

**STAYING AHEAD OF THE STORM FRONT: RISK BASED DECISIONS AND
RESPONSES DURING SEVERE WEATHER EVENTS**

Guest Speaker – Peter Ashwin | Weather Safety Warmup Webinar Series

LET'S GET STARTED! BUT FIRST – HOUSE KEEPING NOTES



- This webinar is being recorded and will be sent out shortly after the webinar
- Have a question? Use the chat box and we will get to the question at the end of the session
- Want to learn more? We have additional sessions every month!
- You can also provide feedback, suggest a topic or ask a question by emailing us at info@earthnetworks.com

SPECIAL GUEST



PETER ASHWIN

Principal at ERMS

ERMS EVENT RISK
MANAGEMENT
SOLUTIONS

STAYING AHEAD OF THE STORM FRONT

AGENDA

- The Language of Risk
- Critical Decision Making in Complex & Uncertain Environments
- Decision Support Matrix – Evacuation Timings
- Mission Ready – Concepts for Operational Readiness



AN ACCIDENTAL JOURNEY INTO THE WORLD OF MAJOR EVENTS



Salt Lake 2002 Winter Olympic Games HQ
Post 9/11 attack



The image shows a large outdoor concert stage at night. The stage is illuminated with bright yellow lights, and the word "DOWNLOAD" is visible on the top of the stage structure. A large crowd of people is gathered in front of the stage, many with their arms raised. The scene is set against a dark sky with some clouds. The text "What is Risk?" is overlaid in the center of the image.

What is Risk?

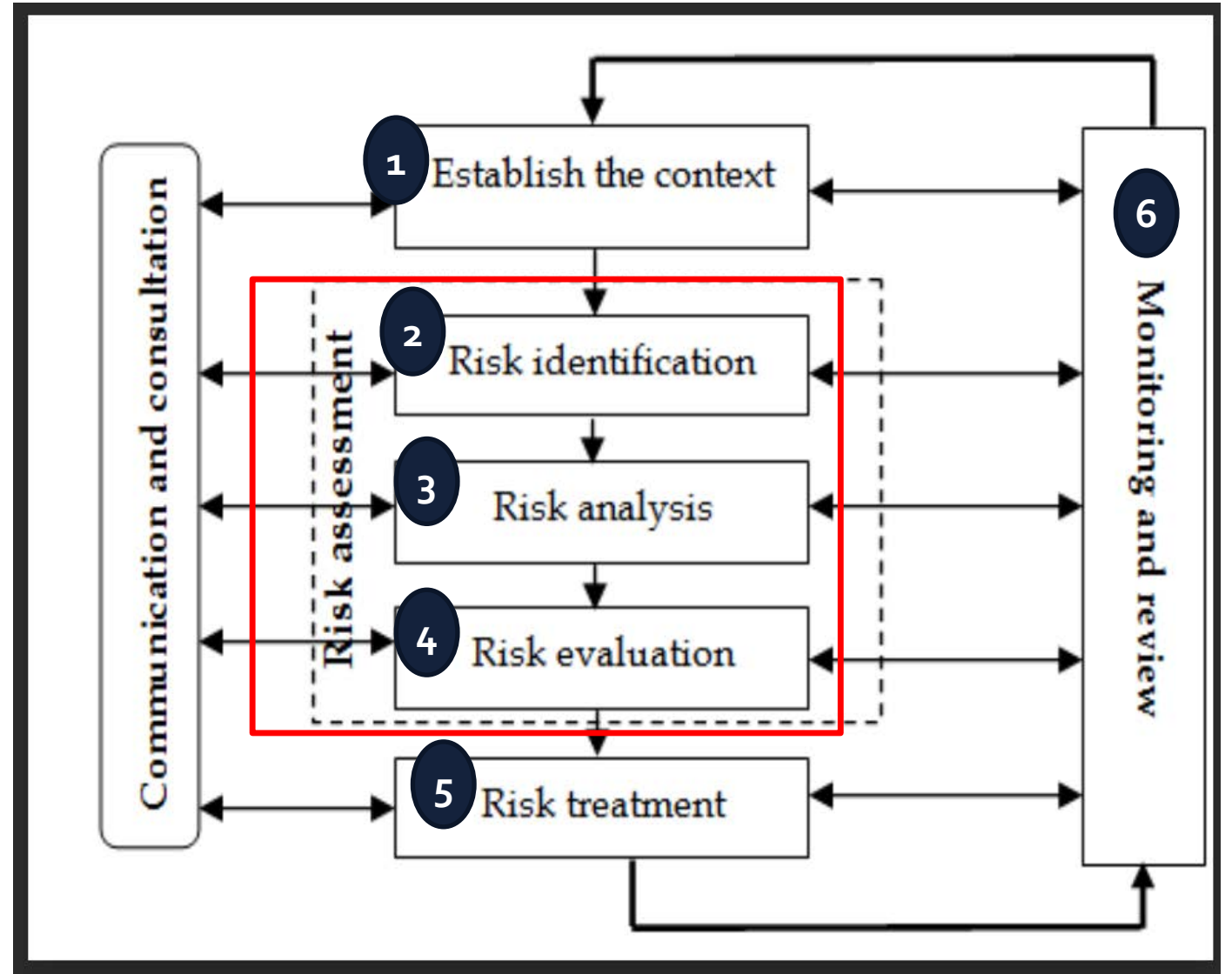
....the **loss (or gain)** arising from **people, systems or external events** which have the **potential** to cause the organization to **deviate from its objectives**



