



COASTAL STATES OBLIGATIONS RISK MANAGEMENT

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SUMMARY

- AtoN provision
- Coastal States International obligations
- Risk management
- Coastal States in needs
- Conclusion



Aids to Navigation

A marine **aid to navigation** (AtoN) is:

“a device, system or service, **external to vessels**, designed and operated to enhance safe and efficient navigation of individual vessels and/or vessel traffic”

(Reference: NAVGUIDE 1.8 and introduction to Ch 3)

Not to be confused with a navigational aid (**navaid**) which is:

*“an instrument, device or nautical publication (NP) carried **on board** a vessel for the purpose of assisting navigation”.*



Name the mark





AtoN Provision



SOLAS V Regulation 13

Chapter V Regulation 13.1 requires a Contracting Government to provide “as it deems practical and necessary” by itself or with other Governments “such AtoN as the **volume of traffic justifies** and the **degree of risk requires**”

Ch V Reg 13.2: AtoN should conform to international standards (**IALA recommendations and guidelines**)

Ch V Reg 13.3 **information** about AtoN must be **given to all concerned** (mariners; stakeholders etc.)

Reference: NAVGUIDE Chapter 8 page 179



Obligations of the Competent Authority of a Contracting Government to SOLAS

Provide as many AtoN are required based on a **risk assessment**

Guarantee the reliability of each AtoN

Update the AtoN service as maritime traffic, environmental patterns, technology and resources change

Set up a formal method of informing all concerned including mariners about existing AtoN, new AtoN, and AtoN failures (charts; nautical publications; NAVTEX etc.)

Decide who will provide the AtoN service



Contracting Government Obligation - Summary

Whether or not to provide particular types of AtoN

The type, number and location of AtoN to be provided

What information services are necessary to inform adequately all concerned (principally mariners)



Responsibility for AtoN

The Competent Authority (CA) provides or formally delegates the provision of its AtoN service to States; Territories; local government; ports, harbours and waterways; military organisations or private groups

The geographical area of each must be defined

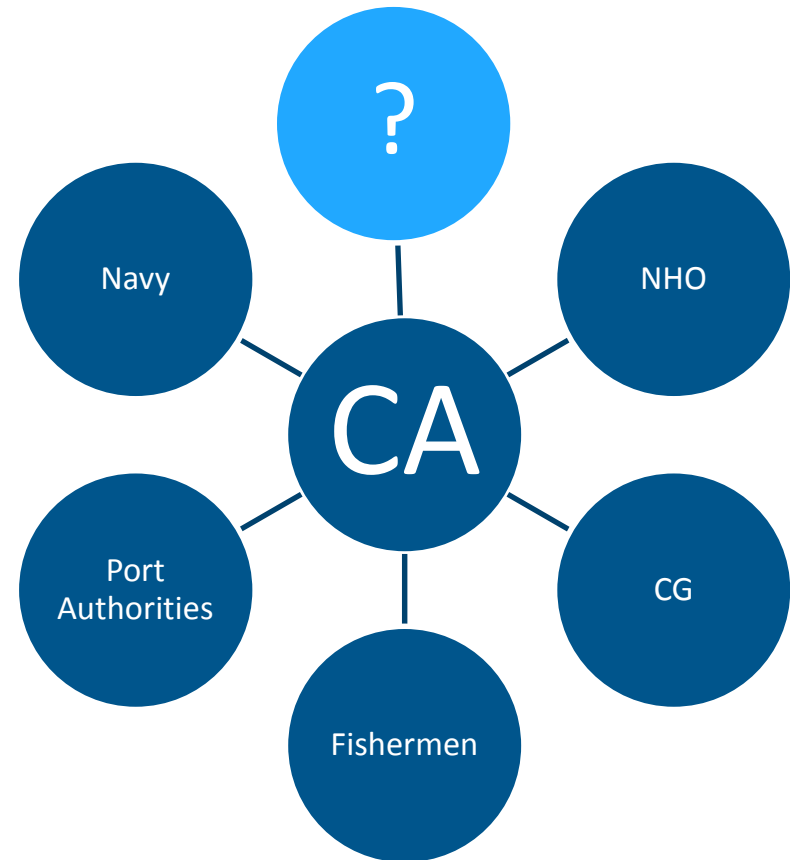
Responsibility for the AtoN service **remains** with the Government **not** with the service provider

Ensure that **national maritime law** specifies which Ministry is the CA and that the CA has the right to audit all AtoN service providers



Stakeholders

“individuals, groups or organisations able to affect or be affected by a decision or activity related to AtoN service provision”



Reference IALA GL 1079 on User Consultation



Funding of AtoN Services

State Pays – Ship owners get a “free” AtoN service .. but the service is funded from taxes or Ministerial budgets

User Pays – Commercial shipping companies and/or fishing and recreational vessels pay a contribution to the cost of an AtoN service. **Note:** make sure that funds collected are “ring-fenced” for the AtoN service

In some countries, a combination of the two is used

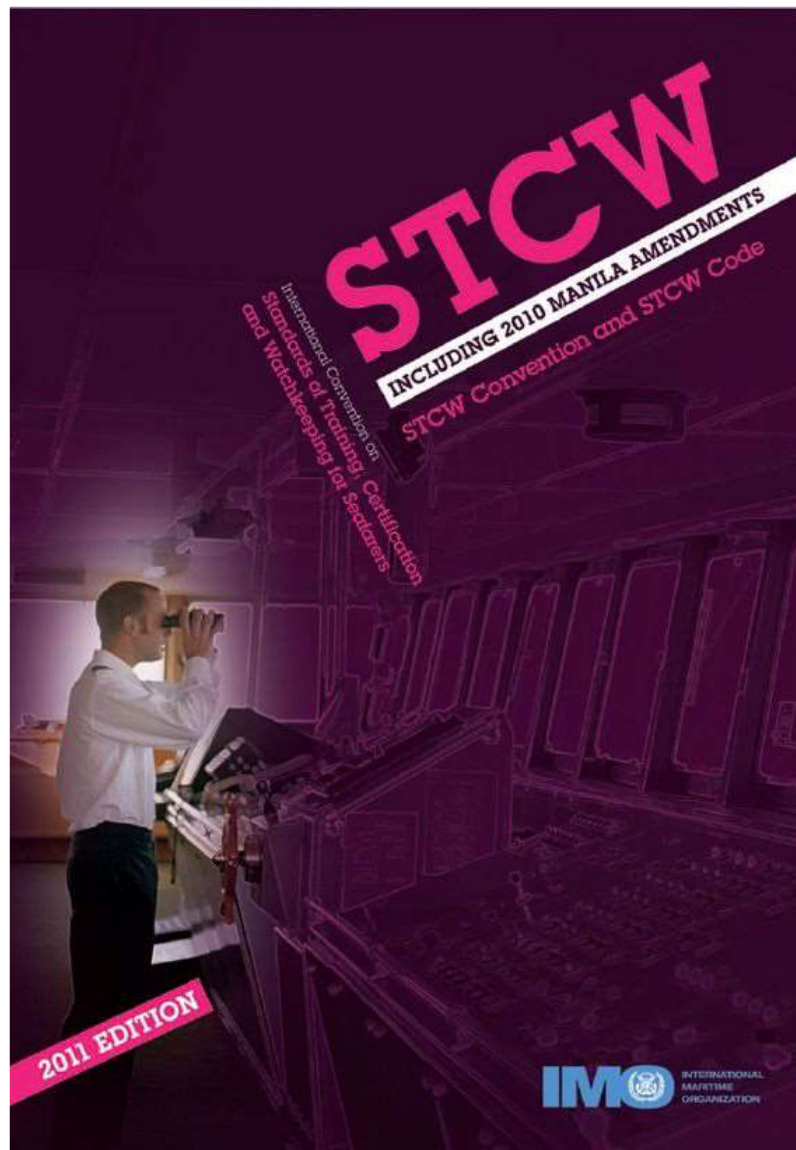
References: IALA Recommendation V-102 and on the application of the User Pays principle to VTS



Coastal States International Obligations

SOLAS Chapter V







Coastal States obligations

African States, including MOWCA and SAGNEP members, should be well aware that all coastal States are obliged to provide safety of navigation services in accordance with SOLAS Chapter V.

