

Classification of World Countries according Civil Aviation Accessibility

To determine the need of each member country in the ICAO technical support.



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Methodology

The categorization is based on the merger of two classifications :

- A classification according the civil aviation facilities.
- A classification according the national flight traffic.

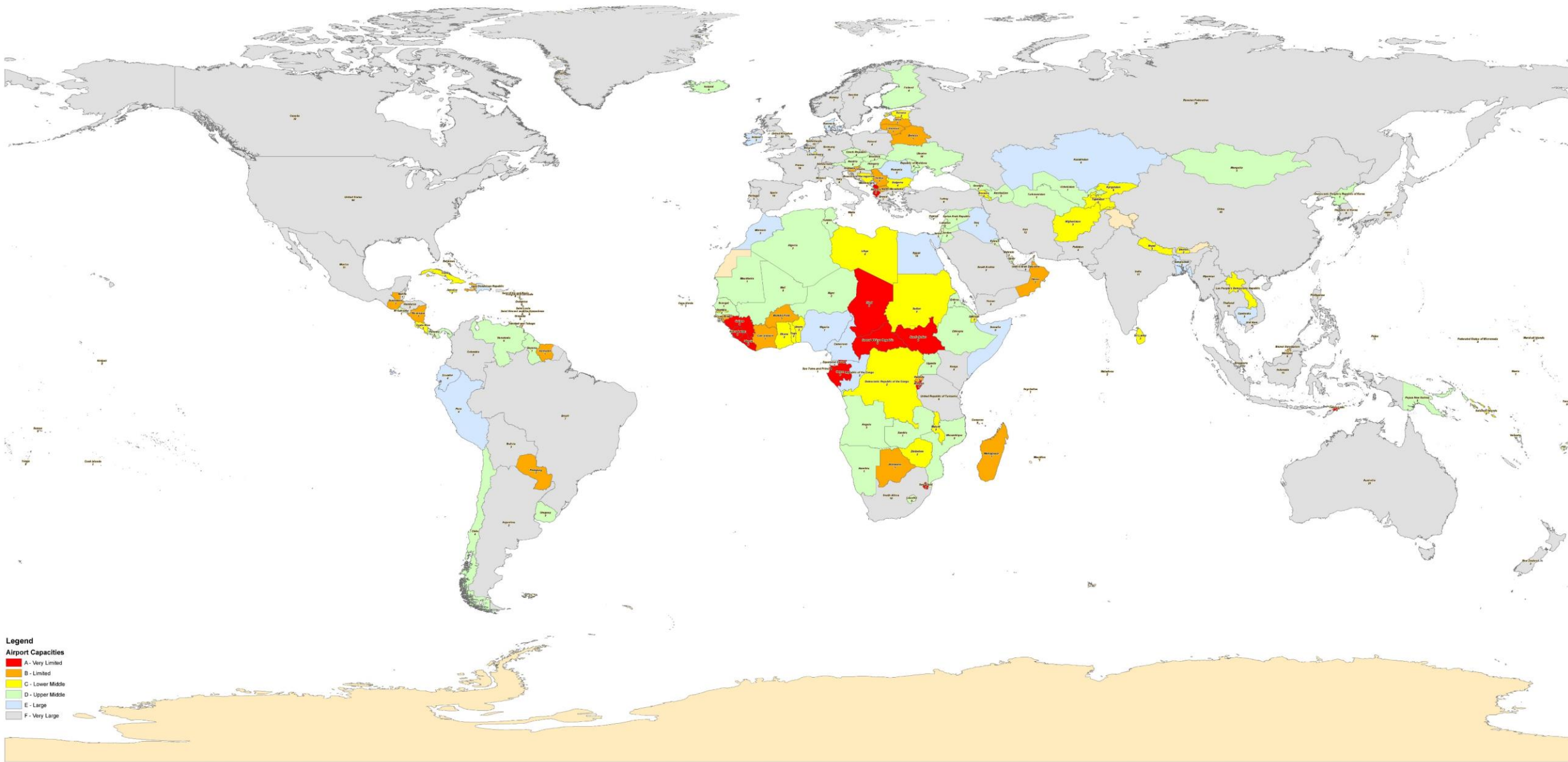
The merger is based on the ranking by wealth provided by the VWorld Bank, based on the GNP per capita.



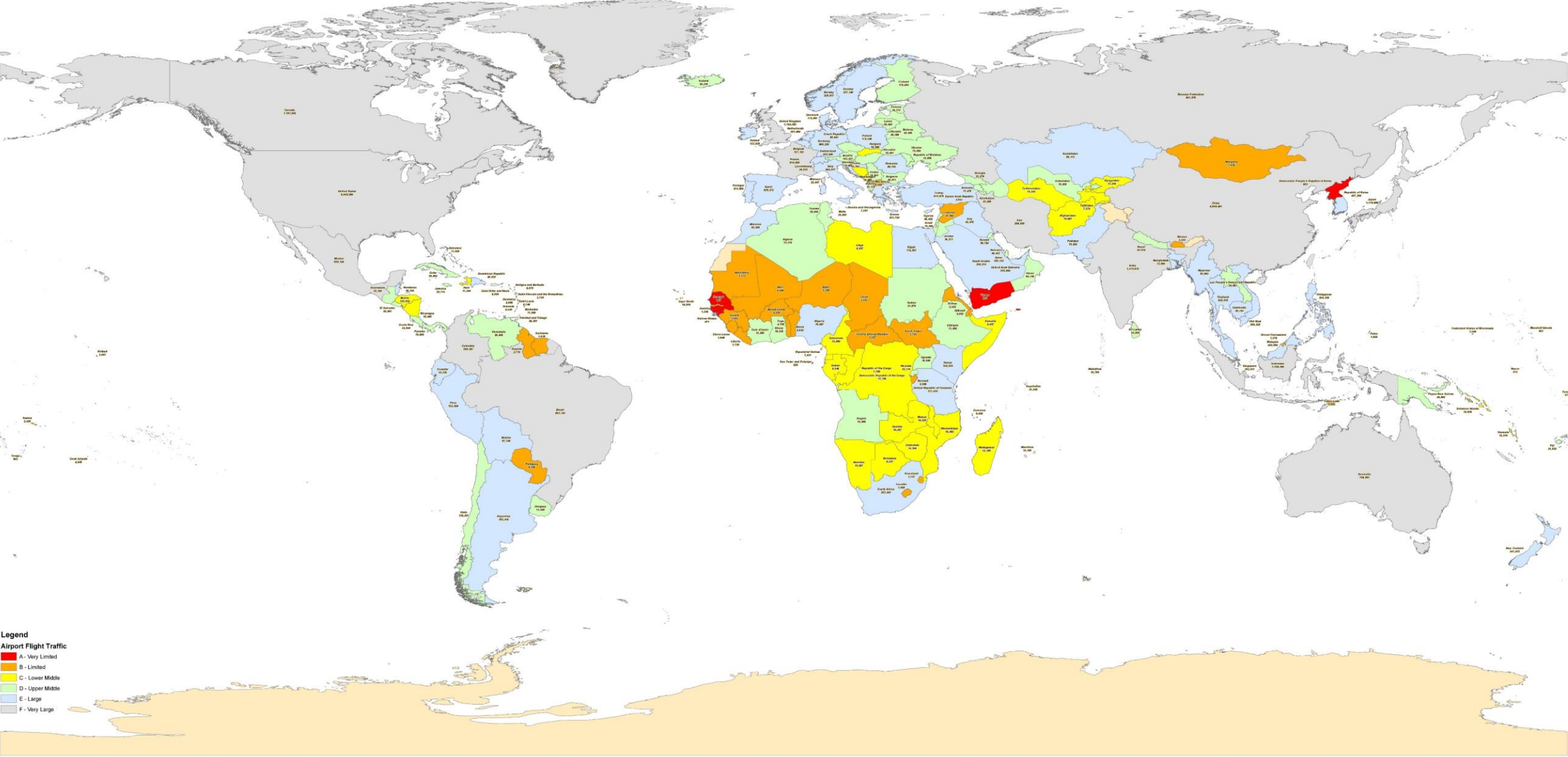
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Airport Capacities by Country