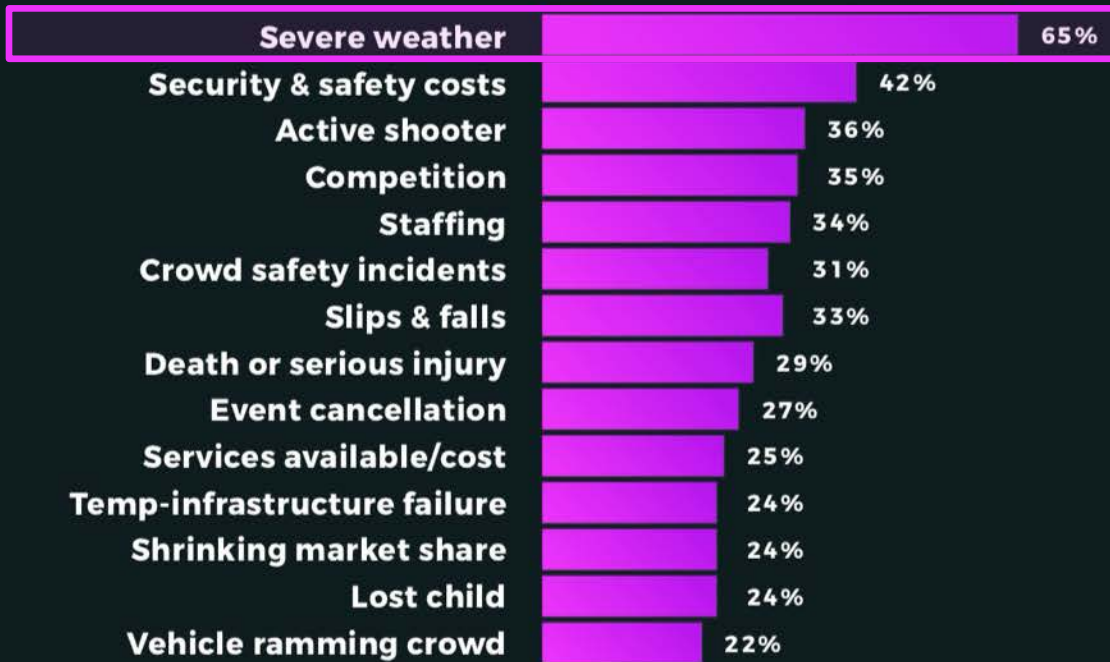
the **identification, assessment, and prioritization of risks**, followed by the coordinated and economical application of resources, to minimize, monitor, and control the probability and/or impact of unfortunate events

