



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY

RECONNECTING **THE** WORLD



Global Humanitarian Aviation Conference

Innovation and technologies in humanitarian aviation

Capt. Ian Knowles

Acting Chief, Operational safety section

ICAO Initiatives

01

PBAOM

Increasing access to aerodromes and other locations

02

ICAO work on UAS/AAM

Supporting UAS in humanitarian work

03

Crisis response

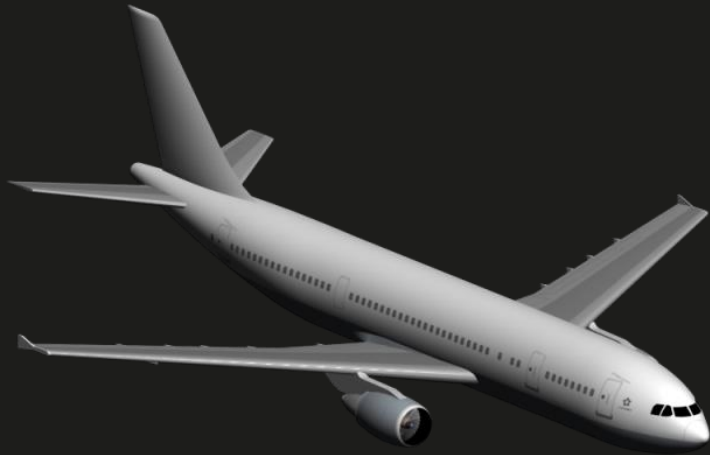
Recently identified as a priority focus area (PFA) for ICAO work

