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**SUSTAINABLE  
FUTURE.**



| ICAO



# ICAO APAC Regional Office Workshop on Unmanned Aircraft System Integration in National and High Seas Airspace

Bangkok, Thailand  
November, 2025

# UAS Operations Over High Seas

# Objectives

- Highlights of the High Seas;
- Highlights specifics of UAS High Seas Operations.





# UAS Opportunities on High Seas Operations

5



**Platforms/Windmill  
Inspection**



**Military Deployment**



**Remote Sensing in  
Fisheries**



**Search and Rescue**



**Environmental  
Monitoring**

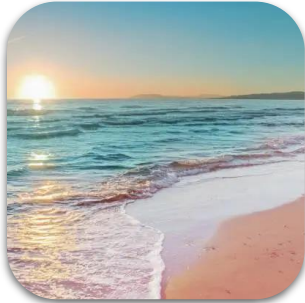


**Maritime Logistics**

# Understanding the High Seas

## United Nations Convention on the Law of the Sea (UNCLOS) 1982

### Territorial Sea



Article 2. “ [...] 2. This sovereignty **extends to the air space over the territorial sea** as well as to its bed and subsoil. [...]”



Article 3. “ Every State has the right to establish the breadth of **its territorial sea up to a limit not exceeding 12 nautical miles**, measured from baselines determined in accordance with this Convention

# Understanding the High Seas

7

United Nations Convention on the Law of the Sea (UNCLOS)  
1982

## Exclusive Economic Zone (EEZ)



Article 55. “ The **exclusive economic zone** is an area beyond and adjacent to the territorial sea, subject to the **specific legal regime** established in this Part, under which the **rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention.**



Article 57. “ The exclusive economic zone shall **not extend beyond 200 nautical miles** from the baselines from which the breadth of the territorial sea is measured.

# Understanding the High Seas

## United Nations Convention on the Law of the Sea (UNCLOS) 1982

### High Seas



Article 86. “ [...] apply to all **parts of the sea** that are **not included in the exclusive economic zone**, in the **territorial sea** or in the **internal waters of a State**, or in the **archipelagic waters** of an archipelagic State.. [...]”



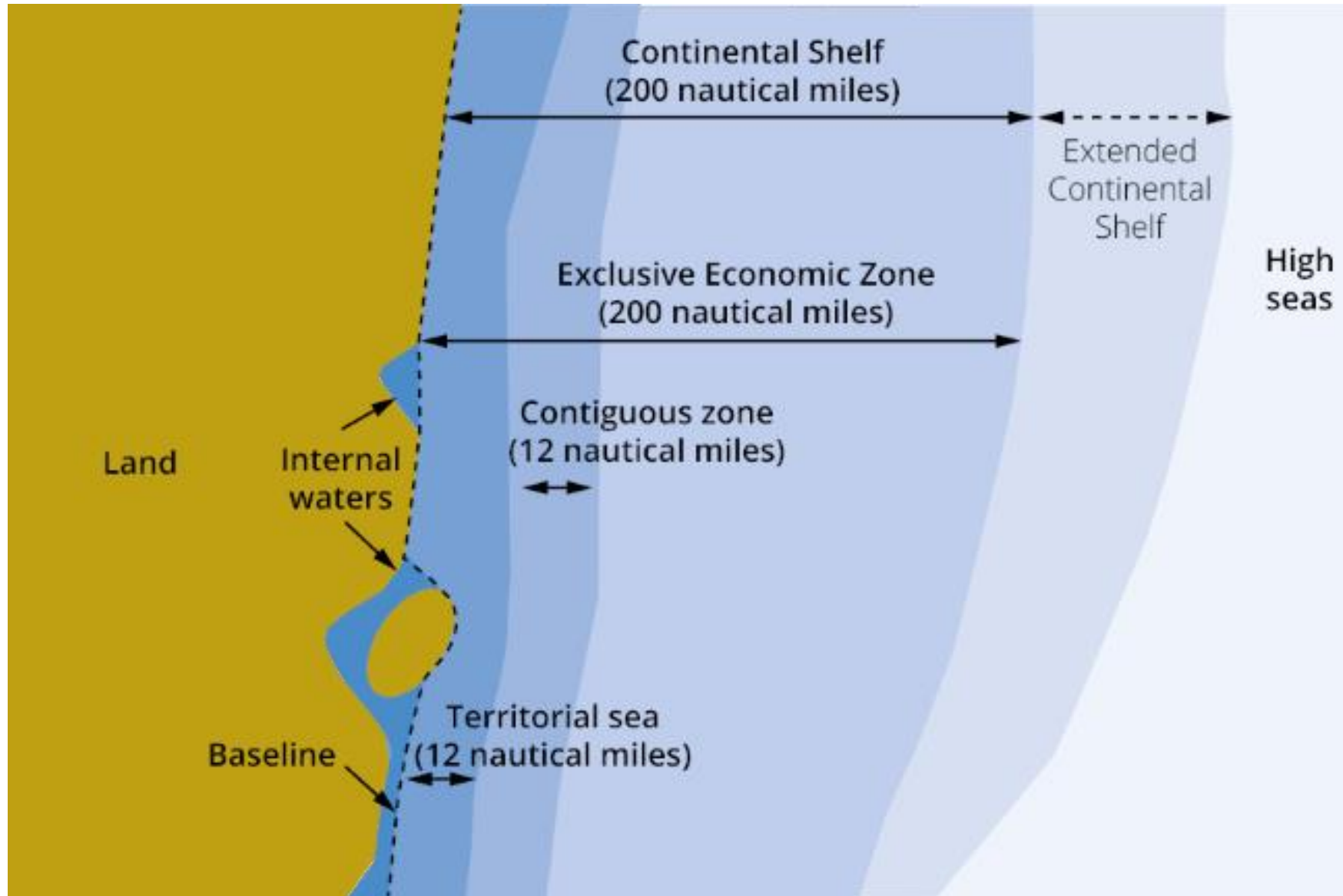
Article 87. “ 1. The **high seas are open to all States**, [...]. Freedom of the high seas is exercised under the conditions laid down by this Convention and by other rules of international law. [...] **(b) freedom of overflight**; [...]”



