

# **TOWER CRANES** NORTH AMERICA **CONFERENCE & RECEPTION**

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# **SC&RA Severe Weather Guidelines**

CREATED AND ORGANIZED BY

**INTERNATIONAL  
CRANES**  
AND SPECIALIZED TRANSPORT

AMERICAN CRANES & TRANSPORT  
**ACT**

**khl**

PARTNER ASSOCIATION

**SC&RA** Specialized  
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Association

# Wind is Every Tower Cranes Enemy



# Be Prepared

1

Have an action plan  
in place

2

Ensure everyone  
involved knows the  
plan and their  
responsibility

3

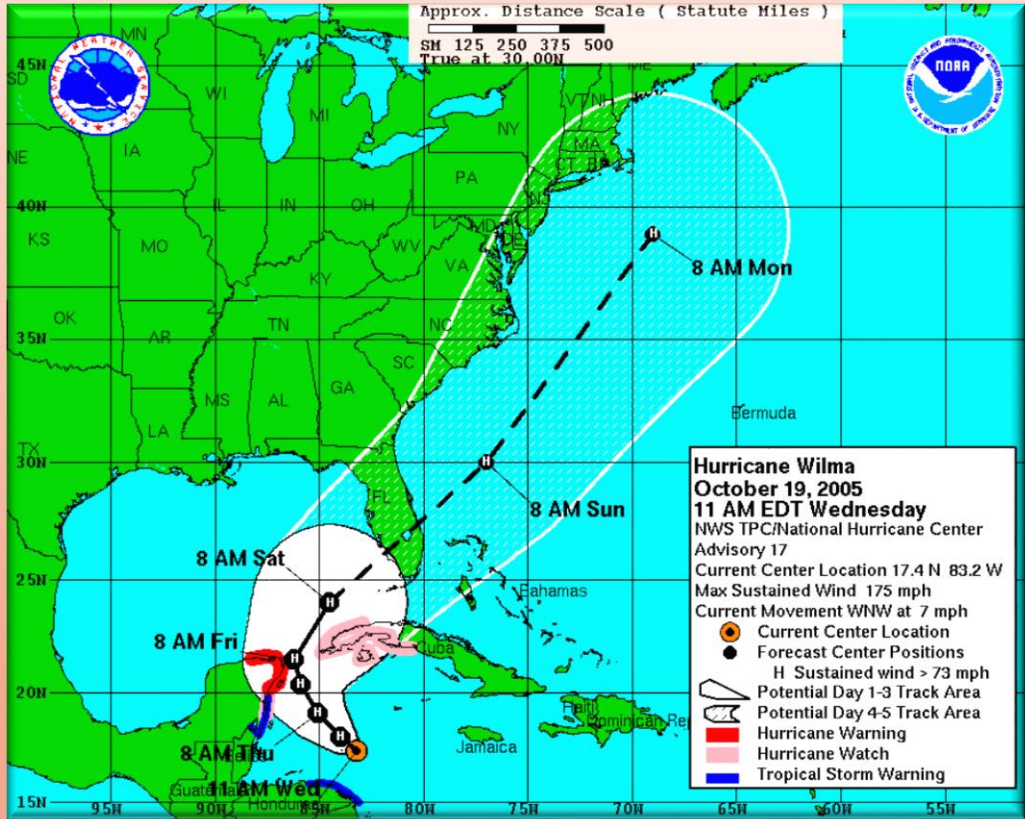
Have a realistic and  
achievable timeline