The principal SOLAS V regulations of relevance to IALA are Regulations 4 (Navigation Warnings); 12 (Vessel Traffic Services – VTS) and 13 (Establishment and Operation of AtoN services).

Other Key SOLAS V Regulations:

- 9 – Hydrographic Services
- 10 – Ships Routeing
- 11 – Ships Reporting Systems
- 19-2.4 – AIS



SOLAS Chapter V Regulation 13

Chapter V Regulation 13.1 requires a Contracting Government to provide “as it deems practical and necessary” by itself or with other Governments “such AtoN as the **volume of traffic justifies** and the **degree of risk requires**”.

IALA Risk Management Toolbox endorsed by IMO in SN.1/Circ.296

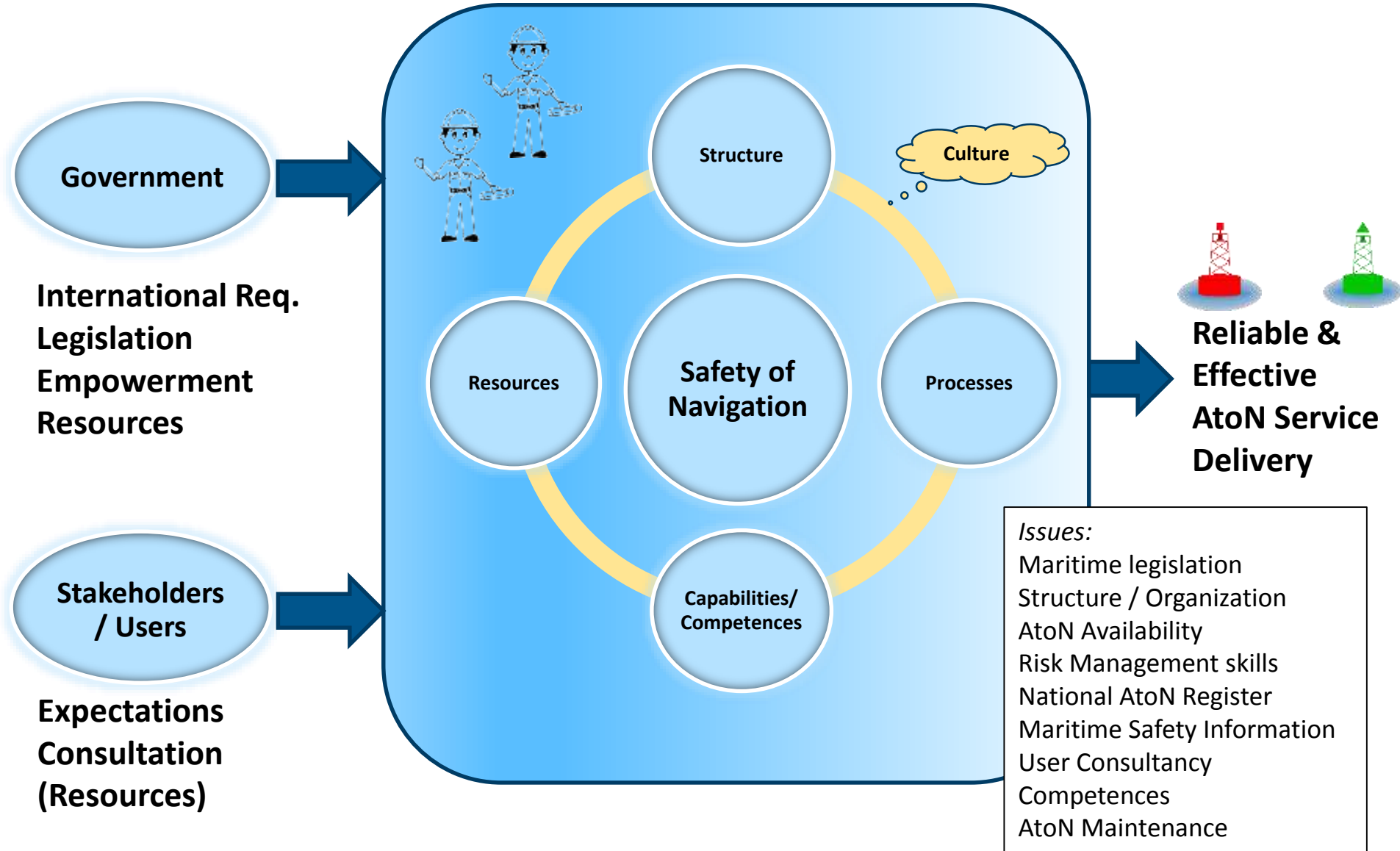
Chapter V Regulation 13.2: AtoN should conform to international standards.

IALA recommendations and guidelines

Chapter V Regulation 13.3: **information** about AtoN must be **given to all concerned** (mariners; stakeholders etc.): MSI



Competent Authority





Responsibility for AtoN

- The National Competent Authority (CA) provides or formally delegates the provision of its AtoN service to States; Territories; local government; ports, harbours and waterways; military organisations or private groups.
- The geographical area of each must be defined.
- Responsibility for the AtoN service **remains** with the Government, **not** with the service provider.
- Need to ensure that national maritime law specifies which Ministry is the CA and that the CA has the right to audit all AtoN service providers.



