

46th Meeting of the Informal Pacific Air Traffic Services Coordinating Group (IPACG/45)

Monitoring Agency Activities in North Pacific Airspace

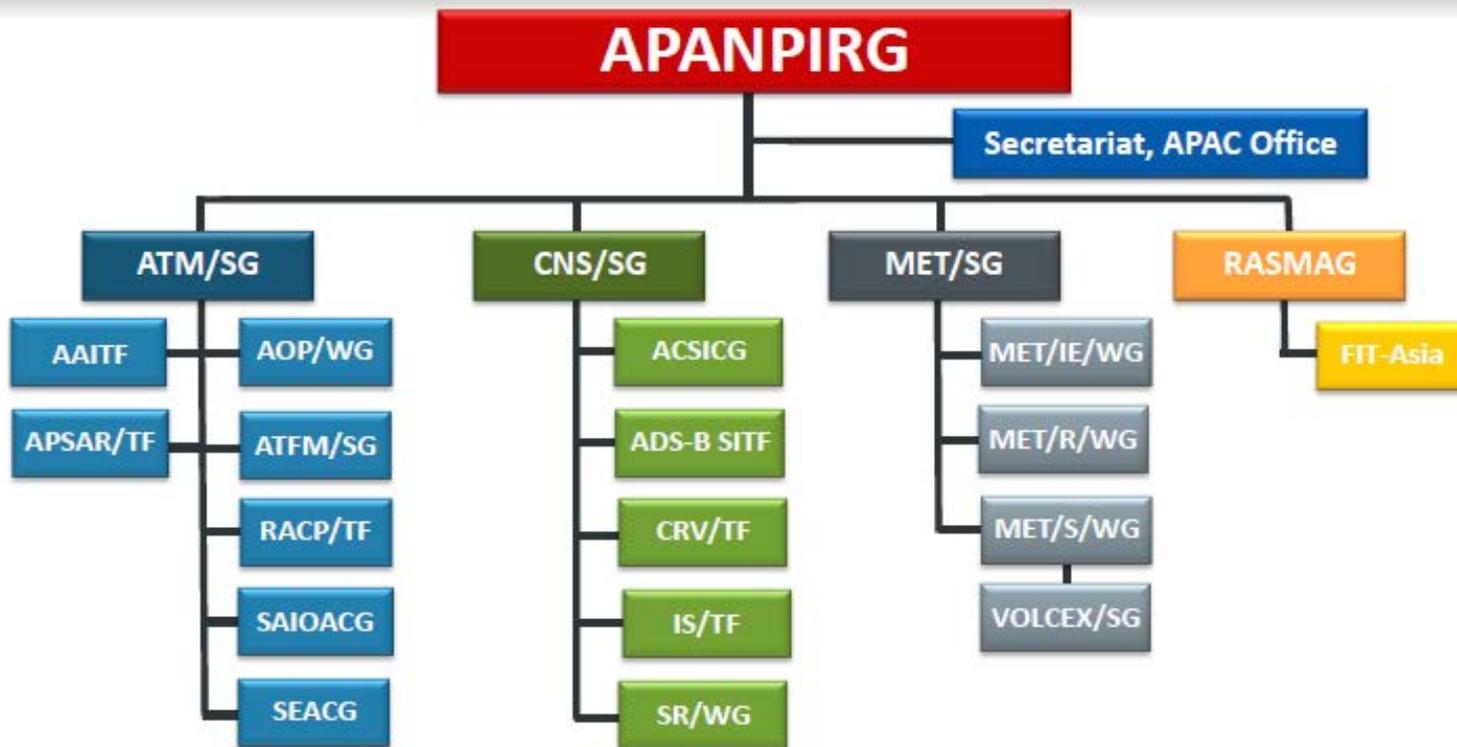
20-21 October 2020



Overview

- Relevant RASMAG/24 and RASMAG/25 Conclusions & Products
- EMAs and RMAs
 - Asia Pacific EMA and RMA descriptions
 - Japan Airspace Safety Monitoring Agency (JASMA)
 - Pacific Approvals Registry and Monitoring Organization (PARMO)
- JASMA and PARMO EMA & RMA activities
 - Data requirements
 - Summary of JASMA and PARMO reports to RASMAG/24