Airport Flight Traffic by Country



Legend
Airport Flight Traffic
A - Very Limited
B - Limited
C - Lower Middle
D - Upper Middle
E - Large
F - Very Large

Indicators used for each Classification

For the classification according the civil aviation facilities :

- 1) Number of Major Airports,
- 2) Maximal Number of Runways in an Airport,
- 3) Number of National Airlines.

For the classification according the national flight traffic :

- 1) Number of Big Airports ($> 10,000$ yearly flights),
- 2) Number of Average Airports (between 1,000 & 10,000 yearly flights),
- 3) Number of Small Airports ($< 1,000$ yearly flights).



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Algorithm

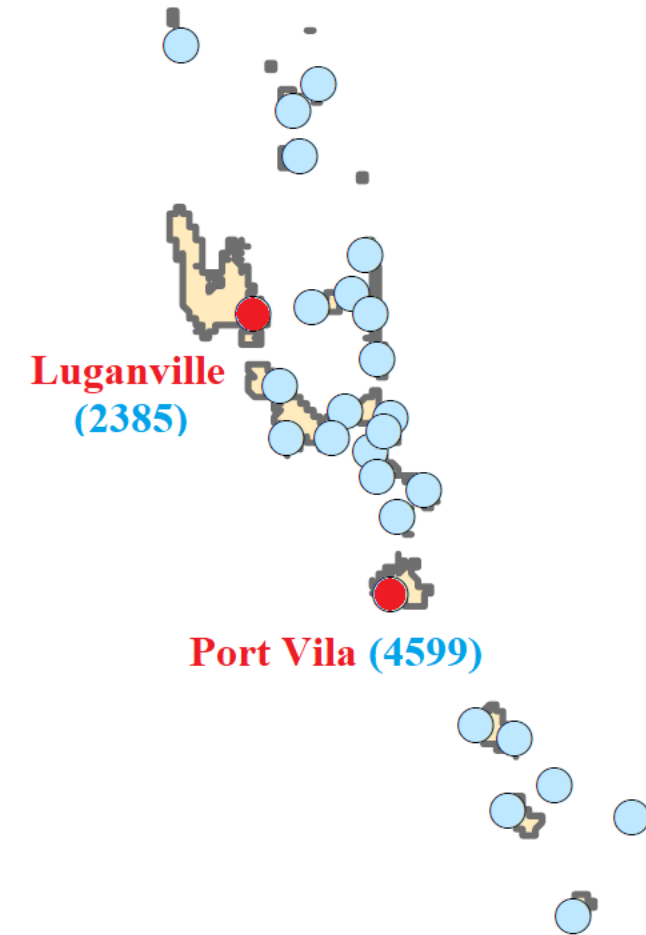
Gather countries according the value of the first indicator, then examine each set one by one :

- If there are too many countries, restart the algorithm with the next category.
- If there aren't enough countries, merge the set with the next one and examine again the new one.
- If the country number is acceptable, keep the set as category in the classification.

Example

Category	Description
A – Very Limited	"1/1/0"
B – Limited	"1/1/1"
C – Middle Low	"1/1/(2-6)"
D – Middle High	"1/(2-3)/(0-10)"
E – Large	"2/(1-3)/(0-6)"
F – Very Large	"(3-113)/(1-6)/(1-78)"

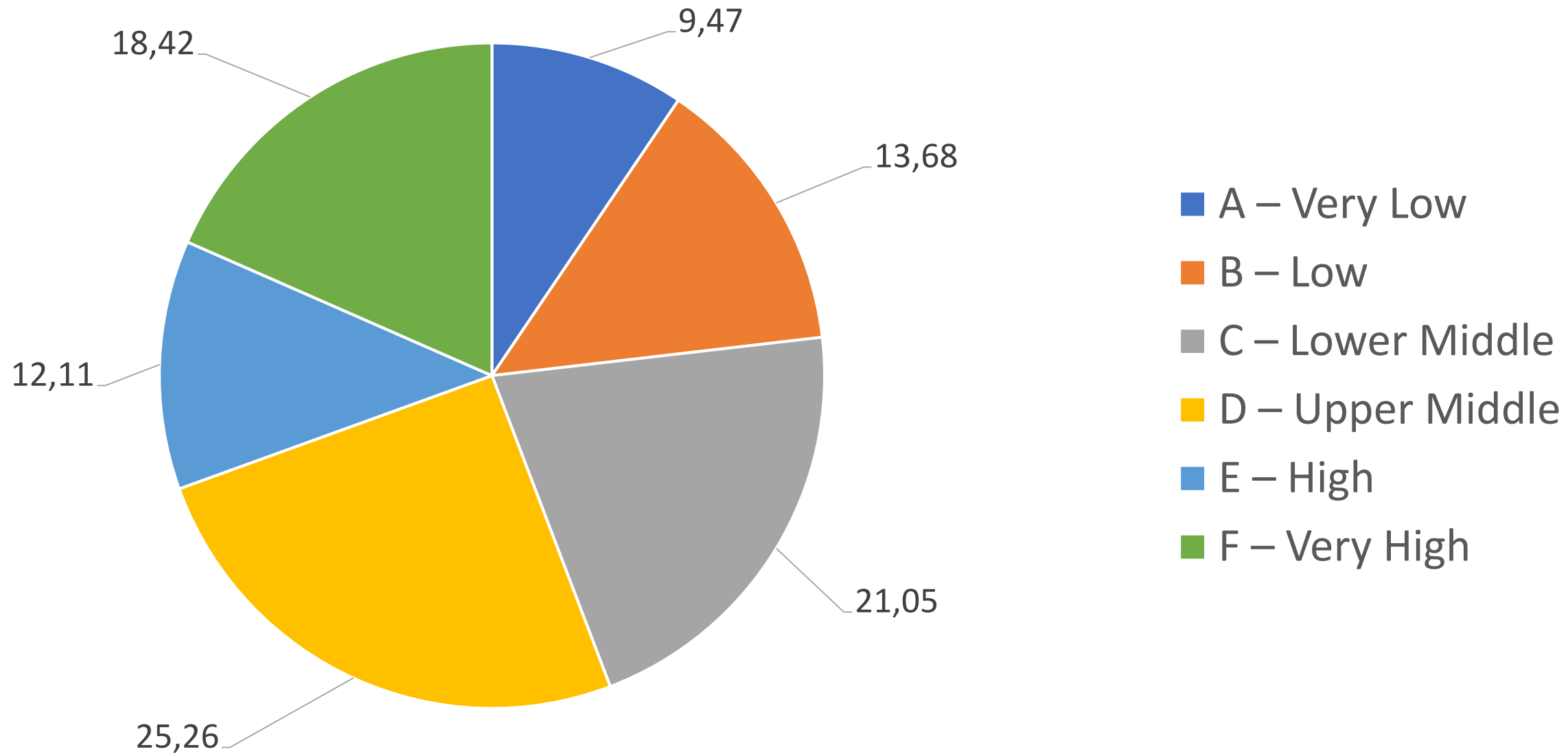
Category	Description
A – Very Low	Only small airports
B – Low	Only one average airport
C – Lower Middle	More than one average airport
D – Upper Middle	Only one big airport
E – High	More than one big airport
F – Very High	More than 50 airports