04

Electronic documents

EPL and other documents

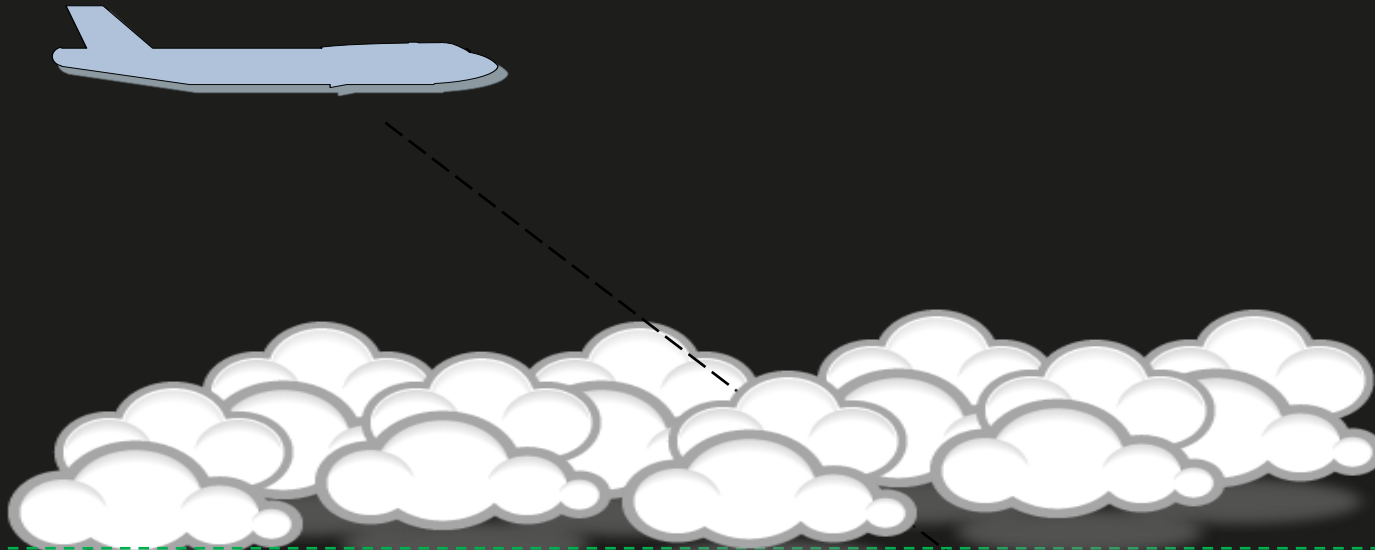
PBAOM Concept



Aerodrome Operating Minima possible

Traditional Requirements

INVESTMENT



Runway Lights

Runway Markings

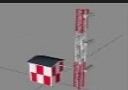
28

RUNWAY

Redundancies



Minima
NAV System



Alternative path

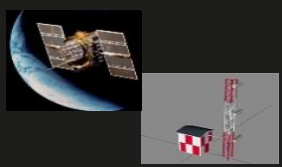


Basic Minima

Advanced aircraft benefit

Advanced

NAV System



Runway Markings

28

RUNWAY

Advanced aircraft

Lower minima based on aircraft capability

- EFVS, SVS, CVS
- Operational credit





Basic aircraft Reduced infrastructure

- LPV Approach (RNP APCH)
- No runway



MINUSMA: Timbuktu

10



Timbuktu Airfield Vandalized and destroyed tower



MINUSMA: Timbuktu

11



Timbuktu Airfield Vandalized and destroyed ILS, RWY Lighting and Windsock

02

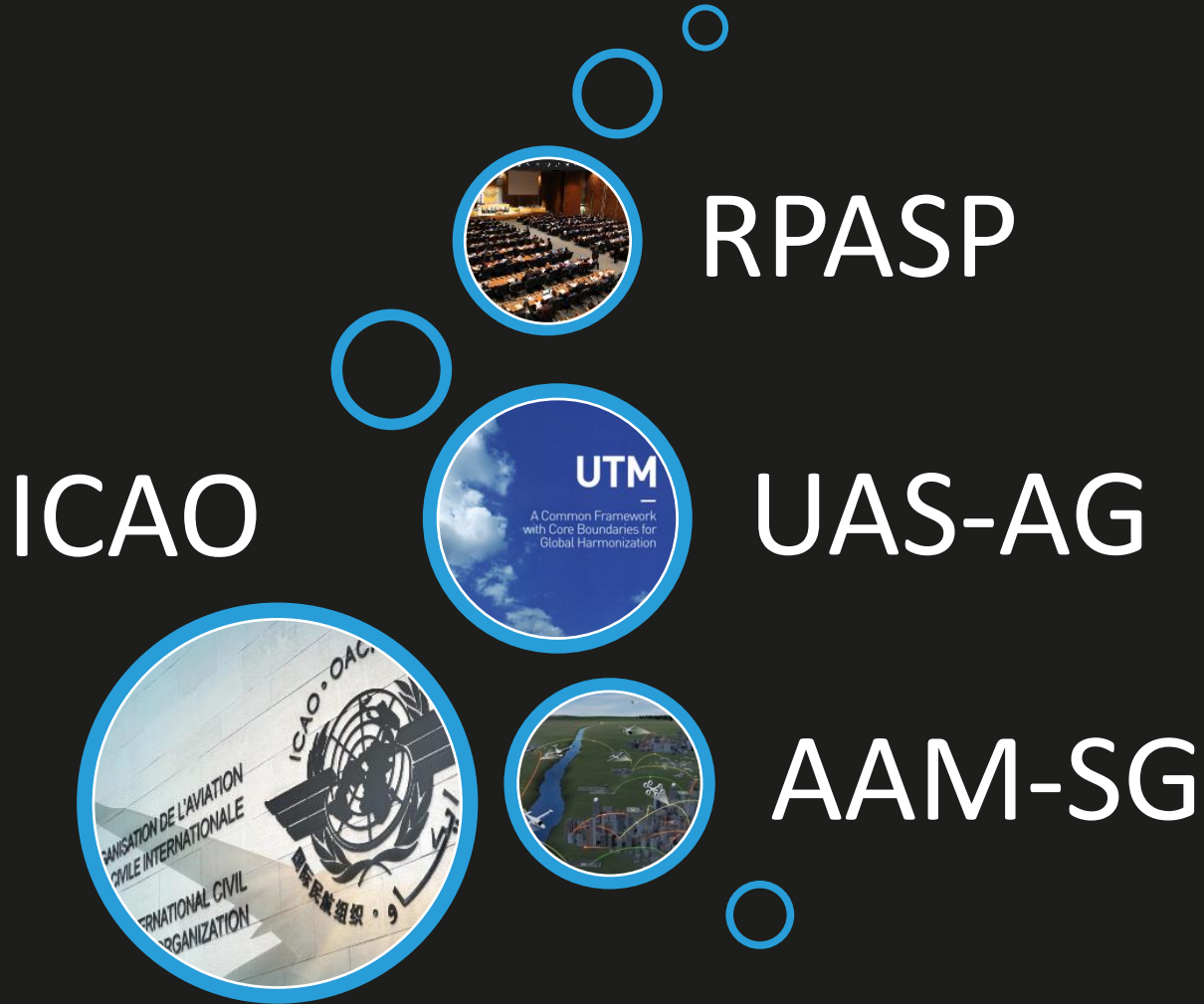
ICAO work on UAS/AAM



Humanitarian use cases



ICAO's work



> 130 experts
13 WGs/TFs
19 Annexes

- > 20 experts
- 6 Drone Enable
- UTM framework

- > 160 experts
- 3 WGs
- AAM

03 Crisis Response

an airspace FIR KABUL

a year: 2018

Contingency Planning Aid

FIR KABUL (OAKX)