Relevant RASMAG/24 Conclusions and Products



ATM/SG - ATM Sub Group AAITF - AIS - AIM Implementation Task Force APSAR/TF - APAC Search and Rescue Task Force AOP/WG - Aerodrome Operations and Planning Working Group ATFM/SG - ATFM Steering Group RACP/TF - Regional ATM Contingency Plan Task Force SAIOACG - South Asia Indian Ocean ATM Coordination Group SEACG - South East Asia ATS Coordination Group	CNS/SG - CNS Sub Group ACSICG - Aeronautical Communication Services Implementation Coordination Group ADS-B SITF - ADS - B Study and Implementation Task Force CRV/TF - Common Regional Virtual Private Network (VPN) Task Force IS/TF - Ionospheric Studies Task Force SR/WG - Spectrum Review Working Group	MET/SG - Meteorology Sub Group MET/IE/WG - Meteorological Information Exchange Working Group MET/R/WG - Meteorological Requirements Working Group MET/S/WG - Meteorological Services Working Group VOLCEX/SG - (APAC) Volcanic Ash Exercises Steering Group RASMAG - Regional Airspace Safety Monitoring Advisory Group FIT-ASIA - FANS Implementation Team - Asia
--	--	---

<http://www.icao.int/APAC/Documents/edocs/apanpirg/APANPIRG%20Framework.pdf>



ICAO

**Twenty Fourth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/24)
ICAO Asia and Pacific Regional Office, Bangkok, Thailand, 09-12 July 2019**



Conclusion RASMAG/24-4

Guidance Material for the Continued Safety Monitoring of the Asia-Pacific RVSM Airspace

That, recognizing the value of a regional guidance material for RVSM continued safety monitoring, the Guidance Material for the Continued Safety Monitoring of the Asia-Pacific RVSM Airspace will be posted on the ICAO Asia/Pacific website and circulated by State Letter, in addition to informal circulation by Regional Monitoring Agencies (RMAs).

<https://www.icao.int/APAC/Documents/edocs/Guidance%20Material%20for%20the%20Continued%20Safety%20Monitoring%20of%20the%20Asia-Pacific%20RVSM%20Airspace%20Version%201.0.pdf>

Conclusion RASMAG/24-5

Verification of RCP and RSP Capabilities Filed in the Flight Plan

That, recognizing the need for Asia Pacific Monitoring Agencies to verify RCP and/or RSP capabilities filed in the flight plan:

1. Asia Pacific Monitoring Agencies update their F2 and F3 Forms and their Traffic Sample Data templates to align with Appendix E to the Report and their Traffic Sample Data templates to align with Appendix F to the Report and notify the updates to the States under their responsibility by August 2019; and
2. States be advised to include RCP and RSP approvals in the F2 and F3 Form for aircraft that have been authorized to include RCP and RSP designators in their Flight Plan, and to include Items 10 and 18 of the Flight Plan in its annual Traffic Sample

Impact to Asia Pacific State Regulatory Authorities: Should now provide RCP and RSP approval information along with RVSM aircraft approval information to RMAs