Obligations of the Competent Authority of a Contracting Government to SOLAS

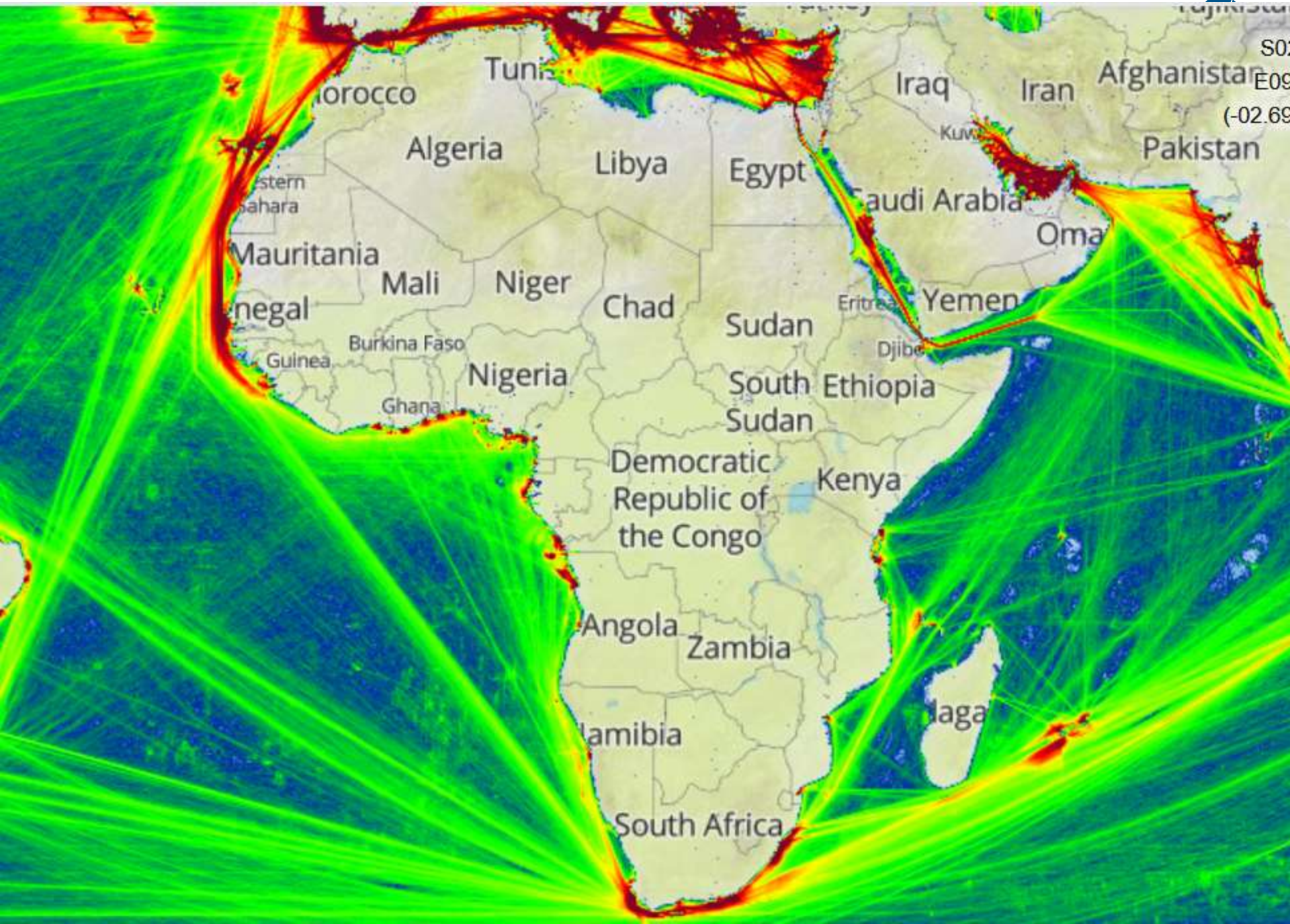
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- Guarantee the reliability of each AtoN
- Update the AtoN service as maritime traffic, environmental patterns, technology and resources change
- Set up a formal method of informing all concerned including mariners about existing AtoN, new AtoN, and AtoN failures (charts; nautical publications; NAVTEX etc.)
- Decide who will provide the AtoN service



SOLAS, chapter V, regulations 12 and 13

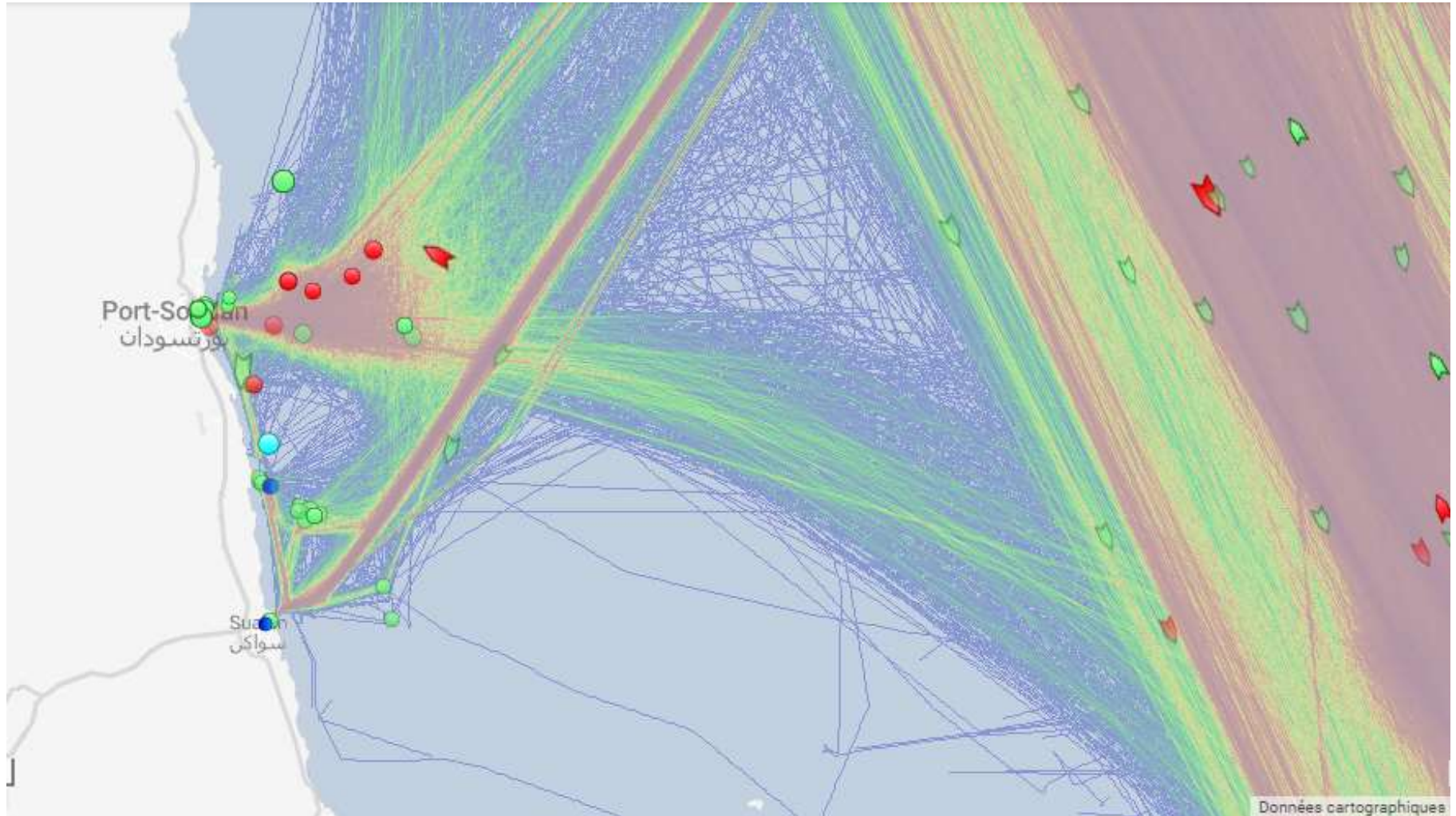
Establishment and operation of Aids to navigation (and VTS)
*... as the volume of traffic justifies
and the degrees of risk requires.*





