AIRPORT RESILIENCY
TABLE TOP EXERCISE
OBJECTIVE

• To strengthen the resistance of Lic. Manuel Crescencio Rejón International Airport (MID) and ASUR to a disaster of national magnitude.

• To evaluate the preparation and resilience of the airport, identifying gaps in resources, determining capacity limits, and resolving conflicts in operation and coordination.
• This is an low stress, open discussion, non-retribution environment, encouraging different points of view, and understand disagreements may exist.

• Your answer should be based on your knowledge of your current plans and capabilities (for example, only use existing resources) and knowledge derived from this exercise.
• The comments may not reflect the official position of your organization on a given topic. This is an opportunity to discuss and present multiple options and possible solutions.

• The exercise will be used by airport management and other participating institutions, to further develop further concepts of airport resiliency.
Our exercise today will focus mostly at events and responses at MID, but we want personnel from other airports to mix at the airport tables and work together.
The exercise is divided into four stages:

- **Preparedness**: Before event impact.
- **Response**: First 48 hours after event impact.
- **Response & Recovery**: 72 hours after event impact
- **Recovery**: One week after event impact

Note: The scenario uses notice and no-notice events — that is, no advanced warning of some of the events will occur.
Select a table spokesperson.

Work as a team, as you would in a real situation.
EXERCISE ORGANIZATION (cont.)

We will present a situation. After each “What do I do?” slide, discuss the situation within your group, and:

- Determine priorities
- Actions to be taken
- With whom and how to coordinate
- Required resources and how to acquire them
- Identify problems encountered and possible solution

Write your conclusions on the chart paper and have your spokesperson present them to the whole room.
Relax
January of this Year

The Servicio Meteorologico Nacional SMN in consultation with international meteorological institutions is predicting the beginning of a strong cycle of “LA Niña,” coupled with a very warm Atlantic Multi-Decadal Oscillation (AMO).

Historically a strong “La Niña” and warm AMO causes a high number of Atlantic hurricanes.
What do I do?

• Do we have a process for receiving and acting upon this information?
• What preparations would we make?
• Are they included in our plans?
Tropical Depression Five advisory number 1 NWS
Fifth tropical depression of the season develops over the central tropical Atlantic ocean... At 11 pm AST...0300Z...The center of tropical depression five was located about 1280 miles...2055 km...East-southeast of the lesser Antilles.
The depression is moving toward the west near 12 mph...19 km/hr... And this general motion is expected to continue for the next 24 hours.
Maximum sustained winds are near 30 mph... 45 km/hr...With higher gusts. Some gradual strengthening is forecast during the next 24 hours and the depression could become a tropical storm on Monday.
What do I do?

- Does MID need to do anything?
- Do any other stakeholders/partners need to take action concerning the airport?
- Does ASUR need to do anything system-wide?
- Should GAP do anything at this stage?
36 Hours Later

Tropical Storm Emily
11 AM EDT Tuesday

NWS TPC/National Hurricane Center
Advisory 7
Current Center Location 11.0 N 51.3 W
Max Sustained Wind 50 mph
Current Movement W at 20 mph

Forecast Center Positions
H Sustained wind > 73 mph
S Sustained wind 39-73 mph

Potential Day 1-3 Track Area
Potential Day 4-5 Track Area
Hurricane Watch
Tropical Storm Watch

True at 30.00N
125 250 375 500
Approx. Distance Scale (Statute Miles)
Tropical Storm Emily advisory number 7

Emily strengthening...Hurricane watches issued in the Windward Islands

At 11 am AST...1500Z...

The center of tropical storm Emily was located about 575 miles...925 km... East-southeast of Barbados.

Emily is moving toward the west near 20 mph ...32 km/hr. A turn to the west-northwest is expected during the next 24 hours.

Maximum sustained winds are now near 50 mph... 85 km/hr...With higher gusts. Additional strengthening is expected...And Emily has the potential to become a hurricane before reaching the windward islands.
What do I do?

• How does this change our plans?
• Does MID need to do anything yet?
• Do any other stakeholders/partners need to take action concerning the airports yet?
4 Days Later, Hurricane Warning
4 Days Later, Hurricane Warning

Hurricane Emily forecast/advisory number 25
11 pm EDT...0300 UTC...
The government of Mexico has issued a hurricane warning for the eastern coast of the Yucatan peninsula from Chetumal northward to Cabo Catoche... Including Cozumel and the Islas Mujeres.
Additionally... The hurricane watch has been extended westward and is now in effect from west of Cabo Catoche on the northern coast of the Yucatan peninsula to Campeche on the western coast of the Yucatan peninsula. Hurricane warnings are now in effect for Jamaica... All of the Cayman islands.... And the eastern coast of the Yucatan peninsula of Mexico from Chetumal northward to Cabo Catoche... Including Cozumel and the Islas Mujeres.
Airport Resiliency, Table Top Exercise
Hurricane Warning

- Iberia 225/Interjet 2523 while attempting to evacuate tourists to Mexico City form MID develops mechanical problems and the passengers have to deplane.
- There are no more flights to evacuate the passengers and they are stranded in Merida.
What do I do?