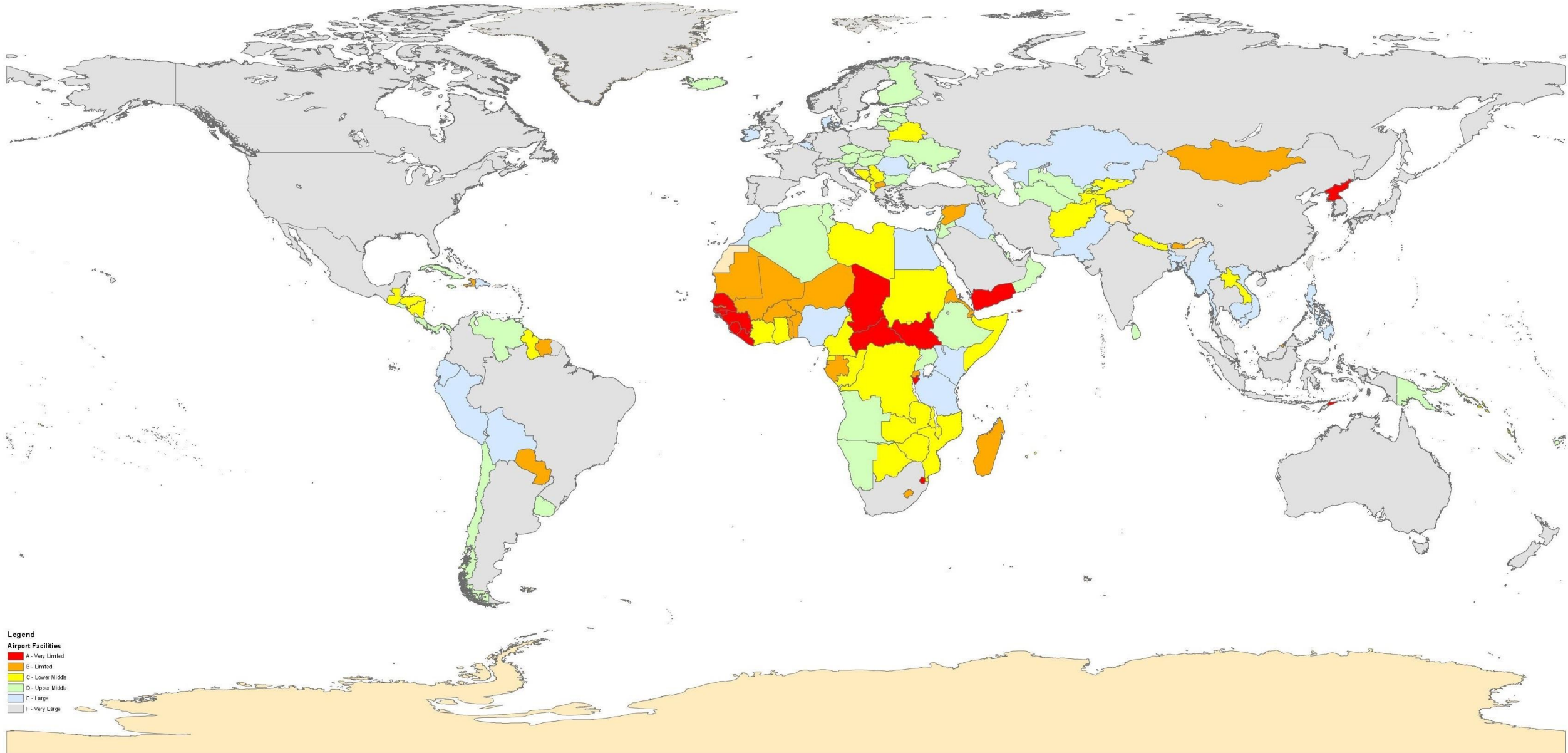
- 1) 2/1/1, so category E.
- 2) More than one airport, so category C.
- 3) Lower Middle Income, so I keep category C.

Country Name	World Bank Income Category	Number of National Airlines	Maximum Number of Runways by Airport	Number of Flights In & Out	Global Number of Airports	Number of Small Airports	Number of Average Airports	Number of Big Airports
Vanuatu	2) Lower middle income	1	1	12314	27	24	3	0

