

# PAME

Protection of the Arctic Marine Environment

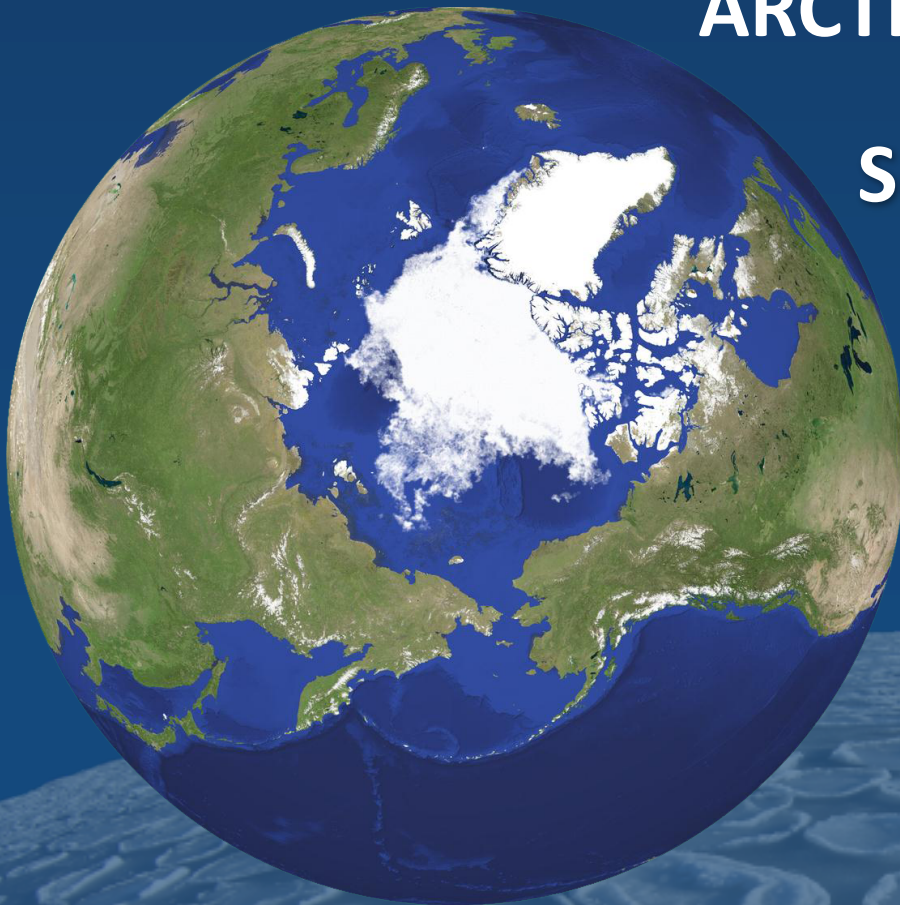
## ARCTIC INVASIVE ALIEN SPECIES

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**PAME Executive Secretary**

**Arctic Circle**

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**PAME**  
Protection of the Arctic Marine Environment

# Arctic Council

## Senior Arctic Officials

### Permanent Participants

AMAP

Arctic Monitoring and Assessment Program

EPPR

Emergency Prevention, Preparedness and Response

SDWG

Sustainable Development Working Group

CAFF

Conservation of Arctic Flora and Fauna

PAME

Protection of the Arctic Marine Environment

ACAP

Arctic Contaminants Action Program

# What are invasive species?

Number of definitions exist:

The term '**invasive species**' refer to species that are not native to a given ecosystem and which may cause economic or environmental harm (including harm to subsistence species and activities) or harm to human health.

