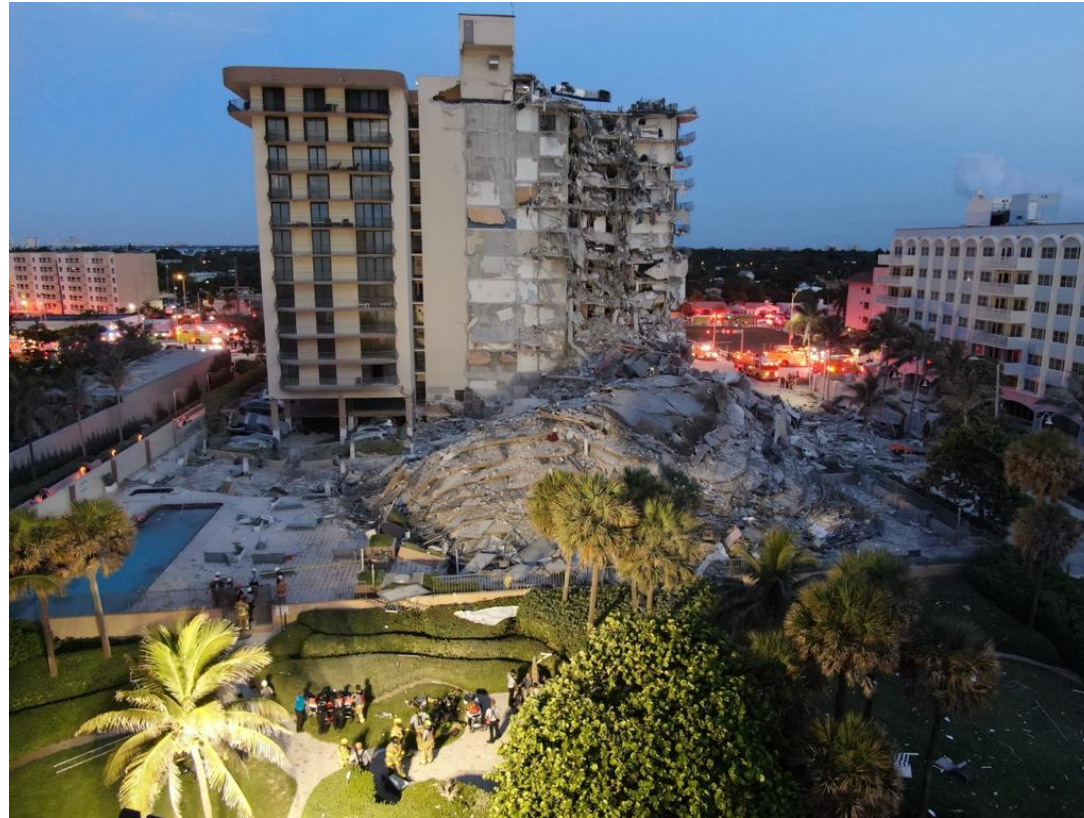


Surfside Building Collapse

Response and Lessons Learned



Dave Downey
ESF 4&9 Deputy Coordinator
Florida Fire Marshals' Office

The Initial Dispatch

- **First call dispatched at 0118 hours as a fire alarm**
 - ✓ **Several other calls reporting “banging sounds”, “things falling in the parking garage” and “it sounds like an earthquake”**
- **At 0123 hrs, a reported parking garage collapse was dispatched**
- **The first arriving officer performed his size-up and requested a High-Hazard Response including;**
 - ✓ **MCI Level 5**
 - ✓ **Technical Rescue response**
 - ✓ **Haz Mat Response**
- **Triggered notification of the State Warning Point**