- DHS (2011) Risk Fundamentals

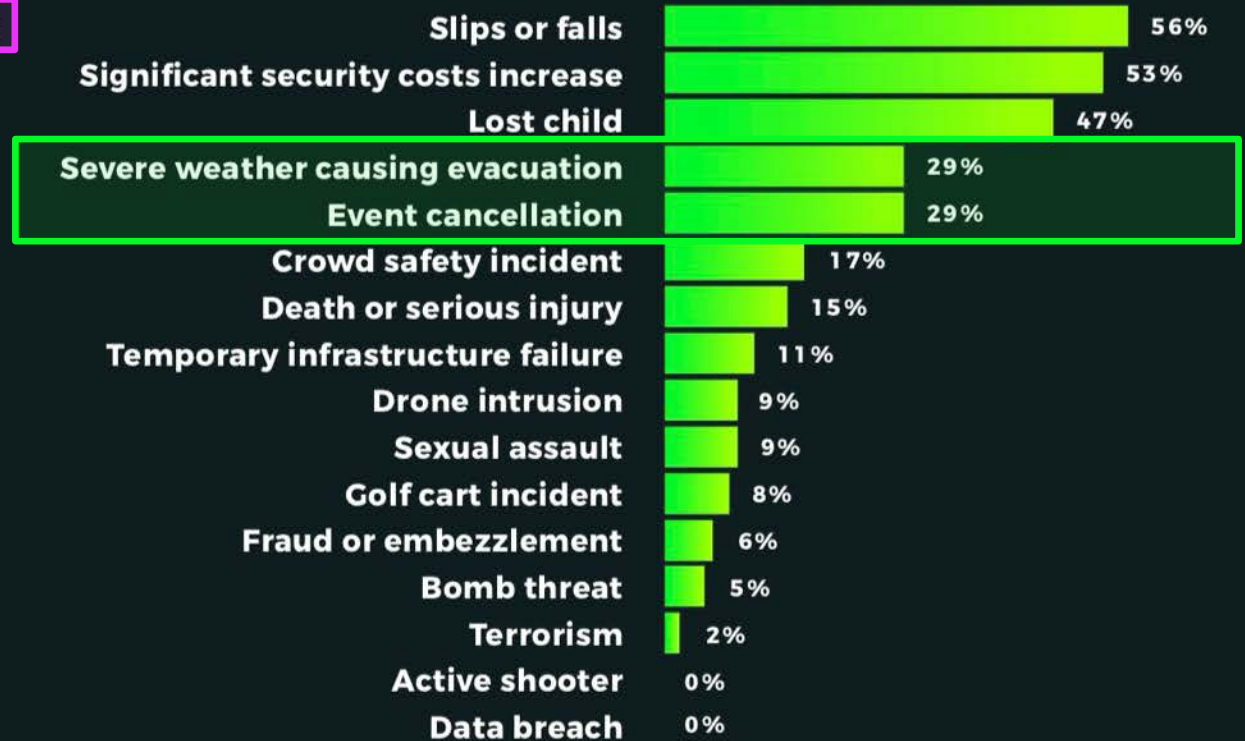
FESTIVAL & EVENT RISK MANAGEMENT FRAMEWORK



What you are most worried about...



What is actually happening at your events...



2019 EVENTS INDUSTRY

Preparedness & Resilience Survey Takeaways

Critical Decision Making in uncertain & Complex Environments:

