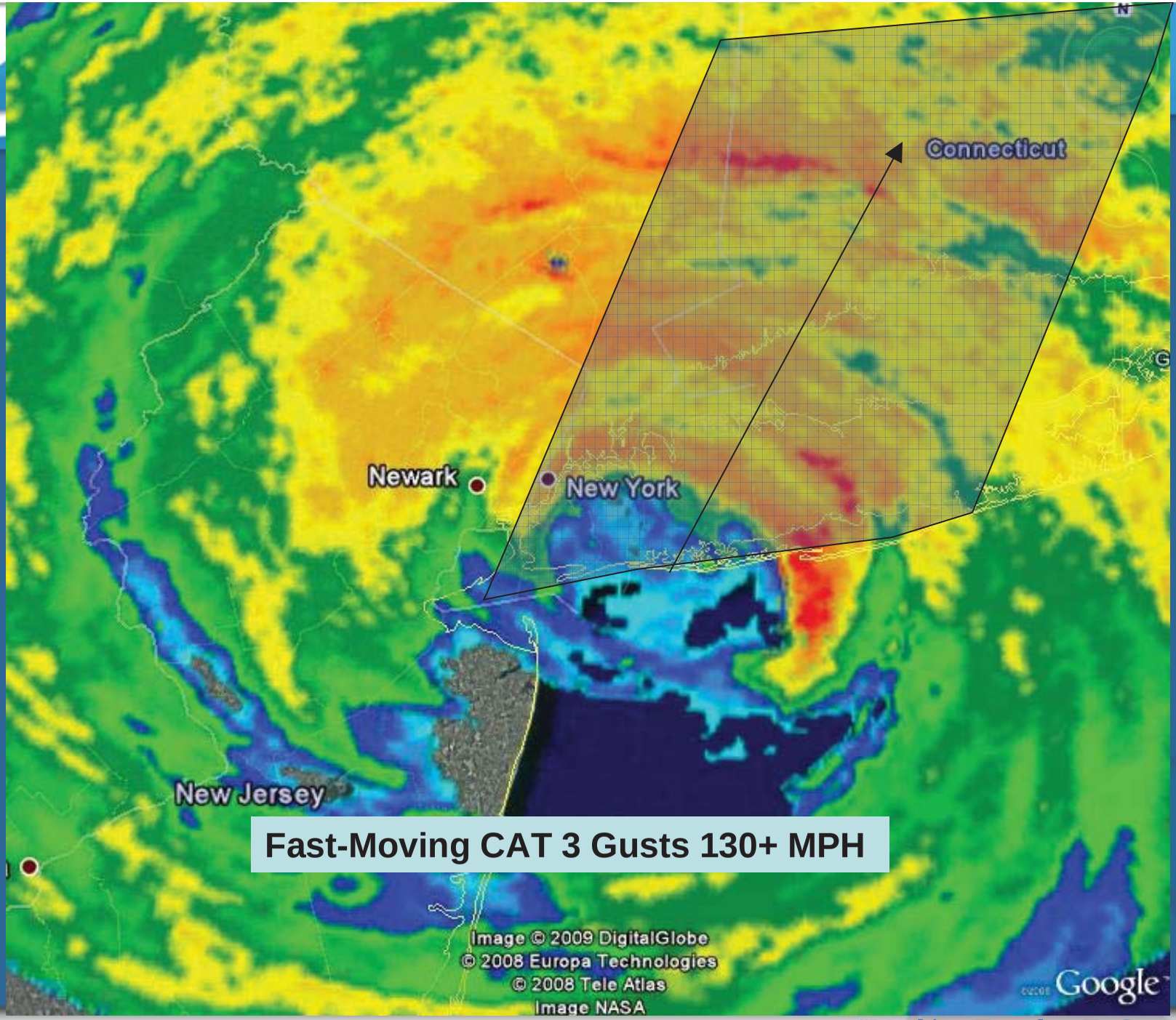
Long-Established Tornado Warning Procedures Should be followed for EWW