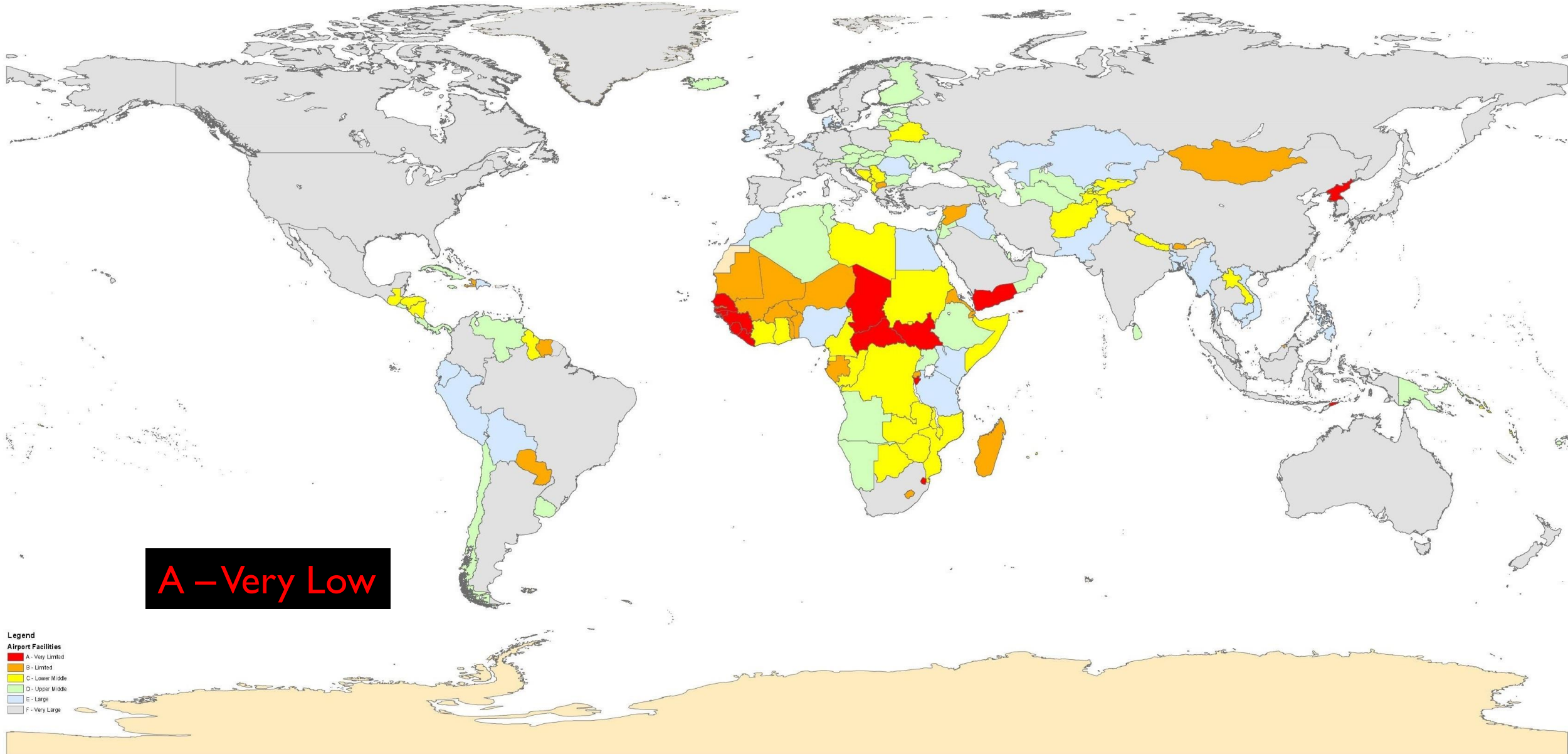
Extent of each Category



Airport Facilities by Country



Airport Facilities by Country

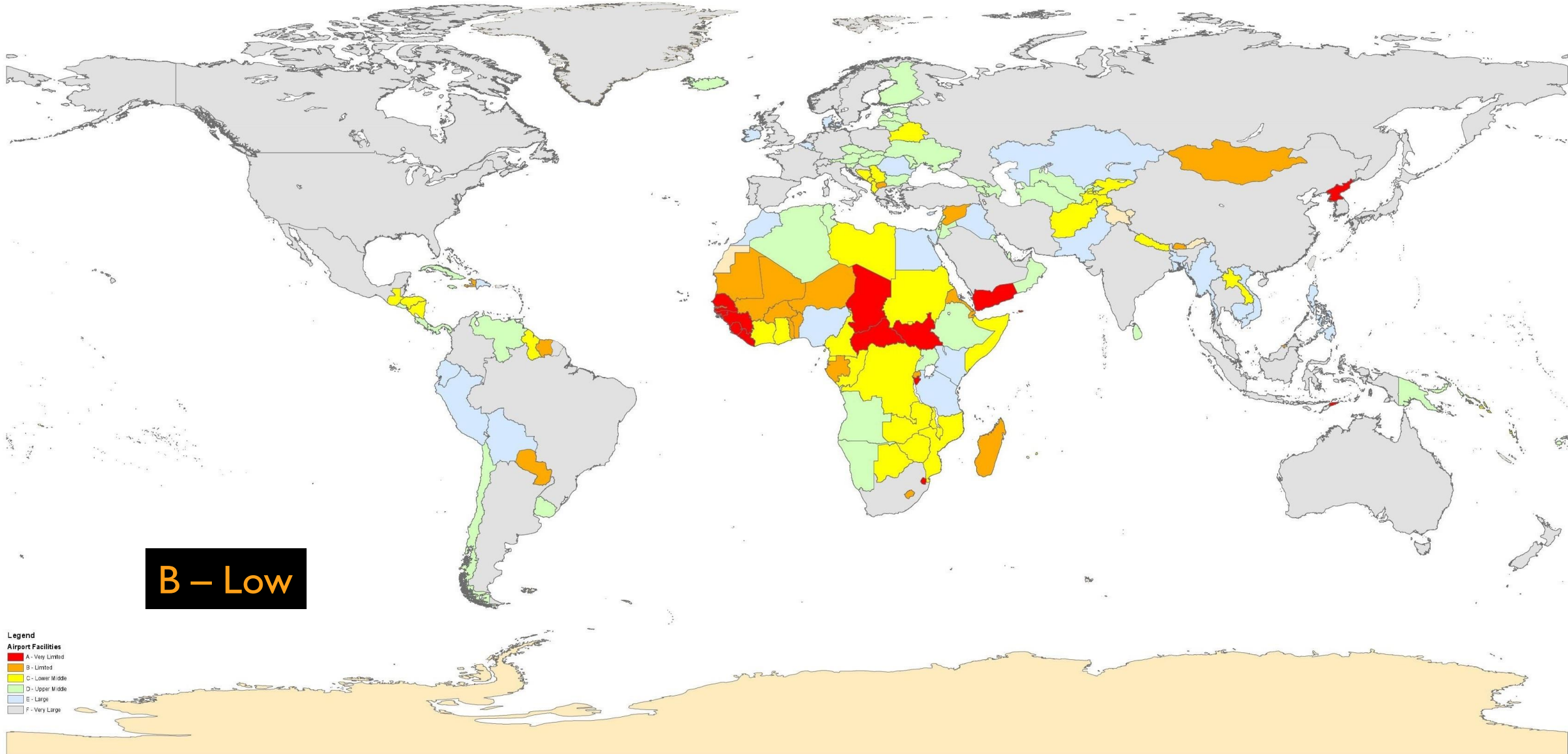


A – Very Low (18, 10%)

- No big airports and less than 5,000 flights per years in the whole country.
- Mainly Sub-Saharan African Countries with a low income.
- **More likely to need any technical support from the ICAO.**