The OODA Loop

Make haste slowly

- Gaius Julius Caesar

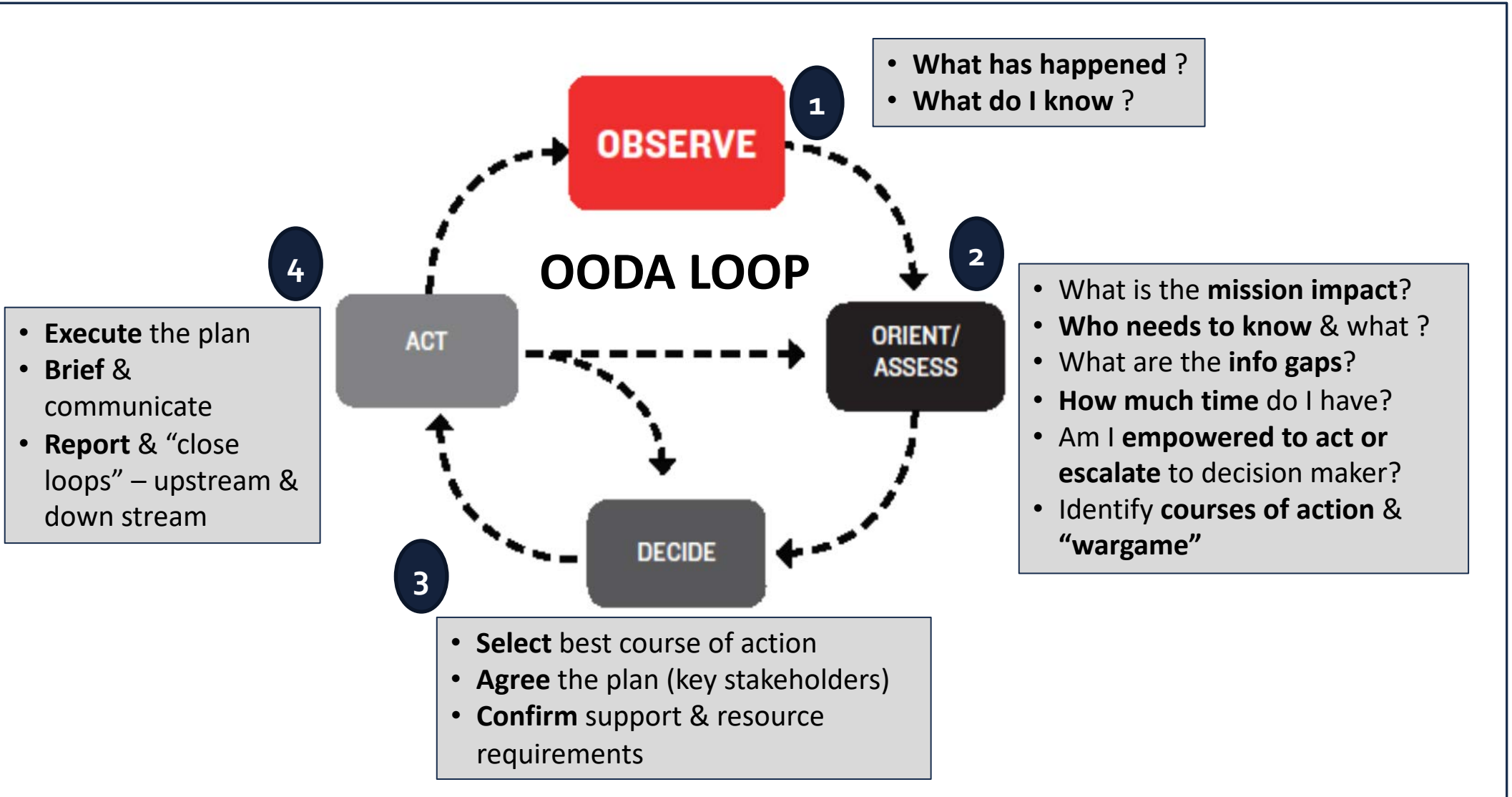
Octavianus Augustus (63BC)



DECISION MAKING IN UNCERTAIN ENVIRONMENTS



Colonel
John Boyd,
USAF
1927 –
1997





Critical Control: Egress (Evacuation) System

.....designed to allow people to move from a real or perceived location of hazard to a location of relative safety during a hazard event (Tubbs & Meacham, 2007, p. 133)¹

Decision Support Matrix: Evacuation Timings

$$T^1_{\text{Evacuation}} = (t_{\text{alert}} \times t_{\text{decision}} \times t_{\text{notification}} \times t_{\text{response}} \times t_{\text{travel}})$$

- 1) **t(alert)** to “decision maker” - **x mins**
- 2) **t(decision)** to initiate evacuation – **x mins ?**
- 3) **t(notification)** to security & event services team – **x mins**
- 4) **t(response)** notification to & response by occupants – **60secs**
- 5) **t(travel)** = 200ft/min (consider ADA movements) – **x mins (e.g. 1000ft = 5 mins)**

Outdoor Venues Evacuation Timings Guidelines



Industry Standards & Guidelines

Event Safety Guide (2014) – **15 mins**

UK Green Guide (1999, 2018, 2edn) – **8 mins**

Evacuation Decision

27% Event Director

23% Police Commander/Officer

18% CEO/Executive Director

17% Operations Director/Manager



....a strong relationship exists between normal circulation routes and the exit paths most used during emergency evacuations, as people tend to use familiar routes during emergency evacuations (Simes, 2001) ¹

Mission Ready

Is your team prepared for the “knowns” and resilient to the “unknowns” in today’s uncertain and complex operating environments?