RASMAG Safety Bulletin

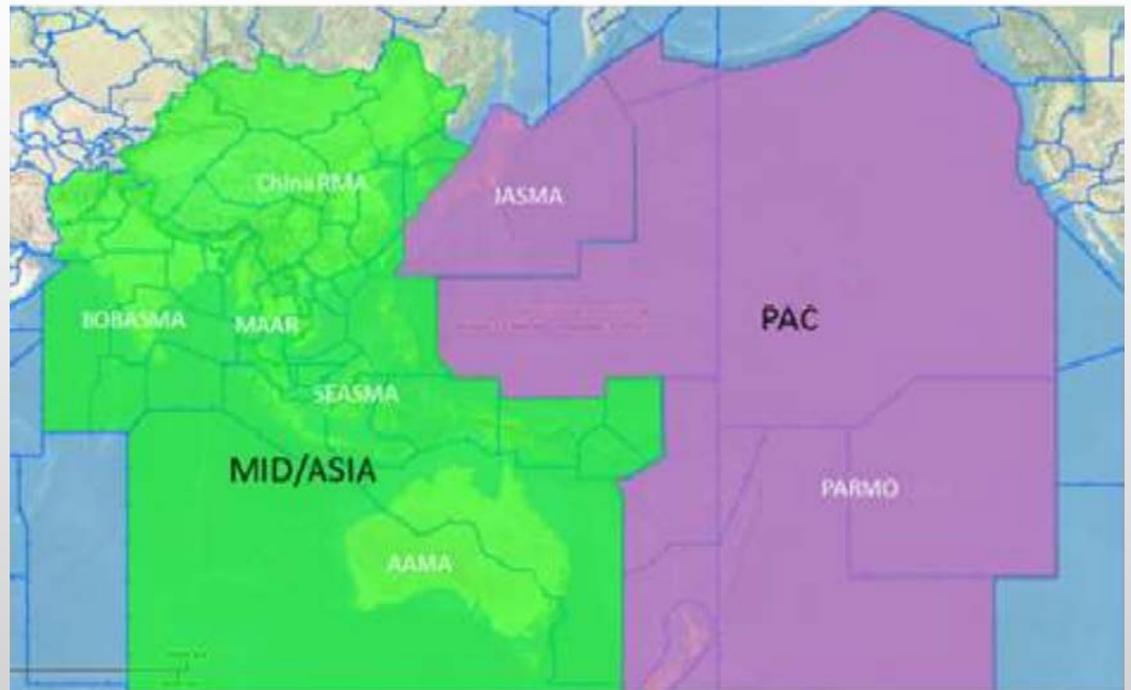
- Now available on the ICAO Asia Pacific website:

<https://www.icao.int/APAC/Documents/edocs/RASMAG%20Safety%20Bulletin%20-%20Issue%2001.pdf>

- Provides definitions and examples of reportable large height deviations (LHDs), large lateral deviations (LLDs) and large longitudinal errors (LLEs)

PAC: Pacific Sub-region

- **Name** : Pacific Sub-region (PAC)
- **Traffic** : Traffic between North America and Asia, or North America and South Pacific States.
- **FIRs** : Anchorage, Auckland, Fukuoka, Nadi, Oakland, and Tahiti FIRs
- **Monitoring Agencies** :
 - RMAs : JASMA, PARMO
 - EMAs : JASMA, PARMO



JASMA and PARMO*

RMA & EMA State and Airspace Responsibilities

State

- Cook Islands
- Federated States of Micronesia
- Fiji
- Japan
- Kiribati
- Marshall Islands
- New Zealand
- Palau
- Republic of Korea
- Samoa
- Tonga

Airspace

- Anchorage FIR
- Auckland FIR
- Fukuoka FIR
- Incheon FIR
- Nadi FIR
- Oakland FIR
- Tahiti FIR

* The U.S. FAA WJHTC provides RMA services for North American Airspace and ICAO States as the North America Approvals Registry and Monitoring Organization (NAARMO)

JASMA

- Japan Airspace Safety Monitoring Agency (JASMA);
<https://www.jasma.jp/>
- A service provided by the Civil Aviation Bureau (CAB), Ministry of Land, Infrastructure Transport and Tourism-(MLIT)- Japan.
- The Air Traffic Control Association Japan (ATCA-J) and the Electronic Navigation Research Institute (ENRI) support its operation in close coordination with JCAB as team members
- Regional Monitoring Agency (RMA)
 - Established by APANPIRG to support continued safe-use of the RVSM in Fukuoka FIR in September 2007
- Enroute Monitoring Agency (EMA)
 - JASMA was established as an EMA with airspace monitoring responsibility for the Fukuoka FIR in September 2011

PARMO

- Pacific Approvals Registry and Monitoring Organization (PARMO),
https://www.faa.gov/air_traffic/separation_standards/parmo/
- Provided by U.S. Federal Aviation Administration (FAA) William J. Hughes Technical Center (WJHTC)
- RMA
 - Airspace monitoring responsibility for the Auckland, Anchorage, Incheon, Nadi, Oakland and Tahiti FIRs
- EMA
 - Airspace monitoring responsibility for the Auckland, Anchorage, Nadi, Oakland and Tahiti FIRs