Article 88. “ No State may validly purport to subject **any part of the high seas to its sovereignty**.”



# Understanding the High Seas



# Regulatory Context

10

## Convention on International Civil Aviation - 1944



### Article 1.

“ [...] every State has **complete and exclusive sovereignty** over the **airspace above its territory**.”



### Article 2.

“ [...] the territory of a State shall be deemed to be **the land areas and territorial waters adjacent thereto** under the sovereignty, suzerainty, protection or mandate of such State.”

# Regulatory Context

11

## Convention on International Civil Aviation - 1944



### Article 8.

“ No aircraft capable of being **flown without a pilot** shall be flown without a pilot over the territory of a contracting State **without special authorization** by that State and in accordance with the terms of such authorization. [...]”



### Article 12.

“ Each contracting State undertakes to adopt measures to insure that every aircraft [...], shall comply with the rules and regulations relating to the flight and maneuver of aircraft there in force. [...]. **Over the high seas**, the rules in force shall be those **established under this Convention**. [...]”

# Regulatory Context

## Convention on International Civil Aviation - 1944



### Article 20.

**“ Every aircraft engaged in international air navigation shall bear its appropriate nationality and registration marks.”**



### Article 28.

**“ Each contracting State undertakes, so far as it may find practicable, to:**

- a) provide, in its territory, airports, radio services, meteorological services, and other air navigation facilities [...;**
- b) operate such services and facilities [...] in accordance with the standards and recommended practices established from time to time [...]**”

# Regulatory Context

13

## Convention on International Civil Aviation - 1944



### Article 29.

“Every aircraft of a contracting State, engaged in international navigation, **shall carry the following documents** in conformity with the conditions prescribed in this Convention:

- (a) Its certificate of registration;**
- (b) Its certificate of airworthiness;**
- (c) [...]”**



Article 31\*. “Every aircraft engaged in **international navigation shall be provided with a certificate of airworthiness** issued or rendered valid by the State in which it is registered.”