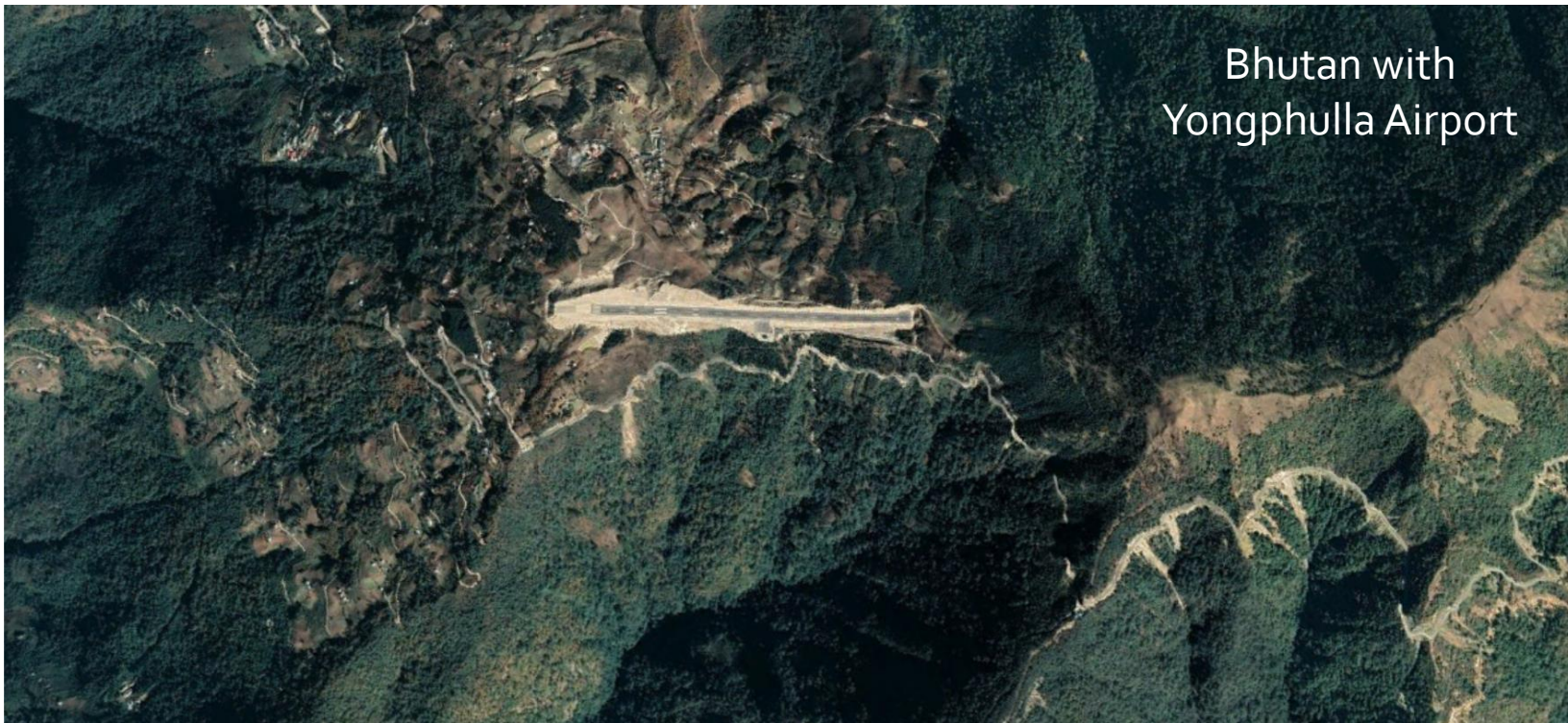


Airport Facilities by Country

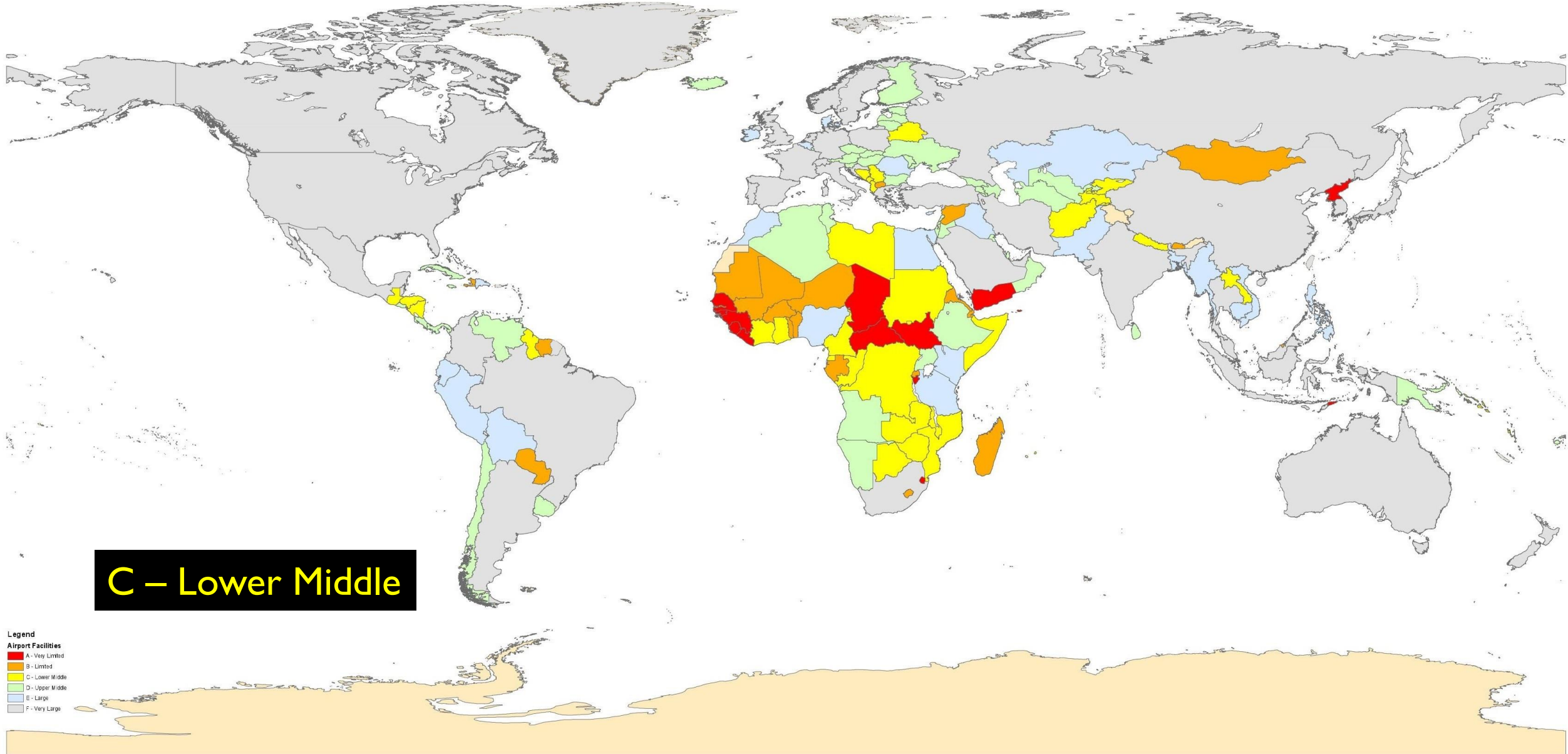


B – Low (26, 14%)

- No big airports and a flight traffic about an average airport.
- Better distributed around the world with three high income countries.
- **Prone to need the ICAO technical support.**



Airport Facilities by Country



Legend
Airport Facilities
A - Very Limited
B - Limited
C - Lower Middle
D - Upper Middle
E - Large
F - Very Large

An aerial photograph of the Marshall Island International Airport, showing a long runway and taxiway extending along a narrow strip of land adjacent to the ocean.

