

Airport Disaster Preparedness and Resilience

From Emergency Response to
Climate Adaptation

24 September 2026

Felisa Pérez-Luengo

Juan Manuel Manriquez Viñas

Regional Director of Operations ACI-LAC

ACI: Global to Local Reach

The only organization working at every level of the airport industry

ACI's Mission

Champion the transformation of airports and aviation globally to better connect the world; promoting sustainable growth and capacity optimization, operational and commercial excellence, safety, security, and an exceptional travel experience – all in collaboration with the ACI regions.

As of January 2026, ACI serves 811 members, operating over 2,200 airports in more than 160 countries worldwide.



AGENDA

01

Airport
Emergency Plan

02

Business
Continuity

03

Disaster
Resilience

04

Climate Change
Adaptation

05

ACI Strategy

Airport Emergency Plan

Managing known challenges

Airports have well established plans to deal with aircraft accidents and operational disruptions.

They have sufficient and regularly updated SARPS and guidance material on this topic.

They have been practicing using multiple scenarios for decades.

Resources for continuous improvement are available.

But there are currently no ICAO provisions specifically addressing the management of major natural disasters, which require different response mechanisms.



Airport Emergency Plan

ICAO Update

To address this gap, ICAO has established **the Emergency Response Planning Expert Group (ERPEG)**.

Under this work programme, ICAO is developing new provisions for Airport

Under its mandate, and through Job Card 009, the ERPG is developing new provisions in the **ICAO Doc. 9137, Part 7** (Airport Emergency Planning) addressing:

- Disaster resilience and preparedness
- Preparedness and response to public health emergencies

ICAO has identified the gap and has a workstream to address it, but the substantive work is still ahead.

This work is expected to **commence in Q4 2026**.



Airport Business Continuity

The spectrum of potential disruptions is broad



**Airport Business
Continuity Management
HANDBOOK**
First Edition 2019



Airport Business Continuity Management, Handbook, ACI, 2019 first edition:

Aviation events | **Natural disasters & severe weather** | Technical & infrastructure failures | Security & unlawful interference | Public health events | Cybersecurity | Stakeholder & supply-chain disruptions | Social / legal / civil unrest

Disruptions can arise anywhere and at any time, vary in magnitude, and range from a few minutes to days, weeks or even months.

From a localized operational disruption → to a major event affecting the entire airport system

The airport therefore has a dual role: recovering its own operations while becoming part of a much wider disaster-response ecosystem.

ISO 22301 is the international standard for a **Business Continuity Management System (BCMS)**, providing a framework to help organizations protect against, prepare for, respond to, and recover from disruptive incidents.



Disaster Management

A major disaster can turn an airport from an affected facility into a critical gateway for the wider response.

- Being able to cope with multiple support governments and humanitarian agencies sending aid to an airport with limited capabilities is a challenge.
- Airports in distressed cities/countries may quickly become an essential hub for receiving international aid and humanitarian support. A disaster may affect one airport, while another airport becomes critical to the humanitarian response.
- It requires a multi-agency coordinated approach.
- Airports must prepare for worst-case scenarios and **to take a leadership role**, maximizing the use of available and limited resources.



ICAO HADRA

Humanitarian Assistance and Disaster Response in Aviation

ICAO provisions on disaster response are limited:

- **Established in 2017** as an informal network initiated by ICAO and OCHA.
- **Mulyi-stakeholder Group:** ICAO, Airports Council International (ACI), Civil Air Navigation Services Organization (CANSO), Deutsche Post DHL (DP-DHL), Global Logistics Cluster (GCL), International Air Transport Association (IATA), OCHA, United Nations Development Programme (UNDP) and the World Food Programme (WFP).
- In 2022, **HARA delivered a free guidance material** on airport preparedness for effective humanitarian assistance and disaster response.
- Since then, no sustained coordination mechanism appears to have emerged from the group

[Link ro the document](#)