# Regulatory Context

14

## Convention on International Civil Aviation - 1944



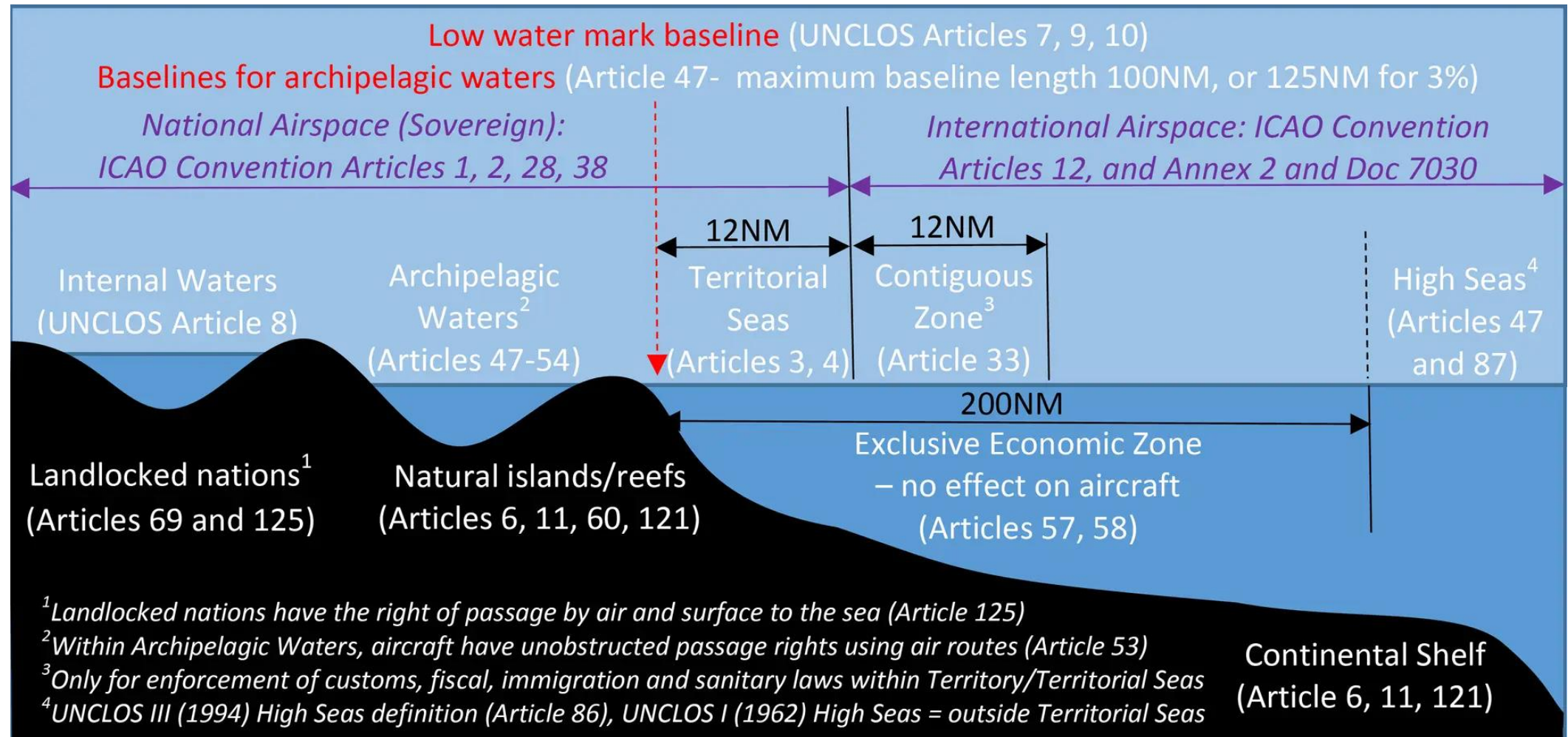
Article 37. “**Each contracting State** undertakes to **collaborate in securing the highest practicable degree of uniformity** in regulations, standards, procedures, and organization in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation. [...]”



Article 38. “**Any State** which finds it **impracticable to comply in all respects** with any such **international standard or procedure**, [...], shall give **immediate notification to the International Civil Aviation Organization of the differences** between its own practice and that established by the international standard [...]”