- What now?
- Do we shelter in place?
- How do we take care of the passengers, well-wishers and staff?
- Do we have alternate evacuation plans and routes?
Hurricane Emily advisory number 29

Dangerous hurricane Emily approaching the northeast Yucatan peninsula. At 11 pm EDT...0300z...The center of hurricane Emily was located about 50 miles... 80 km... South-southeast of Cozumel Mexico.

Emily is moving toward the west-northwest near 18 mph ...30 km/hr...And this general motion is expected to continue for the next 24 hours. On this track...The center will be near the northeast coast of the Yucatan peninsula in a few hours and then move across the northern Yucatan peninsula.

Maximum sustained winds are near 165 mph...265 km/hr...With higher gusts. Emily is a category five hurricane. Hurricane force winds extend outward up to 70 miles... 115 km... From the center...And tropical storm force winds extend outward up to 200 miles...320 km.

Coastal storm surge flooding of 8 to 12 feet...2.5 to 3.65m above normal tide levels... Rainfall totals of 5 to 12 inches...12 to 43.5cm are possible over portions of the Yucatan peninsula with isolated maximum amounts up to 16 inches...40.6cm
IT’S NIGHT TIME
CURRENT SITUATION

• During the storm several employees report that they see smoke and flames coming from the area of the MID tank farm.
What do I do?

• How does this change our plans?
• Who and how do we evaluate conditions?
• What do we do/can we do?
All Clear

CURRENT SITUATION

• 95% of the State has no electric energy.
• Those who have electricity are receiving limited information from radio, television and internet.
• Cellular service is spotty and there is no signal at MID.
• There are reports there is major flooding in various towns and in Merida.
MID CURRENT SITUATION

- The fuel pump station is on fire and the fire suppression system has not been able to extinguish it. ARFF units are on site attempting to extinguish.
• There is no external electrical power.
• Slight damage to the control tower.
• Runway and taxiway lights non operational.
• The runway is covered with sand, debris and water.
• NAVAIDS are inoperative.
• Moderate damage and flooding in the terminal.
• Most roads are impassable due to debris from the hurricane.
CUN/CZM CURRENT SITUATION

• There is no electrical power.
• Heavy damage to the control towers.
• Runway and taxiway lights non operational.
• The runways are covered with sand, debris and water.
• NAVAIDS are inoperative.
• Heavy damage and flooding in the terminals.
• Most roads are impassable due to debris from the hurricane winds and storm surge.
What do I do?

- How do I get to the airport?
- How do we communicate?
- What are my backups?
- How do we evaluate?
- How do management and operations coordinate?
24 Hours Later

Hurricane Emily
10 PM CDT Monday

NWS TPC/National Hurricane Center Advisory 33
Current Center Location 22.9 N 92.1 W
Max Sustained Wind 105 mph
Current Movement WNW at 15 mph

- Current Center Location
- Forecast Center Positions
  - H Sustained wind > 73 mph
  - D Sustained wind < 39 mph
- Potential Day 1-3 Track Area

- Hurricane Warning
- Hurricane Watch
- Tropical Storm Warning

Approx. Distance Scale (Statute Miles)

True at 30.00N

125 250 375 500

110W 105N 100W 95N 90W 85W

Mexico

Airport Resiliency,
Table Top Exercise
24 Hours Later
24 Hours Later

Hurricane Emily forecast/advisory number 33
1000 PM CDT Monday
A hurricane warning is in effect for northeastern Mexico from south of the Texas/Mexico border to la Cruz and a tropical storm warning is in effect from south of la Cruz to Cabo Rojo.
Present movement toward the west-northwest at 15 miles...24 kilometers
Max sustained winds 105 miles...170 kilometers with gusts to 120 miles...193 kilometers.
CURRENT SITUATION

- The towns on the east coast are reporting collapsed buildings, with varying degrees of damage and missing roofs.
- People asking for medical help, and assistance in rescuing/finding missing family members and friends.
- Little or no electrical, radio, and cellular service.
CURRENT SITUATION (cont.)

