

RASG-PA Safety Issue Alert

El Niño 2026–2027: Increased Operational Risk from Adverse Weather



RSIA-04

RASG-PA Safety Issue Alert 04 / 01 Oct. 2026

Subject: Increased operational risk from adverse weather during the 2026–2027 El Niño.

Threat: Weather-related loss of control in-flight (LOC-I), runway excursions, turbulence injuries and controlled flight into terrain (CFIT), compounded by mass diversions and network disruption.

Intended Audience: Air carrier operators, flight crews, dispatch and operational control centers, air navigation service providers (ANSPs), air traffic controllers, aerodrome operators and States' Civil Aviation Authorities.

Background: El Niño is not an aviation hazard in itself. It changes the likelihood and distribution of adverse weather, and that amplifies threats the region already manages every day: last-minute changes, radar vectors, go-arounds, holding, windshear, level changes and reroutes. Each adds workload for flight crews and controllers; when several occur together, safety margins shrink.

On 10 September 2026, the U.S. National Oceanic and Atmospheric Administration's (NOAA) Climate Prediction Center (CPC) reported that El Niño is strengthening, with a greater than 90% chance of a very strong event during the Northern Hemisphere fall and winter 2026–27, and a 75% chance that October–December 2026 will reach historic strength (a three-month Relative Oceanic Niño Index (RONI) of +2.5°C or more), exceeding every El Niño recorded since 1950.¹ Seasonal outlooks shift probabilities over broad areas; they support planning but do not replace current meteorological products for tactical decisions.

Area	Threats to plan for
Mexico and Central America (Jul–Oct)	Eastern Pacific tropical cyclones; rapid intensification near the coast cuts warning time (e.g. Hurricane Otis, Acapulco, October 2023) ²
Caribbean and Atlantic	Quieter season expected; keep readiness for late-season western Caribbean systems (Oct–Nov)
Central America, Caribbean, northern South America	Hotter, drier conditions; wildfire smoke and low visibility
Ecuador and Peru coast (Dec–Apr)	Heavy rainfall and flooding; wet or contaminated runways
Chile and the Andes	Strong Pacific winds; mountain wave and clear-air turbulence
Southeastern South America (Dec–Mar)	Wetter, more convective conditions; flooding and wet runways
Southern U.S. and northern Mexico (Nov–Feb)	Winter storms and atmospheric rivers; ground stops and mass diversions; fog on the central Mexico plateau
High-elevation airports	Persistent heat; high density altitude affecting takeoff performance, climb gradients and payload

Table 1: El Niño exposures identified by industry³

Operator flight data monitoring (FDM) data presented at the 71st meeting of the Pan American Regional Aviation Safety Team (PA-RAST/71) identified bank-angle alerts as the leading LOC-I precursor category and treated them as early warning signals, not as LOC-I events. No link between an FDM trend and El Niño should be assumed without analysis.

Recommendations: RASG-PA recommends the following before peak exposure:

To Air Carrier Operators:

- Turn the seasonal outlook into station- and route-specific threat and error management (TEM) briefings for

¹ NOAA/CPC, El Niño–Southern Oscillation (ENSO) Diagnostic Discussion, 10 September 2026.
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.shtml

² NOAA National Hurricane Center (NHC) Tropical Cyclone Report, Hurricane Otis (EP182023).
https://www.nhc.noaa.gov/data/tcr/EP182023_Otis.pdf

³ Aeroméxico presentations at PA-RAST/71 (São Paulo, 17 August 2026) and at the Latin American and Caribbean Air Transport Association (ALTA)-hosted El Niño 2026–2027 session (16 September 2026).

flight crews and dispatchers, refresh them with each monthly CPC update, and share operational plans with ANSPs early.