GUIDANCE MATERIAL ON AIRPORT PREPAREDNESS FOR EFFECTIVE HUMANITARIAN ASSISTANCE AND DISASTER RESPONSE

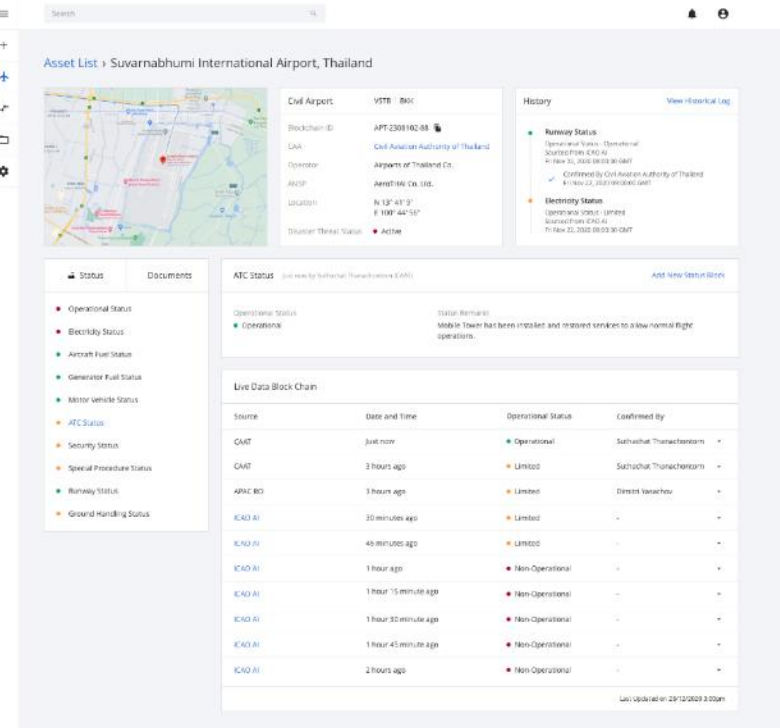


Airport Status Information Tool (ASIT)

The **HADRA Expert Group** will continue to implement its work plan, which will incorporate the development and implementation of the blockchain tool and associated guidance material, by the end of 2021. In the coming weeks, the blockchain tool will be tested in the ICAO Regional Office for Latin America and the Caribbean and we are looking forward to collecting the lessons learned.

After that, the Airport Status Information Tool (ASIT) was being developed, and it was tested at some airports.

<https://unitingaviation.com/news/capacity-efficiency/a-more-coordinated-use-of-aviation-in-disaster-response/>



The screenshot displays the ASIT interface for Suvarnabhumi International Airport, Thailand. The interface includes a search bar at the top, a sidebar with navigation icons, and a main content area with several sections:

- Asset List:** Displays the airport's details, including its ICAO code (VTBS), IATA code (BKK), and a map of the airport's location.
- Civil Airport:** Provides information about the airport's civil status, including its ICAO code (VTBS), IATA code (BKK), and a map of the airport's location.
- History:** Shows a list of historical events, including runway status and electricity status.
- ATC Status:** Displays the current status of the airport's air traffic control (ATC) system, including a map of the airport's location and a list of active flights.
- Live Data Blockchain:** A table showing real-time data from the blockchain, including source, date and time, operational status, and confirmed by.

Source	Date and Time	Operational Status	Confirmed By
CAAT	Just now	Operational	Sutthachak Thanasakorn
CAAT	3 hours ago	Limited	Sutthachak Thanasakorn
APAC BCS	3 hours ago	Limited	Direkt Vachon
ICAO AI	30 minutes ago	Limited	-
ICAO AI	49 minutes ago	Limited	-
ICAO AI	1 hour ago	Non-Operational	-
ICAO AI	1 hour 15 minute ago	Non-Operational	-
ICAO AI	1 hour 30 minute ago	Non-Operational	-
ICAO AI	1 hour 45 minute ago	Non-Operational	-
ICAO AI	2 hours ago	Non-Operational	-

Live updated on: 20/12/2020 9:00am

Coalition for Disaster Resilience Infrastructure (CDRI)

CDRI is a global coalition committed to strengthening infrastructure resilience against climate and disaster risks.

With 58 member countries and 12 partner organizations, it includes national governments, international bodies, and businesses collaborating to exchange knowledge, drive research, and invest in disaster resilient infrastructure. Members gain access to global expertise, funding, technical support, research opportunities, innovative solutions, and international best practices.

ACI and many of its member airports collaborate and provide support to CDRI.

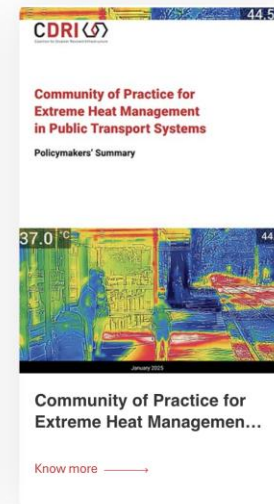
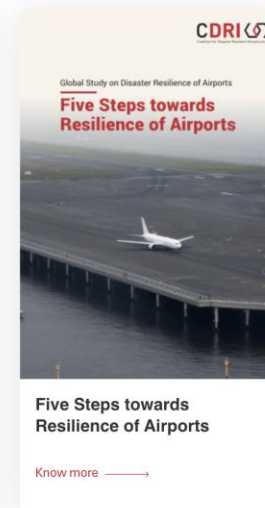
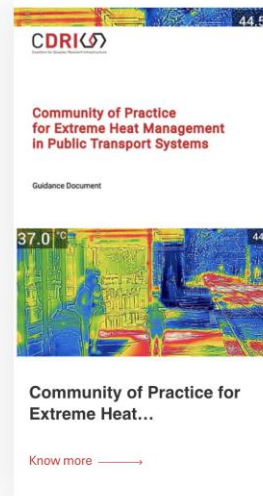
They provide a variety of documents and reports for free.