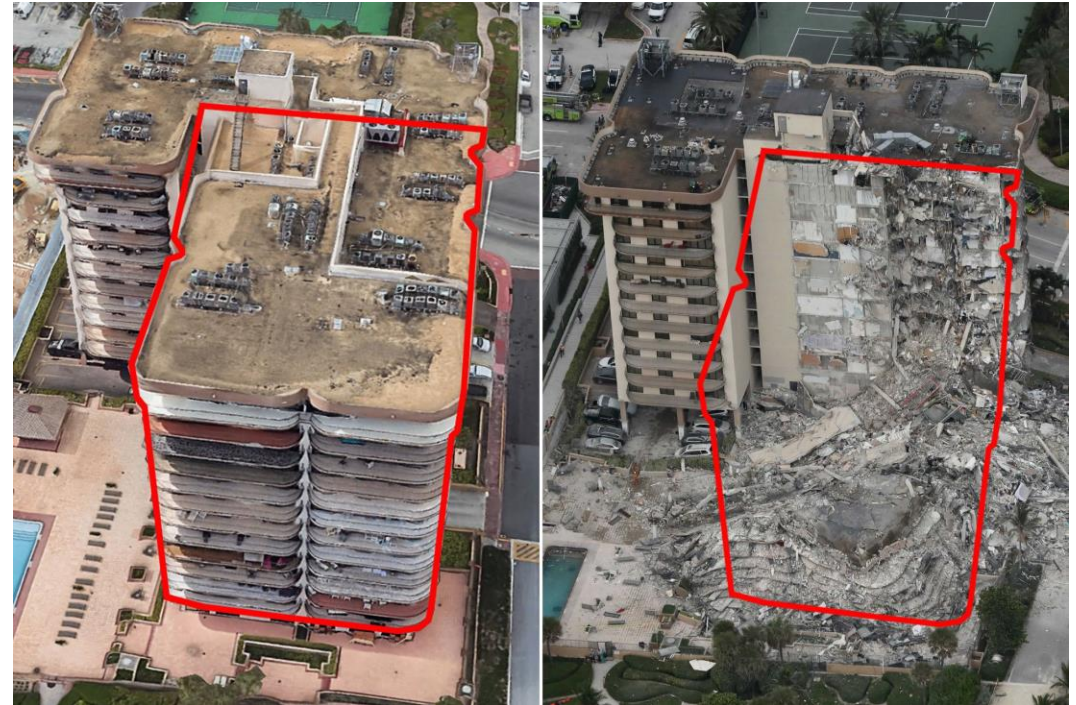
Champlain Towers South

- Located in the City of Surfside
- Additionally, there is a Champlain Towers North



The Structure

- **12-story condominium built in 1981**
- **Concrete and steel reinforced structure**
- **136 unit's total**
- **72 involved in the collapse**



