

Risk Assessment

SAIHC Hydro Awareness Seminar, 2 September 2019

Lucy Fieldhouse, UKHO International Training & Capacity Building Manager



International Hydrographic Organization
Organisation Hydrographique Internationale

Southern African and Islands Hydrographic Commission



Overview

- Coastal State Obligations – Risk of non-compliance
 - Audit
 - Maritime Incidents
- Risk Mitigation
 - Proactive
 - Reactive
- Legislation

Risks – Audit Failure

- Substantial non-conformities.
- Reputational damage.
- Impact the State's position on the IMO Council.
- Undermine international credibility and negotiating strength.
- Possibility of de-flagging or increased costs (e.g. insurance) for ships on non-compliant registry.
- Low-risk flag status from port State control MoUs may be removed.

Consequences of a maritime incident

- Loss of life / pollution
- Wreck removal costs
- Loss of tourism
- Marine environment destroyed
- Fishing industry devastated
- Litigation



Risk Mitigation - Proactive

- Hydrographic Surveys
- Up to date Charts & Nautical Publications
- Aids to Navigation – Suitable and Sufficient
- Weather forecasts
- Maritime Safety Information – robust and effective system



- Who needs to know?
- How do we tell them?



Risk Mitigation - Reactive

- Changes to charted information
 - Navigational aids off station or inoperable
 - Planned events (eg dredging)
 - Unexpected / unplanned events – (eg SAR)
-
- Who needs to know?
 - How do we tell them?



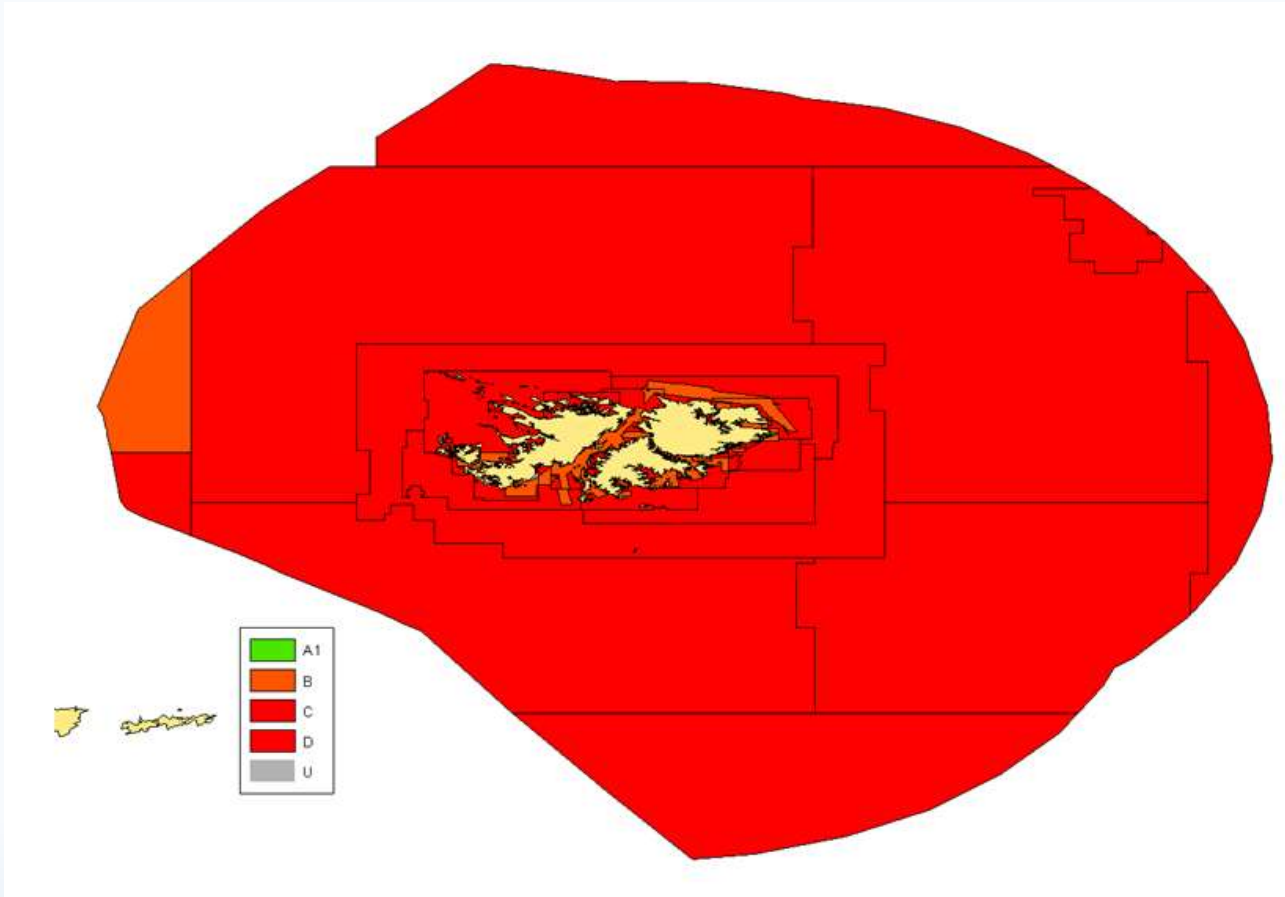
Legislation

- United Nations Convention on the Law of the Sea (UNCLOS)
- IMO Conventions e.g. Safety of Life at Sea (SOLAS), Prevention of Pollution from Ships (MARPOL)
 - Referring to IHO requirements
- National Legislation e.g. Merchant Shipping Acts, Port Acts, Port Regulations
 - Policies and Procedures – Hydrographic Governance