# Unpredictable Paths and Storm Strengths

October 17<sup>th</sup>, 2005, 5:00 AM



October 19<sup>th</sup>, 2005, 5:00 AM



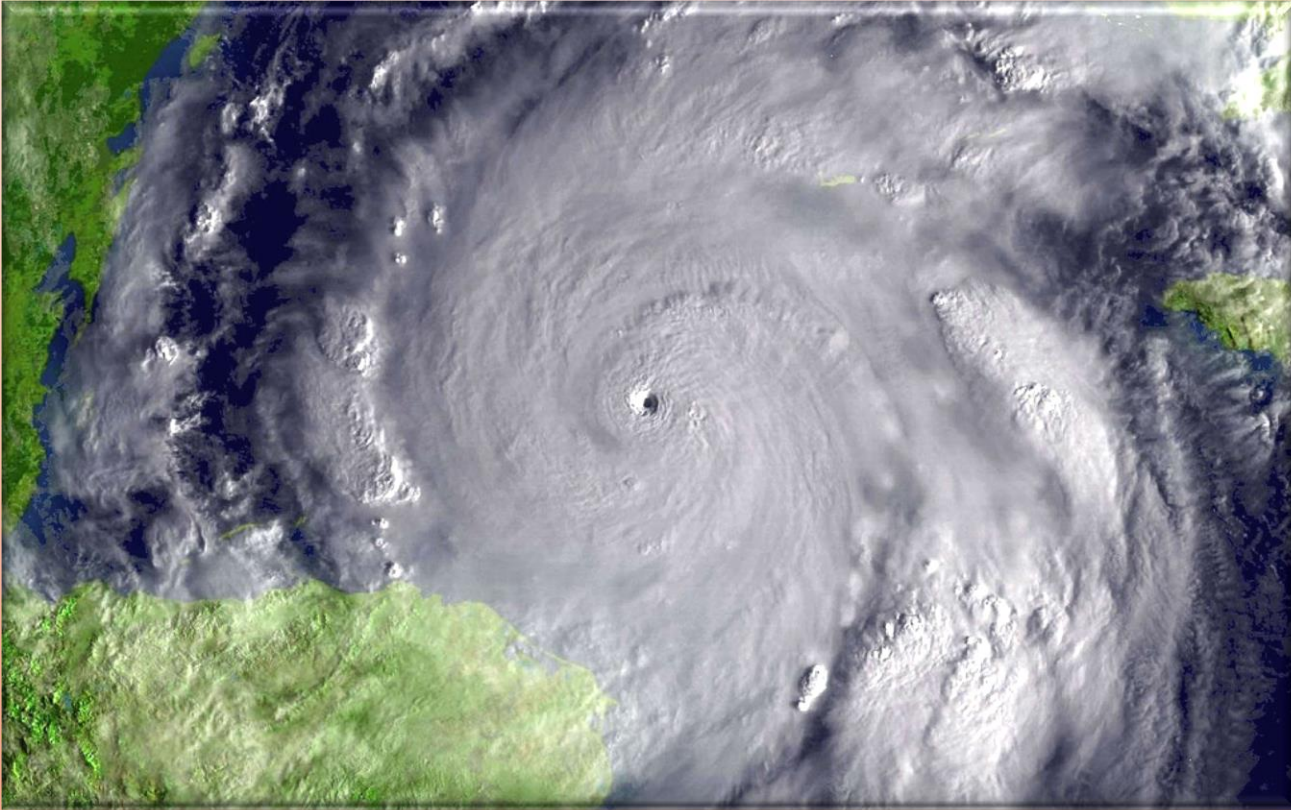
Max. Sustained Winds = 40 mph

Max. Sustained Winds = 175 mph



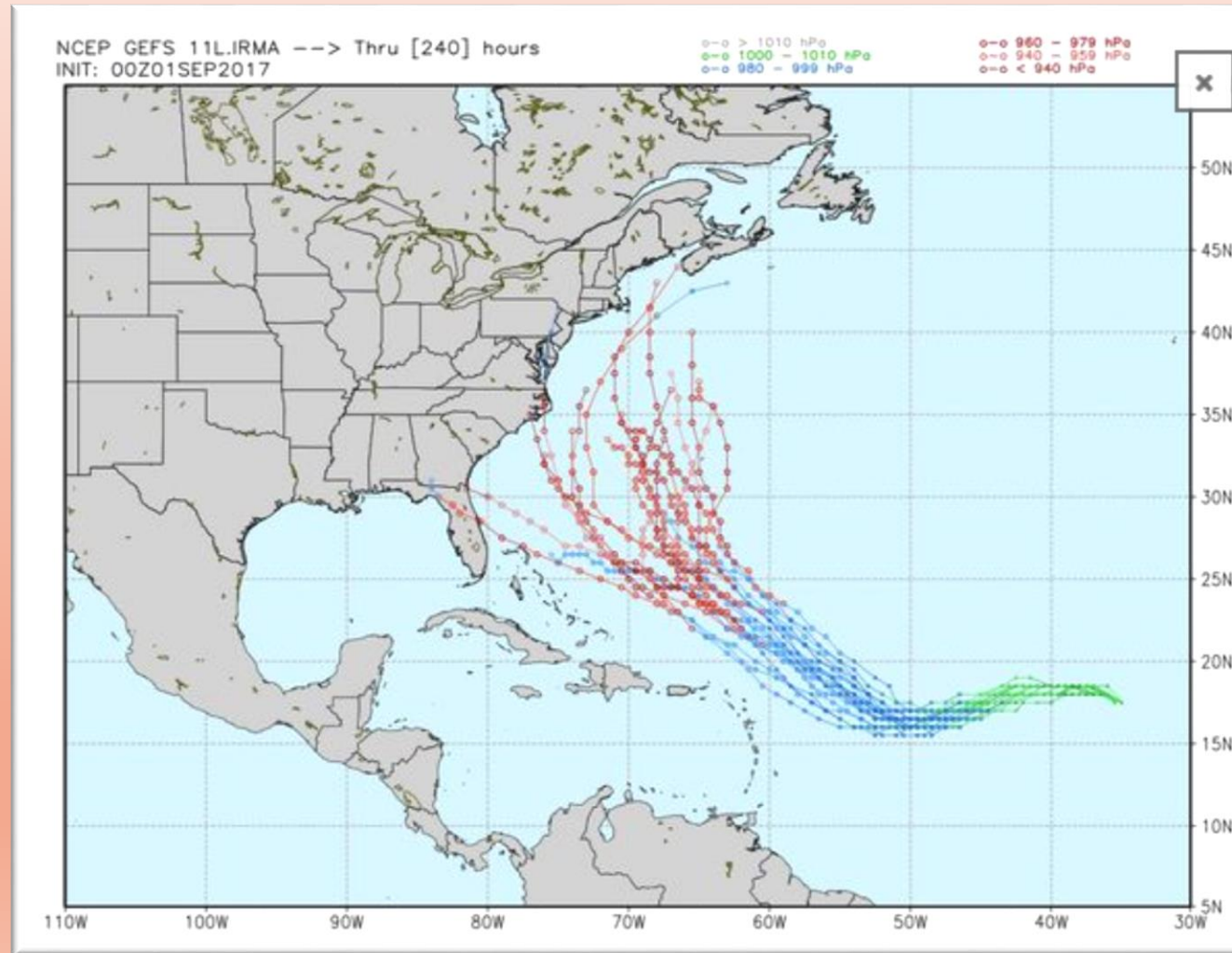


# The Most Powerful Atlantic Hurricane



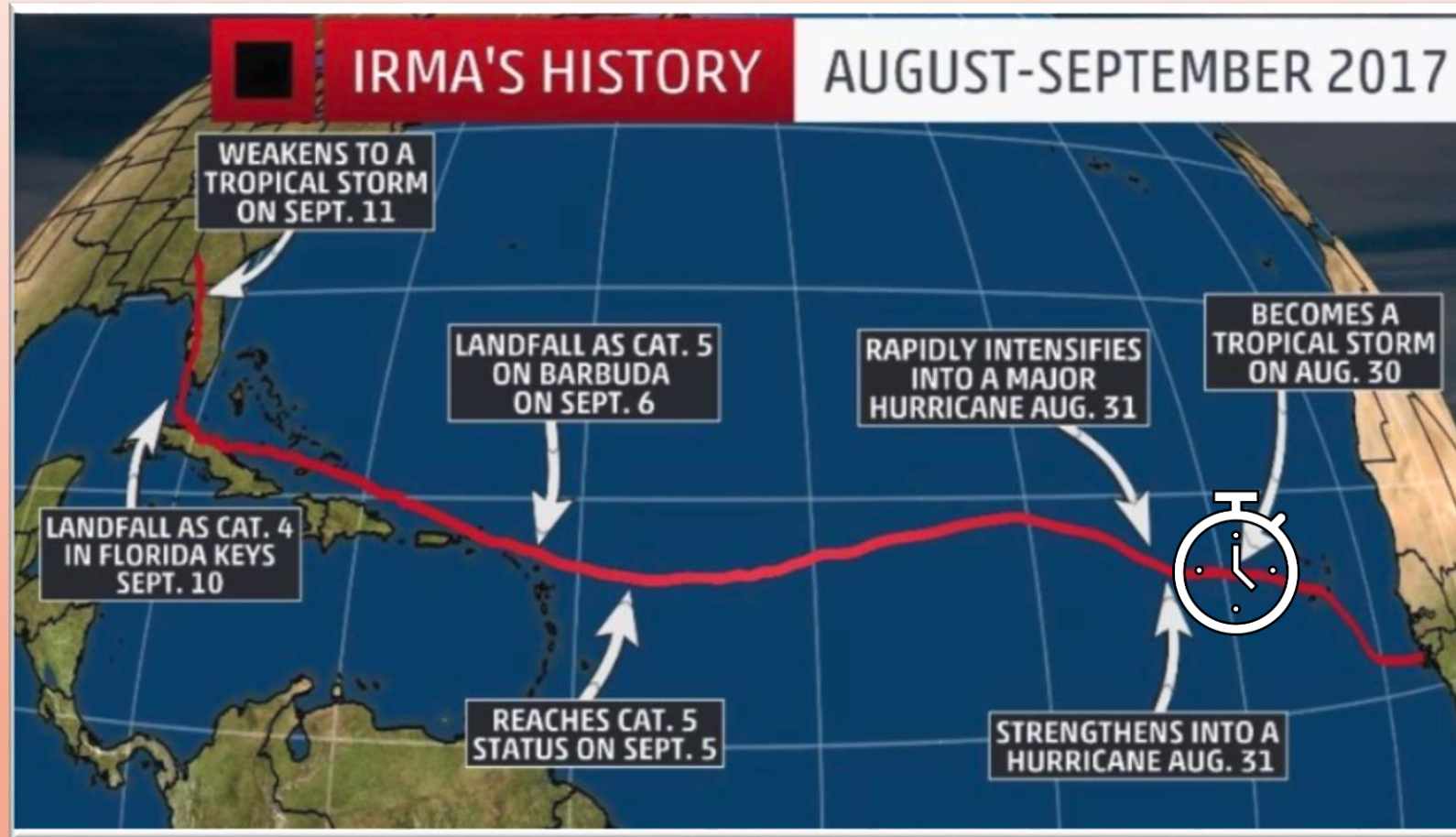
- Wilma broke the records for fastest six-hour, 12-hour and 24-hour pressure drops ever recorded in an Atlantic basin tropical cyclone.
- This spectacular turn of events took Wilma from a tropical storm on the morning of the 18th to a 175-mph Category 5 hurricane the following morning. As this happened, the eye contracted to an unheard-of 2 miles in diameter, the smallest known eye of an Atlantic basin hurricane.

# Irma's Predicted Possible Tracks September 1, 2017





# Tic-Toc



# Sail Away



Remove or secure signage





# Batten Down the Hatches



- Secure all electrical panels
- Remove all loose items from crane
- Remove all temporary access materials
- Ensure mounted items are properly secured

Keep  
Foundations  
clear of debris  
for inspection  
post-event





Have plans to  
pump out  
foundation of  
standing water  
post event





# Action Plan for Impending Hurricane

1

Remove all construction material required to be lifted by the Tower Crane, and remove all signage

2

Plan enough time to climb the crane down before the window of opportunity closes

3

Schedule your crew accordingly to climb down or to dismantle the tower crane

4

Consider bringing in a generator to power the crane after the event, along with fuel