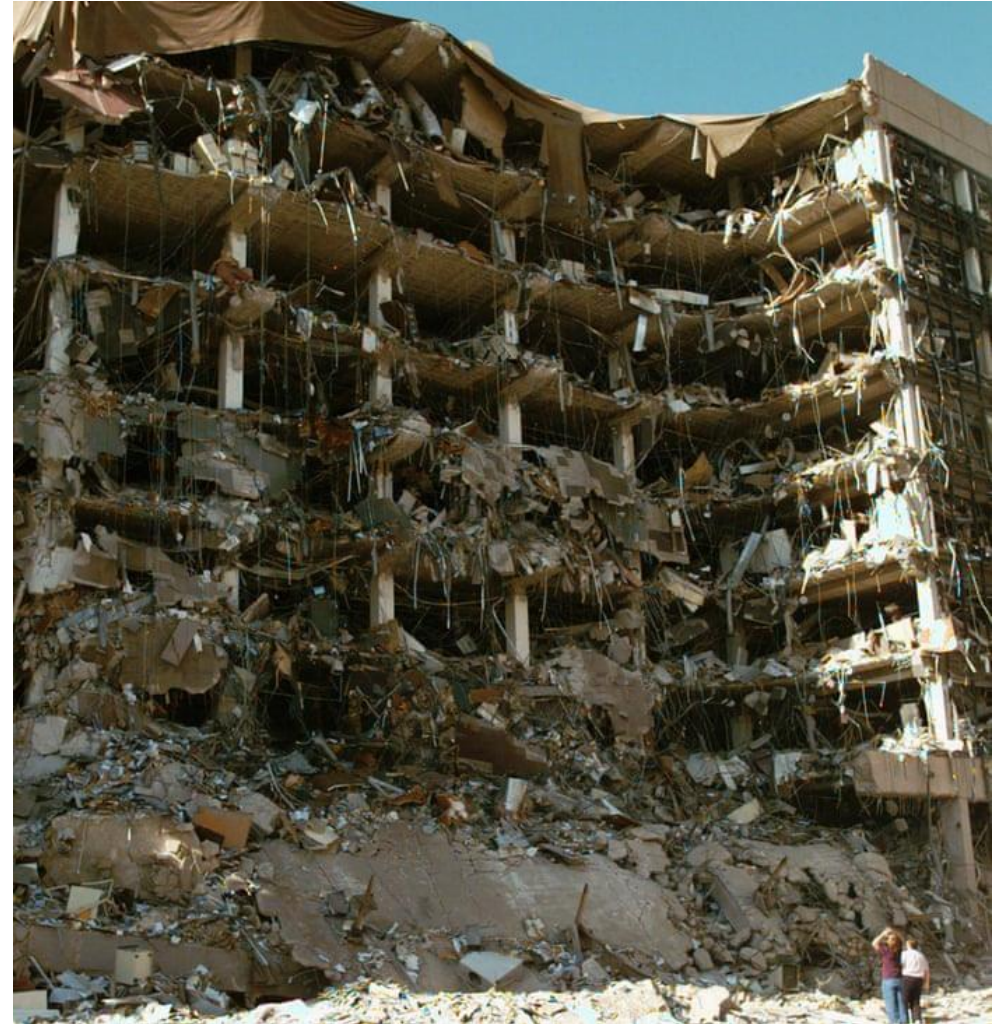
Previous Collapses

- **September 11, 2001**
- **New York City, NY**
- **World Trade Center North Tower**
- **1,466 lives lost**



Previous Collapses

- **April 19, 1995**
- **Oklahoma City, OK**
- **Murrah Federal Building**
- **168 lives lost**



Previous Collapses

- **June 24, 2021**
- **Surfside, FL**
- **Champlain Towers South**
- **98 lives lost**



The Initial Response

- **Miami-Dade Fire Rescue**
 - ✓ Serves unincorporated areas and 29 cities
 - ✓ Responsible for fire rescue services to the Town of Surfside
- **Supported by mutual aid from**
 - ✓ City of Miami Beach
 - ✓ City of Miami
 - ✓ City of Hialeah
 - ✓ City of Coral Gables
 - ✓ Broward County
- **Over 100 units responded initially**



Especially Proud!



