Offshore Wind-parks and mild Winters.

Contribution from Ships, Fishery, Windparks etc.



Presented at
"Planning for Climate Change"
Conference in London
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at London South Bank University
Keyworth Conference Centre

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www.climate-ocean.com

Hywind prototype Statoil Hydro - Image: Siemens

Fact 1:

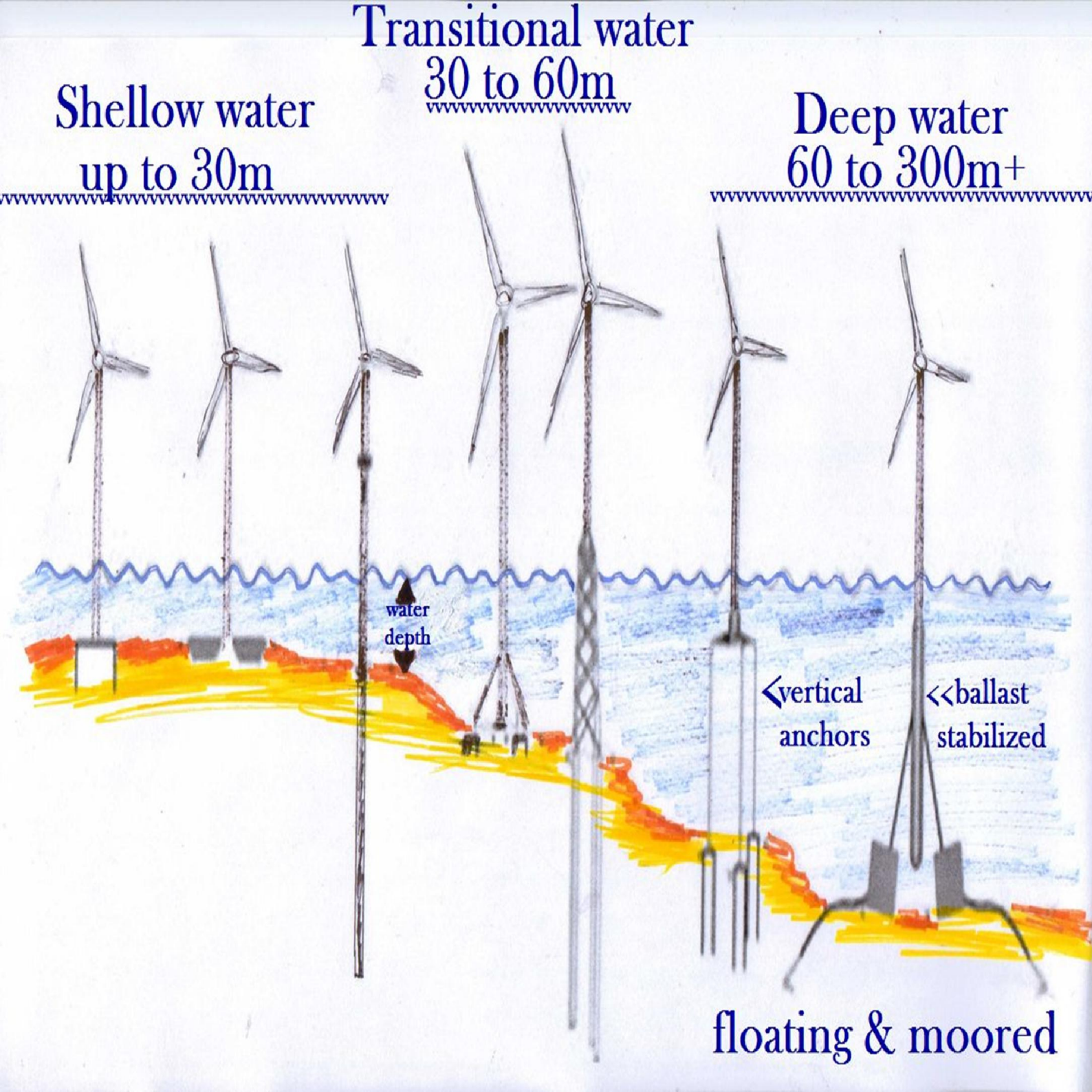
In Europe the tendency of warming per decade with about 0.41°C was significantly higher than the global mean of +0.17°C.

Fact 2

Warming in central and northern Europe was very strong and winter temperatures rose faster than summer temperatures.

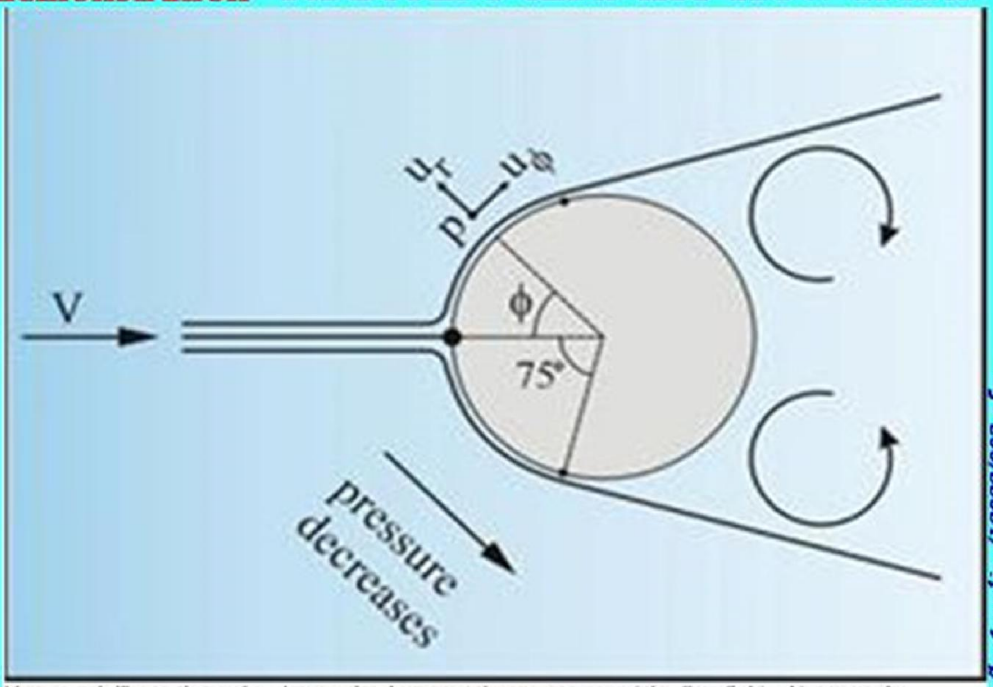
Fact 3

Water temperatures in the Baltic and North Sea rose faster than in other oceans.