# Regulatory Context

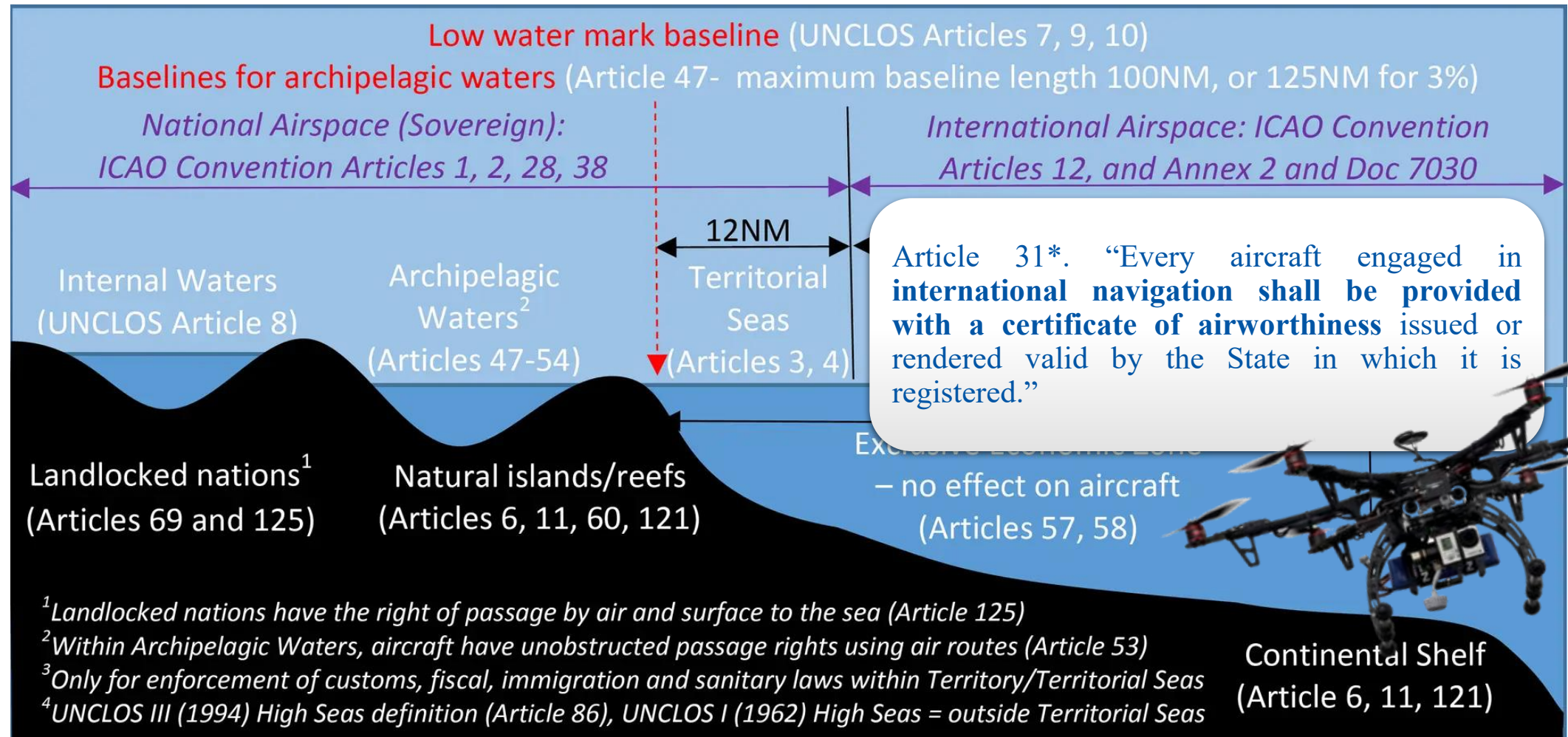
15



Source: ICAO ATM/SG. Available at: <https://ifatca.org/article/airspace-closures/>

# Regulatory Context

16





# Regulatory Context

17

## Convention on International Civil Aviation Annexes



4.6 Except when necessary for take-off or landing, or except by permission from the appropriate authority, a **VFR flight shall not be flown:**

...

b) elsewhere than as specified in 4.6 a), **at a height less than 150 m (500 ft) above the ground or water.**

**Annex 2 - Rules of the Air**



### 5.1.2 Minimal Levels

Except when necessary for take-off or landing, or except when specifically authorized by the appropriate authority, an IFR flight shall be flown at a level which is **not below the minimum flight altitude established by the State whose territory is overflown, or, where no such minimum flight altitude has been established:**

... b) elsewhere than as specified in a), at a level which is **at least 300 m (1 000 ft) above the highest obstacle** located within 8 km of the estimated position of the aircraft.

**Annex 2 - Rules of the Air**

# Regulatory Context

18

## Convention on International Civil Aviation Annexes



Appendix 4.

1.3 An **RPA** shall **not be operated over the high seas without prior coordination with the appropriate ATS authority** .

**Annex 2 - Rules of the Air**



Appendix 4.

2.1 [...] a) an **RPA** shall **have a certificate of airworthiness** issued in accordance with national regulations and in a manner that is consistent with the **provisions of Annex 8**; and

**Annex 2 - Rules of the Air**



# Regulatory Context

19

## Convention on International Civil Aviation Annexes



3.2.2 As of 26 November 2026, the **Certificate of Airworthiness** issued to a remotely piloted aircraft shall convey **evidence of the airworthy status** of the remotely piloted aircraft system (RPAS), as a **complete system**, to ensure it **conforms to the type design** and is in a **condition for safe operation**.