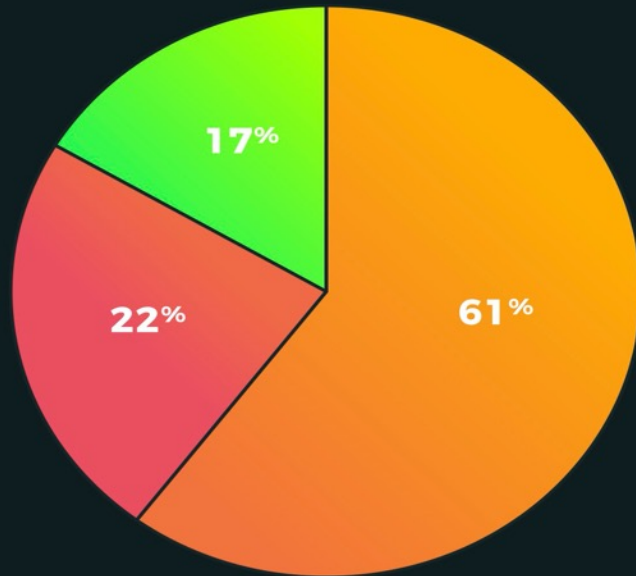


1

78% of Event Directors / Managers consider themselves "Mission-ready" or "Somewhat ready"

yet...

59% don't conduct evacuation drills and 37% admit that they don't have an evacuation plan.

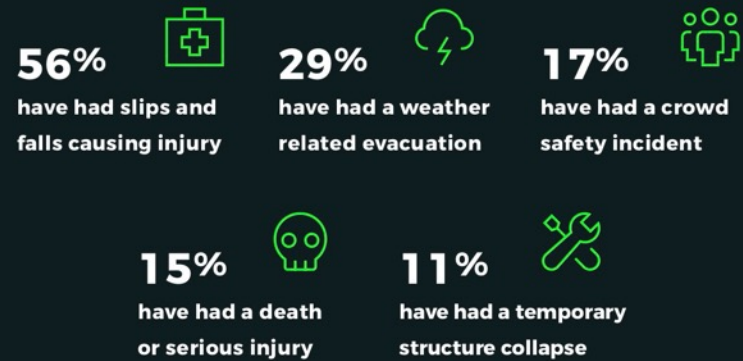


MISSION READY SOMEWHAT READY NOT READY

2019 EVENTS INDUSTRY

Preparedness & Resilience Survey Takeaways

2



But.. 75% don't do any emergency response training with their event workers or volunteers

and 37% don't do incident management training with their team.

3

45% consider their risk management processes to be "Mature" yet...

Only 18% have up-to-date risk management plans.

21% admit that they don't have a plan at all (and 14% aren't sure)



MATURE EMERGING AD HOC

Mission Ready - Operational Readiness Exercises

5 FOCUS AREAS:

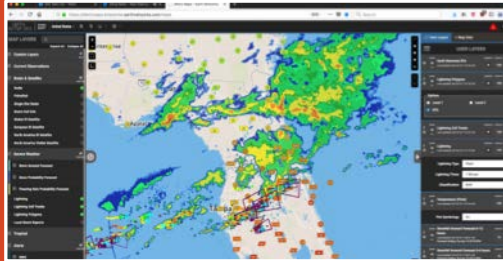
ALIGN & INTEGRATE:

- **People**
- **Process** - plans, policies & procedures
- **Technology**
- **C4I** - command, control, comms, coordination & information
- **Space** (operational site)

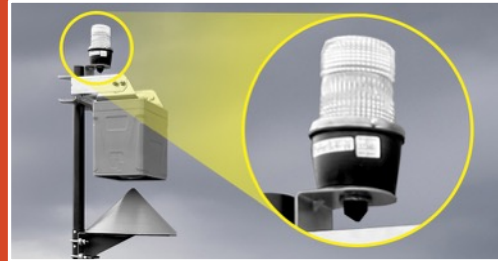


WEATHER TECHNOLOGY SOLUTION

Real-Time Storm Tracking



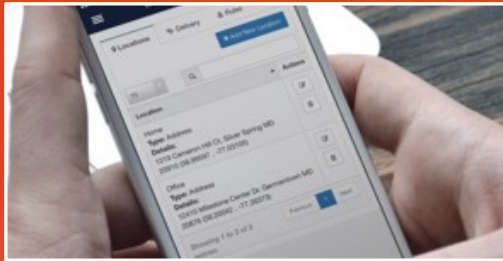
Automated High-Decibel Outdoor Audible Alerts