EMA/RMA Duties & Responsibilities for Safety Reporting

- Provide safety monitoring reports to the Regional Airspace Safety Monitoring Advisory Group (RASMAG)
 - Meetings are held annually at the ICAO Asia and Pacific (APAC) Office In Bangkok, Thailand
 - RASMAG reports directly to the Asia Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG)
- Communicate with States to maintain RVSM approval database
- Collect large height deviation (LHD), large lateral deviation (LLD), and large longitudinal error (LLE) event data from ANSPs
- Collect annual traffic sample data (TSD) from ANSPs

EMA & RMA Activities

EMA & RMA Data Requirements

- **Data** are required from States/ANSPs for JASMA and PARMO to produce meaningful safety monitoring reports, including annual risk estimates and airspace scrutiny results
 - RVSM approvals data – new/updated/expiring aircraft registrations and RVSM approval information
 - Traffic sample data (TSD) – Template provided on PARMO website, minimum data fields include:

EMA & RMA Data Requirements (continued)

- **Data** are required from States/ANSPs for JASMA and PARMO to produce meaningful safety monitoring reports, including annual risk estimates and airspace scrutiny results
 - RVSM approvals data – new/updated/expiring aircraft registrations and RVSM approval information
 - Traffic sample data (TSD) – Template provided on PARMO website, minimum data fields include:
 - Event reports
 - Large height deviation (LHD) of 300 ft or more
 - Large lateral deviation (LLD) reports of 10 NM or more
 - Large longitudinal Error (LLE) reports of 3 minutes/10 NM or more
 - Monthly occurrence reports from ANSPs