**Annex 8 - Airworthiness**



2.1.2 Those portions of the **airspace over the high seas** or in airspace of undetermined sovereignty where **air traffic services will be provided shall be determined on the basis of regional air navigation agreements**. A Contracting State having **accepted the responsibility to provide air traffic services in such portions** of airspace shall thereafter arrange for the services to be established and **provided in accordance with the provisions of this Annex**. [...]

Note 2.— The Council, when approving the Foreword to this Annex, indicated that a Contracting State accepting the responsibility for **providing air traffic services over the high seas** or in airspace of undetermined sovereignty **may apply the Standards and Recommended Practices in a manner consistent** with that adopted for airspace under its jurisdiction.

**Annex 11 – Air Traffic Services**

# Regulatory Context

20

## Convention on International Civil Aviation Annexes



2.11.1 Recommendation.— The **delineation of airspace**, wherein **air traffic services are to be provided**, should be related to the nature of the route structure and the **need for efficient service rather than to national boundaries**.

**Annex 11 – Air Traffic Services**



2.11.2.1 Flight information regions shall be **delineated to cover the whole of the air** route structure to be served by such regions.

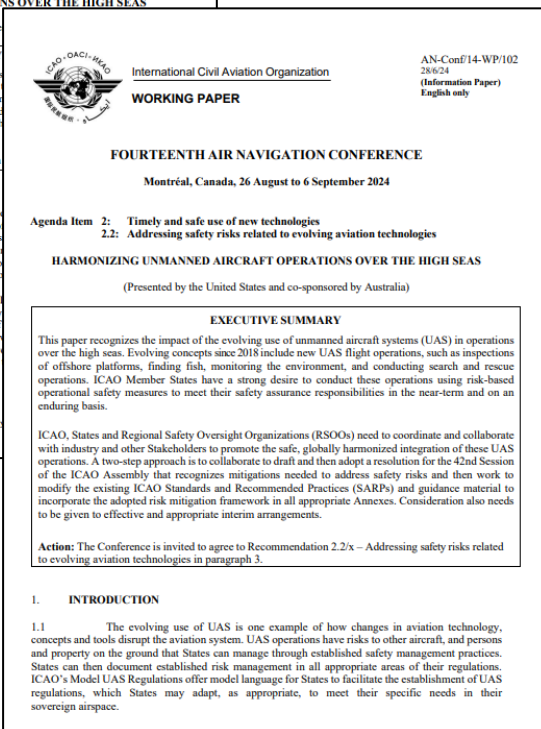
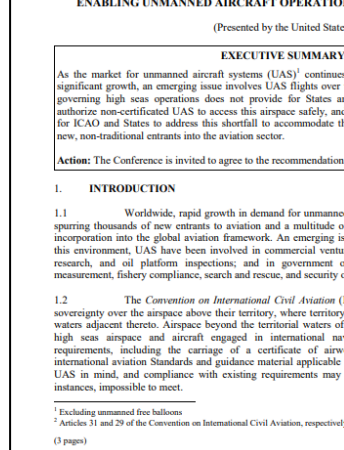
**Annex 11 – Air Traffic Services**