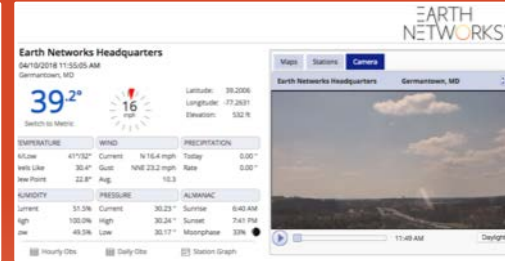
Public Weather Display



Managed Weather Equipment



Customized Mobile Alerts



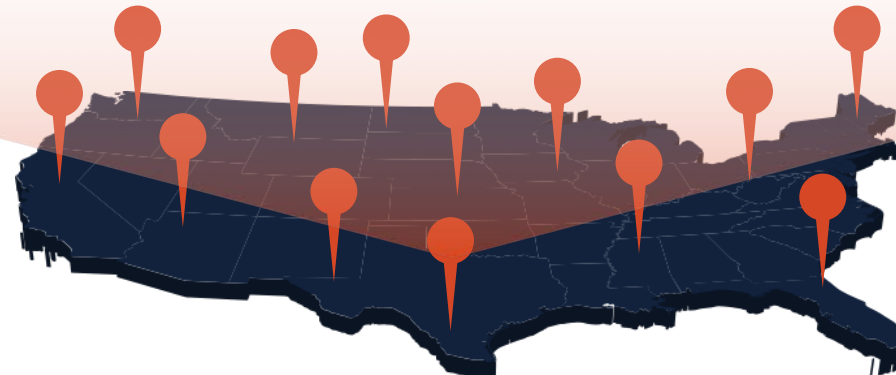
Personal Weather Portal

Time	Weather	Temp	Sky Cover	Chance of Precip.	Feels Like	Wind	Dew Point
Friday, January 12th 2018							
3:00 PM		65°	100%	35%	65°	S 9 mph	64°
4:00 PM		65°	100%	40%	65°	SSE 7 mph	64°
5:00 PM		65°	100%	60%	65°	SSE 7 mph	63°
6:00 PM		64°	100%	20%	64°	SSE 9 mph	63°
7:00 PM		64°	100%	70%	64°	SE 9 mph	63°
8:00 PM		64°	100%	5%	64°	SE 9 mph	63°

Localized Weather Forecasts



24/7 Access to Meteorologists for Events



WEATHER TECHNOLOGY IMPLEMENTATION

OUTER – 25 Miles

ALERT	Email warning sent to Key Safety Personnel (e.g. Facilities Director)
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ACTION	Monitor the situation (Take note of potential severe weather movement)
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MIDDLE – 15 Miles