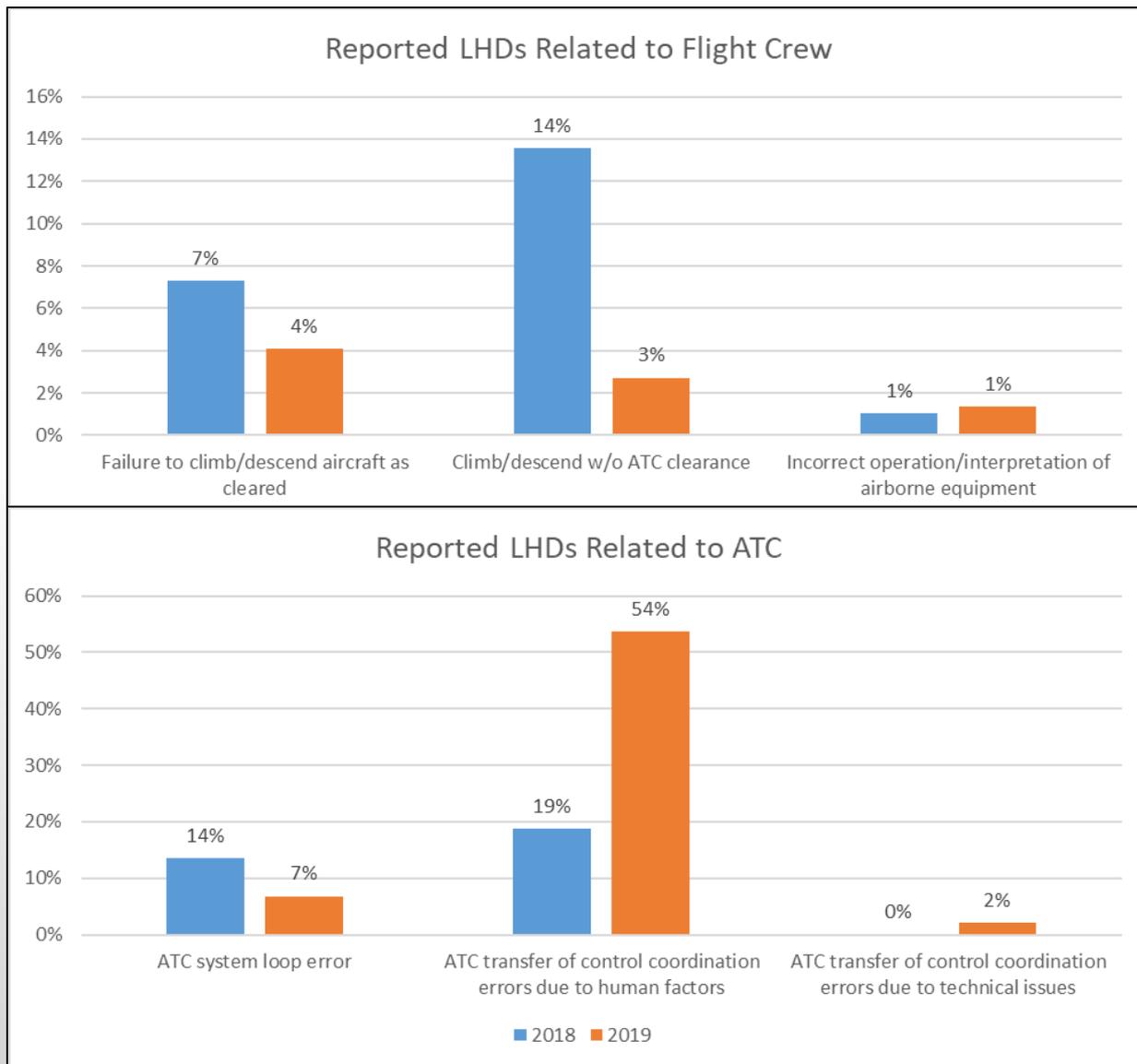
Examples of Occurrences to Report

- Flight crew climb/descend without clearance
- Flight crew failing to climb/descend as cleared
- ATC failure to maintain situational awareness
- Coordination error in ATC transfer
- Flight crew following filed flight plan not cleared route
- Flight crew failure to notify ATC with updated ETA
- Contingency action due to pressurization failure
- Deviation due to effect of high level meteorological conditions
- Single aircraft events should be reported, not only those events resulting in Loss of Separation (LOS)