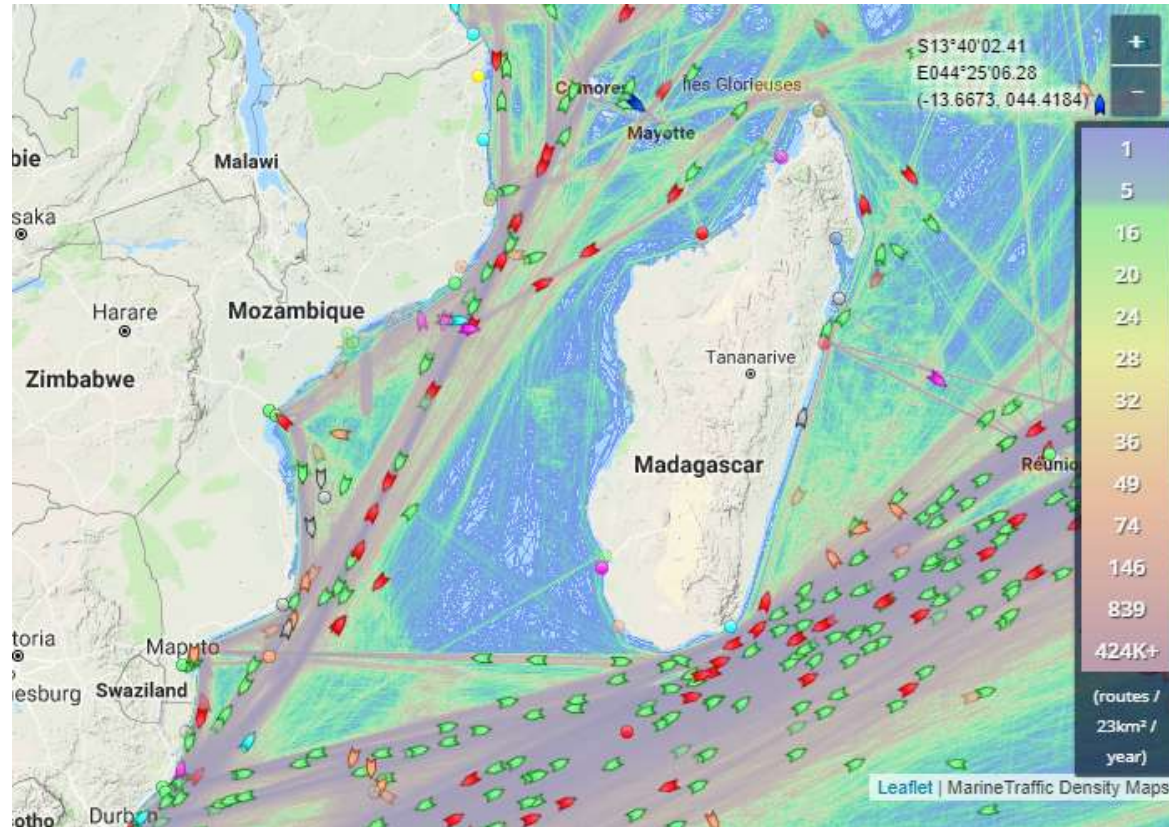


Marinetrafic.com





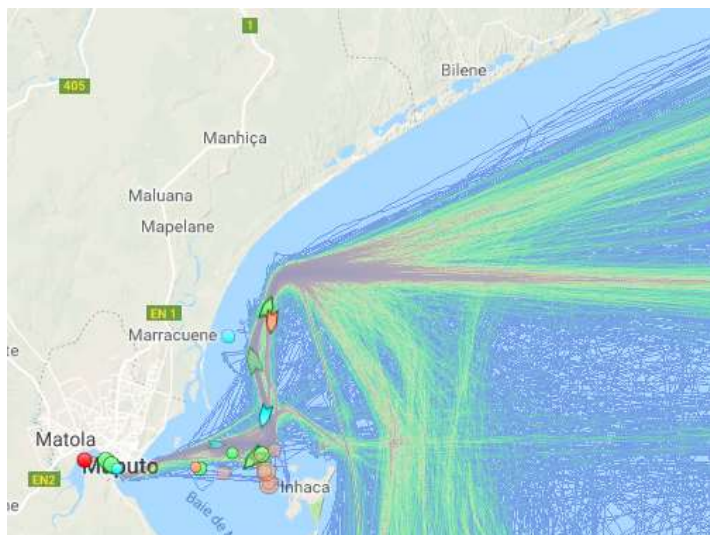
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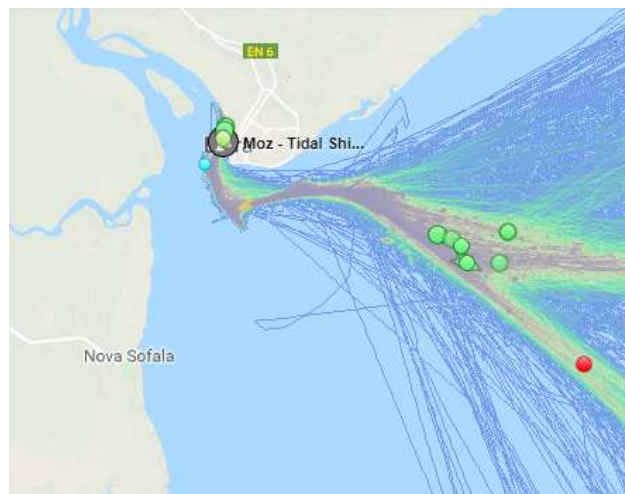


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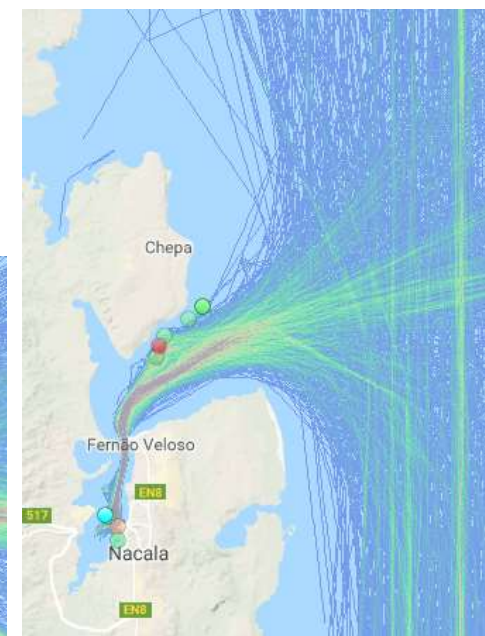
Maputo



