



**भारतीय विमानपत्तन प्राधिकरण**  
**AIRPORTS AUTHORITY OF INDIA**  
**DIRECTORATE OF AIR TRAFFIC MANAGEMENT**  
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# ATMC

**AIR TRAFFIC MANAGEMENT CIRCULAR No. 04 of 2024**  
**GUIDELINES TO DEAL WITH THE WEATHER EXIGENCIES DURING**  
**PRE-MONSOON AND MONSOON PERIOD**

**1. Introduction:**

1.1. The pre-monsoon and monsoon seasons present significant risks to flight safety. Air traffic controllers need to be extra vigilant during this time because of heavy rain, unpredictable weather patterns along flight paths, strong turbulence, powerful gusts of wind, thunderstorms, airspace limitations, low clouds and the difficulty of finding suitable alternate airports in case of emergencies.

**2. Purpose:**

2.1. Purpose of this ATMC is to provide guidance and re-iterate the safety measures during Pre monsoon and monsoon period

**3. Scope:**

3.1. This ATMC is applicable to all the ATS personnel of AAI engaged in the provision of air traffic services in airspace and at the aerodromes.

**4. General:**

4.1. During the pre-monsoon and monsoon seasons, air traffic controllers (ATCOs) face numerous challenges that can significantly impact the safety of flight operations. It is crucial for ATCOs to be aware of and prepared for these challenges. Some of the specific hazards are mentioned below:

**A. Hazards During Pre-Monsoon and Monsoon Seasons:**

The hazards during the pre-monsoon and monsoon seasons are extensive and include, but are not limited to, the following:



- i. **Heavy Rainfall:** Can lead to reduced visibility, water accumulation on runways, and slippery surfaces.
- ii. **Strong Gusty Winds:** Can complicate take-off, landing, and in-flight stability.
- iii. **Moving Clouds:** Can cause unexpected changes in weather conditions and visibility.
- iv. **Severe Thunderstorms:** Can cause lightning strikes, turbulence, and hail damage.
- v. **Enroute Weather:** Severe weather conditions Enroute can affect flight paths and safety.
- vi. **Severe Turbulence:** Can lead to discomfort and potential injury to passengers and crew, as well as structural impact on the aircraft.
- vii. **Large Scale Horizontal Deviation:** Can affect aircraft navigation, may increase conflicts with aircraft on adjacent routes and may also increase fuel consumption.
- viii. **Vertical Deviation:** Aircraft may experience updraft/downdraft due to turbulence and/or wind shear and may cause conflicts with other aircraft.
- ix. **Limited Availability of Airspace for Civil Aircraft Operations:** Military or restricted airspace, combined with weather-induced re-routes (deviations), can limit available routes or airspace.
- x. **Finding Suitable Alternate Aerodromes:** Weather conditions may render primary and alternate aerodromes unsuitable.

**B. The above hazards may lead to following effects:**

- i. **Reduction in Aerodrome Capacity:** Due to thunderstorm areas in the vicinity of the airport, heavy rain at the airport and water logging in the operational area may reduce the overall capacity of the airport, especially during peak traffic periods.
- ii. **Go around and un-stabilized approaches:** Some flights may initiate a go around due to severe turbulence, wind shear, or a flooded runway.
- iii. **Inability of pilot to follow promulgated missed approach procedure:** Some flights may not be able to follow missed approach procedure due to cumulonimbus clouds/thunderstorm areas.
- iv. **Increased coordination:** Co-ordination with other stakeholders, adjacent sectors and ATS units is likely to increase due to prevailing weather conditions impacting directly to normal aircraft operations.
- v. **RT Congestion:** Radio-communication is likely to be prolonged due to the necessity to clarify the details associated with the avoidance actions as well as revised onward route clearances, interrupted or blocked transmissions and VHF issues.
- vi. **Limited applicability of Radar Vectoring (Surveillance Environment):** Use of radar vectoring to resolve potential traffic conflicts might be limited due to crew inability to maintain the required headings. This is a very significant factor in busy environments where controllers rely heavily on radar vectoring to provide separation.