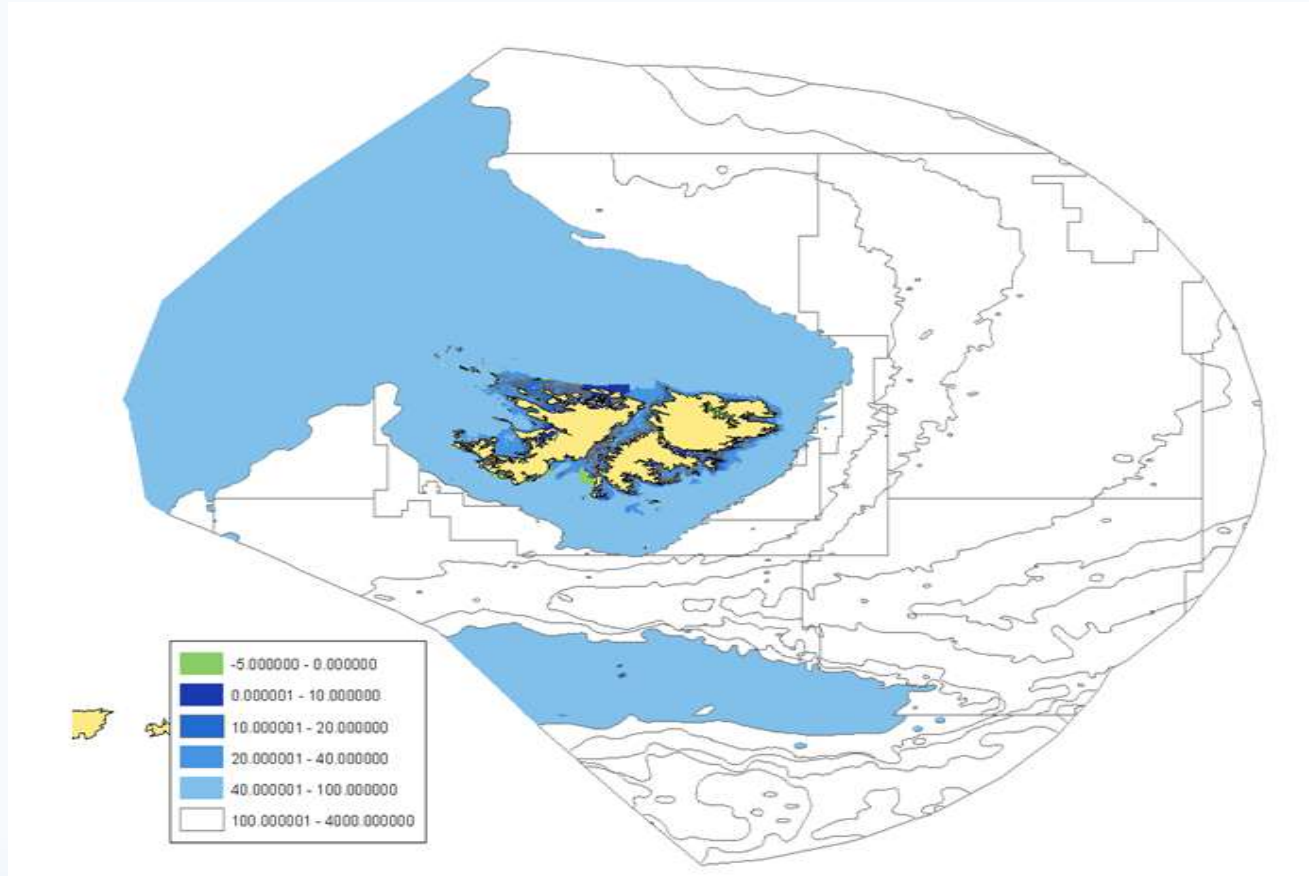
Risk

- Risk = Likelihood x Impact
- This model currently only accounts for Likelihood and is therefore more an indication of Survey Priority
- Model inputs
 - CATZOC
 - Depth
 - AIS traffic density (18 Months)

