

# **GTE/19 NI/14**

## **Vertical Safety Monitoring Report**

### **México Airspace**

## **CALENDAR YEAR 2018**

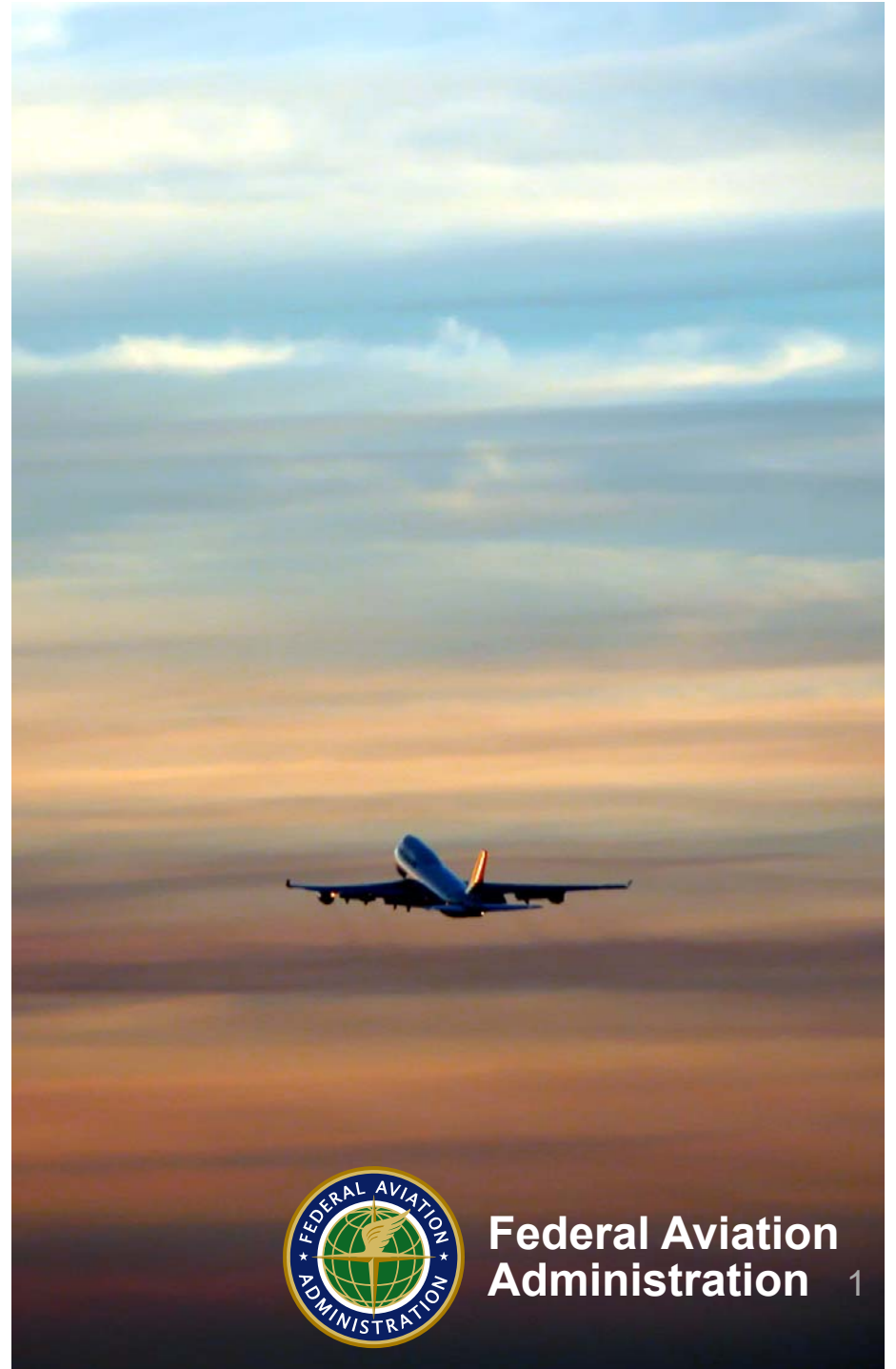
Presented to: GTE/19

By: NAARMO

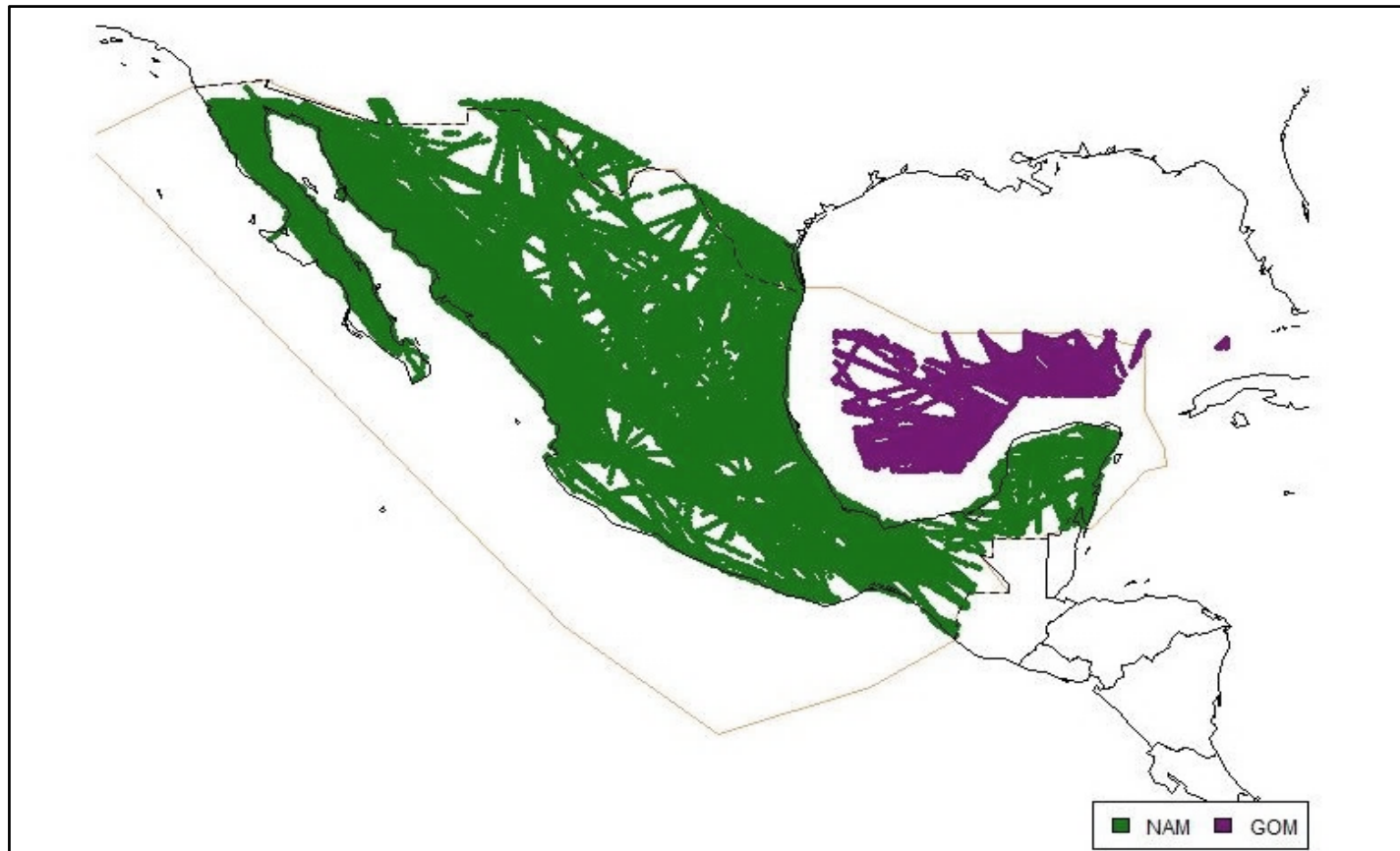
Date: 18 - 22 Nov 2019



**Federal Aviation  
Administration** 1



# México Airspace



Note: Action planned to improve quality of TSD for México airspace



Federal Aviation  
Administration

# RVSM Audit

- **December 2018 TSD for México Airspace was compared with the collective RVSM approvals database**
  - Results contain 176 civilian non-approved operations from ten different
  - This is a significant increase from the same results in 2017 (in 2017 there were 58 non-approved operations)
    - Observed increase is due to process improvements made to the NAARMO approvals database
    - Twenty-one aircraft operations 2018 TSD are repeated from 2017 RVSM Audit. These operations are highlighted in the paper
  - Relevant RMAs/States have been notified



# Risk-Bearing LHDs by Month

Month	Count	Duration at Incorrect FL	Number of FLs Crossed
January 2018	1	1	0
February 2018	0	0	0
March 2018	1	0.5	0
April 2018	2	0.5	0
May 2018	1	23	0
June 2018	1	0.5	0
July 2018	1	0	0
August 2018	1	22	0
September 2018	1	0	0
October 2018	2	3	10
November 2018	2	1	0
December 2018	2	34	0
Total 2018	15	85.5	10



LHD Category Code	LHD Category Description	Number of LHD	Duration at Incorrect FL	Number of FLs Crossed
E	Coordination errors in the ATC-unit-to-ATC-unit transfer of control responsibility as a result of human factors issues (e.g. late or non-existent coordination, incorrect time estimate/actual, flight level, ATS route etc)	11	85.5	0
G	Aircraft contingency event leading to sudden inability to maintain assigned flight level (e.g. pressurization failure, engine failure)	1	0	10
H	Airborne equipment failure leading to unintentional or undetected change of flight level (e.g. altimetry errors)	1	0	0
I	Turbulence or other weather related causes	1	0	0
J	TCAS resolution advisory; flight crew correctly following the resolution advisory	1	0	0
	TOTALS	15	85.5	10