Simulated Urban Hurricane Extreme Wind Scenarios

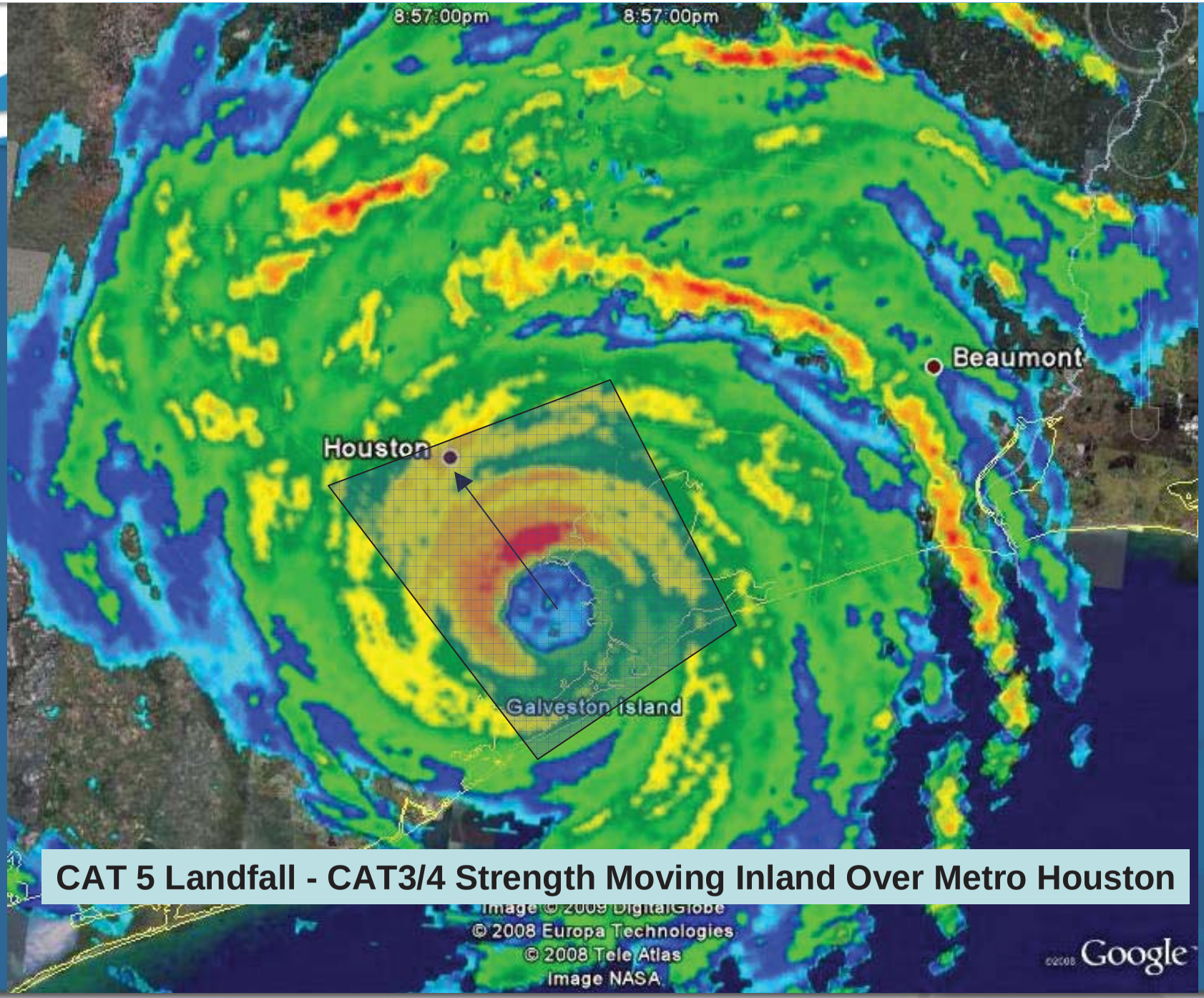
Note: It is a given these are terrible storm surge scenarios as well which makes any shadow wind evacuation all the more problematic!