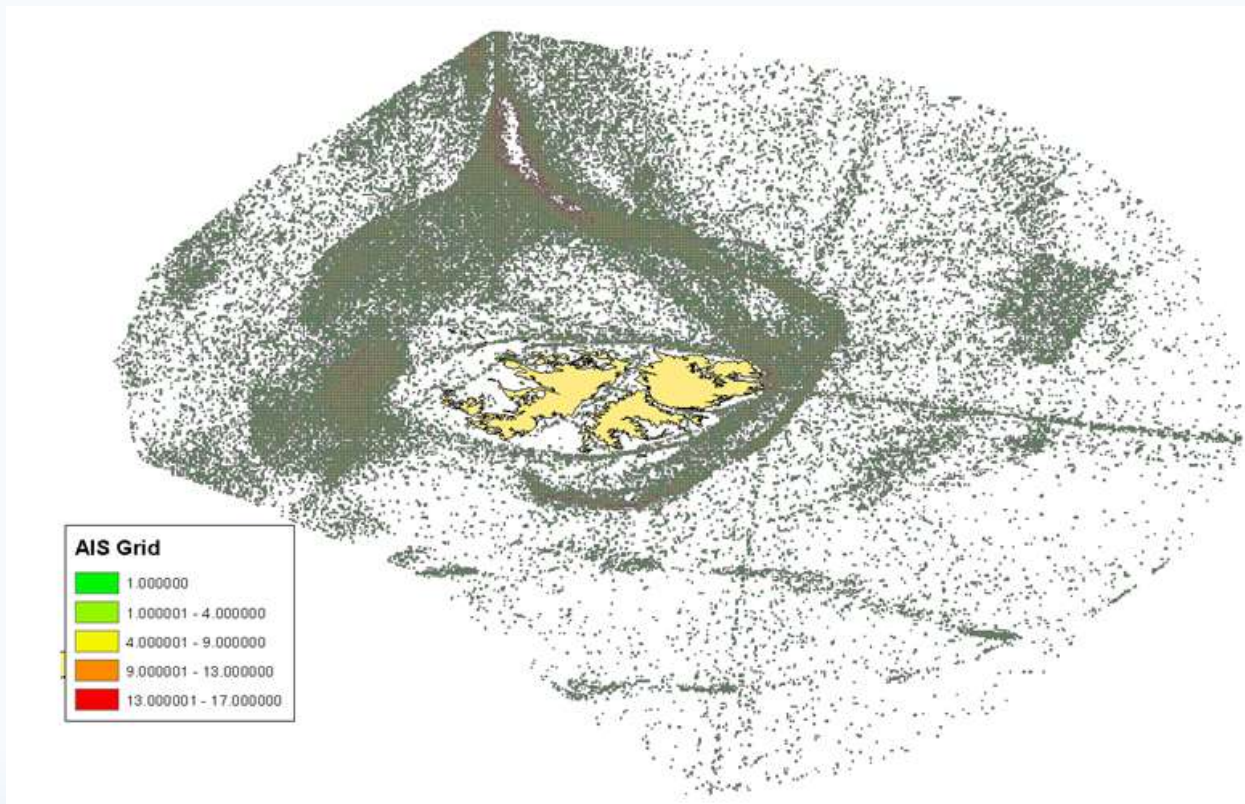
CATZOC



Depth



AIS Traffic Density



Environmental Likelihood

Environmental Likelihood (EL)		Traffic Density				
		L (0-1)	ML (1-2)	M (2-14)	MH (14-187)	H (187-2533)
Depth	US (0-10m)	Yellow	Orange	Red	Dark Red	Dark Red
	VS (10-20m)	Yellow	Orange	Red	Dark Red	Dark Red
	S (20-40m)	Light Green	Yellow	Orange	Red	Dark Red
	M (40-100m)	Green	Light Green	Yellow	Orange	Orange
	D (100m+)	Green	Light Green	Yellow	Yellow	Yellow

Key
H(EL)
MH (EL)
M (EL)
ML (EL)
L (EL)
VL EL)

Priority

Overall Priority (P)		CATZOC					
		A1	A2	B	C	D	U
Environmental Likelihood (EL)	H(EL)	Yellow	Orange	Red	Red	Red	Null
	MH (EL)	Light Green	Yellow	Orange	Red	Red	Null
	M (EL)	Light Green	Light Green	Yellow	Orange	Red	Null
	ML (EL)	Light Green	Light Green	Yellow	Orange	Orange	Null
	L (EL)	Green	Light Green	Light Green	Yellow	Orange	Null
	VL (EL)	Green	Green	Light Green	Yellow	Yellow	Null

Key
H(P)
MH (P)
M (P)
ML (P)
L (P)
VL (P)

Next Steps

- Validate priority order
- High % Null indicates less model confidence
- This is a tool to understand survey priority based on model inputs
- Many other Political factors to consider
- External Engagement with coastal states will have input into a separate prioritisation.

Conclusion

“I never saw a wreck and have never been wrecked, nor was I ever in any predicament that threatened to end in disaster of any sort.

I will say that I cannot imagine any condition which could cause a ship to founder. I cannot conceive of any vital disaster happening to this vessel. Modern shipbuilding has gone beyond that.”

Captain EJ Smith (Captain of the Titanic)
Press quote just prior to sailing