# States Demands

21

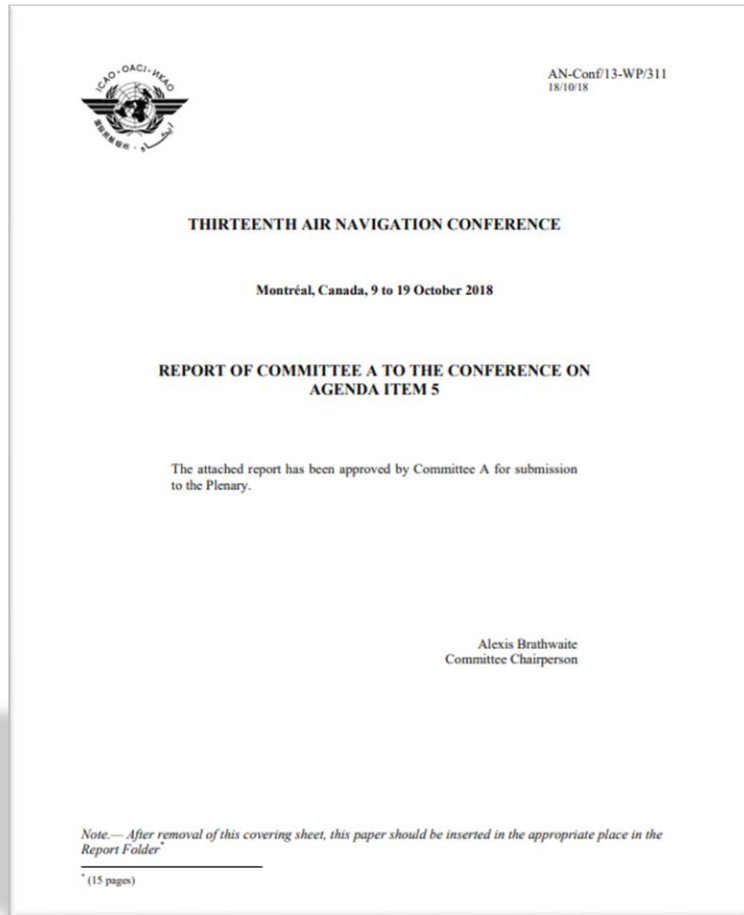


## ANConf/13 – WP56



## ANConf/14 – IP/102





## Recommendation 5.2/1 — Very low altitude operations

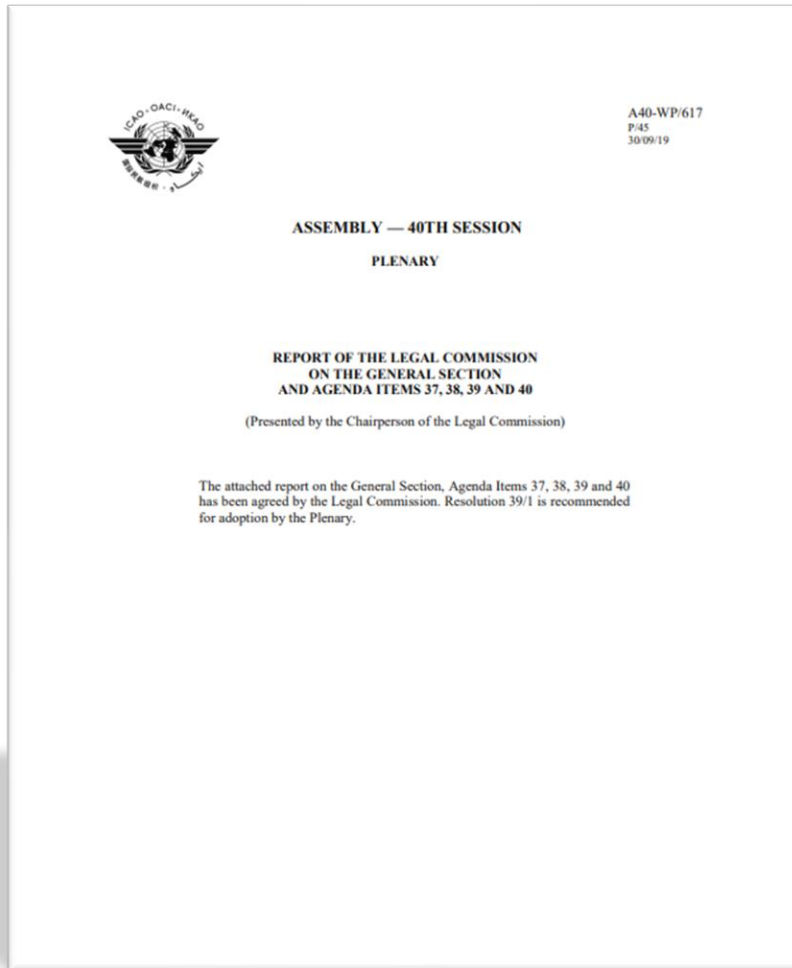
[...]

That ICAO:

[...]

f) **develop a solution to enable States to authorize operations of non-certificated UAS over the high seas,** using parameters to be defined in a transparent manner, including investigating the maximum altitude at which these operations would be allowed;

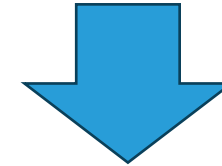




Assembly 40<sup>th</sup> Edition – WP617

38:13 At the conclusion of its deliberations, the Commission **established the General Work Programme of the Legal Committee** as follows:

- 1) International **legal aspects of unmanned (pilotless) aircraft operations** and integration into civil aviation; [...]