• Streets and primary roads blocked by collapsed buildings and debris.
• Two overpasses on the 180D highway between Valladolid and Cancun have collapsed and are blocking the highway.
• Highway 307 between Tulum and Playa del Carmen has washed out in many places.
Many hotels in the Cancun and Cozumel area are reporting structural damage and are closing their doors.

There are many tourists who did not evacuate in public shelters.

There are fears of spreading communicable deceases in the shelters.

Some hospitals are also reporting structural damages.

The hurricane has affected all of Yucatan, the damage is extensive.
MID CURRENT SITUATION

• There are no life threatening injuries to passengers and personnel.
• But two deaths due to medical causes, heart attack, diabetes, hypertension, have been reported.
• Two passengers are reporting the death of their pets and want to travel back home with their remains.
• Many passengers are seeking shelter in the terminal.
• The on-shift personal is worried about their families and would like to go home.
CUN/CZM CURRENT SITUATION

- Both airports suffered severe damage and trying to clear the runways and establish flight control.
- Aircraft which were not evacuated have been destroyed and pushed into buildings.
- Utilities, hospitals, and hotels on the coast are severely damaged and will take some time to reestablish basic services.
What do I do?

• Who does what?
• How do we evaluate?
• How do we support our staff?
• How do management and operations coordinate?
• How do we coordinate with stakeholders/partners?
• How do the various emergency management structures relate to one another?
• How to handle PR and social media?
48 Hours Later

MID CURRENT SITUATION

• Over 100 passengers sheltering in place in terminal.

• MID engineering assessment completed:
  • Terminal has minor damage
  • Two jetways are damaged
  • Debris needs to be cleared from AOA
  • Tower undamaged
  • Electricity and communications restored
  • Fuel hydrant system is inoperative
What do I do?

- How do we evacuate civilians?
- How do we restore services?
- How do we remove the debris and trash?
- What is the status of water, basic services, food, shelter?
MID CURRENT SITUATION

- The runway, taxiways, and ramp have been cleared.
- The Tower and NAVAIDS are fully operational.
- MID is ready to resume limited operations
• Operations at MID are ramping up to handle incoming humanitarian aid, tourist evacuations, and medical evacuations.
• MID in 24/7 operations approaching 400 ops/day.
• Road from Merida to Cancun has been made passable.
• Telephone communications between MID and CUN and CMZ have not been restored.
Military flights with humanitarian assistance and urban search & rescue (USAR) teams are starting to arrive.
MID CURRENT SITUATION (cont.)

- Passengers are been evacuated by land and some by air.
- Only one-third of the personnel has reported for work.
- Fuel distribution is strained, too much demand not enough deliveries.
What do I do?

- How do we provide relief to the staff?
- How do we manage operations with reduced services?
- How do we provide support to families?
- Can we get airport to airport support for MID, CUN and CZM for staff relief?
- What would be the process?
MID CURRENT SITUATION

• All routes are now open.
• Electrical power has been restores.
• Runways, taxiways, ramp and parking spots are operational.
• Fuel deliveries are normal, but demand is very high.

One Week Later
• Many humanitarian assistance flights
• Many atypical aircraft operating from the airport
• Some planes require ground handling equipment not present
CURRENT SITUATION (cont.)

- Large quantities of humanitarian assistance goods are stored at the airport.
• Airlines want to reestablish commercial flights.
• Resorts and tourist enterprises want to reopen.
• The national economy needs tourism, exports & imports.
What do I do?

• How do we handle the demand for increased operations?
• How do we handle the competition between humanitarian relief and normalization of commercial service given airport capacity?
• Evacuations, public relations, disaster tourists etc.
HOW DID WE DO?

Self-Evaluation: Please use Section I of the questionnaire to comment on the things that work and what needs to improve, for the following points:

• Airport Emergency Plan
  • Organizational structure, number of personnel, procedures, and annexes

• Communications, internal and external

• Coordination, internal, and with governmental and private entities

• Sufficiency and safety of the personnel.
  • Shelter, food, water, medical care, and rest periods

• Sufficiency and acquisition of additional resources
Evaluation of the TTX: Please use Section II of the questionnaire provided and comment on
• What you liked in the TTX?
• What you disliked in the TTX?
• How we can improve the usefulness of the TTX?
• How we can improve the learning value of the TTX?
• What you liked about the training sessions?
• What you disliked about the training sessions?
• What we left out that you wanted or expected?
Next Steps

• CZM, CUN and MID review and revise as necessary airport emergency plans, business continuity plans, and crisis communications plans.

• All parties continue to develop mutual aid plans.

• Airports, national, state & local agencies—and perhaps other partners—continue to explore joint planning, training and exercises.

• Continue application of the continuous improvement process.
THANK YOU!