**Chief Victoria Byrd
Battalion 1**



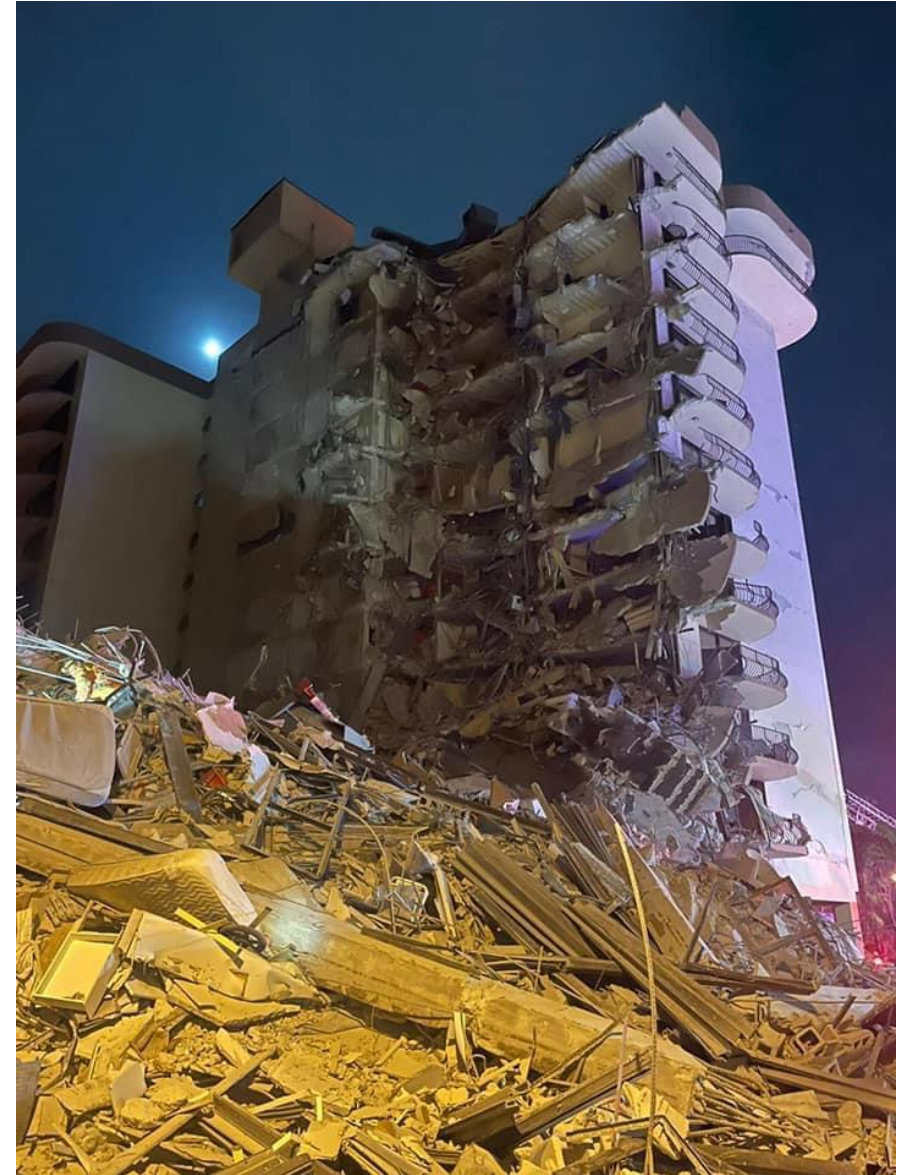
**Lieutenant Jennifer Kerlin
Platform 21**



**Lieutenant Corie Jones
Aerial/TRT 19**

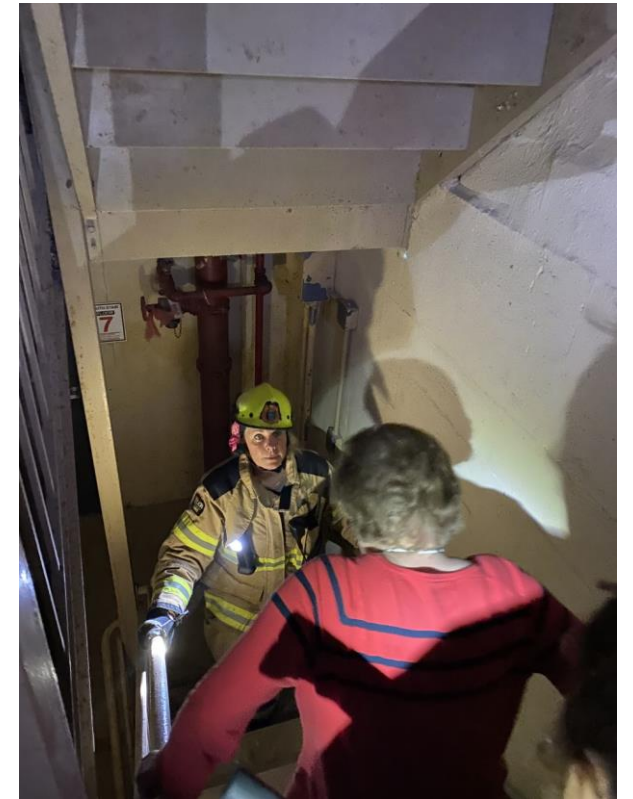
Initial Size-Up

- **Determine the scope of the incident**
 - ✓ What is involved?
 - ✓ Rule out possible causes
- **What is the integrity of the remaining structure?**
- **What is the area of operation**
 - ✓ 'Go' versus 'No Go' decisions