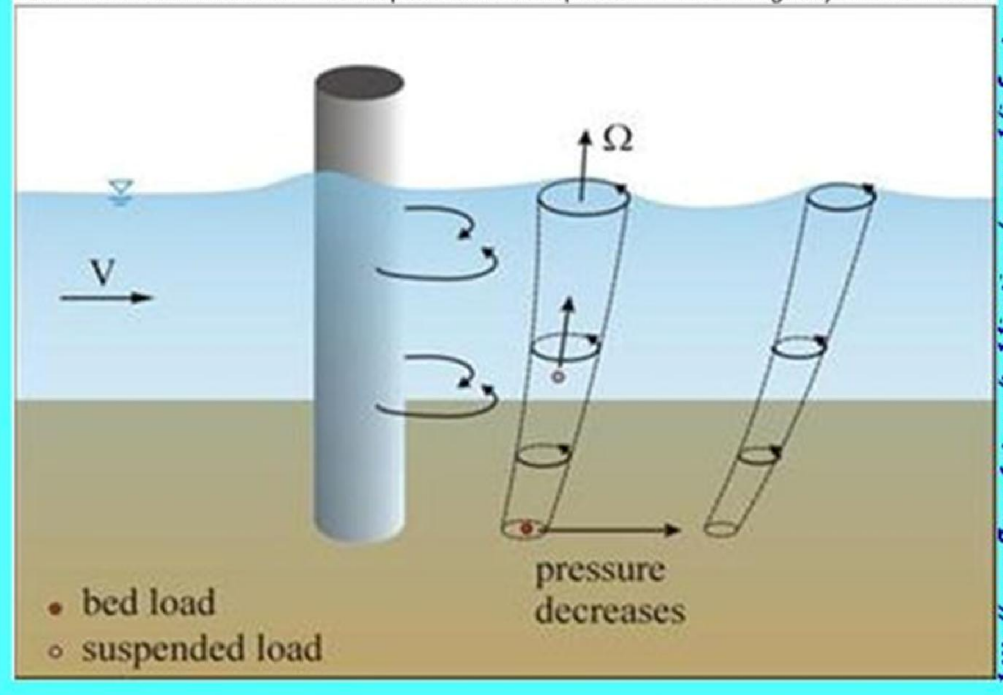

Transitional water
30 to 60m
Shellow water
up to 30m
Deep water
60 to 300m+
water
depth
vertical
anchors
ballast
stabilized
floating & moored

Only for demonstration

Interaction between the structure and the flow field

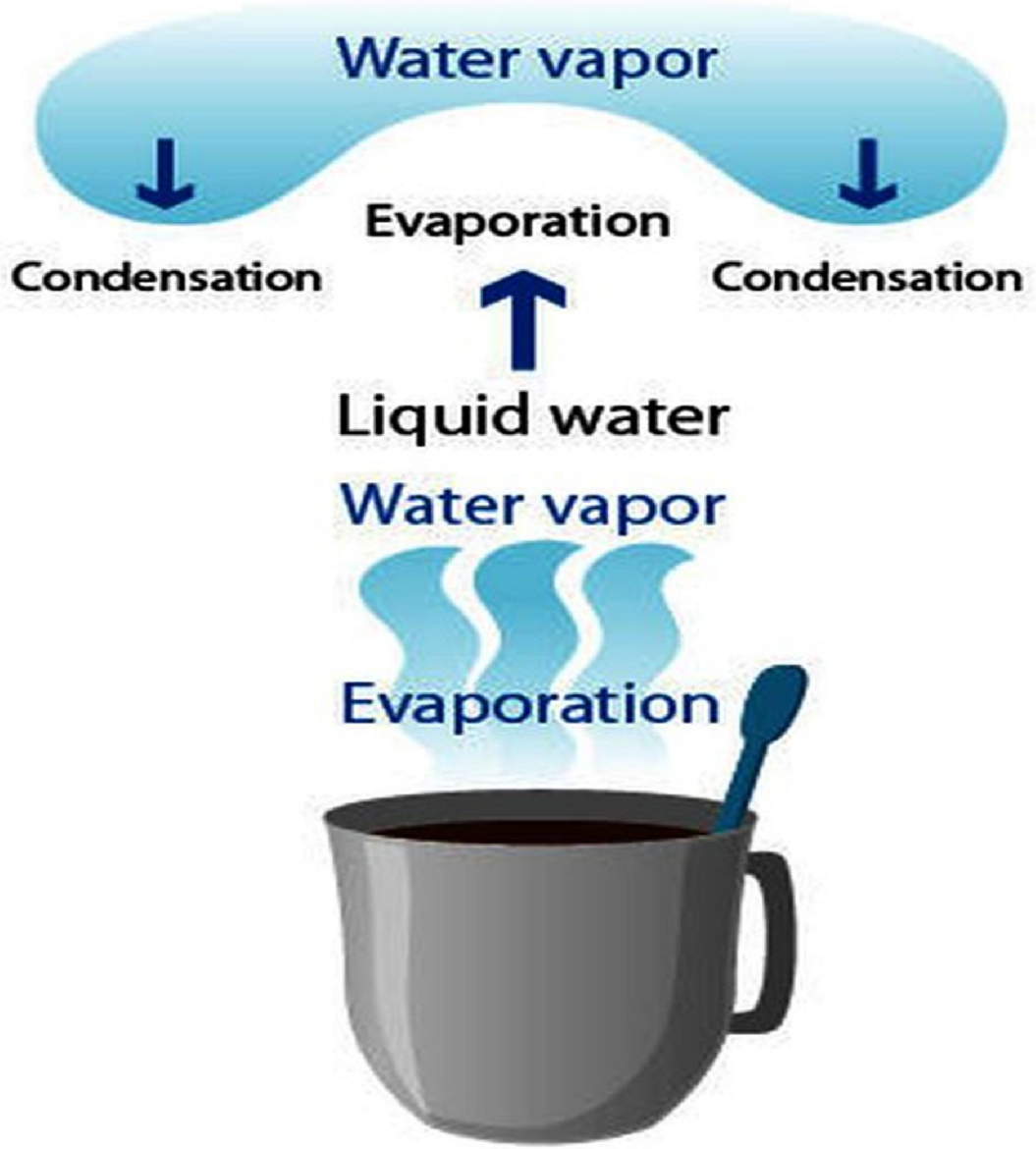


Very rough illustration only – Interaction between the structure and the flow field – Not to scale.
Download June 2015: United States Department of Transportation - Federal Highway Administration.