5

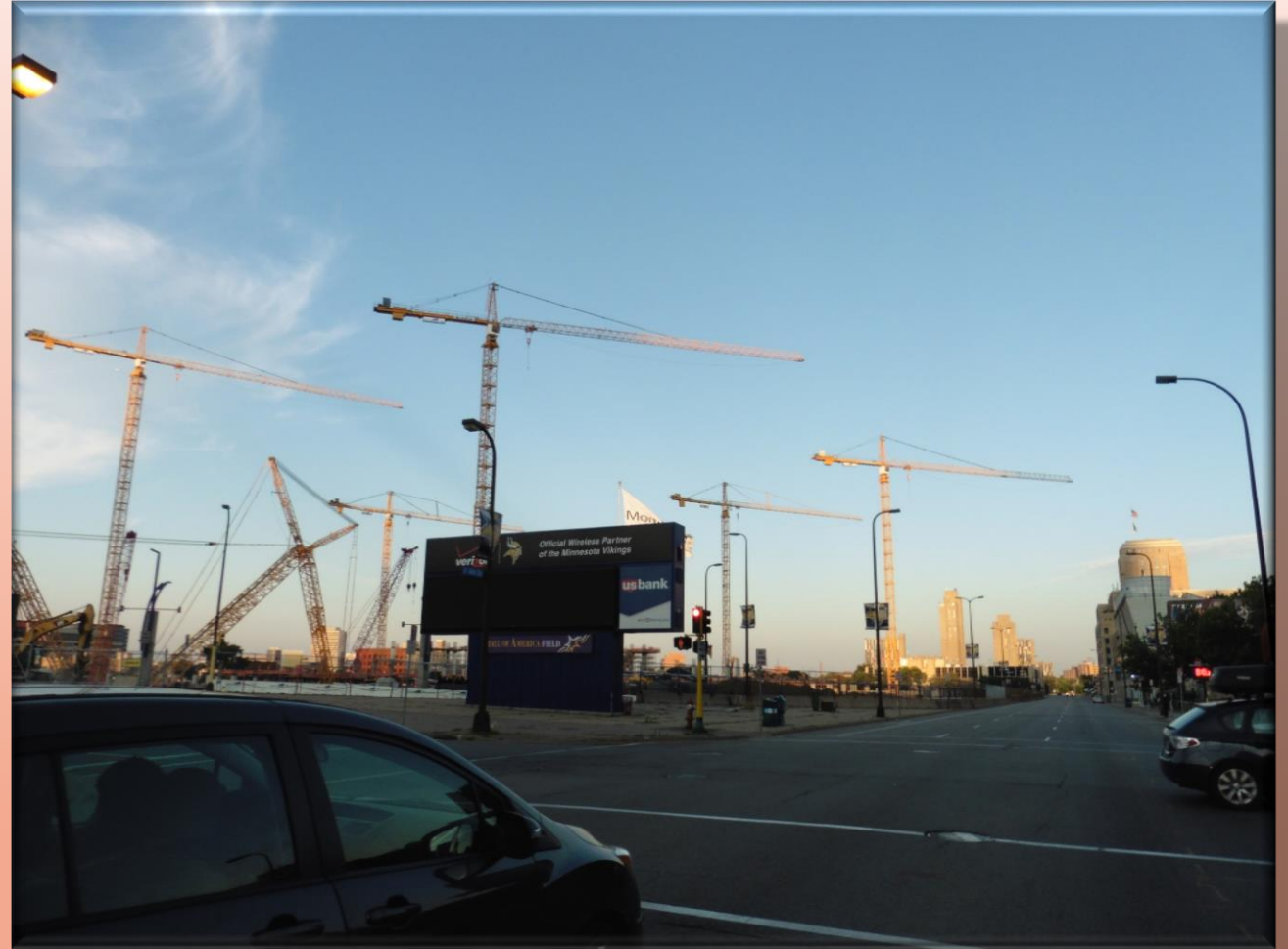
Keep in mind evacuation timing that may arise for your staff or crane crew

6

Remove all rigging from the hook, weathervane the tower crane, and turn off disconnect switch and lock out

# Ensure the Crane Can Weathervane Properly

- Release the swing brake in accordance with the manufacturer's instructions
- Verify the crane rotates freely
- Never try and restrict or retard the rotation unless specifically instructed to by the manufacturer or a qualified person



# Once the Hurricane has passed

- Have the crane inspected by a qualified person
- Verify there has been no structural damage or foundation deterioration
- Inspect all drive systems
- Perform gradual operational tests after verification structure, foundation and drives are sound