➤ **Secretariat Study Group on Legal Issues related to Pilotless Aircraft (SSG-LIPA) – Feb 2020:**

- **Subgroup on Compliance with the Chicago Convention (SSG-LIPA-CCSG); &**
- **Subgroup on Liability and Security (SSG-LIPA-LSSG)**



# ICAO Updates

24

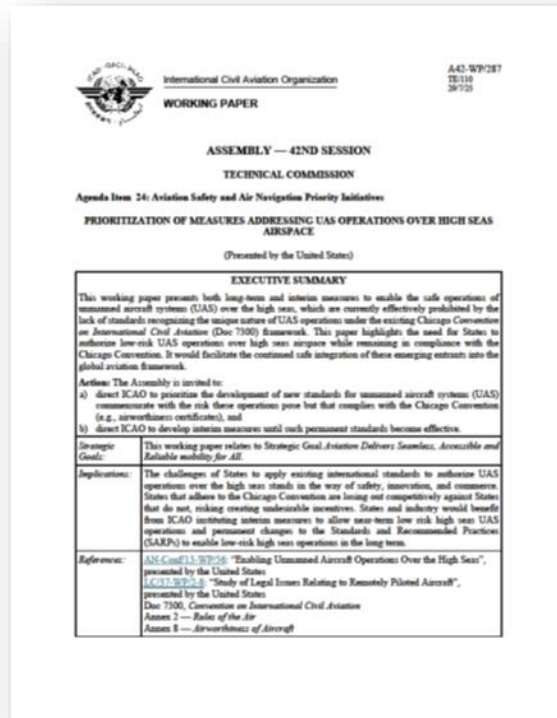
42<sup>th</sup> Assembly  
23 Sept - 03 Oct 2025

Calling for the urgent development and implementation of measures to facilitate legally compliant and safe UAS operations over the high seas, including interim solutions and recognition of the obligation and prerogative of States to identify the legal basis on which compliant operations might be conducted today.

ICAO

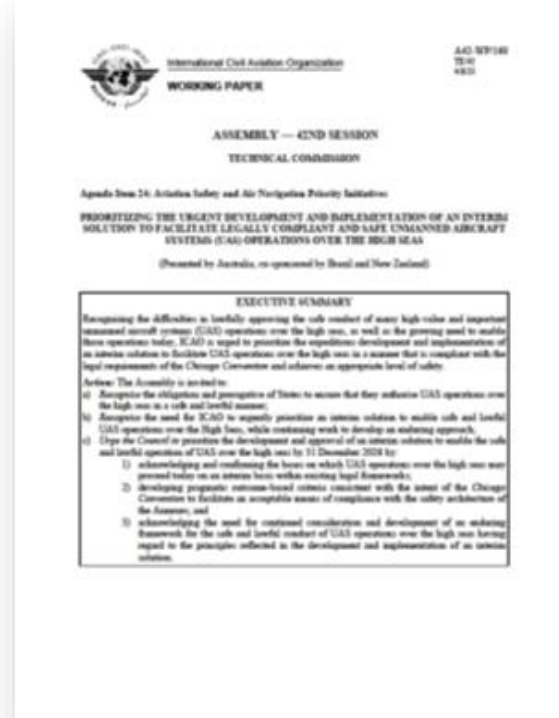
## WP-160

presented by Australia,  
co-sponsored by Brazil,  
Canada, New Zealand and  
Singapore

