



Climate services and their role in long-term business strategy

Øivin Aarnes, Principal Specialist
Environmental Risk Management, DNV GL

Arctic Circle Assembly, Reykjavik, 13-15 October 2017

Climate services and their application



The costs of climate change to business

- The costs of climate to business can be distributed to:
 - Financial risks
 - Physical risks
 - Transition risks
- Costs related to assets:
 - Weaker growth and lower asset returns across the board
 - Transition to a lower-carbon economy
- An important initiative to reveal the true costs of climate change are the recommendations of the *Task Force on Climate-related Financial Disclosures*. These recommendations seek to:
 - Disclose climate information [and risks] as part of mainstream financial statements
 - Facilitate disclosure of clear, comparable and consistent information about the risks and opportunities presented by climate change



Needs from climate services – some examples

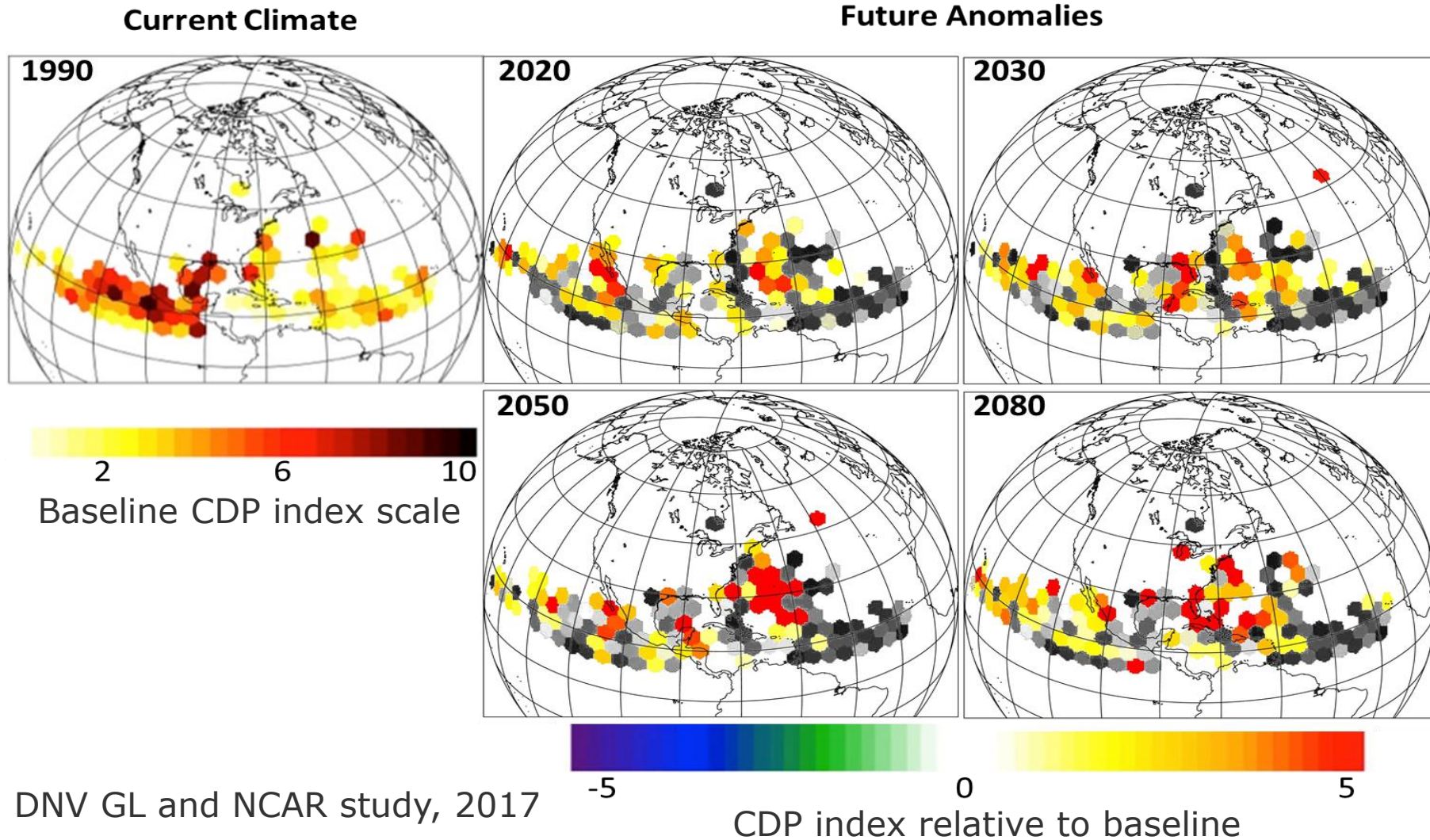
Impact of climate change and extreme waves on tanker design



Challenge: How will future climate impact on operation and design of ships and offshore structures?