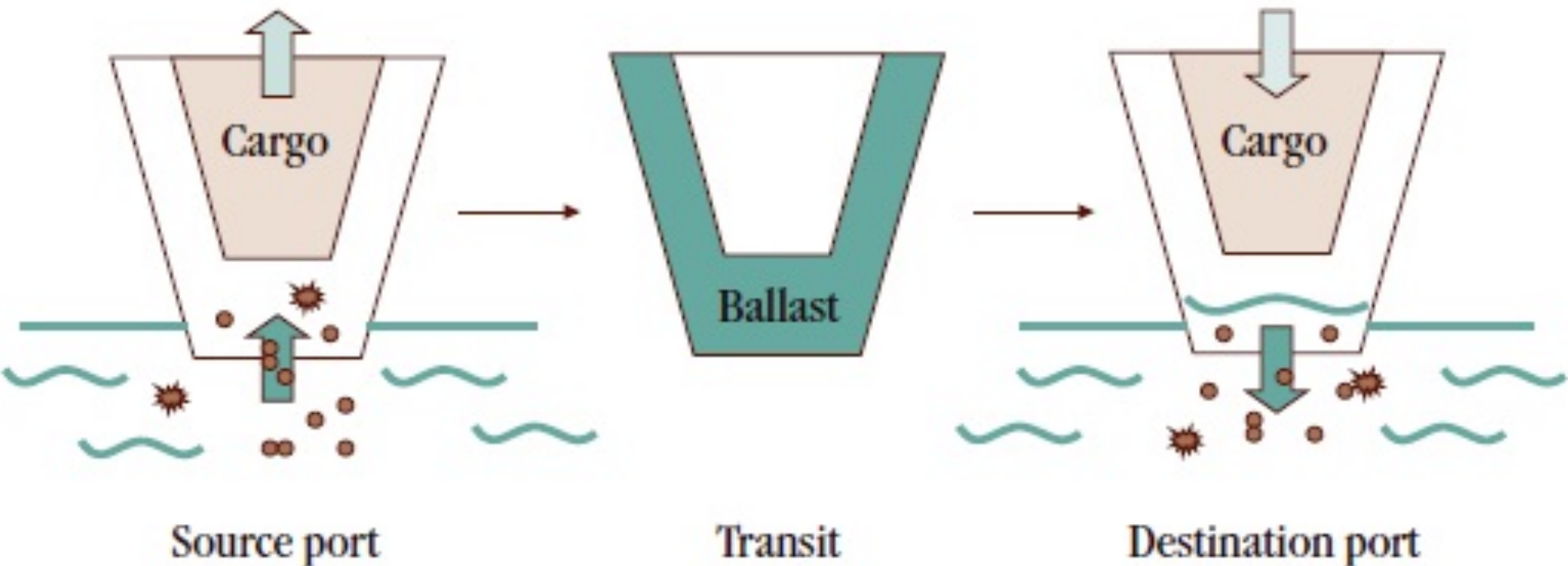
# Invasive Species – Ballast Water

- Ballast water is routinely taken on by ships for **stability and structural integrity**.
- The ongoing increase of worldwide cargo transport as a consequence of **globalisation** has unintentionally **accelarated** the global spread of species.
- Species are hitchhiking on cargo ships as stowaways in **ballast water, attached on hulls or hidden in containers**
- Can pose **serious ecological, economic and health problems** due to the multitude of marine species carried in ships' ballast water (e.g. harm to the recipient ecoregion, repress native species, alter ecosystem functions or change the food web).

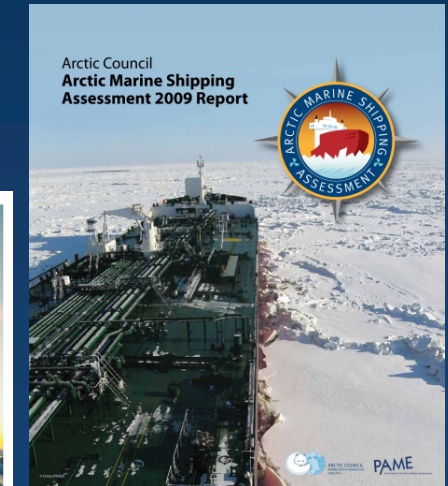
# Ballast

A typical invasion is a three-stage process:

- Introduction, establishment, and spread



# Arctic Council



Arctic Council  
**Arctic Marine Strategic Plan**  
2015-2025



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# AMSA Report Recommendation II (E)

- That the Arctic states should consider **ratification** of the IMO International Convention for the Control and Management of Ships Ballast Water and Sediments, as soon as practical. Arctic states should also **assess the risk of introducing invasive species** through ballast water and other means so that adequate prevention measures can be implemented in water under their jurisdiction.
- **Follow-up:** through the AMSA status reports and tracking matrix as submitted to the Arctic Council Ministerial meetings 2011, 2013 and 2015 in addition to Records of Decisions (RoDs) from previous PAME meetings.