Beira

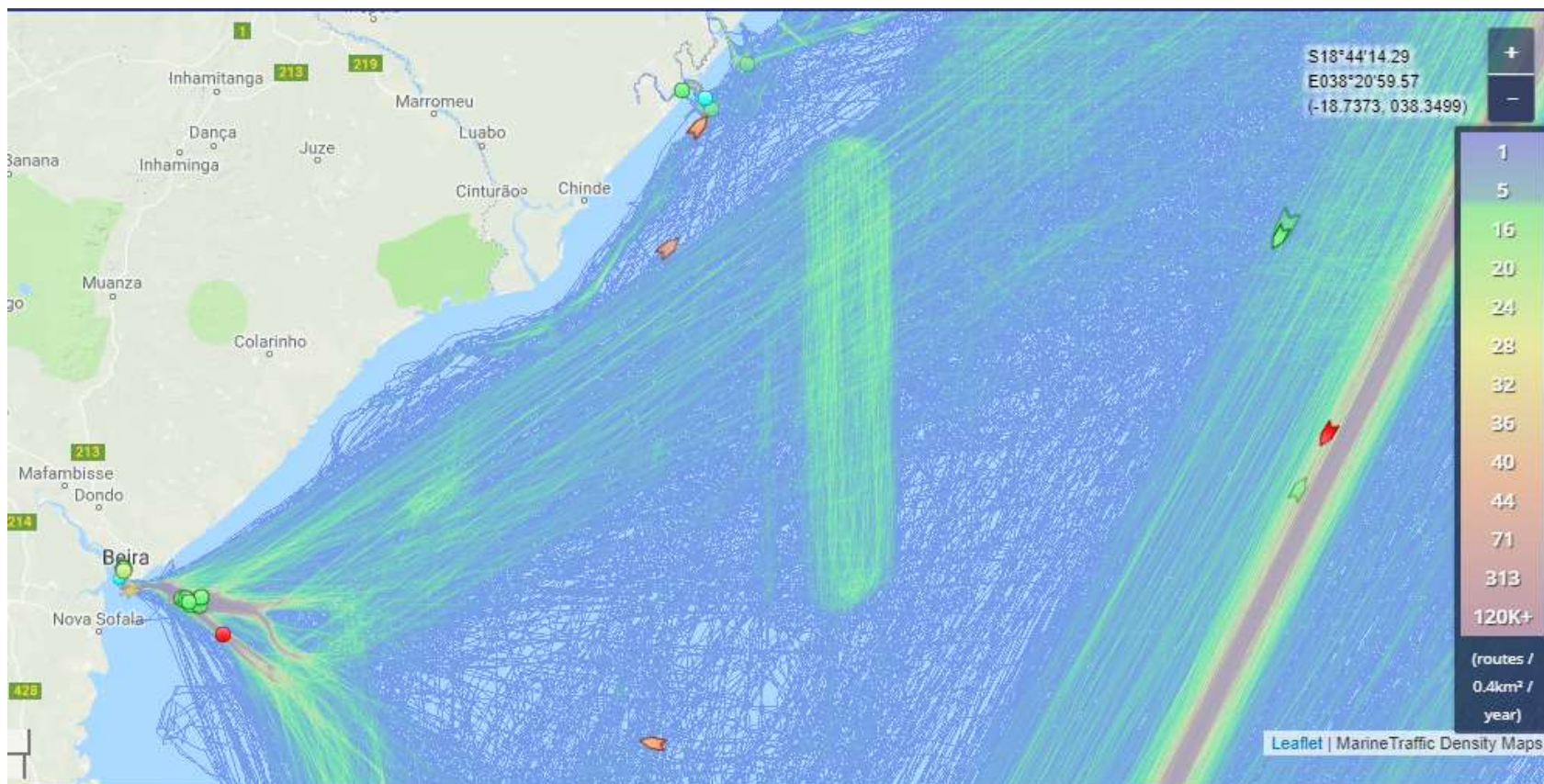


Nacala



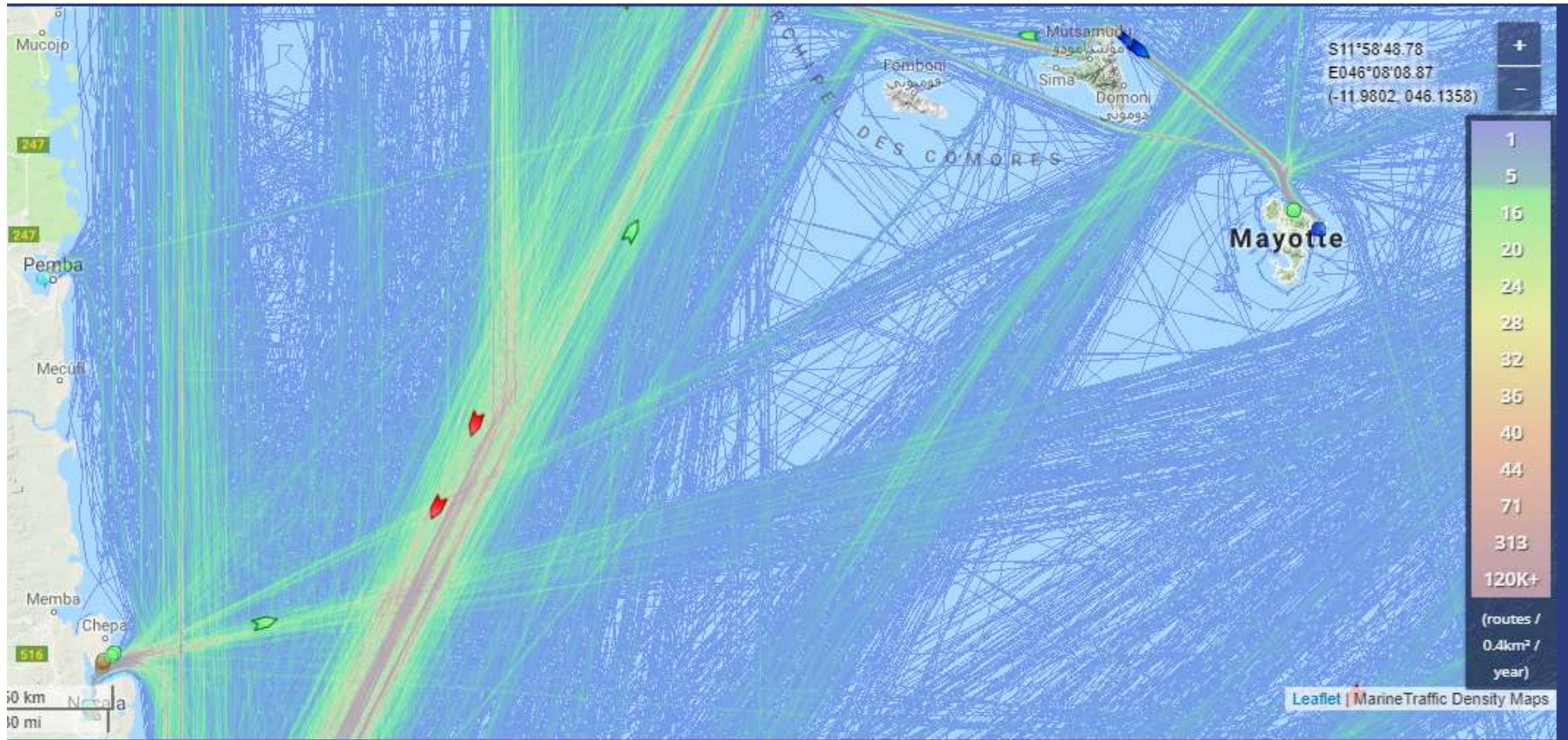


Fish vessels concentration





Routeing measures?