Vertical and Horizontal Occurrence Reports

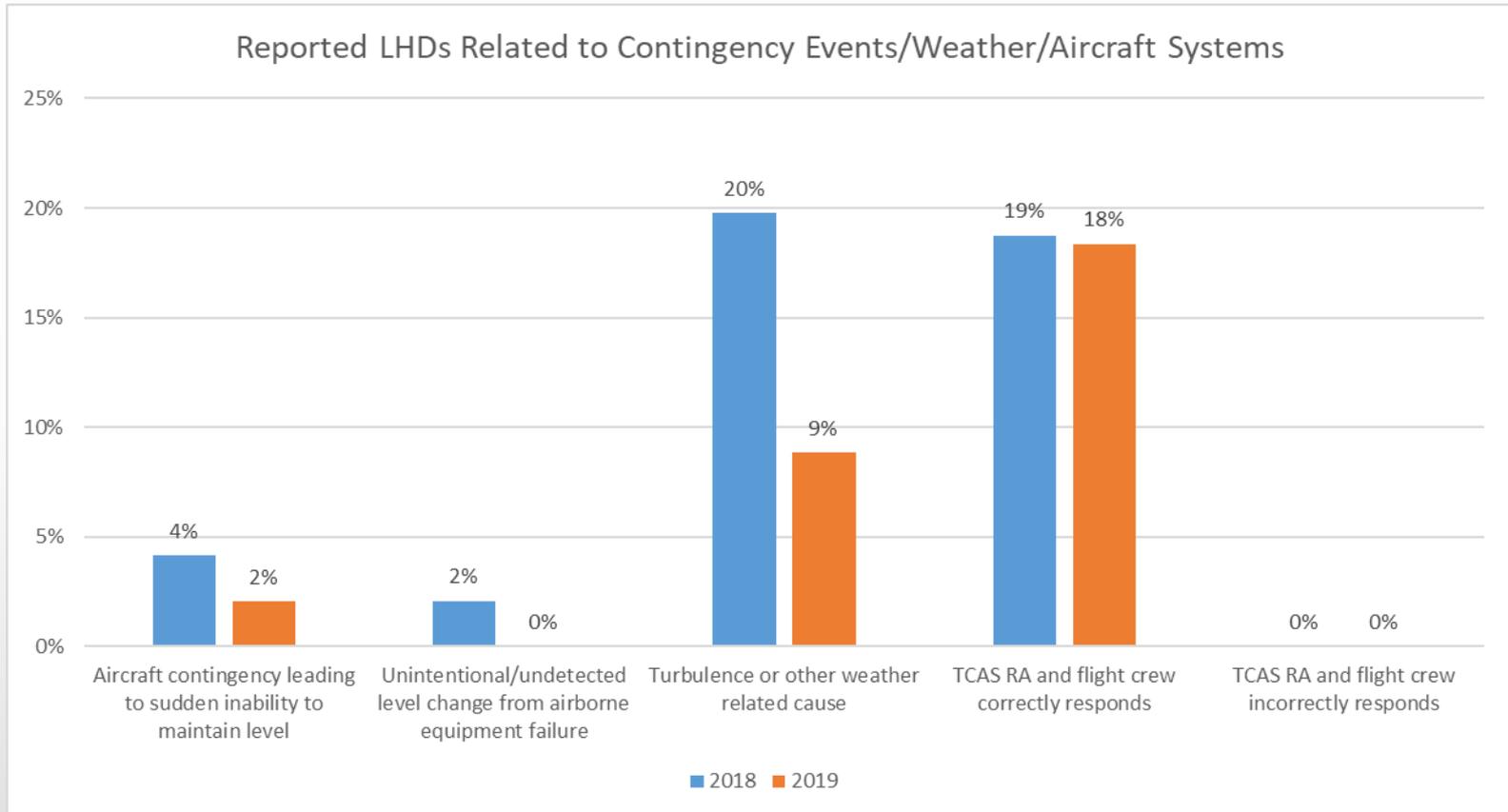
- Each occurrence report is analyzed in terms of its impact on safety:
 - Location
 - Number of levels crossed
 - Time spent at incorrect flight level (at-risk time) or amount of deviation from cleared route
 - Cause of occurrence
- These data inform the estimates of vertical and horizontal collision risk
- Occurrence report data are de-identified
- Results are provided in report to RASMAG