<https://cdri.world/transport/#resources>

Resources

Documents

Reports



Load More

Many agencies involved



ABOUT US

Who We Are

As part of the United Nations framework through UNITAR, The International Training Center for Authorities and Leaders in Miami (CIFAL Miami Center) strengthens the capacities of government authorities, private-sector leaders, and civil-society stakeholders.

In partnership with Outreach Aid to the Americas (OAA) and Florida International University (FIU), we serve as a hub for knowledge sharing and strategic learning.

[Read More](#)

[Learn About UNITAR](#)



page-title-bg-ash.png

About CDEMA

The Caribbean Disaster Emergency Management Agency (CDEMA) is a regional inter-governmental agency for disaster management in the Caribbean Community (CARICOM).

The Agency was established in 1991 as CDERA (Caribbean Disaster Emergency Response Agency) with primary responsibility for the coordination of emergency response and relief efforts to Participating States that require such assistance. It transitioned to CDEMA in 2009 to fully embrace the principles and practice of Comprehensive Disaster Management (CDM).

is an integrated and proactive approach to disaster (CDM) management and seeks to reduce the risk and loss associated with natural and technological hazards and the effects of climate change to enhance regional sustainable development.

[HISTORY](#)

[GOVERNANCE](#)

[MANDATE](#)

[MEMBER STATES](#)

Caribbean Aviation Resilience & Recovery Group (CARRG) Airport-to-Airport Mutual Assistance Program

WFP

DHL GARD

FEDEX-UNITAR-CIFAL

...

Kansai airports – Typhoon Jebi 2018

Top 10 height of waves since 1978

Date	Vague (m)	Evènement
2018/09/04	5.20	Jebi
2009/10/08	3.44	Typhon 2009/18
2004/09/07	3.33	Typhon 2004/18
1991/09/27	3.17	Typhon 1991/19
2004/08/31	3.09	Typhon 2004/16
2004/12/05	3.02	Tempête tropicale
1990/09/19	2.95	Typhon 1990/19
1983/02/18	2.87	Tempête tropicale
1979/10/01	2.73	Typhon 1979/16
1979/11/06	2.69	Tempête tropicale

	Japon		Kansai	
	Trembl. M>5	Typhon	Trembl. M>5	Typhon
2016	42	26	1	2
2017	20	27	0	5
2018	33	29	1	5
2019	21	29	0	7
2020	30	23	0	1
2021	26	22	0	2

* Quake data source: tenki.jp - * Typhoon data source: JMA

Wave height: 5.20 m (design value: 3.70 m)

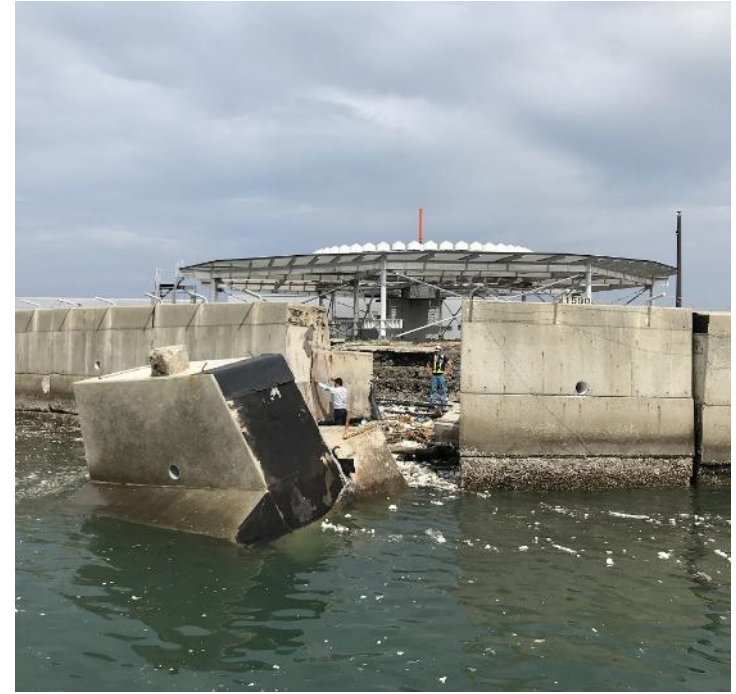
Source: Presentation VINCI Airports/Kansai Airports Passenger Terminal 2023