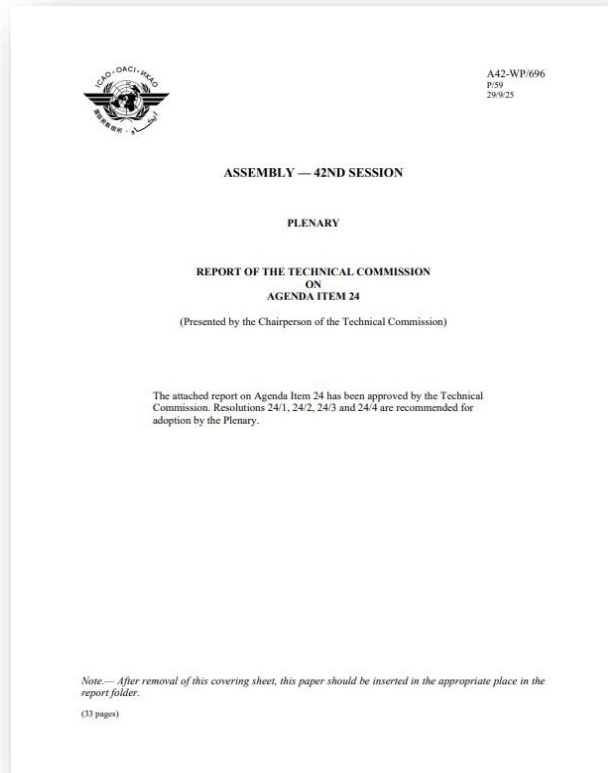


## WP-287

presented by the United  
States and co-sponsored  
by Singapore



## 42<sup>th</sup> Assembly 23 Sept - 03 Oct 2025

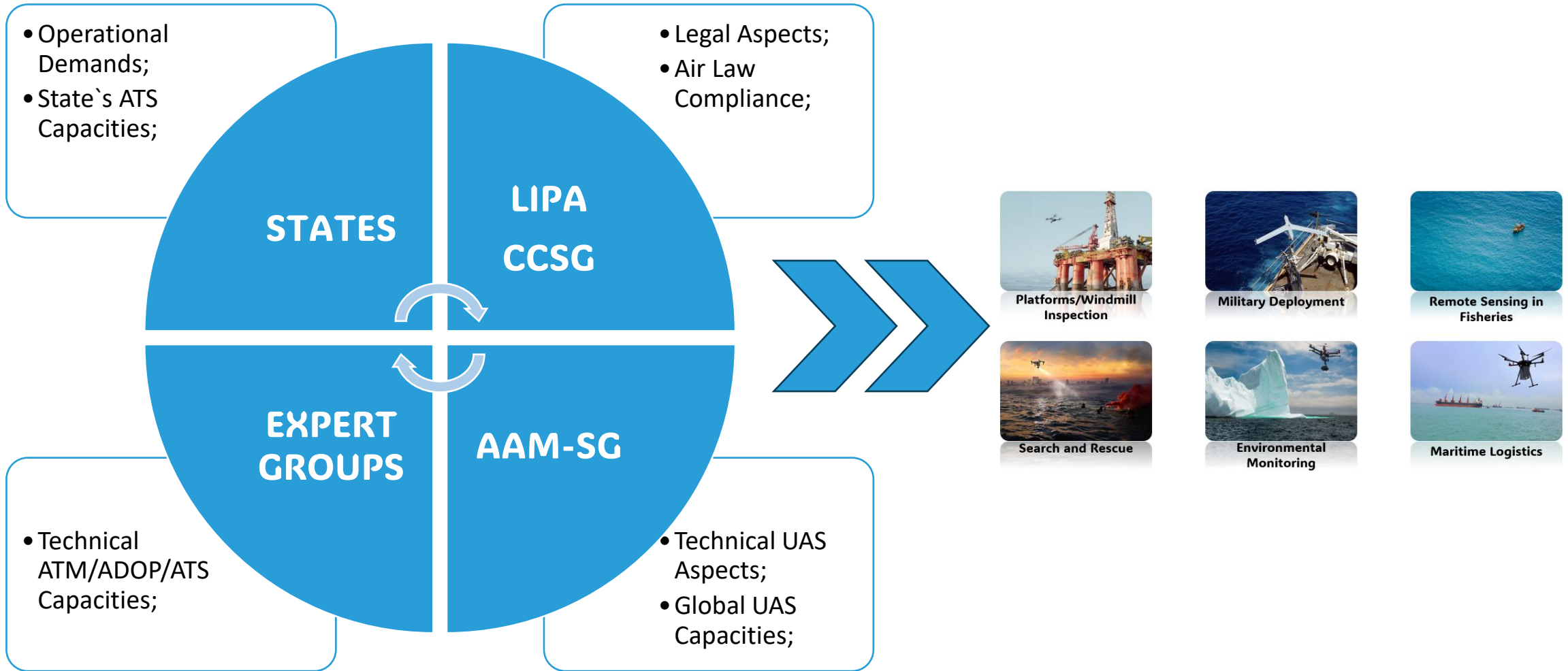


"24.92 [...]. The Commission acknowledged the need for a **timely solution** and noted the **ongoing work** as a part of the gap analysis undertaken by the relevant expert groups. The Commission also acknowledged the current framework of the Convention on International Civil Aviation (Doc 7300), and more specifically certain provisions of its Annexes, as presenting challenges for, if not necessarily insurmountable obstacles to, UAS operations over the high seas, which can inhibit States from authorizing said operations in a lawful manner. The Commission, in expressing **broad support for the two papers**, noted the need for a long-term framework, requested that the **Organization develop an interim solution to enable States to lawfully authorize such operations**, both in a manner commensurate with risk and, in the meantime, confirm the obligation and prerogative of States to identify the legal basis on which compliant operations may be conducted today, pending and subject to the adoption of interim and more enduring provisions. **The Council was urged to develop and adopt, ideally before the end of 2026, an interim framework which would be outcome-based, consistent with the intent of, and compliant with, the Chicago Convention, such as through acceptable means of compliance.** In noting the recent legal work of the relevant expert group on the subject, the Council was also requested to consider using an expedited development process for such interim solutions."

(p. 24-26)

# ICAO Updates

26



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# Thank You