644651 sq. km

2018 (2018-08-15)



ICAO

Crisis response

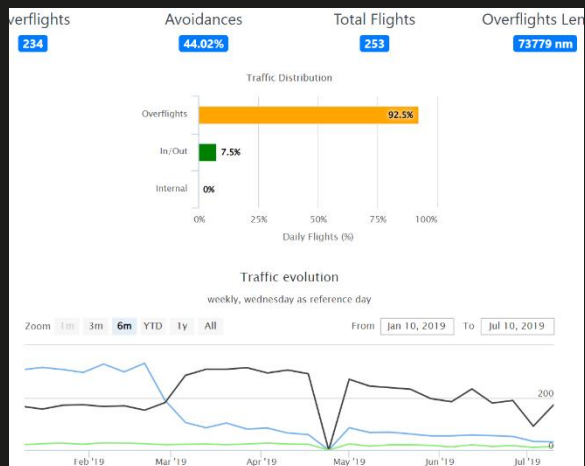
Response plans

- Aerodromes
- Annex 14 provisions for **aerodrome emergency planning**
- Annex 6 provisions for **operator emergency response plan (PROPOSED)**
- Annex 19 requirement for **coordination of response plans**

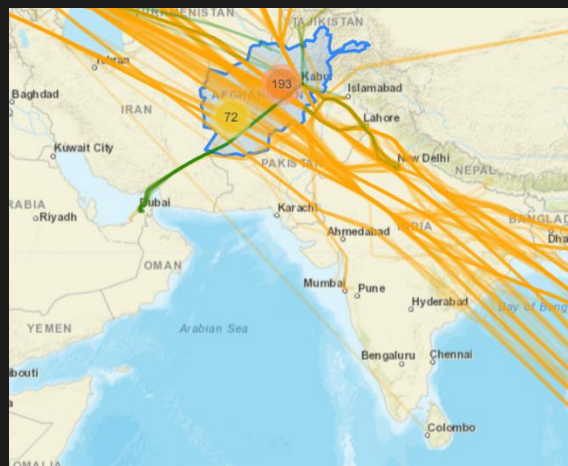


Crisis response

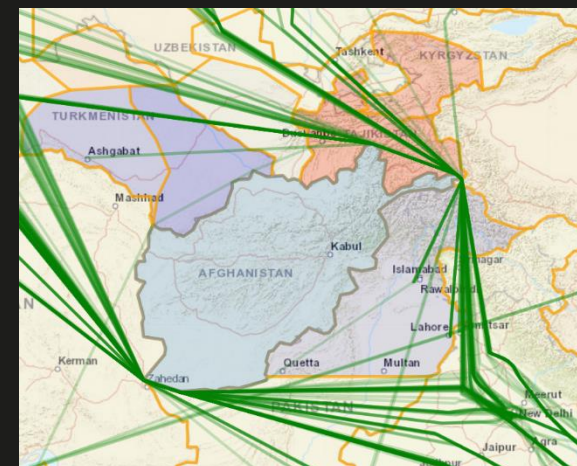
Airspace planning



- Analysis



- Traffic flow



- Impact

<https://www.icao.int/safety/iStars/Pages/Airspace-Contingency-Planning-Aid.aspx>

04 Electronic documents



Electronic certificates

Pilots license, CofA, AOC and more

- **Annex 1**

- License may be issued electronically
- Online/offline verification
- Interim solution (via ICAO)

- **Annex 6, 7, 8**

- AOC and Ops Spec
- CofA
- Certificate of registration

EPL AS PER REQUIRED ICAO COMMON FORM ELEMENTS	
(I) Name of State:	People's Republic of China
(II) Title of licence:	Airline Transport Pilot License
(III) Serial number of the licence:	410202197806121517
(IVa) Photograph of holder:	
(IVb) Name of holder:	Yaoyao WU
(IVc) Date of birth(dd-mm-yyyy):	1978-06-17
(VI) Nationality of holder:	CHINA
(VIII) Issuing authority - licence:	The license is issued in accordance with the provisions of Part 61 of Chinese Civil Aviation



Thank You