Shiparc2015
Sub-theme 2 – Beyond the Polar Code: Assuring safe and environmentally sound Arctic navigation
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- Maritime surveillance for the purposes of situational awareness, including vessel detection, monitoring and tracking

- Importance of information/data sharing

- Risk assessment

Maritime surveillance for the purposes of situational awareness, including vessel detection, monitoring and tracking

- Gathering and analyzing data to establish current situation for sea traffic management and for establishing trends and patterns which can be used for predictions
- Data derived from various sources, e.g. satellites, ship reporting (AIS, LRIT, GPS, etc.), existing databases, other intelligence (social media, websites) and supplementary information
- Support masters (decision-making), authorities (emergency response) and policy makers (impact assessment and planning)
- Oil spill monitoring, ice edge detection, object detection

Importance of information/data sharing

- Knowledge of what data are available and how they can be obtained

- Providing transparency of data across the Arctic

- Enhancing cooperation by data sharing across countries/ authorities and development of relevant policies

Risk assessment

- Requirement of Polar Code (Polar Water Operational Manual)

- Risk calculation based on ice data and other factors (weather, remoteness, chart availability, etc.) to establish operational limitations for each ship

- Using systems like Polaris and/or under development in IMO

- Identification of relevant data sources

Other issues addressed

- Possible further work by IMO to supplement Polar Code
  - Ships routing and reporting
  - Vessel traffic services
  - Special areas/ PSSAs/ ECAs
- Effect of Arctic ice on climate and vice versa
- Grounding avoidance in the Arctic through ship-centric dynamic virtual aids to navigation
- Key role of Master's leadership and team coherence and competency in Arctic as a high-risk area
- Supply chain performance impact on Arctic transport
- Maritime domain awareness and local traffic management

Challenges and problems (in no particular order)

- Ship detection in ice by satellites
- Communication limitations
- Standardization of data formats to facilitate sharing
- Effectivity of BWM systems in cold water
- Availability of port reception facilities
- Lack of accurate and reliable nautical charts and aids of navigation

Suggestions

- Vessel compliance monitoring systems/technologies could be used to ensure/verify compliance with Polar Code requirements

- E-navigation could be expanded to embrace new technologies beyond ECDIS and AIS

- Consider establishing a mechanism to enable sharing of verified data in a standardized format for public use to ensure transparency

- Involving indigenous peoples in decisions made by local maritime authorities regarding navigation

- Development of soft laws (guidelines, best practices, etc.) to supplement existing international regulations

- Consider using forward looking Sonar technology for areas not or not reliably charted