http://www.fhwa.dot.gov/publications/research/infrastructure/hydraulics/12023/003.cfm

simply stir



and the coffee cools down

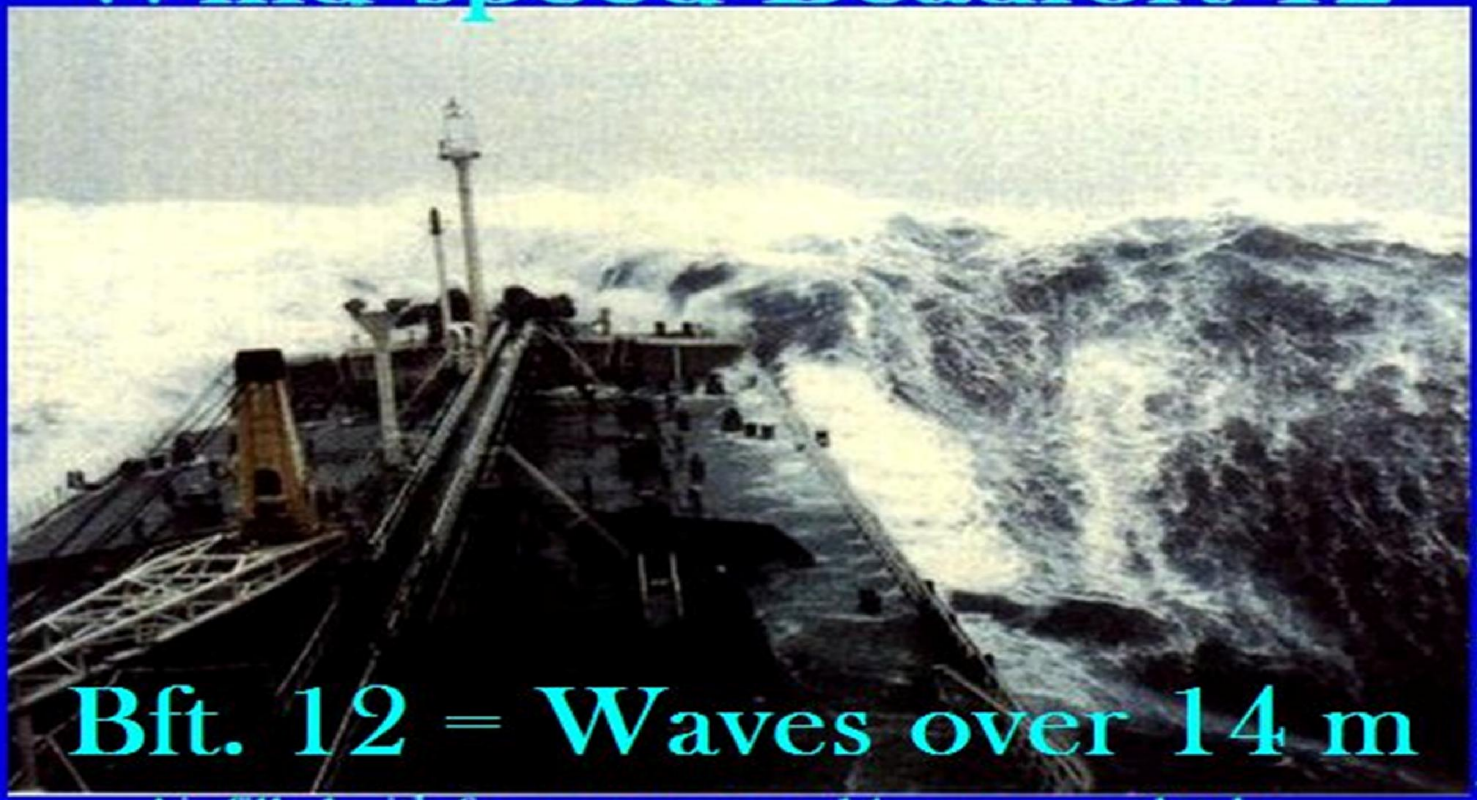
External force impact on the sea surface:

Offshore Installation: → 100 meters

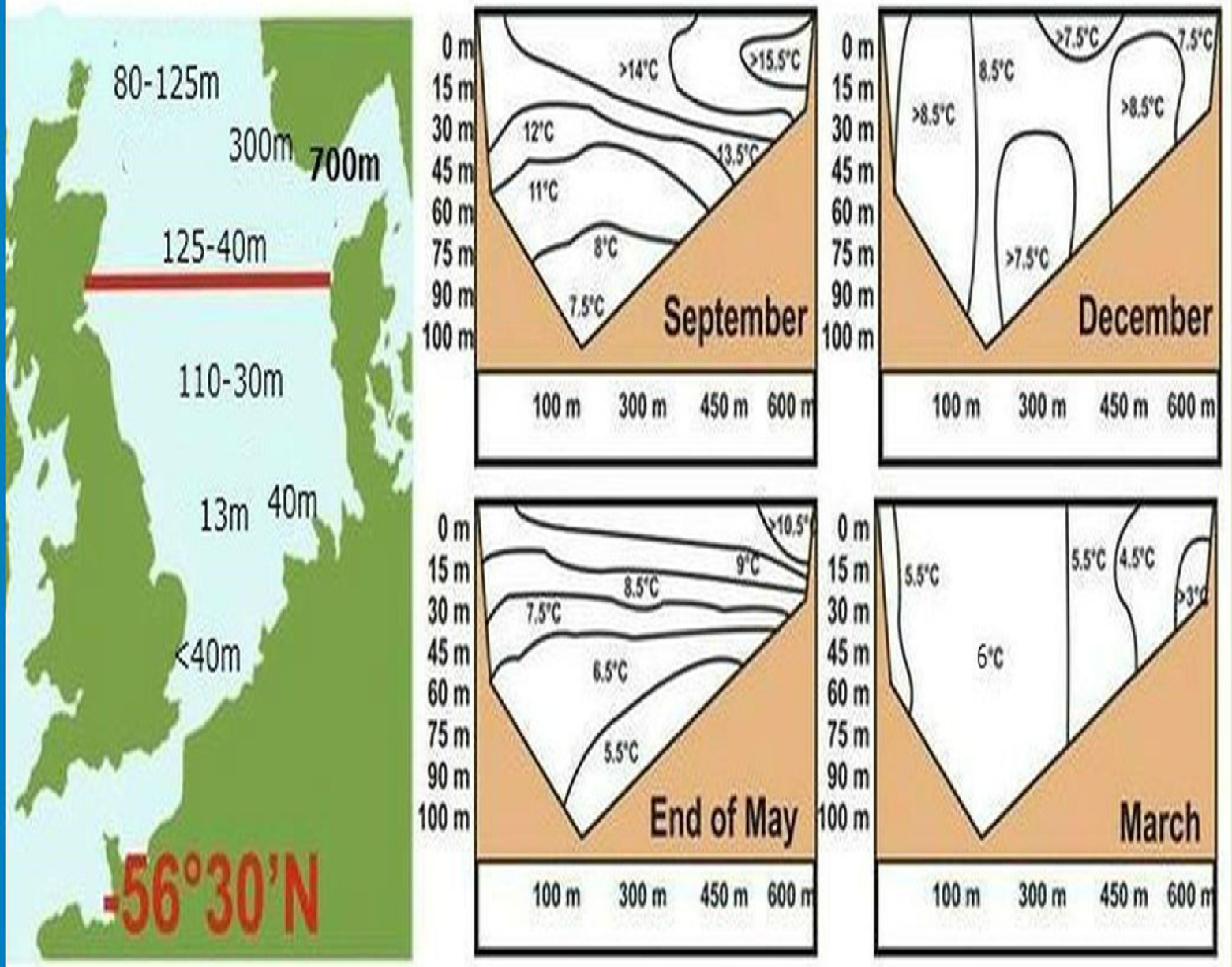
Ships: → 15 meters

max. Wind: → 50 meters

Wind speed Beaufort 12



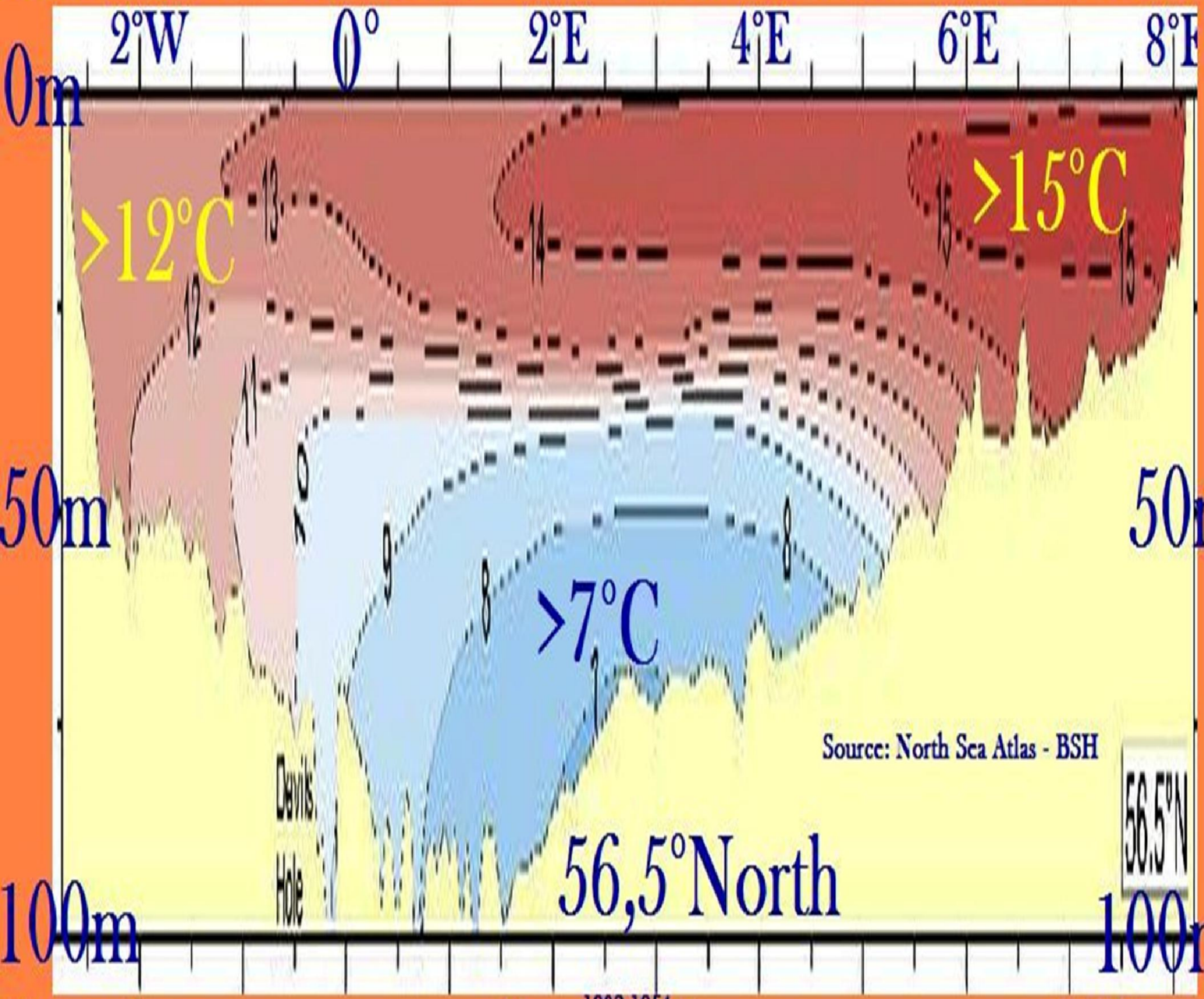
Air filled with foam, waves over 14m, sea completely white with driving spray, visibility greatly reduced



Northern North Sea - Average Water Temperatures over the seasons.