Initial Operations

- Remove walking wounded, surface victims, and any lightly trapped
- Ultimately 35 survivors removed
 - ✓ 4 from rubble
 - ✓ 31 from building



Command and Control

- **MDFR established the initial Command**
 - ✓ Expanded to a Type III IMT Unified Command

- **Unified Command partners**
 - ✓ Town of Surfside leadership
 - ✓ Miami-Dade Police
 - ✓ Medical Examiner
 - ✓ Florida Emergency Management
 - ✓ DHS/FEMA

- **Search and Rescue Branch**
 - ✓ State Coordinator(s)
 - ✓ FEMA US&R Blue IST



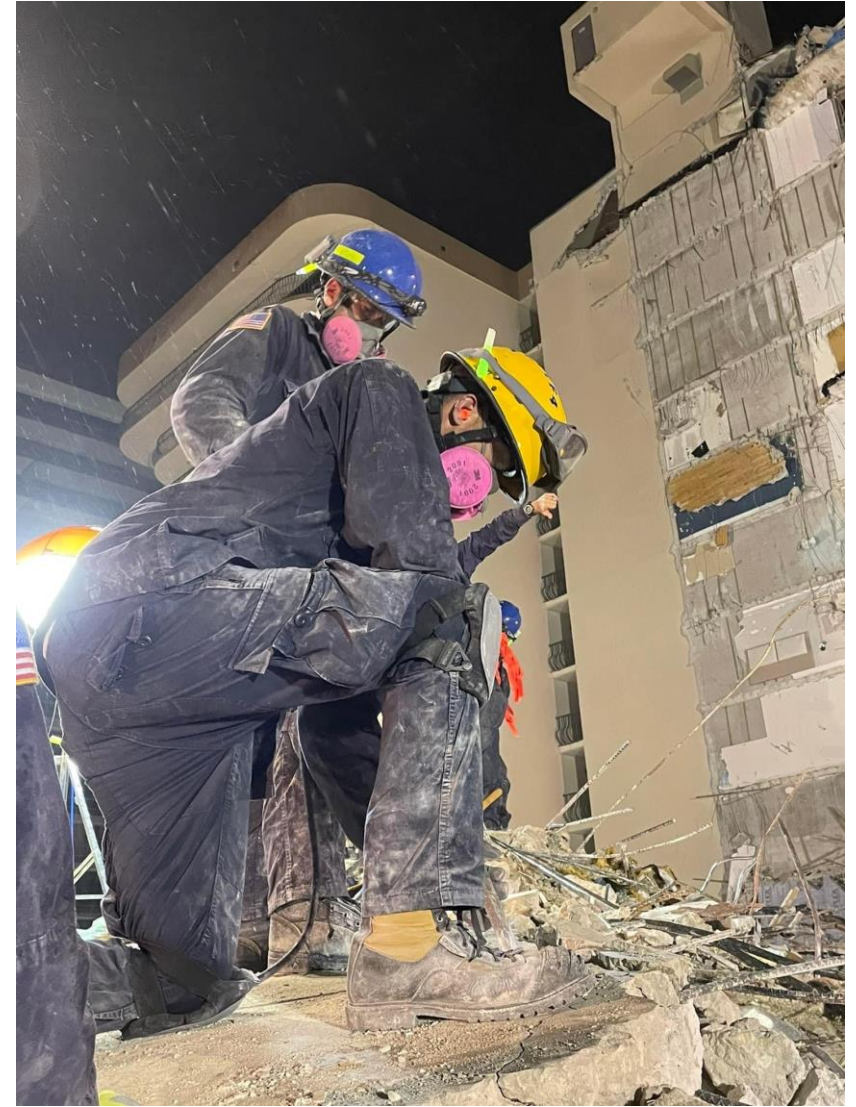
Search and Rescue Efforts

- Hailing
- Canine Search
- Search Camera
- Listening Devices



Phases of Collapse Rescue

- **Size-Up**
- **Surface area rescue**
- **Void space search**
- **Selected debris removal**
- **General debris removal**