# Reported LHDs Locations



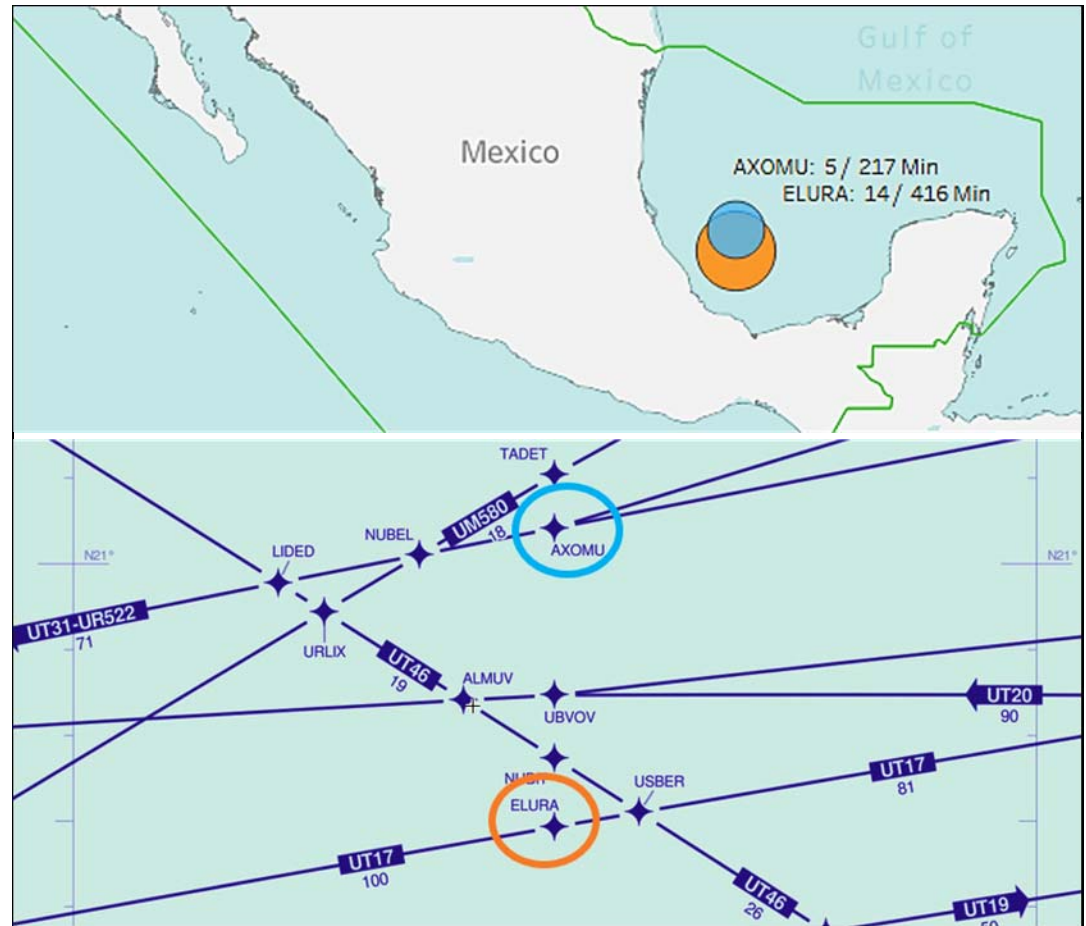
# LHD Summary

- **There were three reported long duration LHDs (long duration LHD is  $\geq 20$  minutes)**
  - All three events took place in airspace without surveillance



# Communication Failure Reports

- **Number of reported communication failure is increasing**
  - 58 such reports received in 2018; 27 reports received in 2017; and 15 reports received in 2016
  - Top two reported locations:





# Reported Communication Failures



# Reported Communication Failures

- **Summary of operators involved in reported communication failures provided to IATA (contained in report)**
- **Result from recent teleconference between México, IATA, and NAARMO**
  - México will send reports of communication failures to IATA as soon as practical
  - These reports will provide IATA an opportunity to obtain a response from the operator



# 2018 Vertical Risk Estimates

Description	Vertical Risk Estimate ( $\times 10^{-9}$ fapfh)
Estimate of Technical Risk	0.05
Estimate of Risk Due to Operation at Incorrect Flight Levels	16.67
<b>Estimate of Overall Risk</b>	<b>16.7</b>

*\*Risk estimates are  $\times 10^{-9}$  fapfh*



# Summary

- **Estimated vertical risk estimate for 2018 is higher than previous**

Calendar Year	Vertical Collision Risk Estimate ( $\times 10^{-9}$ fapfh)
2015	4.8
2016	4.8
2017	3.2
2018	16.7