# Arctic Ocean Final Report (2013)

- Recent growth in Arctic regional marine operations and trans-Arctic voyages, as well as evidence of alien and invasive species in the Arctic, **highlight the need for ratification and entry into force of the BWM Convention** and/or adoption of other domestic prevention measures as more regular summer voyages are conducted in Arctic waters.
- and **research** into ballast water management systems that are effective in **colder settings of polar regions.**



# AMSP (2015-2025)

- Improve the understanding of cumulative impacts on marine ecosystems from multiple human activity-induced stressors such as climate change, ocean acidification, local and long range transported pollution (land and sea-based), marine litter, noise, eutrophication, biomass overharvesting, invasive alien species and other threats.
- Strengthen, where feasible, the collection, observation, monitoring and dissemination of relevant data on the Arctic marine ecosystems and biodiversity to better understand status and trends (including invasive species and other metrics of environmental change).
- Develop and encourage the Arctic states to implement common measures and support research into technology and techniques for early detection and reporting of marine invasive species in the Arctic marine environment.

Follow-up through the AMSP Implementation Plan and tracking matrix with the 1<sup>st</sup> AMSP status report to be presented to the Arctic Council Ministerial meetings in 2017.

# Ballast Water Convention

- Finland has ratified the BWM convention which triggered the entry into force of a key international measure for environmental protection that aims to stop the spread of potentially invasive aquatic species in ships' ballast water.
- The BWM Convention will **enter into force** on 8 September 2017.
- The Ballast Water Management Convention is important to controlling the introduction of alien, *invasive species* to the Arctic marine environment

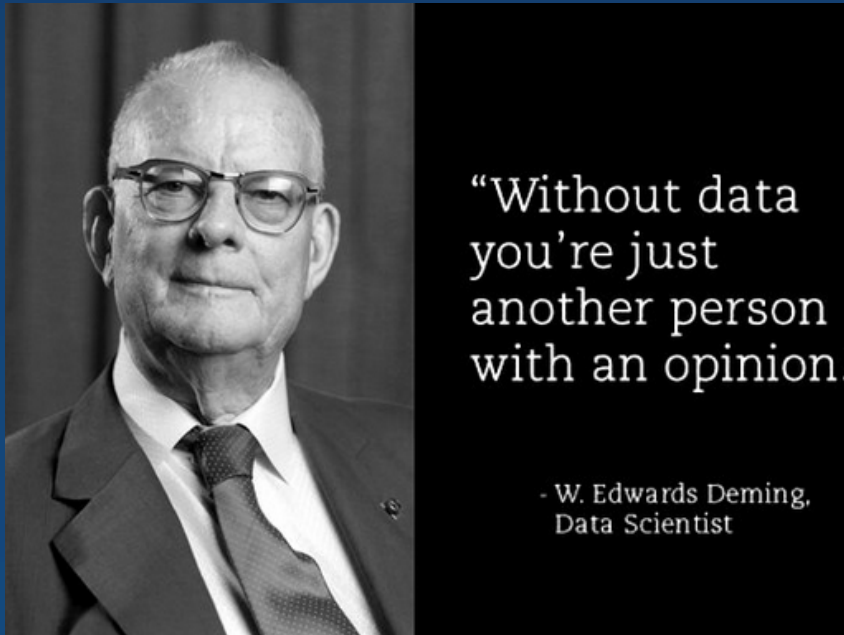
# BWM: Some key requirements

- Manage their ballast water and sediments to certain standards, according to a ship-specific ballast water management plan.
- Ballast water record book and an International Ballast Water Management Certificate
- On-board system to treat ballast water and eliminate unwanted organisms. More than 60 type-approved systems are already available.

# ASTD Capabilities (project under development)

- Safety of Life at Sea (SOLAS) ship routes
- Port Counts (How many vessels in x port)
- Shipping Trends Analysis
- Pollution Trends Analysis
- On demand RAW data QUERY capability
- Arctic Litter tracking
- **Ballast Water Monitoring**
- Ice movement/patterns Analysis
- Weather information

# Thank You



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