- Revalidate alternates and contingency fuel for scenarios in which several airports in one area are affected at once. Choose alternates by weather system and network capacity, not proximity, with runway, parking, handling and fuel capacity, and apply flexible fuel policies during peak events.
- At exposed stations, review hurricane and winter-storm plans, aircraft-protection and repositioning criteria, and decision thresholds that work with short warning times.
- Leverage the FDM/FOQA program to track bank-angle alerts, windshear alerts, unstable approaches, go-arounds, turbulence, and long landings and maximum braking on wet or contaminated runways against seasonal baselines, reviewed at least monthly during the event.
- Reinforce stabilized-approach criteria, go-around procedures, flight-path monitoring during weather avoidance and cabin securing when turbulence is expected, including in line-oriented flight training and upset prevention and recovery training (LOFT/UPRT) scenarios combining weather, automation surprises and workload.
- Report turbulence, mountain wave, windshear and braking action to air traffic control (ATC) through pilot reports (PIREPs), even when eddy dissipation rate (EDR) data reach company electronic flight bags (EFBs) automatically; ANSPs and other operators may not have access to it. Adopt a five-minute rule: a hazard reported by one crew, such as severe turbulence or ice crystals, is relayed by the operational control center (OCC) to all company aircraft on the route within five minutes.
- Manage fatigue, crew displacement and schedule pressure through fatigue risk management systems (FRMS) when recovering from mass diversions and ground stops.

To ANSPs:

- Give operators timely information on expected disruptions, reroutes, air traffic flow management (ATFM) measures and airspace constraints so they can plan routes, alternates and fuel before departure.
- Relay turbulence, windshear and braking-action PIREPs across sector and flight information region (FIR)

boundaries, and give flight crews the latest meteorological information. Post PIREPs promptly on a platform dispatchers can access directly (web portal or shared repository); a report relayed only in flight may come too late to reroute.

- Coordinate with meteorological watch offices on timely, geographically precise significant meteorological information (SIGMET) messages and on a seasonal briefing and escalation cadence.
- Review severe-weather traffic management, ground-stop and mass-diversion contingency arrangements before peak periods, and coordinate diversion capacity with aerodromes.
- Use the CANSO ATFM Data Exchange Network for the Americas (CADENA) calls to share El Niño information.

To Aerodrome Operators:

- Share real-time operational capacity and constraints with operators and ANSPs before and during peak events.
- Where heavy rain is expected, review drainage readiness and runway condition assessment, apply the Global Reporting Format (GRF) and disseminate runway condition reports and codes (RCR/RWYCC) promptly.
- A usable runway does not mean an operable airport: verify access roads, backup power, communications, staffing, fuel, parking, handling and capacity for diversions or humanitarian flights.
- Conduct an airport-specific climate risk assessment and update the aerodrome emergency plan, using Airports Council International (ACI) World's Adverse Weather Operations Handbook (2024) and Policy Brief: Airports' Resilience and Adaptation to Changing Climate (2023).

To Civil Aviation Authorities:

- Encourage seasonal adverse-weather risk assessments within the State Safety Programme (SSP) and service providers' safety management systems (SMS), using leading indicators rather than accident outcomes alone.
- Convene a cross-sector review or tabletop exercise on simultaneous disruption at several airports, and clarify roles and contacts for mass diversion and humanitarian operations.

Note: Operators and States are encouraged to share sanitized seasonal trends and lessons learned through RASG-PA mechanisms (Collaborative Safety Teams, IATA Flight Data eXchange). Expanded guidance is provided in *RSA-14 El Niño 2026–2027 Adverse Weather Preparedness*

About RSIA: A RASG-PA Safety Issue Alert (RSIA) contains important safety information RASG-PA deemed important to share with the Pan-America region and may provide recommendations. The purpose of the RSIA is to timely inform air carriers, Air Navigation Service Providers (ANSPs), Airline and Pilot associations and Civil Aviation Authorities about a potential threat to safety in the region. RSIA is designed to be concise while RASG-PA analyzes the safety issue further to develop comprehensive recommendations. RASG-PA members are advised to take note of the Alert to evaluate the occurrence of the identified safety issue in their operations with the purpose of mitigating it.