

IMO POLARIS: Next Steps

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Agenda

Background

Intent of POLARIS
Status of POLARIS

Current POLARIS Use

Operation / voyage planning
Ice class selection / initial specification development
Polar Ship Certificate
PWOM
Training

The Need for Data

Use validation – working as intended?
Status of IMO circular as “interim” guidance

Our Vision / Proposal

Open access data reported and stored in a consistent manner as a way to study and evaluate the system’s effectiveness

Way Forward

Means to achieve the Vision

Background

- Operational limitations for safe shipping in Polar regions are to be established per the IMO Polar Code.
- The Polar Ship Certificate requires operational limitations to be set for each ship using a methodology acceptable by the Administration.
 - accepted methodology included as an appendix to the IMO Circular MSC.1/Circ.1519 is POLARIS.
 - IMO Circular was issued in June 2016 as *“interim guidance: in order to gain experience in its use. It should be reviewed four years after the entry into force of the Polar Code in order to make any necessary amendments based on experience gained.”*

$$RIO = (C_1 \times RV_1) + (C_2 \times RV_2) + (C_3 \times RV_3) + (C_4 \times RV_4)$$

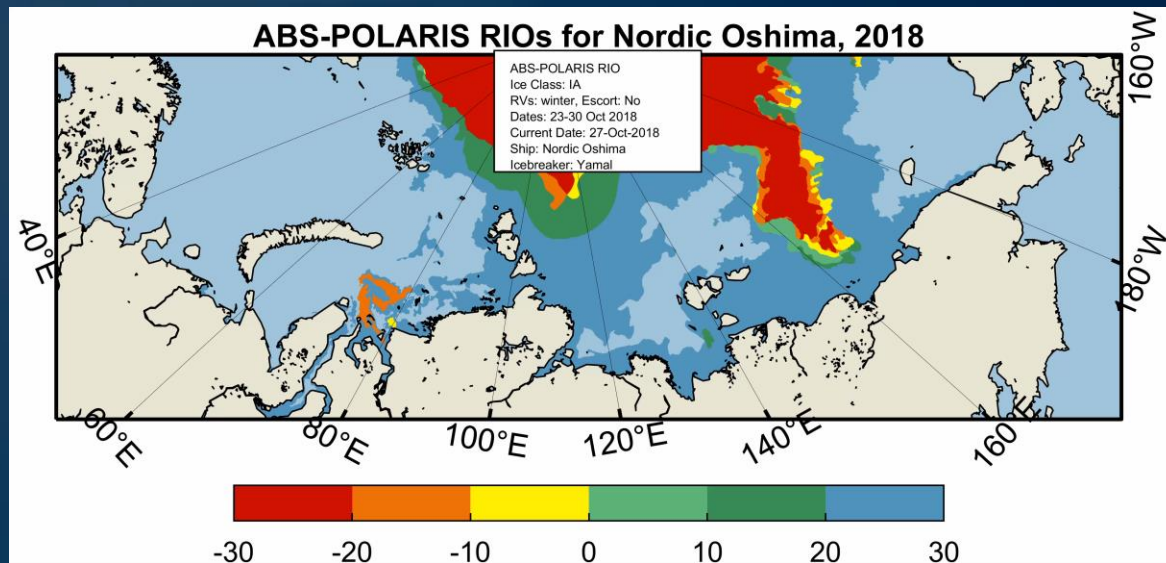
- $C_1 \dots C_4$ concentrations of ice types within ice regime (mixture of different ice types and ice free water)
- $RV_1 \dots RV_4$ Risk Values (RV) for each ice class

Polar Ship Category	ICE CLASS	Winter Risk Values (RVs)											
		ICE FREE	NEW ICE	GREY ICE	GREY WHITE ICE	THIN FIRST YEAR 1ST STAGE	THIN FIRST YEAR 2ND STAGE	MEDIUM FIRST YEAR 1ST STAGE	MEDIUM FIRST YEAR 2ND STAGE	THICK FIRST YEAR	SECOND YEAR	LIGHT MULTI YEAR	HEAVY MULTI YEAR
		--	0-10 cm	10-15 cm	15-30 cm	30-50 cm	50-70 cm	70-95 cm	95-120 cm	120-200 cm	200-250 cm	250-300 cm	300+ cm
A	PC1	3	3	3	3	2	2	2	2	2	2	1	1
	PC2	3	3	3	3	2	2	2	2	2	1	1	0
	PC3	3	3	3	3	2	2	2	2	2	1	0	-1
	PC4	3	3	3	3	2	2	2	2	1	0	-1	-2
	PC5	3	3	3	3	2	2	1	1	0	-1	-2	-2
B	PC6	3	2	2	2	2	1	0	-1	-2	-3	-3	-3
	PC7	3	2	2	2	1	0	-1	-2	-3	-3	-3	-3
	IAA	3	2	2	2	2	1	0	-1	-2	-3	-4	-4
C	IA	3	2	2	2	1	0	-1	-2	-3	-4	-5	-5
	IB	3	2	2	1	0	-1	-2	-3	-4	-5	-6	-6
	IC	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8
	No Ice Class	3	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-8