Risk Management

The IALA Risk Management Toolbox



Navigational Risk

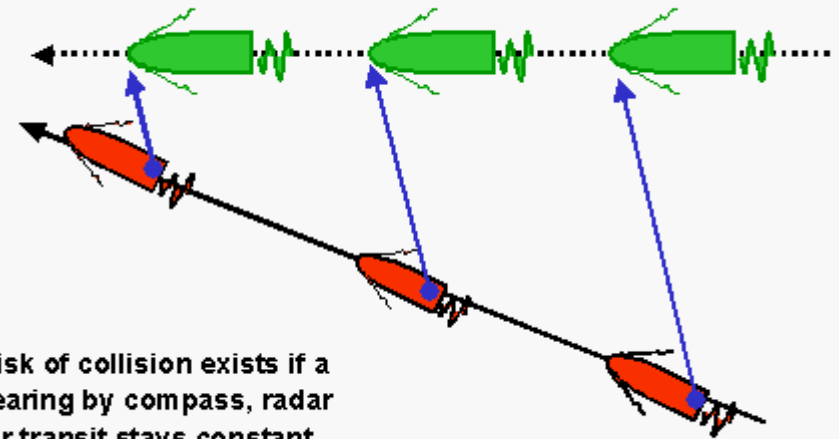
Grounding

Collision

....?



Risk of Collision





How ?

- How to measure Traffic Volume?
- How to Quantify Risk?





IALA Risk Management Toolbox



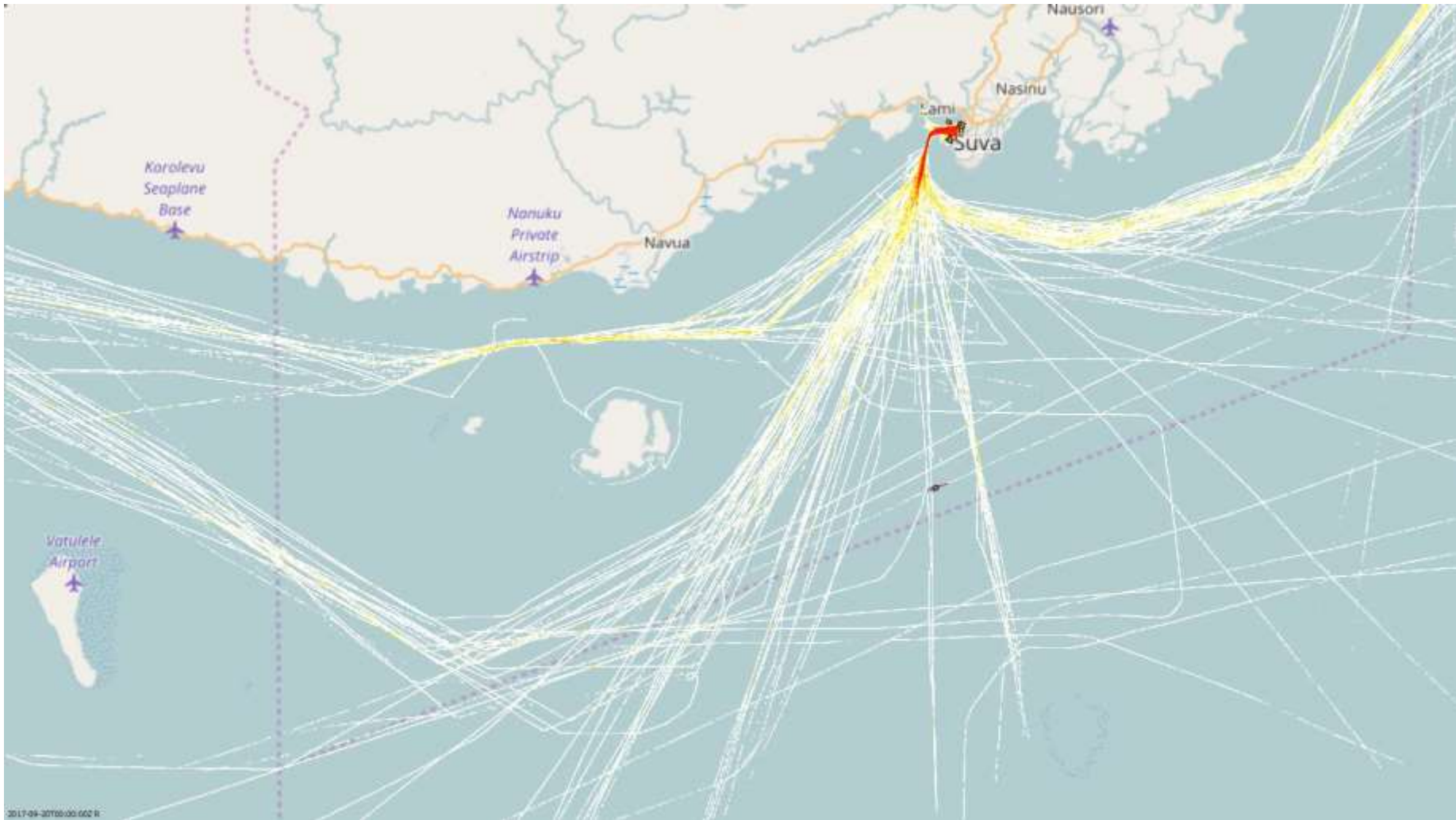
PAWSA – 30 experts

IWRAP MkII – calculates statistics

SIRA – a few stakeholders who really care



IWRAP Mk II





Risk Value Matrix (SIRA)

		PROBABILITY OR LIKELIHOOD				
		Very Rare (1)	Rare (2)	Occasional (3)	Frequent (4)	Very frequent (5)
CONSEQUENCE OR IMPACT	Catastrophic (5)	5	10	15	20	25
	Major (4)	4	8	12	16	20
	Severe (3)	3	6	9	12	15
	Minor (2)	2	4	6	8	10
	Insignificant (1)	1	2	3	4	5

ALARP (As Low As Reasonably Practicable) is indicated by a green arrow pointing from the top-left towards the bottom-right of the matrix, covering the cells from (Severe, Rare) to (Insignificant, Frequent).



Risk Control Options (RCO)

RCO for each undesirable incident reduce the risk to a level (**As Low As Reasonably Practicable - ALARP**) which is acceptable to stakeholders

The Risk Value will determine what action is required

Risk Value	Risk Category	Action Required
1 - 4	Green	Low risk. No RCOs unless implemented at low cost
5 - 8	Yellow	Moderate risk. Reduce to ALARP level through RCOs
9 - 12	Amber	High risk requiring RCO and significant funding
15 - 25	Red	Very high and unacceptable risk – immediate action required with major funding. Ports/waterways may need to close until risks are at ALARP level