CAT 4 Gusts to 150+ mph Tampa Bay Area



Fast-Moving CAT 3 Gusts 130+ MPH



CAT 5 Landfall - CAT3/4 Strength Moving Inland Over Metro Houston

Closing Remarks

Events of recent hurricane season were <u>not</u> worst-case scenarios!

Storm Surge, Flood, Extreme Wind, and Tornado Disasters can all happen at once in high population density area

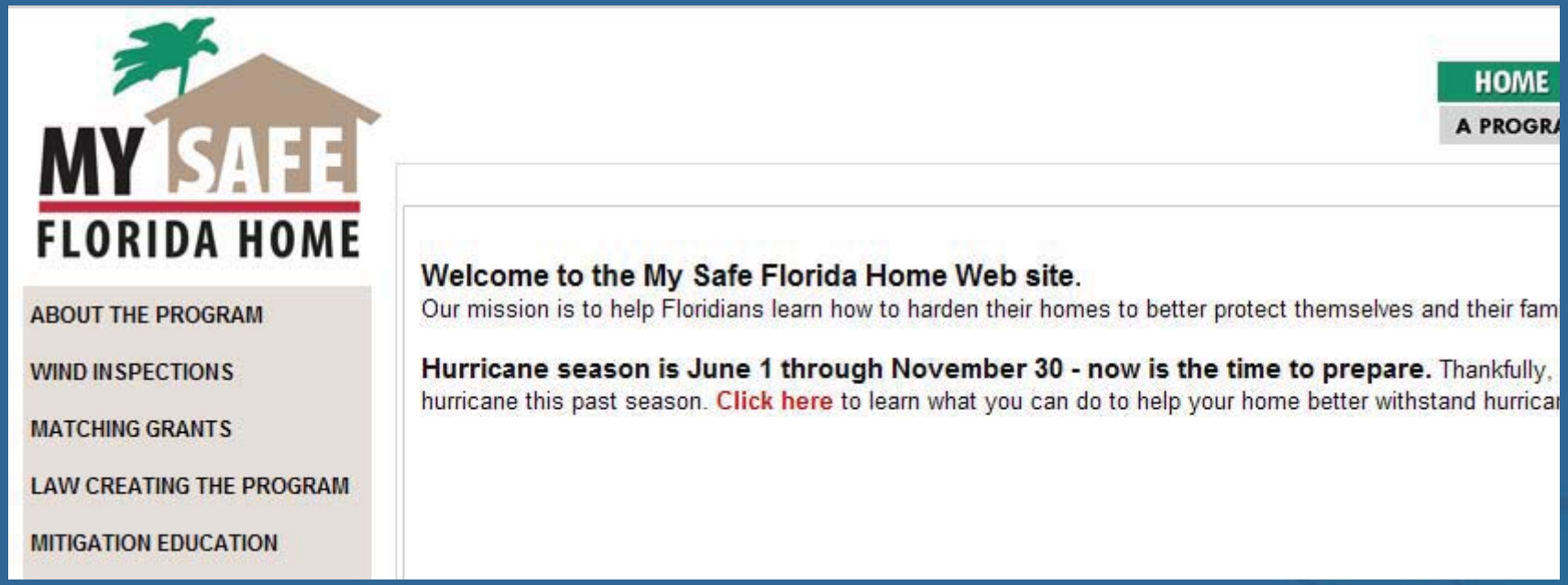
An Extreme Wind Disaster Can Happen in a Major Metro Area

The Extreme Wind Warning has been established to help mitigate loss of life

The EWW should be factored into preparation of all Hurricane shelter plans with the two-level shelter concept

Knowing in advance how the system works improves planning, reduces stress and increases safety, and perhaps reduces over-evacuation from wind

My Safe Florida Home – Inspections and Grants



Thanks

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