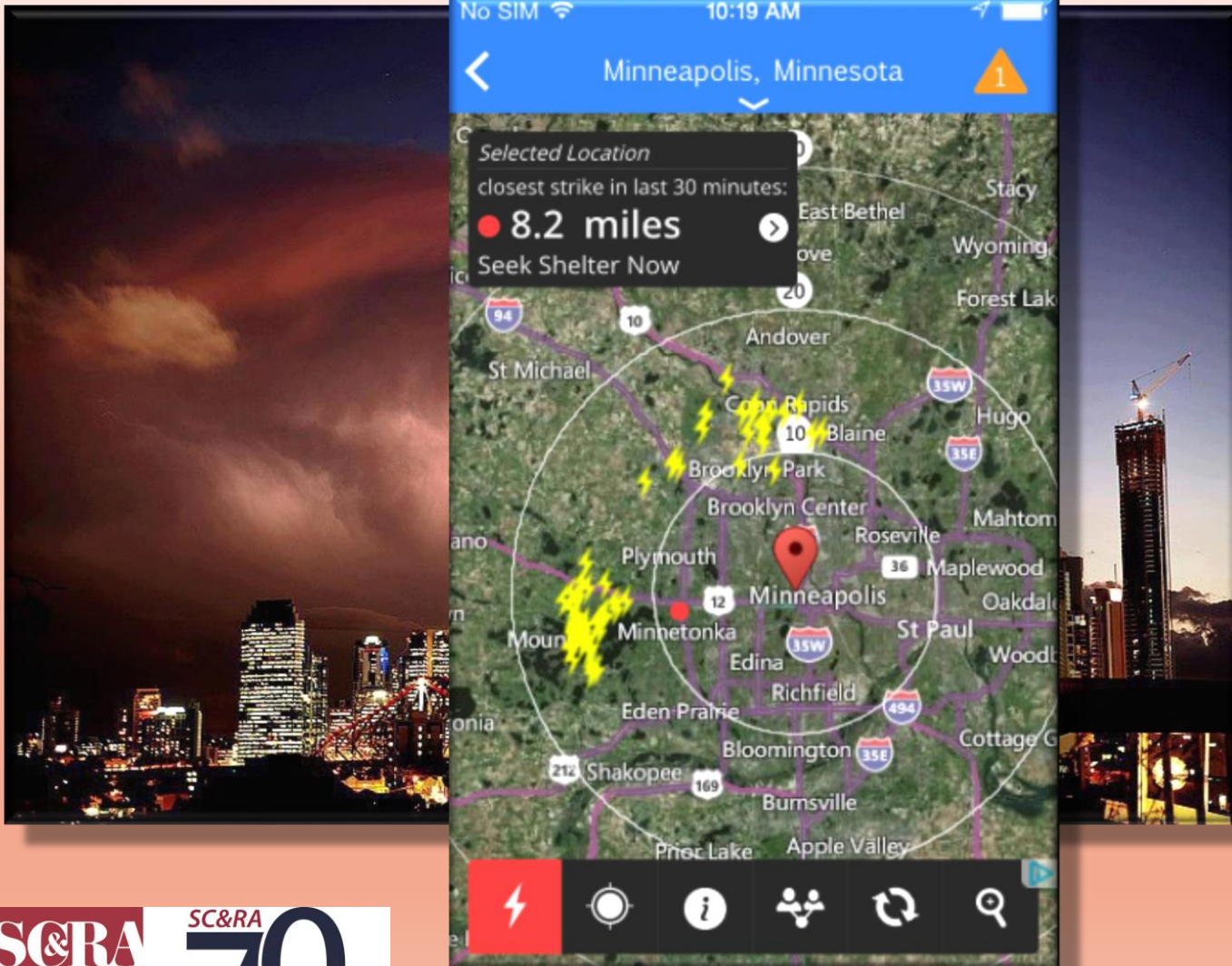
# Thunder Storms



**Storms can appear suddenly,  
and can move rapidly.**

- Plan in advance your evacuation and safety measures. Know what to do in the event of a lightning producing storm
- Monitor weather conditions paying particular attention to storm movements and the time required to place all personnel in a safe location and properly put the tower crane in the out-of-service condition
- Turn off the main power via the disconnect at the base of the tower crane.

# Pay Attention



- Watch for approaching storms when predictions call for inclement weather in your area
- Monitoring aids are recommended and encouraged to be used where feasible. Such aids include, but are not limited to :
  - ✓ Weather Bug “Spark” Phone app; Real time lightning strike data for geographical location entered. Accuracy within .10 mile;
    - \*Must have internet or cellular connection to access
  - ✓ NOAA Weather Radio – Active broadcasting of severe weather alerts and current forecast for listening areas





# Winter Preparations

- Plan ahead, and be ready for snow and ice
- Have heat blankets, insulation, and pads for vulnerable areas (fuel and hydraulic lines)
- Plan for power to operate heating devices when the main power to the crane is disconnected
- Have tools such as shovels, scrapers, and de-icing materials on hand and stored in convenient locations to clear landings



# Before Resuming Operations



- Remove ice and snow that can present a hazard to the safe operation of the crane
- Barricade below the crane structure as necessary to prevent falling ice or snow from injuring personnel
- Operate the boom or trolley slowly at first to ensure sheaves, rollers and drums rotate freely
- Ensure the trolley does not bind or rise up on packed snow or ice on the jib

# Have a Plan for your Plan



# Thank You



The topics and points in this presentation are those of the Specialized Carrier and Rigging Association and not necessarily those of the presenter