JASMA & PARMO Reports to RASMAG24/25



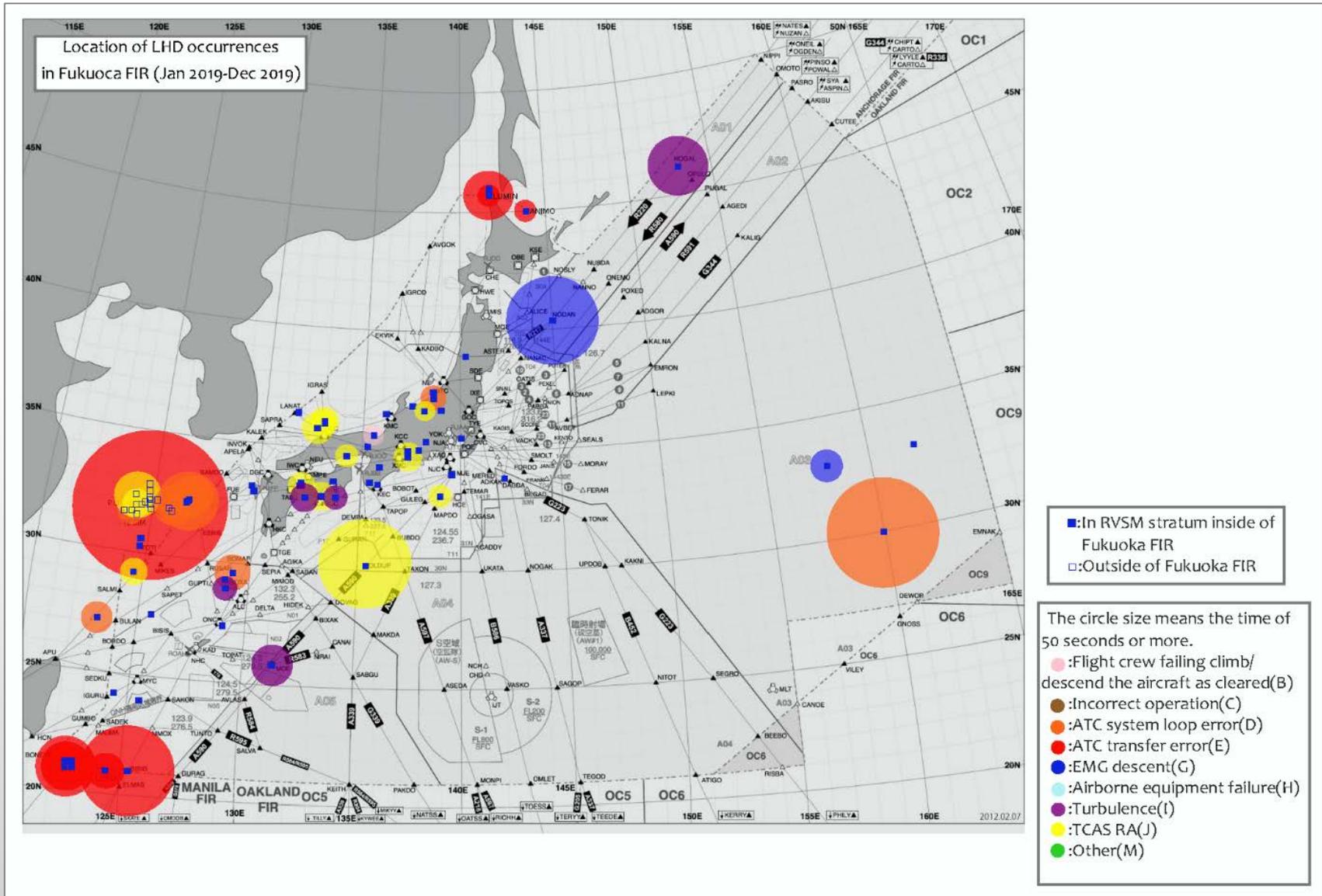
❖ Percentages are relative to the number of all reported LHDs in the specified calendar year