Impact of climate change and extreme waves on tanker design, DNV GL report 2015

Future Cyclone Damage Potential Index



DNV GL and NCAR study, 2017

Impact of polar lows in trans-Arctic shipping

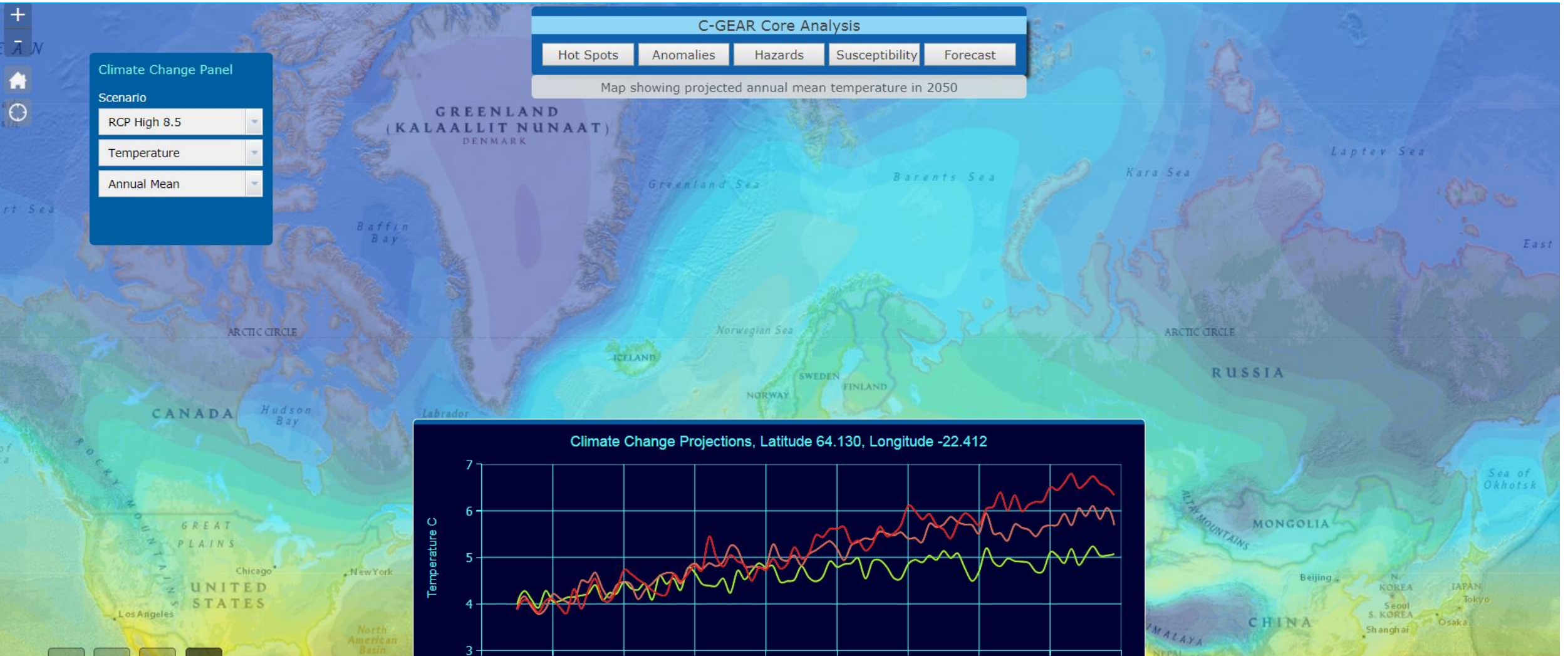


Question: Do we anticipate polar lows on this voyage?