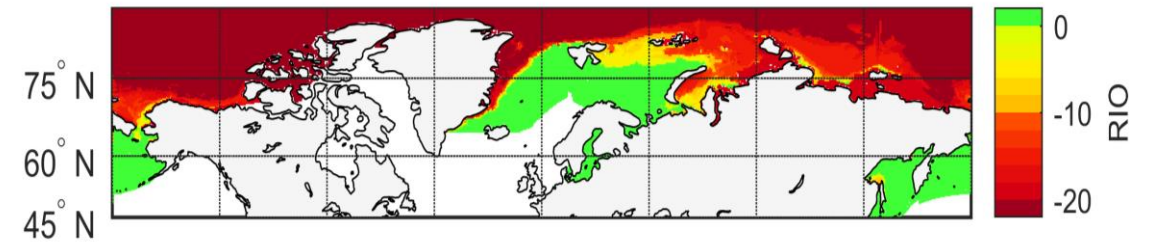
RIO _{SHIP}	Ice classes PC1-PC7	Ice classes below PC 7	Color Code
20 ≤ RIO	Normal operation	Normal operation	Blue
10 ≤ RIO < 20			Green
0 ≤ RIO < 10			Light Green
-10 ≤ RIO < 0	Elevated operational risk	Operation subject to special consideration	Yellow
-20 ≤ RIO < -10	Operation subject to special consideration	Operation subject to special consideration	Orange
-30 ≤ RIO < -20			Red

Current POLARIS Uses

- Operation / voyage planning
- Ice class selection / initial specification development
- Polar Ship Certificate (limitation)
- PWOM
- Training courses

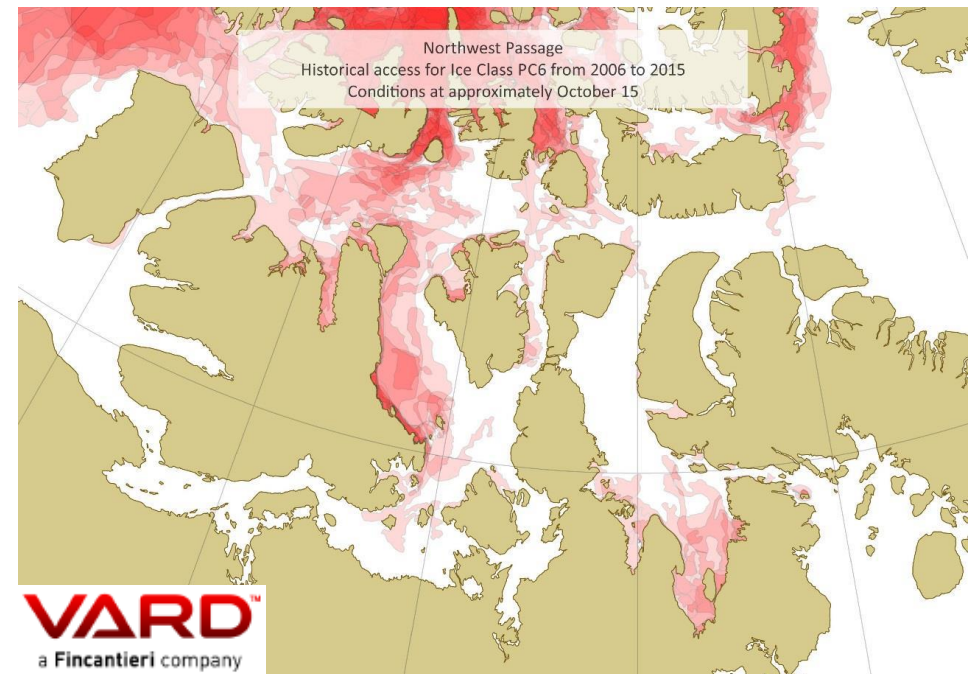


180° W 135° W 90° W 45° W 0° 45° E 90° E 135° E 180° E



Week 15, iceclass PC7, 10 year return period RIO.

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The Need for Data

- “Could be argued that no feedback is an endorsement of its success”
..... or more likely “Feedback is missing because no one is gathering it”.
- Data must be gathered, evaluated and conclusions fed back to the Arctic states, their maritime administrations, the IMO and the shipping industry to:
 - understand the effectiveness of POLARIS as an operational tool
 - identify any needs for refinement as envisaged by the status of the interim guidelines
 - support developments in safe and efficient Arctic shipping

The Need for Data

- To date, data collection and formal evaluation of the effectiveness of POLARIS has been limited to isolated university-based studies which have typically focused on single ship experiences.
- Feedback from ship operations has not been forthcoming. So, the maritime community, including the Arctic states which rely on the Polar Code and the use of POLARIS to ensure safety of shipping in their waters, have limited understanding of the suitability of POLARIS, both as an operational tool and as a component of maritime regulation.

Vision

- Proposed:
 - To create a repository of open access data reported and stored in a systematic and consistent manner on ship operations in ice, the ice conditions they operate in and the reporting of POLARIS as a means to evaluate the system's effectiveness
- This would enable interested parties (Administrations, universities, research organisations, industry, etc) to use the data for evaluating POLARIS and other Polar safety initiatives

Way Forward

- A data platform administered by PAME and/or the Arctic States Maritime Administrations
 - where reported ice conditions (POLARIS inputs) and POLARIS RIOs are collected
- When supplemented with other data sources (e.g. AIS, national ice services data, etc) can be used to provide insights to maritime incidents, validation of operational limitations (either nationally or under the Polar Code)
- How to proceed? Let's discuss now!

Contact Us



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Thank You

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