



WORKING PAPER

ASSEMBLY — 42ND SESSION

TECHNICAL COMMISSION

Agenda Item 25: Other issues to be considered by the Technical Commission

**ADDRESSING THE RISKS ASSOCIATED WITH THE RAPID GROWTH OF HOT AIR
BALLOON PASSENGER TRANSPORT**

(Presented by Morocco)

EXECUTIVE SUMMARY

Hot air balloon passenger transport is experiencing rapid growth worldwide, particularly in regions with high tourism appeal. This expansion is accompanied by increasing risks, as evidenced by several accidents that occurred in 2025. Hot air balloons have technical characteristics — such as lack of active propulsion, limited manoeuvrability, and high sensitivity to weather conditions — that make them vulnerable to accidents, especially in the absence of a harmonized international regulatory framework. Recent incidents have highlighted recurring causes: in-flight fires, collisions between balloons or with other aircraft, contact with obstacles such as power lines, and severe emergency landings. Considering these challenges, there is an urgent need for ICAO to develop specific guidance to regulate hot air balloon operations and to encourage Member States to adopt appropriate national regulations

Action: The Assembly is invited to:

- a) note the safety concerns raised by the rapid expansion of hot air balloon operations;
- b) support ICAO in developing guidance that sets out minimum safety and airspace management requirements for hot air balloon operations; and
- c) encourage Member States to integrate this guidance into their national regulatory frameworks and to share their experiences in accident analysis, pilot training, and operator oversight.

<i>Strategic Goals:</i>	This working paper relates to <i>Every Flight is Safe and Secure</i> .
<i>Financial implications:</i>	The activities proposed in this paper could be undertaken within the resources of ICAO's regular programme budget and/or through extra-budgetary contributions.
<i>References:</i>	Annex 2 — <i>Rules of the Air</i> Annex 6 — <i>Operation of Aircraft</i> Annex 11 — <i>Air Traffic Services</i>

¹ English and French versions provided by Morocco.

1. INTRODUCTION

1.1 Hot air balloon transport is undergoing significant growth, particularly in regions with strong tourism activity, with operations increasingly concentrated in areas with high air traffic density. This expansion presents new challenges for civil aviation authorities, particularly regarding operational safety and the integration of balloons into controlled airspace. Morocco submits this working paper to draw ICAO's attention to the urgent need for coordinated regulatory action on this emerging issue.

2. ANALYSIS

2.1 The operation of hot air balloons presents specific challenges in terms of aviation safety due to their design, navigation method, and the frequent absence of regulatory oversight. Their lack of active propulsion means their flight paths are entirely dependent on wind direction, making their trajectories unpredictable and complicating integration into conventional air traffic patterns. Most balloons are not equipped with transponders or advanced communication systems, which reduces their visibility to air traffic controllers and other aircraft.

2.2 In addition, balloons have extremely limited manoeuvrability: in the event of a conflict or emergency, they cannot quickly deviate from their flight path. Their rate of ascent and descent is slow compared to powered aircraft. They are also highly sensitive to weather conditions, particularly sudden wind shifts, storms, and other atmospheric phenomena that may compromise flight stability and increase the likelihood of incidents.

2.3 Moreover, hot air balloons are generally not equipped with collision-avoidance systems, making them particularly vulnerable in high-traffic airspace or during group flights. Landing zones are often not predetermined, which can lead to conflicts with land use or interference with established flight paths.

2.4 Another critical and often underestimated risk is collision with power lines and similar obstacles. These structures are often difficult to see from a balloon and cannot be detected without onboard instrumentation. Such collisions can result in in-flight fires, electrocution, or critical loss of control, endangering passengers, pilots, and people on the ground.

3. RECENT INCIDENTS AND ACCIDENTS (2025)

3.1 The year 2025 witnessed several serious incidents involving hot air balloons, revealing weaknesses in safety management and operational oversight of this activity. In March 2025, in Marrakech, Morocco, sudden gusts of wind caused multiple emergency landings, resulting in injuries to both pilots and passengers. In May 2025, in the same region, several balloons were observed flying at critical altitudes near Marrakech-Menara International Airport, posing a significant risk to commercial air traffic.

3.2 Also in May 2025, a fatal accident occurred in Zacatecas, Mexico², when a hot air balloon caught fire mid-flight after the basket ignited, resulting in the death of one person. In June 2025, another

² Press release from the Agencia Federal de Aviación Civil (AFAC) dated May 13, 2025

incident took place in Cappadocia, Turkey³, where a sudden change in wind direction forced a balloon into an emergency landing. The pilot died, and several passengers were injured.

3.3 One of the most tragic accidents of the year occurred in Praia Grande, in the state of Santa Catarina, Brazil⁴, in June 2025. A balloon carrying 21 people caught fire and crashed, killing eight individuals. These incidents highlight the urgent need for a coordinated and internationally harmonized regulatory framework to ensure the safety of this growing aerial activity.

4. CONCLUSION

4.1 Hot air ballooning is a unique form of air transport with low environmental impact, but its rapid commercial expansion is occurring largely without proper oversight. The technical nature of these aircraft — combined with their vulnerability to meteorological hazards and the absence of a dedicated international regulatory framework — exposes passengers, pilots, and other airspace users to avoidable risks. ICAO is encouraged to take a leading role by developing appropriate technical guidance, facilitating the sharing of best practices, and supporting Member States in establishing harmonized national regulations to ensure the safety and sustainability of this aviation activity.

— END —

³ Press release from the Sivil Havacılık Genel Müdürlüğü (SHGM) dated June 15, 2025

⁴ Centro de Investigação e Prevenção de Acidentes Aeronáuticos (CENIPA) Preliminary Report. dated June 21, 2025