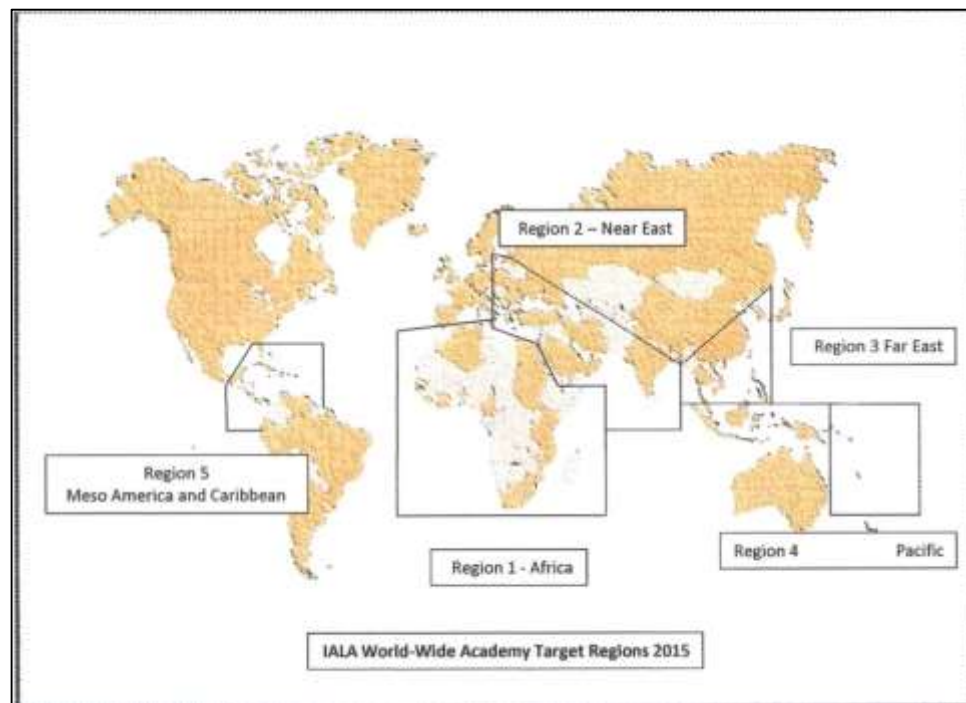


Coastal States in needs

IALA WWA analysis

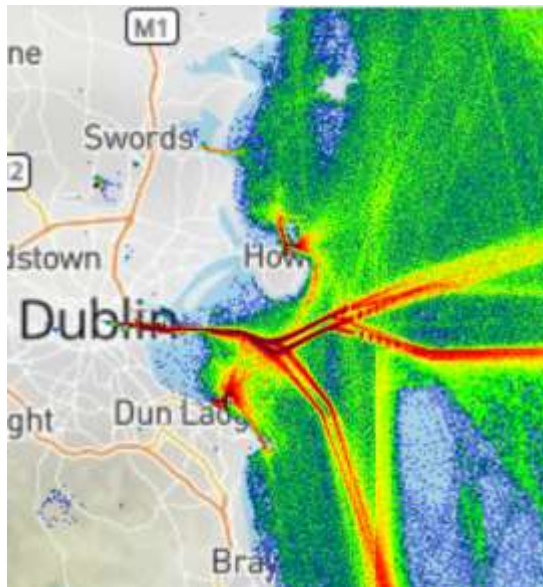
Target States 2015

Regions		2015
Africa Anglophone	1	12
Africa Francophone		8
Africa Lusophone		-
Near East	2	13
Far East	3	5
Pacific	4	12
Meso America and Caribbean	5	19
Total States		69

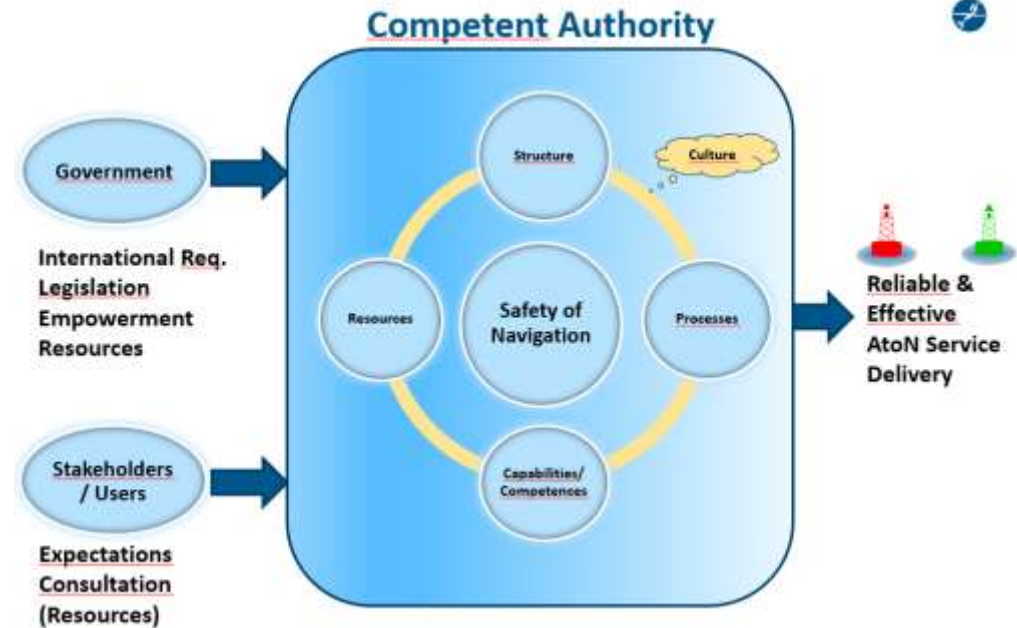




Volume of Traffic and Degree of Risk (from SOLAS)