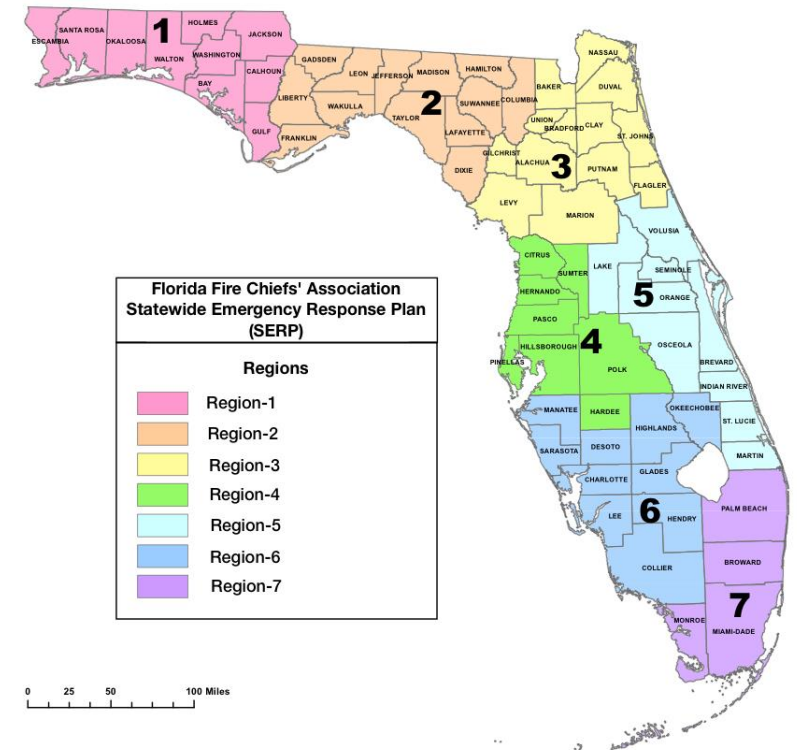


The US&R Response

- **Initially a local response**
 - ✓ **FL-TF1 from Miami-Dade Fire Rescue**
 - ✓ **FL-TF2 from the City of Miami via mutual aid**
 - **Request for State resources**
 - ✓ **Activation of the Statewide Emergency Response Plan (SERP)**
 - **Request for Federal assistance**
 - **Spontaneous volunteers**
-

Statewide Emergency Response Plan (SERP)

- Partnership between the Florida Fire Chiefs Association and the State Fire Marshal's Office
- Developed after Hurricane Andrew
- 7 Regions
 - ✓ Regional Coordinator
 - ✓ County Coordinators



US&R Resource Request and Deployment

- **Ultimately the decision of the AHJ**
 - **Goal was to have a phased deployment**
 - ✓ **Small footprint**
 - ✓ **Allow resources to get settled**
 - ✓ **Engage resources as quickly as possible**
 - **Understanding the “Reflex Time” for resources was a challenge**
-

Florida US&R (FLUSAR) System

- 2 - Type I (80 person) US&R Task Forces (FEMA)
- 1 - Type II (80 person) US&R Task Force
- 3 - Type III (40 person) US&R Task Forces
- 2 - Type IV (25 person) US&R Task Forces
- 41 - Light Technical Rescue Teams



National US&R Response

- **Initially 3 Type I task forces placed on Alert**
- **Additional Structural Specialists requested**
- **Incident Support Team requested**
- **Five Type I task forces deployed**