Arranged by approximation: www.seaclimate.com /2007

Water temperature profile in September between S-Scotland and N-Denmark

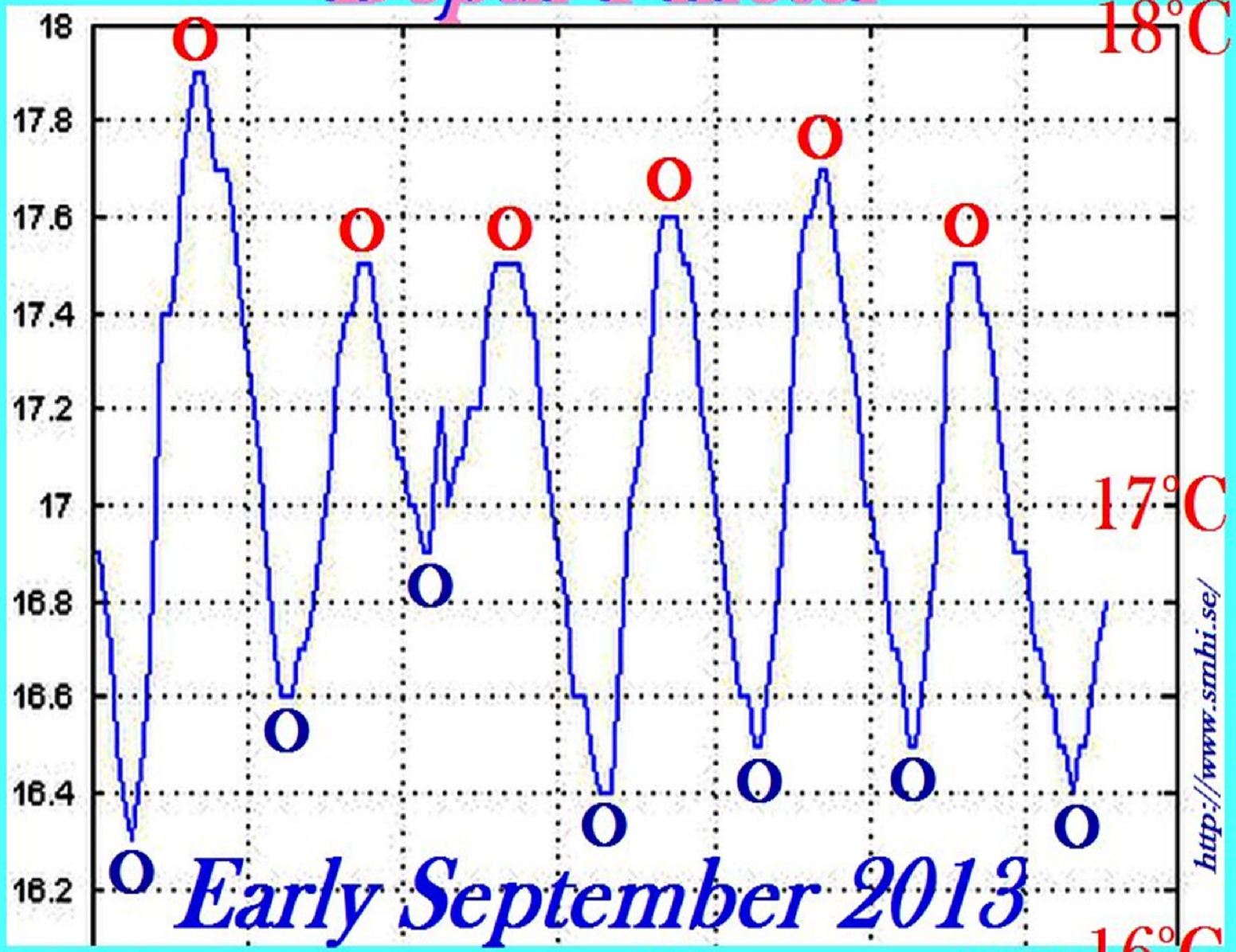


1902-1954

Dundee — September — Viborg

Daily water temperature Göteborg/Sweden

Depth 1 meter

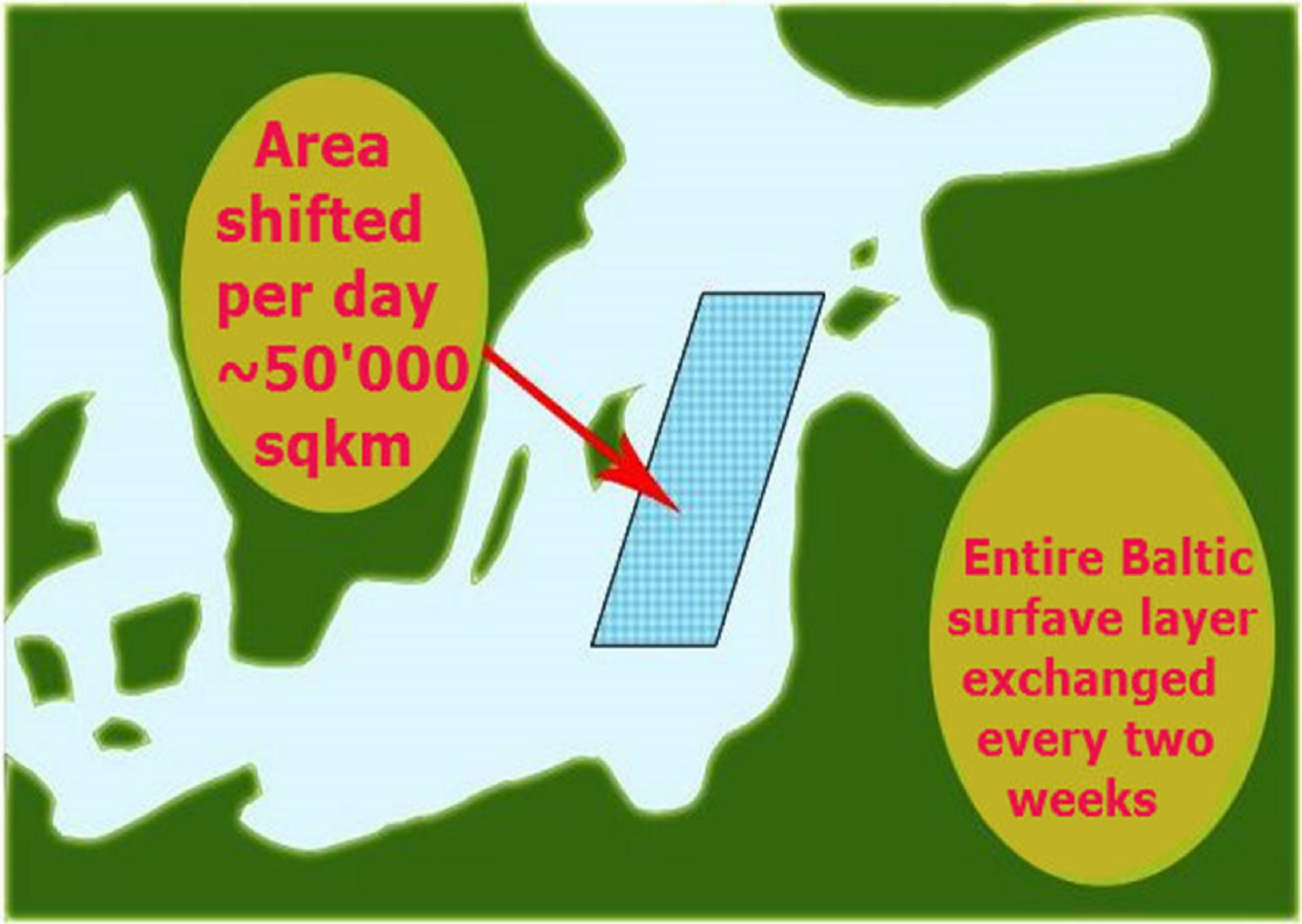


Early September 2013