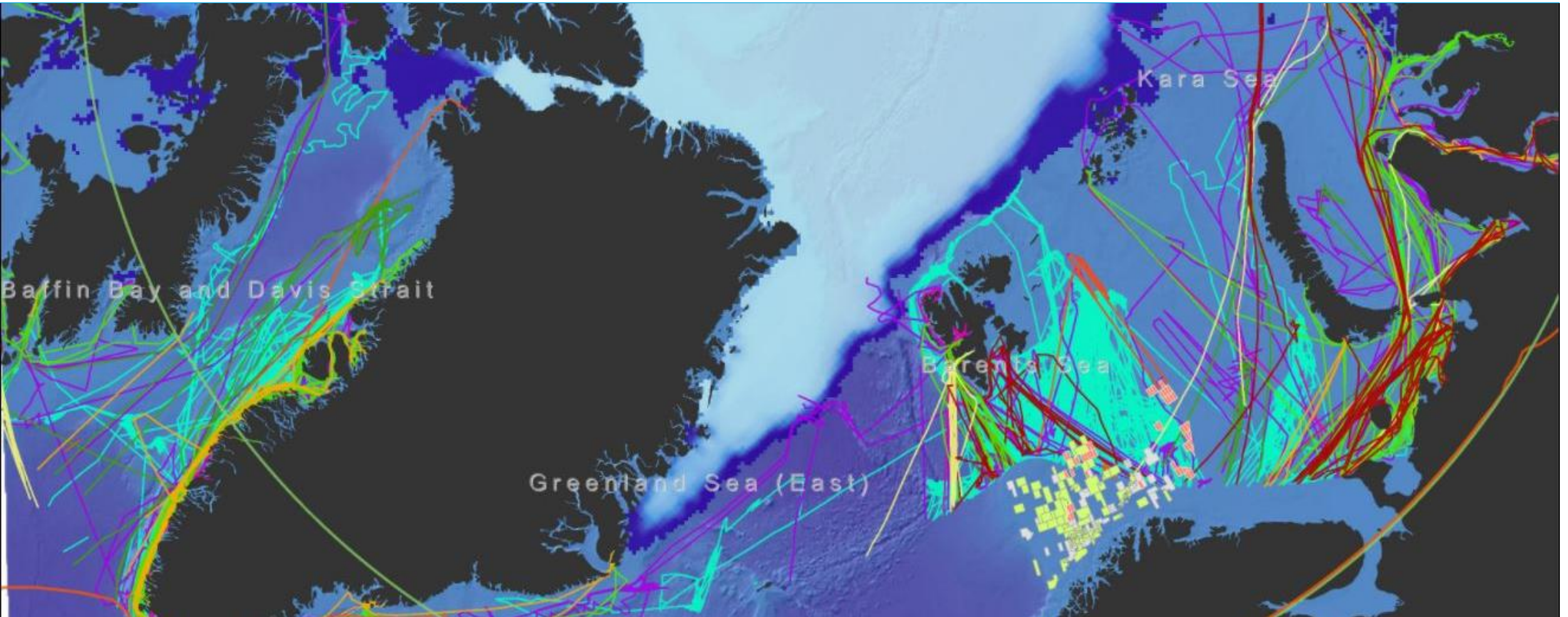
AHI image captured by the Japan Meteorology Agency's Himawari-8 satellite
SSEC/CIMSS, University of Wisconsin-Madison

Climate Geo-Enhanced Assessment of Risks



The C-GEAR tool is developed by the DNV GL Climate Action Programme

Arctic Risk Map



The Arctic risk map was developed as part of the Arctic theme in DNV GLs strategic themes of the future

Achieving climate resilience

Climate resilient pathways

Climate-resilient pathways are development trajectories that combine mitigation and adaptation to realize the goal of sustainable development



Photo: Dirk Knotz, MPG

Business action to climate change

Business climate action refers to the actions taken by business to reduce and manage the risks of climate change

Key enablers:

- Commitment to the UN Sustainable Development Goals and the Paris Agreement
- Integration of climate risks and opportunities into sustainability strategies and action
- In the strategy process, recognize social and environmental drivers to sustainable practice
- Recognize and embed socio-economic side effects into strategic planning
- Involvement of users, stakeholders, communities, and business
- Bilateral transparency between government, society, research, and business



The resilience of an organization is interlinked with the resilience of its societal context

Knowing the risks and opportunities



Enabling blue-green growth

Sustainable management of the oceans



Protecting terrestrial ecosystems and upholding the livelihoods of indigenous communities



Closing the gap



Recommendations to future work

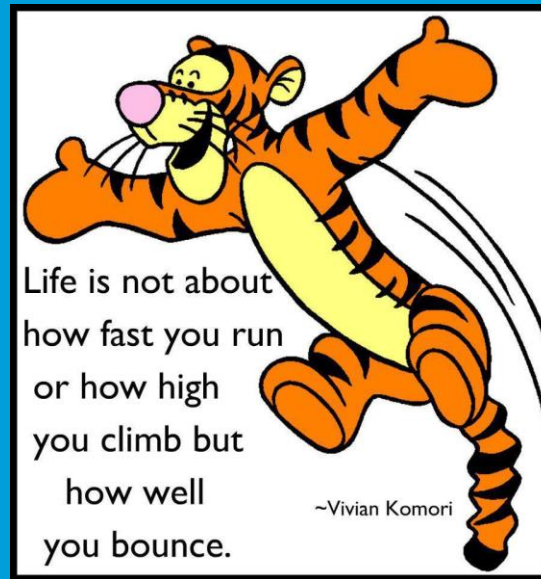
The value of climate services will depend upon:

- Climate services need involvement with stakeholders in all development phases
- “Co-develop” involvement in processes and design of experiments

- Address the gaps, and design services fit-for-purpose
- Data quality gaps in the Arctic. Models do not represent Arctic processes and teleconnections well enough.
- Downscaling of existing climate information to achieve local-level detail and bridge geographical scales

- Reduce uncertainty, and quantify uncertainty in climate predictions
- Improve knowledge of interactions between the Arctic and global systems
- Improve our [common] understanding of key Arctic processes

Thank you!



Øivin Aarnes

Oivin.Aarnes@dnvgl.com

+47 934 07 321

www.dnvgl.com

SAFER, SMARTER, GREENER