JASMA & PARMO Reports to RASMAG24/25



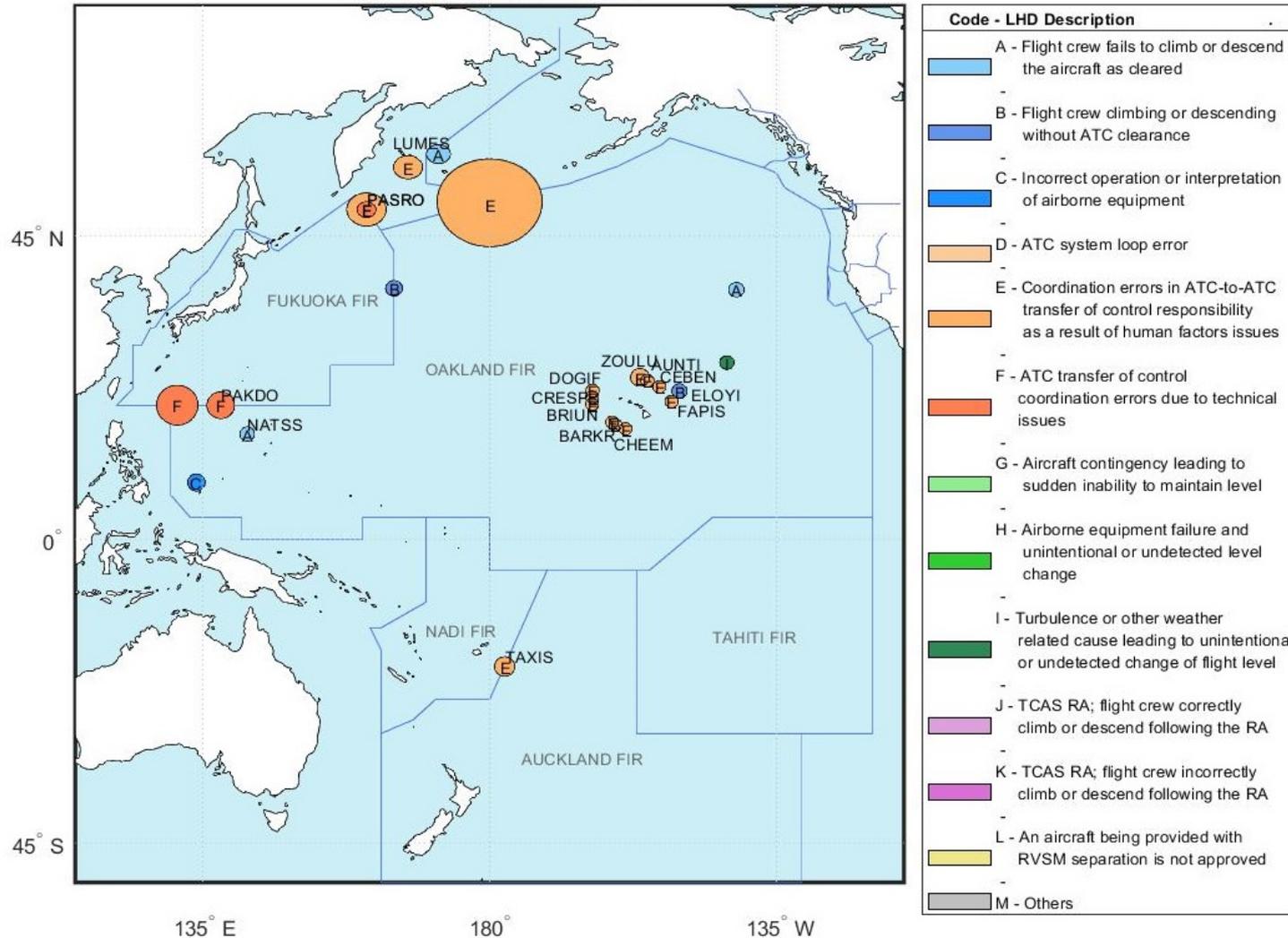
❖ Percentages are relative to the number of all reported LHDs in the specified calendar year

JASMA Vertical Report to RASMAG/25



PARMO Vertical Report to RASMAG/25

Pacific Reported LHDs 2019



Designated “Hot Spots” – Current Status

Hot Spot	Involved FIRs	Identified	Remarks
A1	Kolkata/Dhaka – Yangon;	2015	LHDs increased, risk bearing
A2	Chennai – Kuala Lumpur	2015	LHDs reduced
B	Incheon	2015	AKARA Corridor
C	Hong Kong – Guangzhou	2015	Potential non-hot spot
D	Manila – all adjacent FIRs	2015	Increase of LHDs to Fukuoka
E	Lahore – Urumqi	2015	Potential non-hot spot
F	Mogadishu – Mumbai	2015	Potential non-hot spot
G	Sana’a/Muscat – Mumbai	2015	LHDs increasing (Cat. E)
H	Guangzhou – Wuhan	2015	Hong Kong/Sanya reduction
I	Karachi – Kabul	2018	Potential non-hot spot
J	Jakarta – Singapore/Kota Kinabalu	2018	Minor, Cat. E LHDs
K	Jakarta – Ujung Pandang	2018	Potential non-hot spot
L	Fukuoka – Khabarovsk	2018	Potential non-hot spot
M	Colemba – Melbourne	2019	New; Cat. A, B and E LHDs
N	Oakland USA – Hawaii CEP	2019	New; Cat. A, B and D LHDs

Designated “Hot Spots”

- **Hot Spot L** had been identified near position LUMIN at the interface between the Fukuoka (Japan) and Khabarovsk (Russian Federation) FIRs during 2017, consisting of Category E ATC transfer errors. However, only one LHD had been reported during 2018.
- The Central East Pacific (CEP) area between Continental USA and Hawaii, is identified as **Hot Spot N**. The Category B events (Flight crew climbing or descending without ATC clearance), and Category D (ATC system loop error) events were the main factors.

Questions?

hqt-JASMA@gxb.mlit.go.jp

parmo@faa.gov