O time about 05h a.m.

O time about 15h p.m.

Daily exchange of a sea surface layer in the Baltic Sea by sizable ships



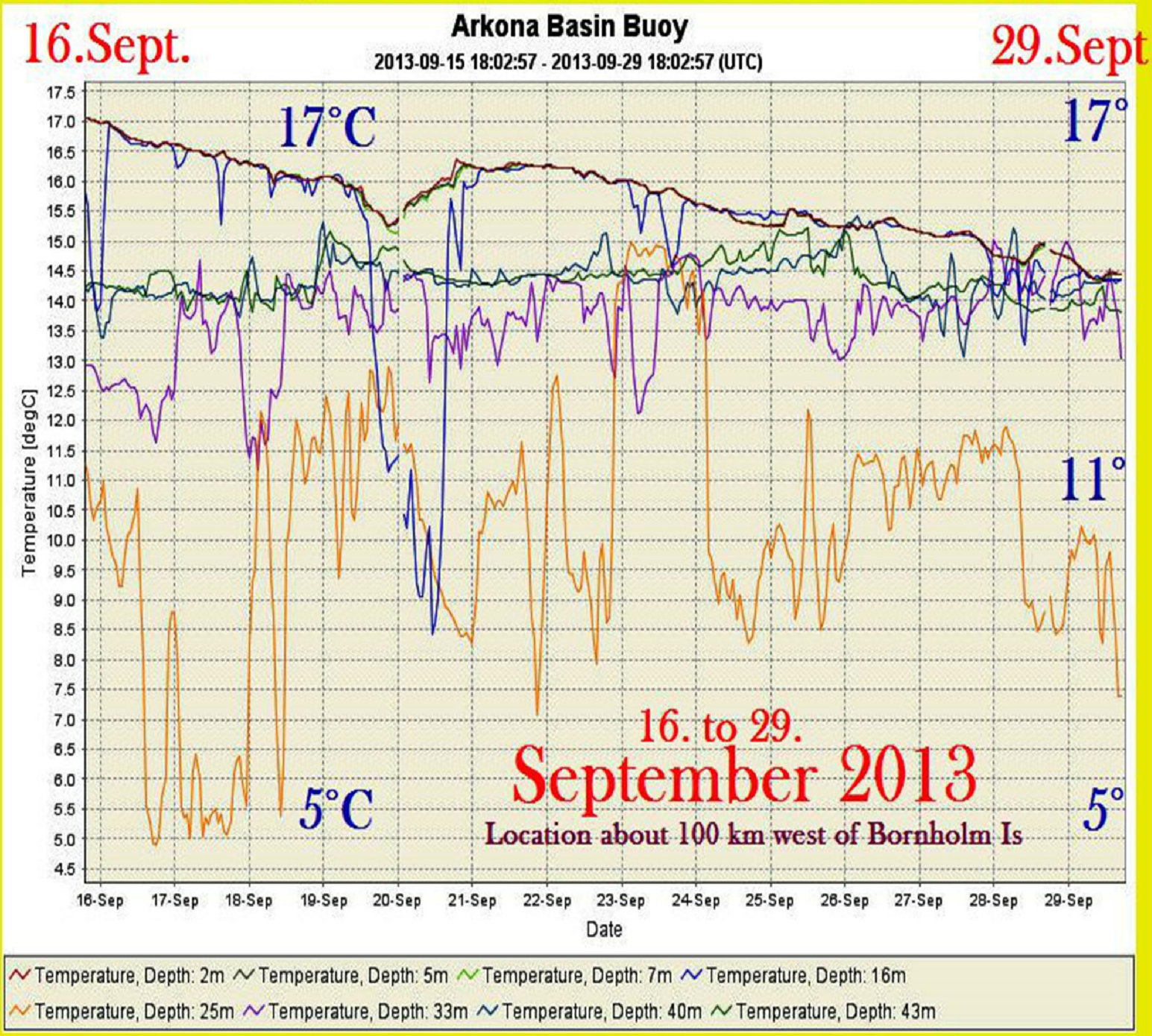
What impact has turning the sea surface layer upside down throughout the year?

Around 2,000 sizeable ships are normally at sea at any time in the Baltic (Helcom).