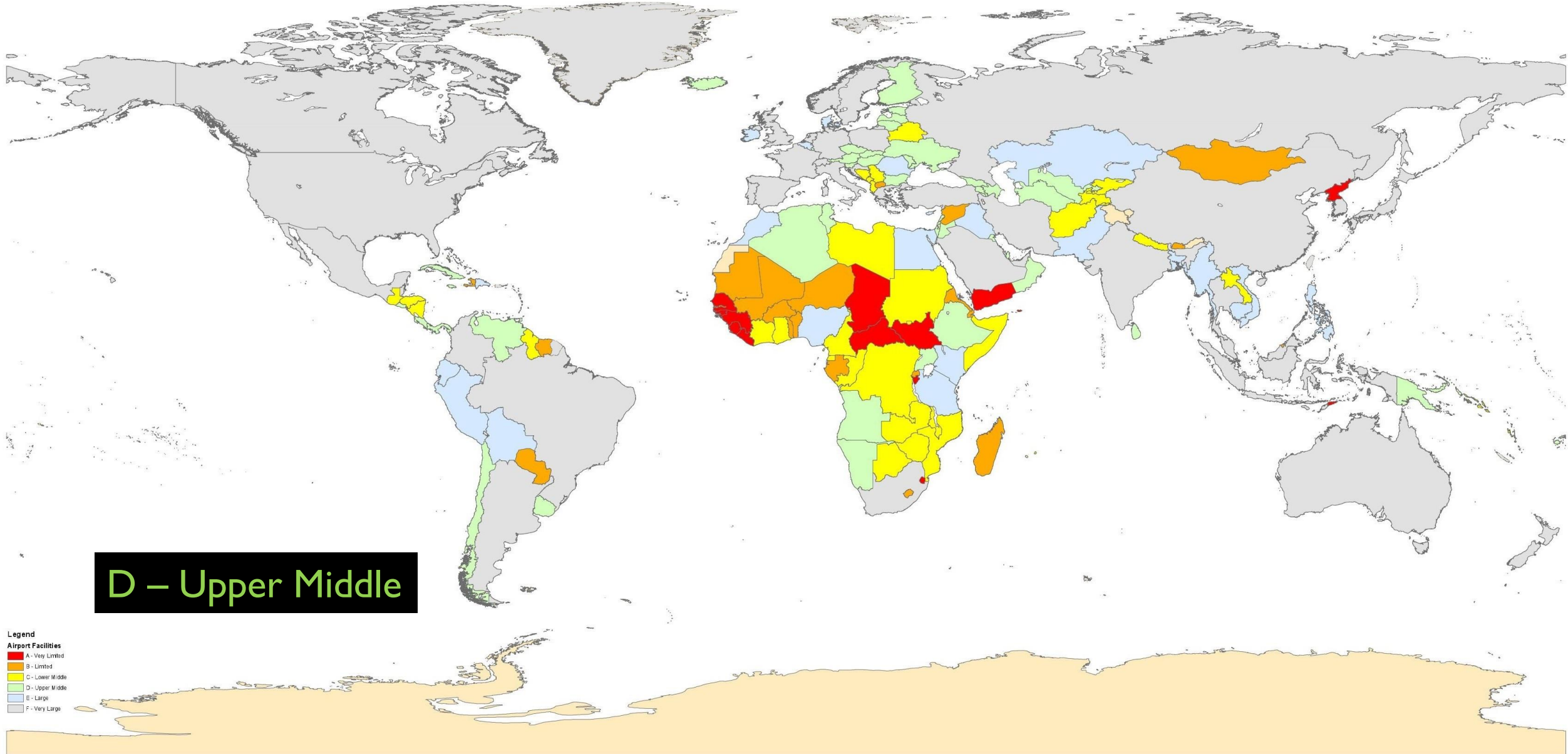
Marshall
Island
INTL
Airport

C – Lower Middle (40, 21%)

- More than 10,000 flights per year in mostly small or average airports.
- The rest of Sub-Saharan African countries and small-size countries in every continent.
- **Low-priority user of the ICAO technical support.**



Airport Facilities by Country



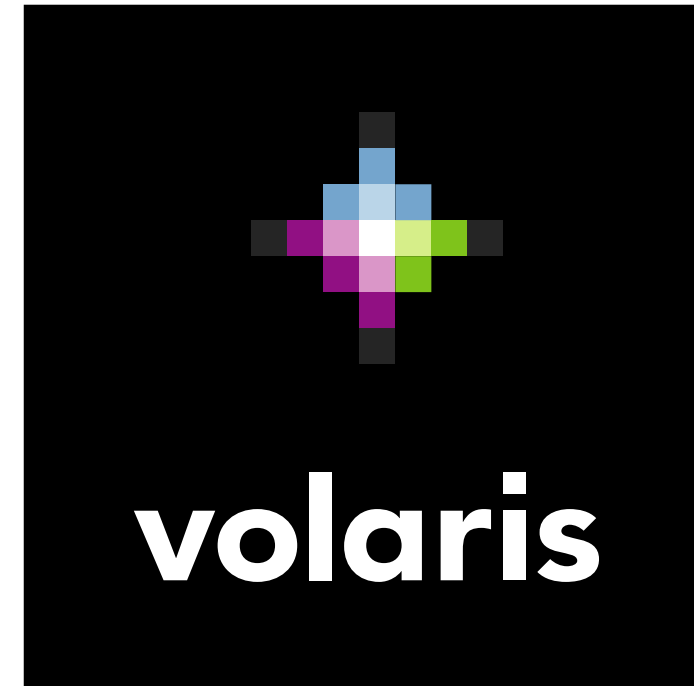
D – Upper Middle (48, 25%)

- A big airport and a medium traffic around 50,000 flights per year.
- Mainly small-size countries with a high income for the half.
- **More a support for the integration in their civil aviation environment.**