Structural Specialists

- **Civilian engineers**
 - ✓ **Trained by the Army Corp of Engineers**
- **Subject Matter Experts**
 - ✓ **Provide recommendations**
 - ✓ **Assists with risk/benefit decisions**
- **Oftentimes life and death decisions**
 - ✓ **This is not part of their everyday job**



US&R Operations

- **US&R task forces engaged around the clock.**
- **Work cycle**
 - ✓ **12-hour shifts**
 - **1200 – 2400 hrs**
 - **0000 – 1200 hrs**
 - ✓ **30-45 minutes work/rest cycles**



US&R Operations

- Heavy equipment for specific debris removal
- Utilized 30 FFs/shift for debris removal



Challenges Faced

- **Possible secondary collapse**
 - ✓ **Stability monitored 24/7**
- **Falling debris aka “Widow Makers”**
 - ✓ **Initially a 40’ exclusion zone**
- **Leaving someone behind**
- **Weather**
- **Fire**
- **Religious customs**



Initial Fire



Strategy for Fire

- **Can't let it burn**
- **Cut off progress**
- **Application of water**
- **Dewatering =
Environmental Concerns**



Family Assistance

- **Twice daily briefings**
 - ✓ **First to know!**
- **Site visit conducted**



Israeli Defense Force Rescuers

- 15 Specialists
- Part of an INSARAG Heavy US&R TF
- Merged into FL-TF1 and 2



IDF Support and Technology



© IDF

Victim Recovery

- **Bio-hazard precautions**
- **Adherence to religious customs**
- **Recovering belongings**



Controlled Demolition

- **Goal was to drop the existing building in its same footprint**
- **Covered existing “historical” rubble with a tarp**
- **Crews re-engaged 1 hour after completion**



Transition from Rescue to Recovery

- **Never an easy decision**
 - ✓ In Miami-Dade it is a transition from Fire to Police
 - **Focus on the Probability vs a Possibility**
 - **Factors to consider**
 - ✓ Type of collapse
 - ✓ Presence of survivable void spaces
 - ✓ External conditions
 - ✓ Time (?)
-

Moment of Silence



Unified Command

- Transitioned to an AHIMT after recovery
- Designed for long-term, complex incidents



Mental Wellness

- **Consideration early on**

- ✓ First responders
- ✓ US&R personnel

- **Florida Firefighters Safety and Health Collaborative**

- ✓ Established a Group under the Medical Branch

- **An ongoing mission!**



The Investigation

- **National Institute of Standards and Technology (NIST) had the lead.**
- **FL-TF1 and FL-TF2 assisted**



Mission Accomplished

- After 29 days all 98 victims accounted for
- FL-TF1 and FL-TF2 demobilized

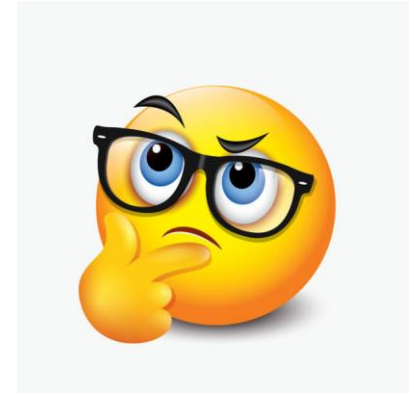


Successes



- **No significant injuries**
- **Early notification of the State Warning Point**
- **“Non-Traditional” operational periods**
- **Early deployment of mental health personnel**
- **Use of Survey123**
- **State Emergency Management logistical support**
- **Use of rental equipment**

Opportunities for Improvement



➤ Factor Reflex Time

- ✓ Establish an 'Alert' phase

➤ Incident Safety

- ✓ Evacuation routes
- ✓ Emergency signaling

➤ Establish a State US&R IST to assist the AHJ in managing resources

Opportunities for Improvement “Continued”

- **Develop a standard list of heavy equipment for a structural collapse**
 - **Establish a standard list of breaching, breaking, and rescue equipment for rental**
 - **Consider establishing Base Camps**
 - **Determine best method to integrate and support mental wellness personnel**
-

Any Questions?



Thank You

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