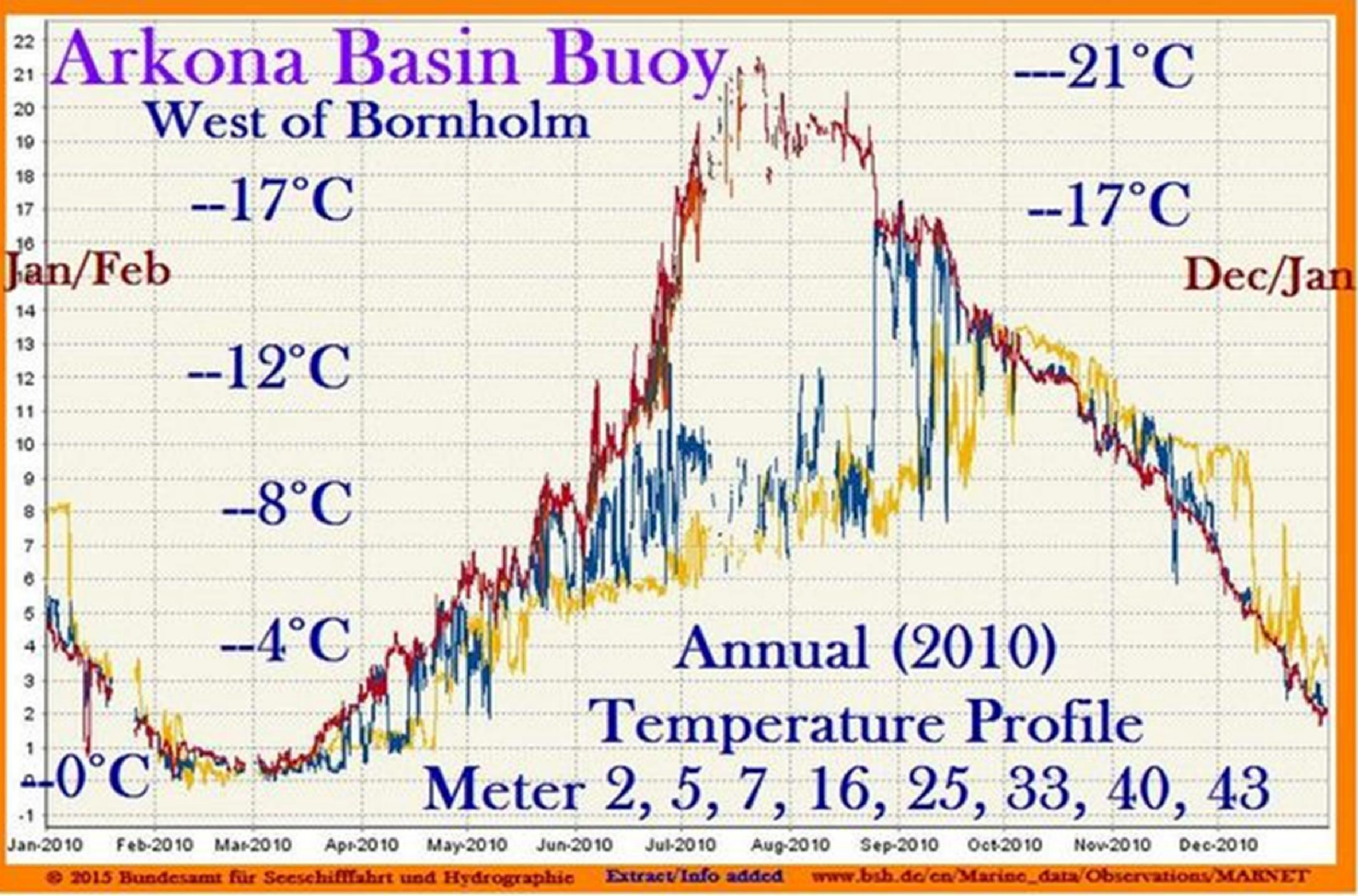
15% of the world's maritime transport takes place on the Baltic Sea (WWF).

Arranged by approximation : www.seaclimate.com

Water temperature profile - 2m to 43m -



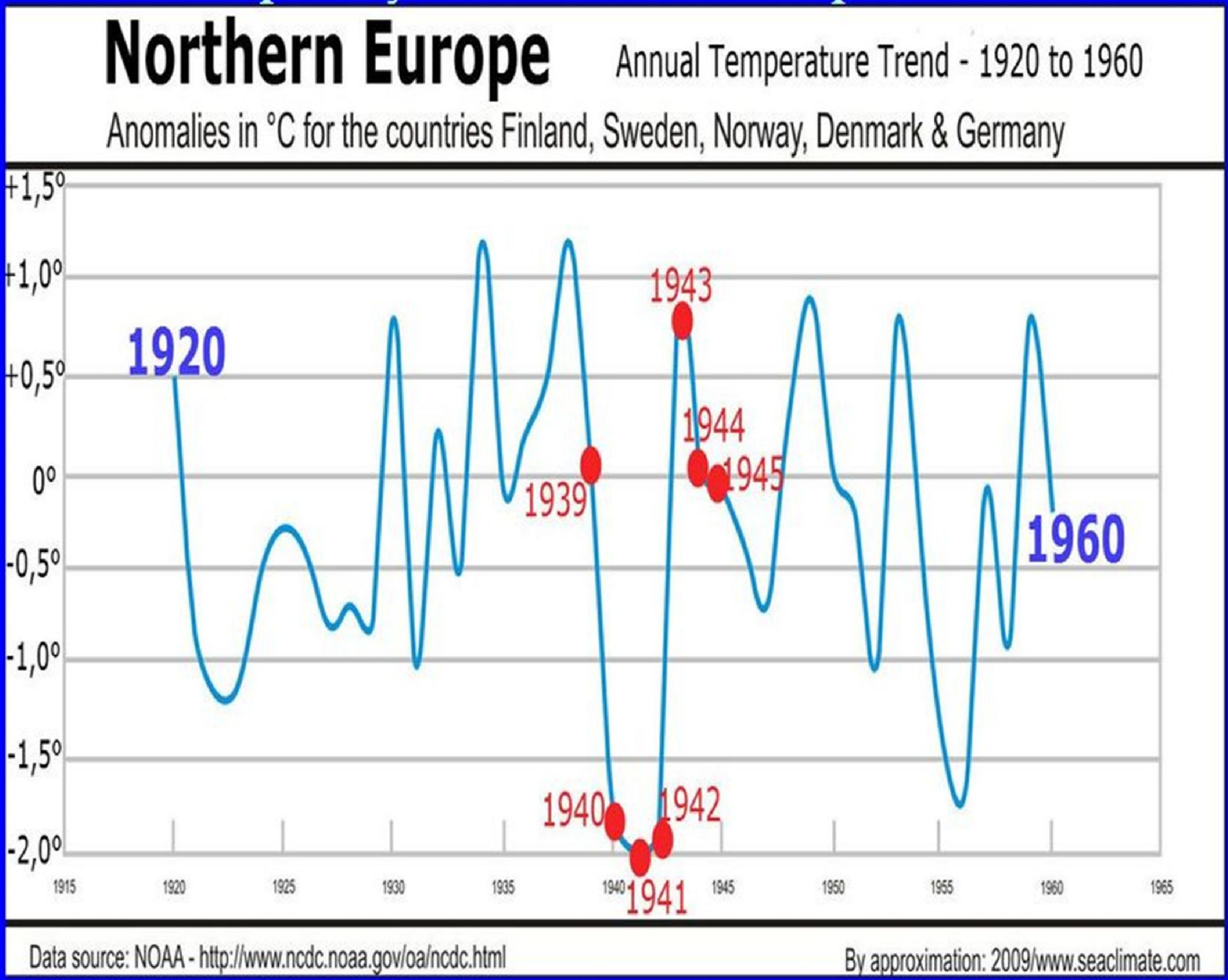
Source:http://www.bsh.de/de/Meeresdaten/Beobachtungen/MARNET-Messnetz/Stationen/arko.jsp



How can one prove an impact on weather and climate due to activities at sea?