Azerbaijan
with Baku
INTL Airport

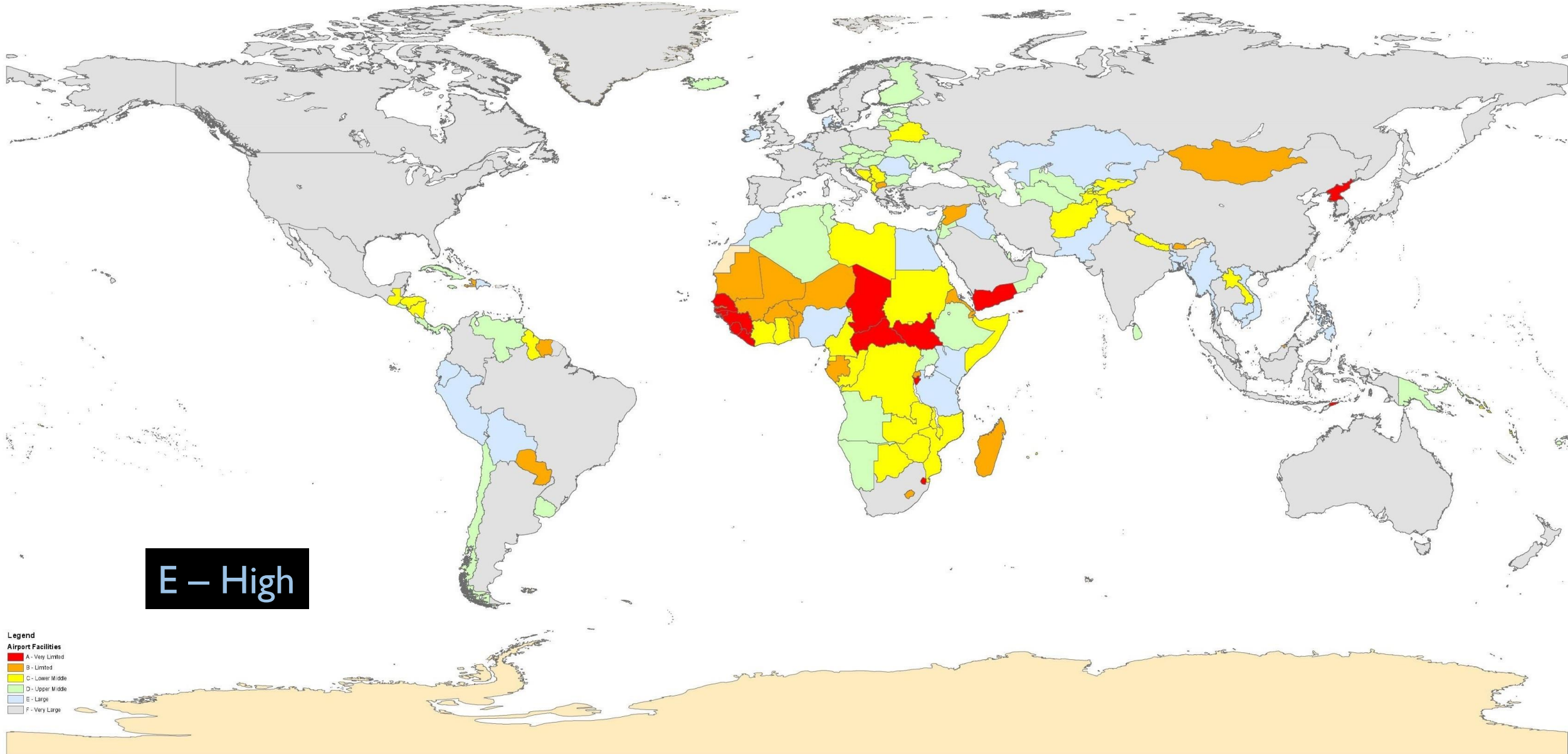
Costa
Rica
with its
three
National
Airlines



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Airport Facilities by Country



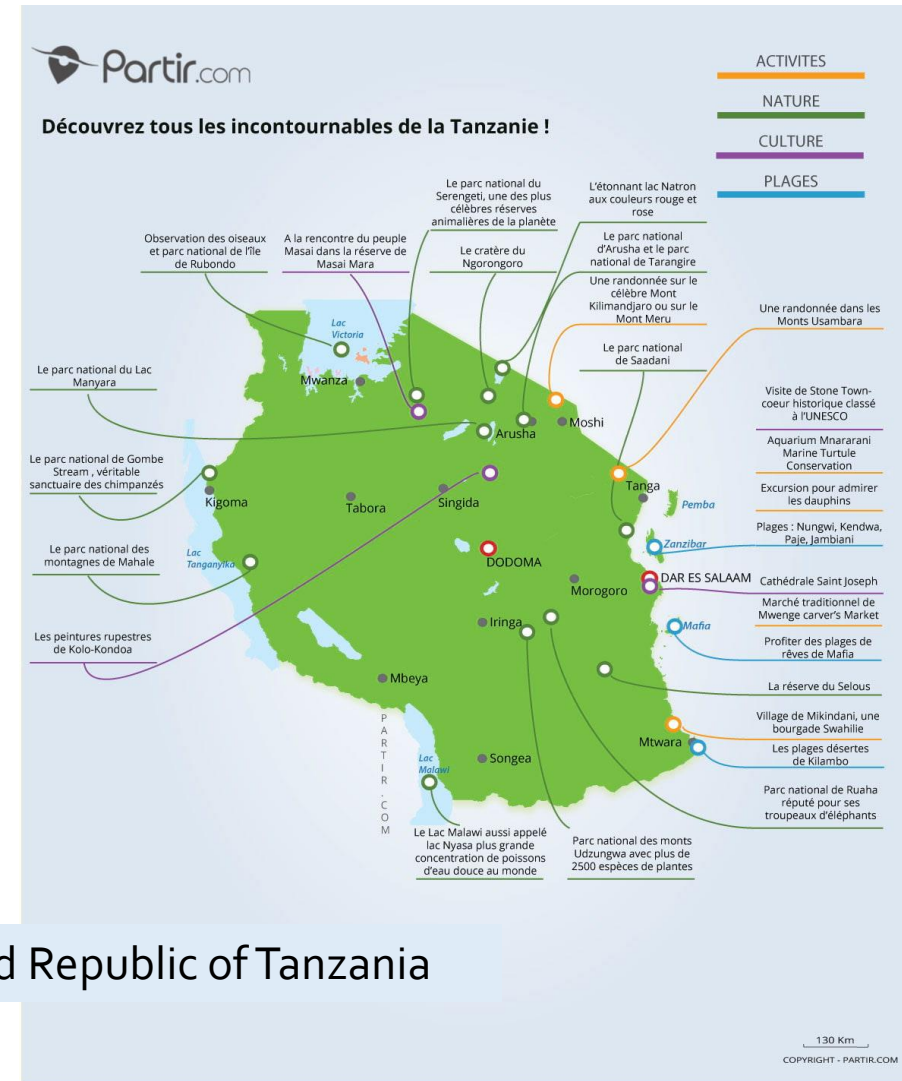


E – High (23, 12%)