ALERT	Text & email alerts are sent to responsible enforcers (e.g. Public safety team)
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ACTION	Monitor direction of storm
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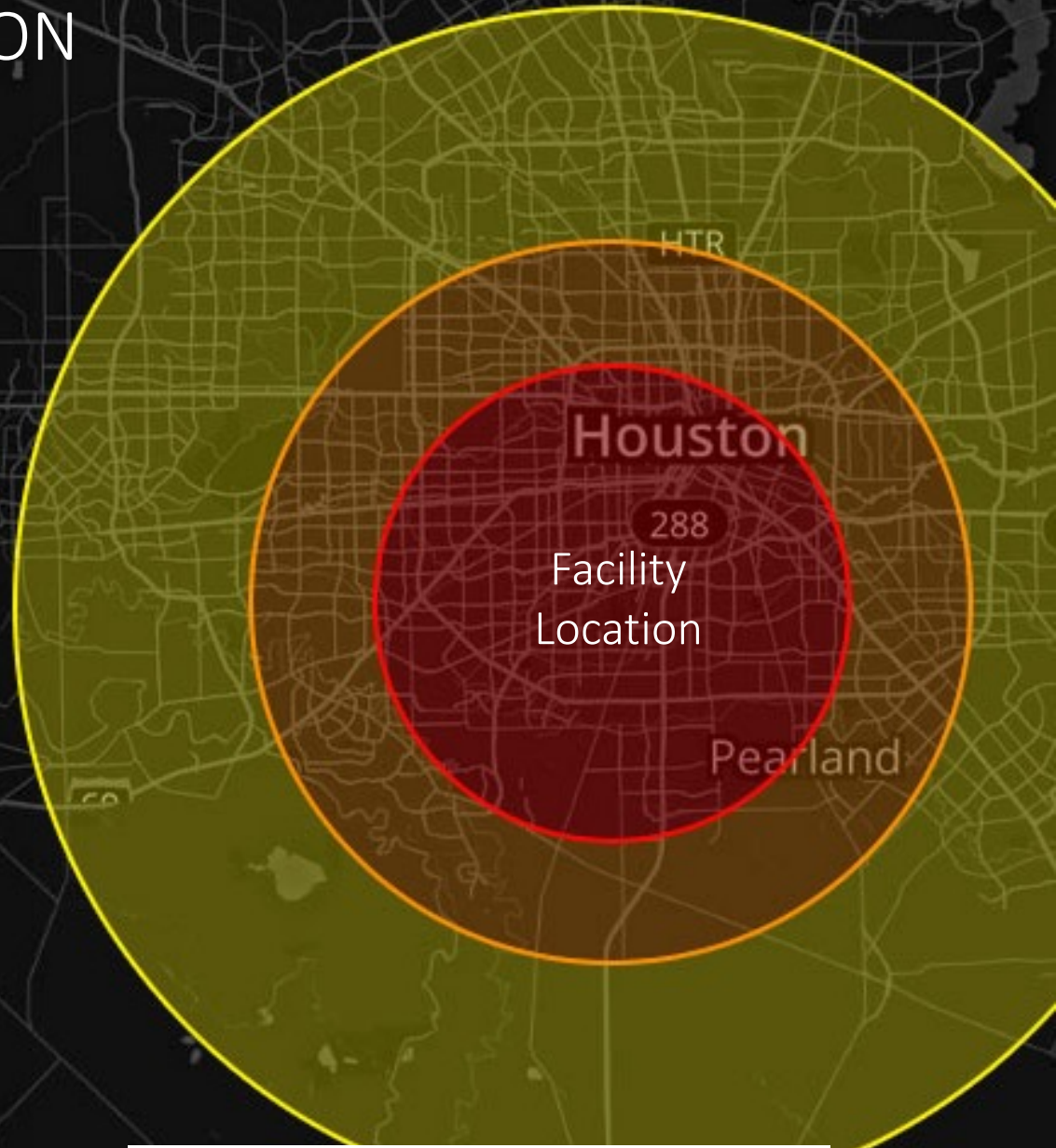
ACTION	Prepare to halt outdoor activities if required
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INNER – 10 Miles

ALERT	Outdoor mass alert activated (e.g. Outdoor horn, system notification, and strobes)
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ACTION	All outdoor activities are halted
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ACTION	General public head to designated indoor area for safety until all clear is given
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Operational Readiness Exercises (OPREX)

- Tabletop Exercises (TTX)
- Venue Walkthroughs
- COMMEX (communication exercises)
- Venue Simulations
- Test Events – exercising specific elements
- Joint stakeholder exercises & drills



Severe Weather Event: Baku 2015 European Games

Baku: *Küləklər şəhəri* "the City of Winds"

CYCLING

Strong winds threaten BMX events

Recommend 0

Tweet 1

G+1 0

By [Callum Mulvihill](#), Reporter

Filed: Monday, June 22, 2015 at 17:38 UK

Last Updated: Tuesday, June 23, 2015 at 21:58 UK

Strong winds have forced European Games organisers to consider alternative options ahead of the BMX events in Baku this weekend.

Conditions at the Caspian Sea coastal venue are expected to remain severe over the next few days, and with a maximum wind speed of 35kmh allowed for BMX super cross competitions, there is concern about the safety of riders.

Contingency Plan:

Change in Competition Schedule – Delay, Postpone & Cancel





.....risk cannot be eliminated:
there will be incidents, so we
must focus on the resiliency of
our infrastructure under all
conditions.

Caitlin Durkovic, 2016
Assistant Secretary, DHS



THANK YOU

QUESTIONS AND COMMENTS?

Contact Earth Networks at info@earthnetworks.com
Contact **Peter Ashwin** at peter.ashwin@ermsglobal.com