1. Costly field experiments
2. Analyzing long-term trends
3. Investigation extreme events – e.g. 1940-1942

High activities in North and Baltic Sea can quickly cause low air tempertures ?



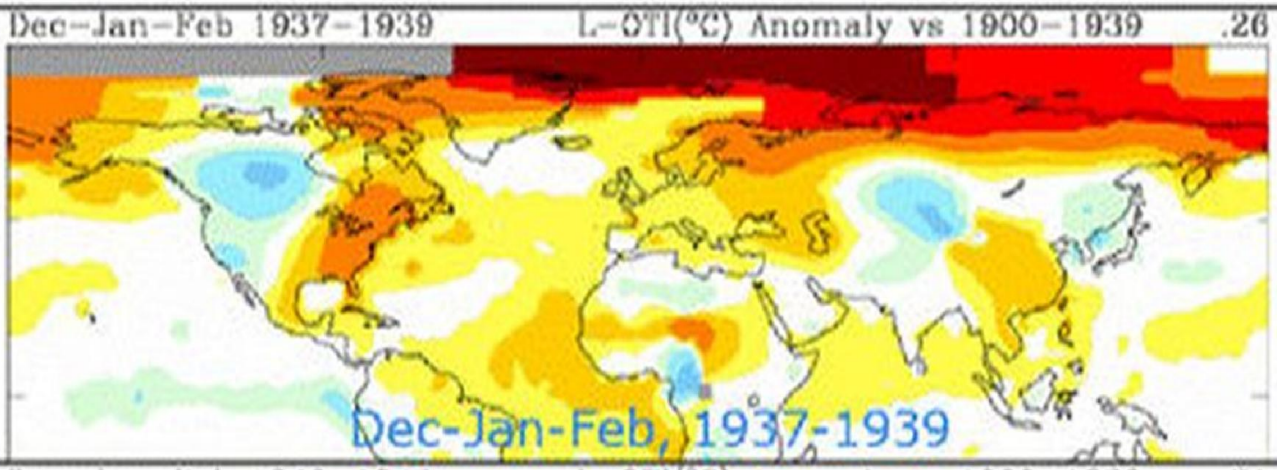
It happened evidently in World War II

Man made cooling of Europe - War winters 1940-1942

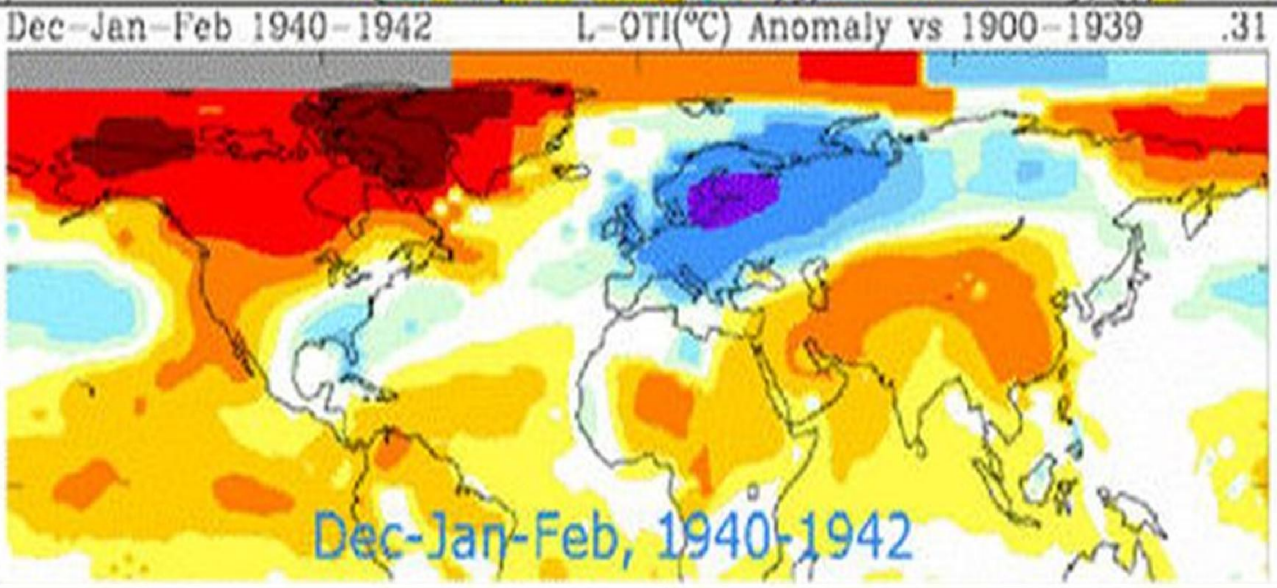
Too naive to see the difference, or too incompetent

to explain the climatic shift since winter 1939/40, the experts in the 1940s?

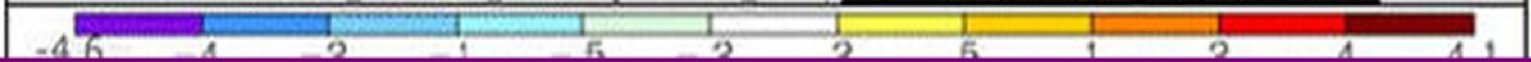
The three pre WWII Winters 1937 to 1939



The three first war winters 1940 to 1942



Sources:GISS_HR2SST_Anomaly vs 1881_2010; http://data.giss.nasa.gov/gistemp/maps



Ignoring the impact windfarms may have on weather and climate





'BARD Offshore 1' - 80 wind turbines - wind farm in the North Sea is situated about 90 kilometres northwest of the island of Borkum and covers approximately 60 square kilometres
The water is around 40 metres deep.

http://www.cspo2lxx.com/wind-energy/19477_st8_offshore-wind-turbine/default.htm

is irresponsible !