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- vii. **Unpredictable & irregular traffic flow:** The traffic flow can become irregular & erratic, making it challenging to anticipate flight path and manage traffic.
- viii. **Random Conflict points:** The irregular and disrupted traffic patterns can lead to new random crossing and conflict points, significantly increasing the workload associated with conflict detection.
- ix. **Airspace constraints:** ATC sector overloads can indeed be aggravated by the combination of weather factors and airspace constraints, especially during peak traffic periods which in turn be a factor for Increased Delays and Safety Concerns.
- x. **Degradation of RVSM capability:** Convective weather conditions are associated with moderate to severe turbulence which may lead to unintentional level bust (aircraft fails to fly at the cleared flight level).
- xi. **Aircraft operation near adjacent sector:** Situations where traffic deviates from its planned or cleared flight route due to bad weather and encroaches on another sector's airspace, without prior notification of the controller in charge of that sector who is not aware of the crew's intentions, can pose significant challenges. Which includes Unanticipated Traffic, Communication Gaps, Coordination Difficulties, Safety Risks, Operational Disruptions & Increased Workload.
- xii. **Limited applicability of speed control:** Pilots may not accept speed control instructions due to constrained flight parameters.
- xiii. **Limited applicability of level change:** Pilots may decline a level change instruction if compliance with it would cause the aircraft enter into CB cloud. In addition, crews are often likely to request to maintain cruising levels for longer and commence descent much later than usual.
- xiv. **Excessive Holding:** Holdings due to adverse weather conditions (esp. when aircrafts are unable to land at a particular aerodrome due to poor visibility, gusty winds etc.)
- xv. **Fuel Shortages:** Aircraft may experience fuel shortages leading to Minimum Fuel or Fuel Emergency due to long flight path flown, holdings, delays and diversions.
5. ATS In-charge shall develop SOPs/Circulars related to ATC operations during pre-monsoon and monsoon weather conditions based on ATMC 02 of 2021; All Weather Operations CAR Section 8, Series C, Part I; Air Safety Circular 03/2017 - Adverse Weather Operations; DGCA Operations Circular 04 of 2023 and review it periodically. ATS In-Charge shall also ensure that all the controllers are made aware of the SOP and proper implementation of this ATMC.
6. **Guidance on the generic checks by ATCOs:**
- 6.1. A generic guidance for the checks to be performed by ATCOs during Pre-monsoon and Monsoon period is provided below. This list is not exhaustive and can be used only as a reference to develop a detailed checklist based on station specific requirement. Duty supervisors/WSO/TSO must use such checklist for the necessary advice to the duty controllers.



1. Check the status of operational area for any water logging in coordination with AOCC/APRON Control (Air side Operations department) and analyzed its impact on aerodrome capacity.
2. Check the status of navigational aids, RVR, AGL, DATIS and other equipment.
3. Check the wind direction & speed frequently and accordingly effect a runway change, if required.
4. Check the ILS status and ensured that the ILS of the associated Runway in use is switched ON.
5. Station level checklist for change of Runway duly followed.
6. Ensured availability of latest weather reports to the aircraft.
7. Check Aerodrome Warning information is passed on to all the concerned stakeholders.
8. Check and ensure Runway Inspection are being carried out at frequent intervals.
9. Check & anticipate the requirement of LVP and related Safeguarding Procedure, if required.
10. Check cross wind component during final phase of landing or after giving departure clearance and ensure passing the pertinent information to PIC, if required.
11. Check Runway Condition Code and act in accordance with ATMC 02/2021.
12. Check and monitor surface condition of TWY(s) and APRON(s) for any concentration of water and ensure passing the pertinent information to PIC, if required.
13. Check Aircraft Reports (AIREP) concerning poor braking action are forwarded to the appropriate aerodrome operator without delay and also to all the concerned stakeholders.
14. Check the development of adverse weather in the vicinity of aerodrome and ensure the information is shared with all the concerned stakeholders.
15. Check and analyze the impact of RWY wet condition on RWY Occupancy Time and ensure passing the information to Approach controller for increased inter arrival spacing to accommodate departures between two arrivals.
16. Check and analyze all the conflicting points arising due to heavy congestion and aircraft deviation.
17. Calculate Expected Approach Time and ensure timely passing the same to PIC.
18. Check the presence of CB and its movement in the concerned airspace and analyze it for optimum utilization of available airspace for vectoring of aircraft.
19. Check the developing weather in the airspace and analyze it to assess the requirement of additional sectors based on increased workload.
20. Check and ensure that the information in respect of aircraft following uncoordinated level or deviating from intended route is coordinated with the controller of adjacent concerned sector.
21. Check availability of parking bays at the diversionary airfield.
22. Check and coordinate with IAF regarding availability of Temporary Reserved Area (TRA) for optimum utilization of airspace.
23. Check the requirement of change of RWY in use based on inputs from aerodrome controller.



7. ATS In-charge shall also ensure that the sensitization classes are conducted before the advent of Pre-monsoon and Monsoon period and submit the compliance report to ED(ATM) by 15<sup>th</sup> April of every calendar year.


**8. Queries:**

8.1. Any queries or further guidance required on the contents of this ATMC should be addressed to:

Executive Director (ATM)  
Airports Authority of India  
Rajiv Gandhi Bhawan  
Safdarjung Airport  
New Delhi-110003  
E-mail: [edatm@aai.aero](mailto:edatm@aai.aero)

**9. Validity:**

This ATMC will remain in force until further notice.

  
(SHYMALI HALDAR) 11/7/24.  
EXECUTIVE DIRECTOR (ATM)  
AIRPORTS AUTHORITY OF INDIA  
DATE: 11.07.2024