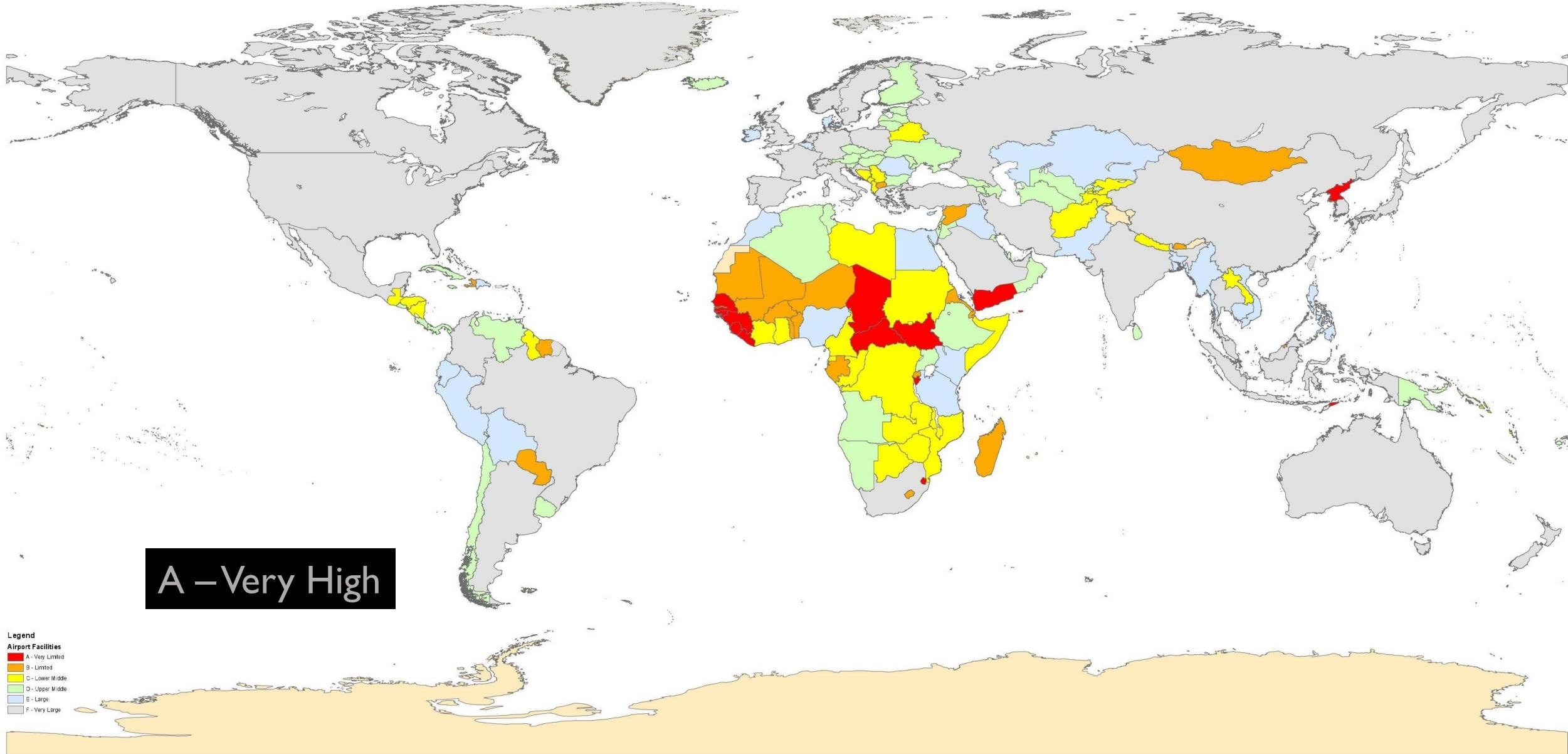
- More than one big airport and a medium traffic around 100,000 flights per year.
- Mostly wealthy small-size countries or very touristic countries with a low income.
- **Not really need the ICAO technical support.**

Peru with Jorge Chavez INTL Airport (Lima)

Touristic Map of United Republic of Tanzania



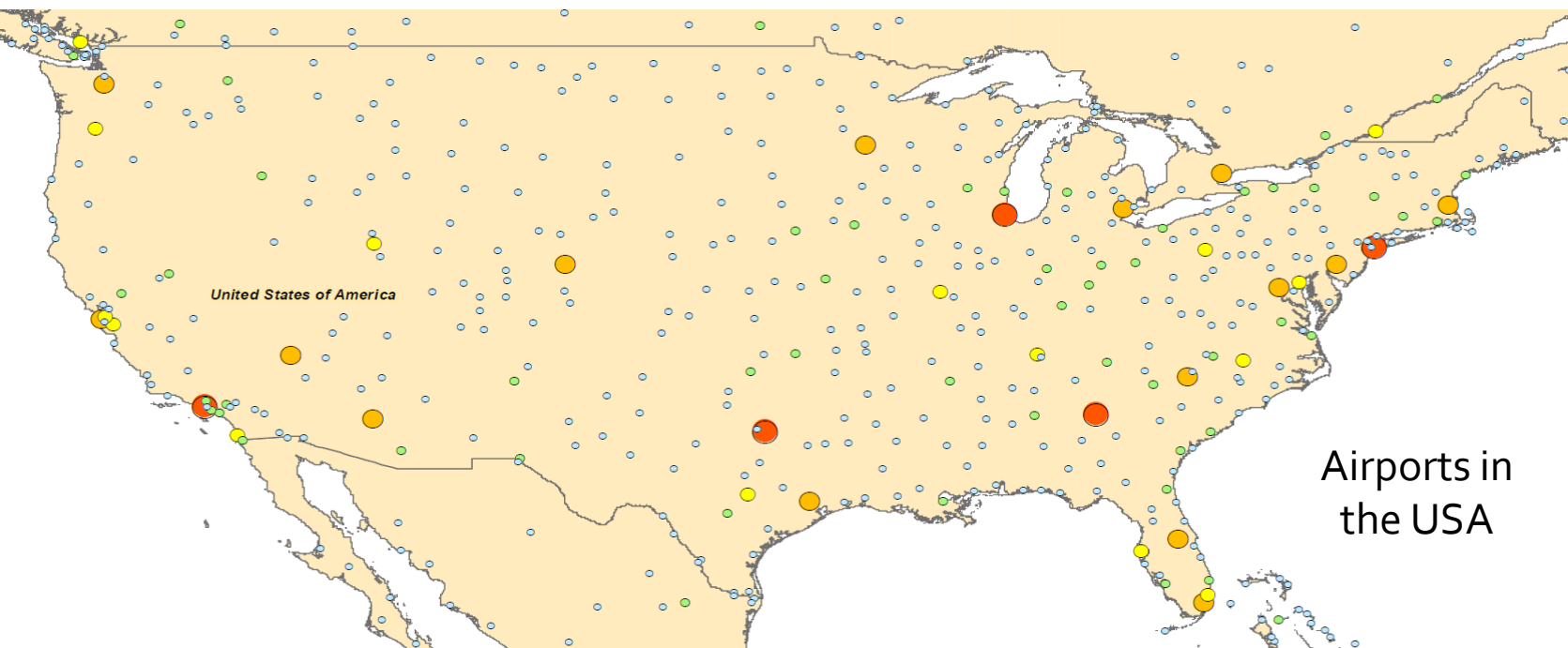
Airport Facilities by Country



F – Very High (35, 18%)

- A medium number of airport around 75 and between 100,000 & a few million of flights per year in the whole country.
- All the world great powers or very wealthy average countries (mostly in Europe).
- **More susceptible to provide technical support to the ICAO than to receive some.**

USA with Detroit Metropolitan Wayne County Airport



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Central American
and Caribbean
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**South American
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Lima

**ICAO
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Montréal

**Western and
Central African
(WACAF) Office**
Dakar

**European and
North Atlantic
(EUR/NAT) Office**
Paris

**Middle East
(MID) Office**
Cairo

**Eastern and
Southern African
(ESAF) Office**
Nairobi

**Asia and Pacific
(APAC) Sub-office**
Beijing

**Asia and Pacific
(APAC) Office**
Bangkok



THANK YOU