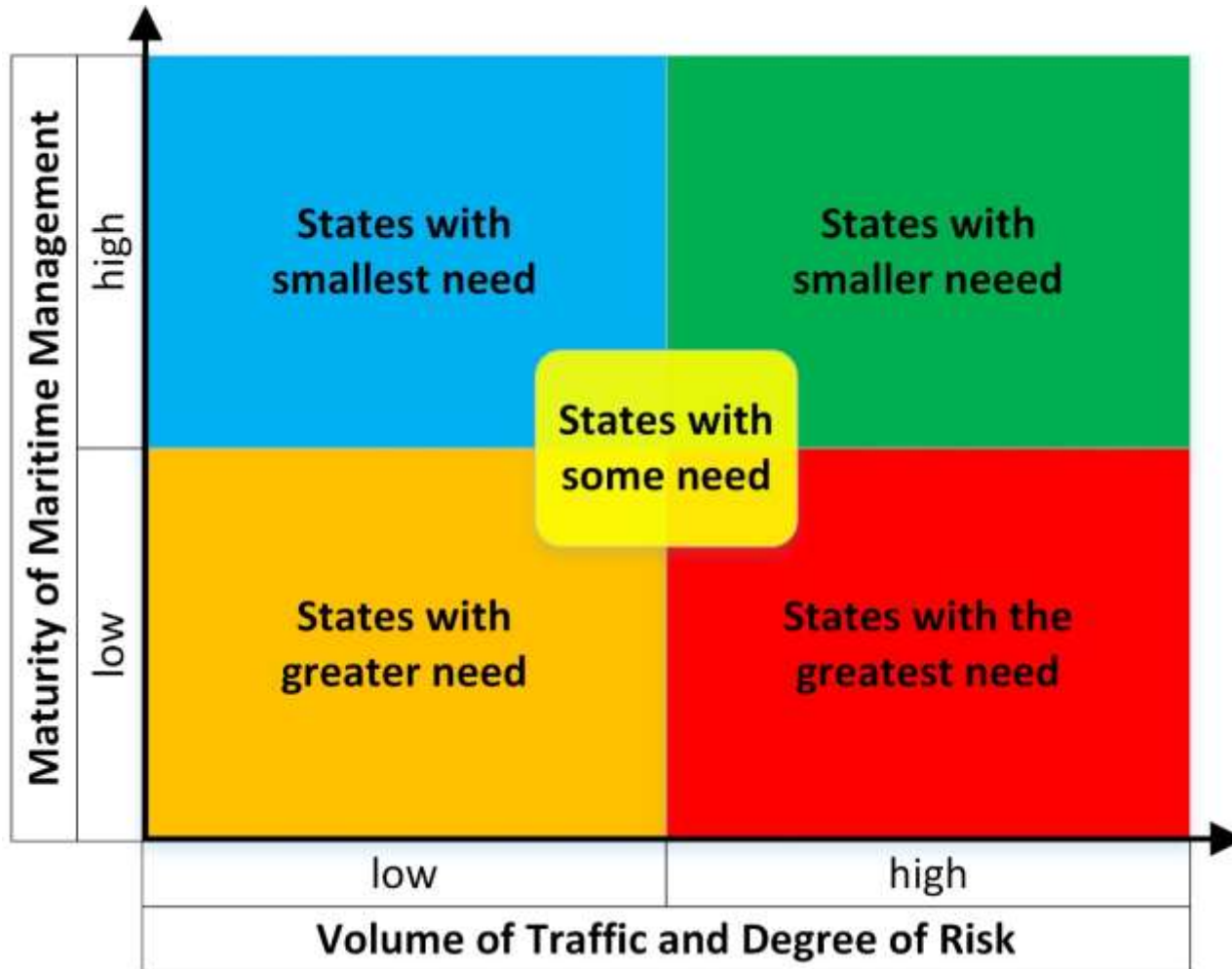


Maritime Management Quality





154 Coastal States Needs Evaluation



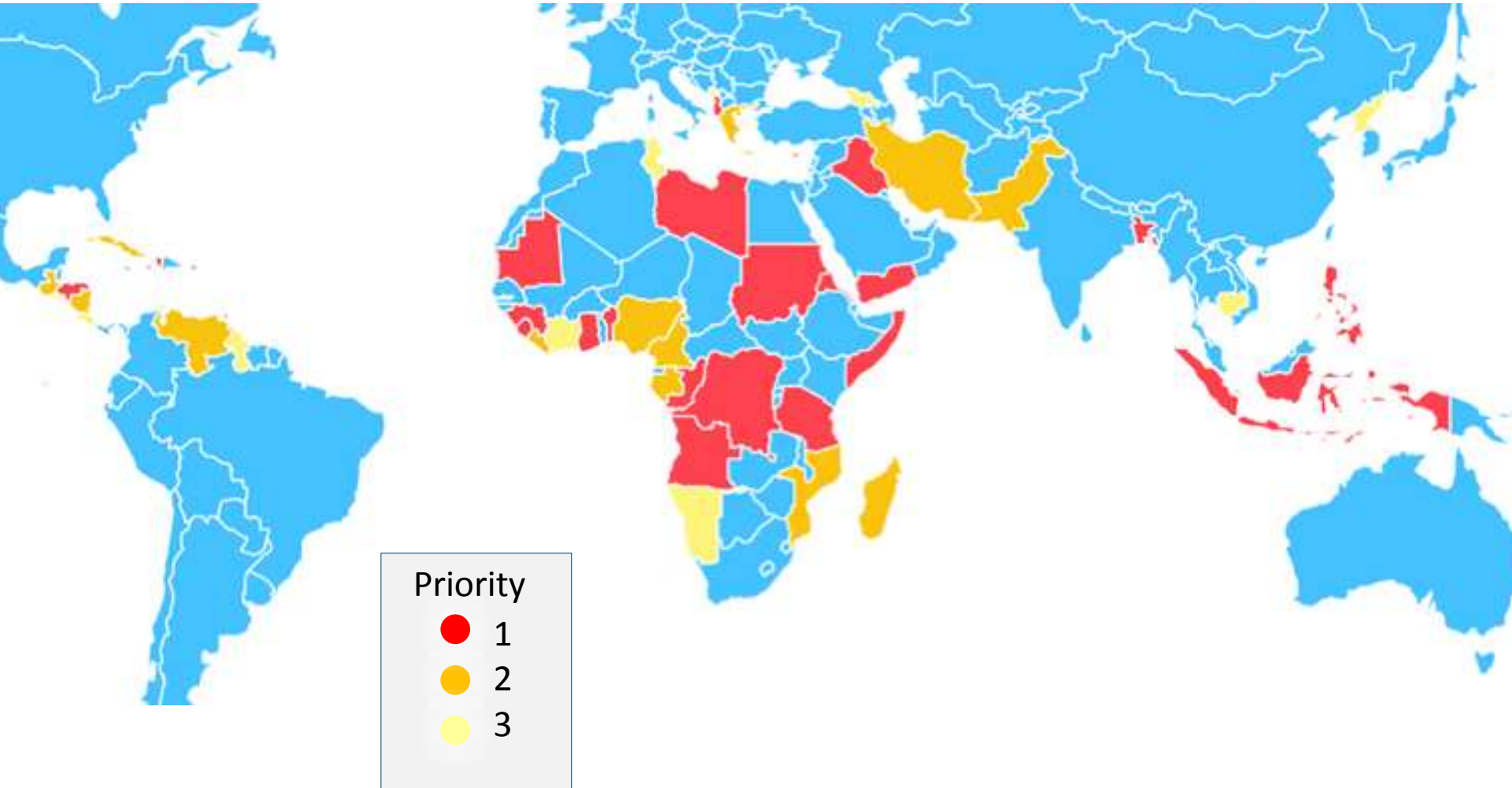


Coastal States in need (2017)

	Regions					
Need	Africa	Europe	Asia	Pacifique	America	Total
Smalest need	1	12	7	1	6	27
Smaller need	10	16	13	8	13	60
Some need	5	2	3	2	5	18
Greater need	7	1	2	5	7	22
Greatest need	14	2	7	0	4	27



Those in need





African States in need

AFRICAN REGION			
	Priority 1	Priority 2	Priority 3
Africa anglophone	Eritrea	Gambia	Namibiea
	Ghana	Liberia	Seychelles
	Lybia	Nigéria	
	Sierra Leone		
	Somalia		
	Sudan		
	Tanzania		
Africa francophone	Benin	Cameroon	Cote d'Ivoire
	Comoros	Gabon	Tunisia
	Congo (Democratic Republic)	Madagascar	
	Congo (Republic)		
	Guinea		
	Mauritanie		
Africa lusophone	Angola	Mozambique	Sao Tome & Principe
	Guinea Bissau		



Conclusions



Information to mariners

AIDS TO NAVIGATION

The aids to navigation on this chart are reported to be unreliable. They may be missing, unlit or out of position.



Conclusion

IALA's capacity building and training activity is delivered by the IALA World-Wide Academy; an integral, but mainly independently funded pillar of IALA. Missions and Reviews are delivered free of charge to Target States.

This could not have been achieved without the superb and generous support of its principal sponsors and in-kind contributions from its Member States and international organisations such as the IMO.

Close liaison with the IMO and IHO under the United Nations banner of "Delivering As One" and with organisations such as MOWCA and SAGNEP are facilitating the delivery of capacity building and training.

The IALA WWA came of age in 2015 and is now embarking on an ambitious programme to improve the safety of navigation in the African region. The support of established MOWCA and SAGNEP members to assist this programme is seen as key to its success.



Recommendations

It is recommended to SAIHC 16 participants:

- **To be compliant with IMO Statutory Instruments**
- **To implement the action plans taking in account IALA WWA report recommendations**
- **To send participants to the IALA Technical Committees, to take benefits of the IALA membership, and increase the safety of navigation in their coastal States' waters**
- **To train AtoN and VTS staff to allow them performing the required tasks**

IALA could support coastal States in need (IMO Audit, CB, training)



QUESTIONS?

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