Flooding of the Island 1



Source: Presentation VINCI Airports/Kansai Airports Passenger Terminal 2023

Seawalls



Source: Presentation VINCI Airports/Kansai Airports Passenger Terminal 2023

Terminal 1 - loss of 50% of power



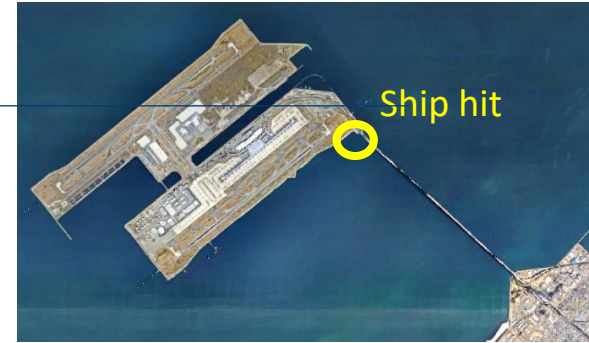
Source: Presentation VINCI Airports/Kansai Airports Passenger Terminal 2023

Damage to facilities



Source: Presentation VINCI Airports/Kansai Airports Passenger Terminal 2023

Access



Source: Presentation VINCI Airports/Kansai Airports Passenger Terminal 2023

Climate Change Adaptation & Resilience

ACI's position

Summary of ACI's position on climate adaptation:

1. Conduct airport-specific climate risk assessments and integrate resilience into planning
2. Embed climate resilience into infrastructure and operations
3. Strengthen collaboration with governments and external stakeholders
4. Build capability through data, training, and implementation support
5. Secure sustainable financing for resilience projects

Airports should move from reacting to climate events toward systematically planning for climate resilience.



ACI Initiatives

Climate Change Initiatives



ACI Initiatives

ACI AIRPORTS COUNCIL INTERNATIONAL

AIRPORTS' RESILIENCE AND ADAPTATION TO A CHANGING CLIMATE

CLIMATE CHANGE RESILIENCE AND ADAPTATION SURVEY REPORT

Tendering Guideline for Climate Resilience Planning

Asia-Pacific and Middle East Airports

Adapting Airports in Latin America and the Caribbean to a Changing Climate

Adapting Aviation to a Changing Climate

Effects and Impacts of climate change for aviation

Airport Business Continuity Management HANDBOOK

First Edition 2019

Version 2.0 (JAN 2021)

Green Airports Recognition 2025

CLIMATE CHANGE ADAPTATION

Visual Overview of Study Outputs

ACI AIRPORTS COUNCIL INTERNATIONAL

AADP

Professional Certificate Course E09-E

Course Name Building Climate Resilient Airports: Airport's Perception of Risk Mitigation and Adaptation

ACI Initiatives

Climate Change Initiatives



**Adapting European Aviation
to a Changing Climate:**
Guidance on Risk Assessment
and Adaptation



[Link to document](#)



UBIMET 

Adverse Weather Operations Handbook

BEST PRACTICES FOR AIRPORT OPERATORS 2024



Disaster Management and Climate Change Resilience

ACI's objective

Ensure airports are **resilient**
and **prepared** for major
disruptive events



Disaster Management and Climate Change Resilience

Strategic initiatives

Establish aviation ecosystem collaboration

Provide cross-industry training and guidance material

Provide tactical support to the aviation community during major events



Establish aviation ecosystem collaboration

Focus area 1



Requirements for support can vary per region and per individual situations.

There are a multitude of players working to improve the preparedness and response to disruptive events.

There is currently no unified platform able to provide support to all airports affected by major natural events.

Many airports do not know where to go to get support on the topic of disaster preparedness and resilience.

Objective

- ACI to provide a platform to **facilitate collaboration** between airports and key aviation and humanitarian stakeholders.

Provide adequate cross-industry training and guidance material

Focus area 2



Consolidate existing knowledge, guidance and best practices from aviation, humanitarian and disaster-management organizations.

Develop practical training for airports and aviation stakeholders focused on preparedness, response, continuity and recovery.

Share lessons learned and operational tools from airports that have experienced major disruptive events.

Build capacity across regions, connecting airports with the expertise and resources available within and beyond the aviation sector.

Objective

- ACI to consolidate and facilitate access to existing knowledge, best practices and tools to strengthen airport preparedness.

Tactical Support to the aviation community during major events

Focus area 3

As major disruptive events differ from each other, depending on the type of event, expert advice during such an event can be critical.

Not all airports have access to a network of peers that can virtually assist and provide advice at no cost.

Objectives

- Develop expert groups per event type (volcanos, hurricanes, earthquakes, floods, etc.) with focal contact points.
- Establish ad-hoc task force to support members following events.
- Annual event to share best practices and raise awareness.



Where do we go from here?

Thank you!