



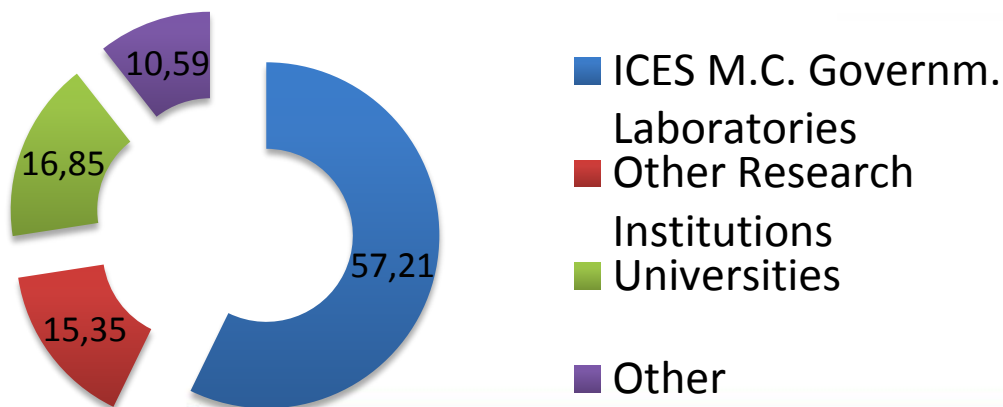
# ICES – A Trans-Atlantic Maritime Research Organization

Wojciech Wawrzynski

360 Institutes; A network of 4,000 scientists;  
1,600 scientists participating in activities annually;  
>100 Expert Groups that address the many diverse issues of marine ecosystems and ocean sustainability



**% Scientists in Science EG (2012)**



**ICES in a Nutshell**

# ICES STRATEGIC PARTNERSHIPS

Scientific organisations:

**PICES**, North-Pacific, CIESM, Mediterranean, SCOR, IASC, ICSU

FAO, IOC, NAMMCO

NAFO, **NASCO**, **NEAFC**, GFCM (Mediterranean and Black Sea), ICCAT

RSC; Baltic, North-East Atlantic, Mediterranean, Black Sea

**Arctic Council**/working Groups

EUROSTAT

EFARO

EU-COM & Member Countries



**PICES**



**ICES  
Member Countries**



# ICES CROSS-ATLANTIC

ICES brings scientists together

ICES provides the working platform

ICES coordinates the fieldwork

ICES organizes and analyses the data

ICES publishes it

ICES provides the basis to make informed decisions



ICES in a nutshell

## The Galway Statement and ensuing bilateral talks between US and EU have identified five thematic areas:

- ocean stressors
- aquaculture
- observing systems
- marine microbial ecology
- ocean literacy



**Galway Statement & follow-up**

# ICES Strategic Plan 2014-2018

Priority areas

**Aquaculture**

**Arctic**

**Integrated Ecosystem Assessments**



●  
**ICES STRATEGIC PLAN  
2014–2018**

**ICES in a nutshell**



## Our strategy

The ICES Strategic Plan (2014–2018) recognizes the changing marine science and policy landscape. By launching this plan ICES offers a strong, competent and open scientific community that can support the sustainable management of the seas\*. Implementation of the Strategic Plan will confront the challenges of protecting and restoring the health and productivity of the oceans for the benefit of present and future

The ICES Strategic Plan commits to building a foundation of science around one key challenge; integrated ecosystem understanding. ICES will produce integrated ecosystem assessments in regional seas as a fundamental link between ecosystem science and the advice required in applying the ecosystem approach. This will place a high demand on the complexity and the amount of data and knowledge needed to conduct informed science and make decisions. ICES science and advice will be underpinned with data services that deliver increasingly complex data and processes in an efficient and effective way to the users of these data. The ICES advisory process will be based on innovative and relevant science, and will produce evidence-based advice across industry sectors and components of ecosystems. This will provide the

Services and ensure an efficient and effective organization. ICES has also made a number of strategic choices to further develop its science, advisory, and data work on the Arctic and on aquaculture. ICES will also enhance its Training Programme.

A key principle for ICES in developing scientific knowledge is addressing information gaps and needs in a deliberate, well-planned manner to avoid duplication and add value to on-going processes. This is a critical consideration given the present financial and personnel constraints of Member Countries. The important and unique features of ICES are its capability to cover the entire scientific spectrum from monitoring and data provision to research and advice, and its

## OCEAN STRESSORS / GOOD ENV STATUS

**ICES is going to produce ecosystem assessments in regional seas. ICES is committed to provide the required data, in collaboration with its strategic partners on both sides of the Atlantic, bringing scientists together.**

**In support of the Galway Statem. &  
North Atlantic Action Plan**



# ICES Integrated Ecosystem Assessments

- WGIBAR (Working Group on the Integrated Assessments of the Barents Sea)
- WGINOR (Working Group on the Integrated Assessments of the Norwegian Sea)
- WGIAB (ICES/HELCOM Working Group on Integrated Assessments of the Baltic Sea)
- WGINOSE (Working Group on Integrated Assessments of the North Sea)
- WGEAWESS (Working Group on Ecosystem Assessment of Western European Shelf Seas)
- WGNARS (Working Group on the Northwest Atlantic Regional Sea)

service provider

# ICES Integrated Ecosystem Assessments

**Integrated monitoring and surveys**

**Integrate new science into advice**

**Integrate across disciplines**

**Integrate across sectors**

**Work across new disciplines through teams**

**Work in a complex changing system**

**- science support and governance**

**IEA – how to guidance**

# Advice must be **consistent** across issues

**Mixed fisheries and multispecies interactions**

**Food web interactions**

**Rare and endangered species**

**Bycatch issues, impacts of gear**

**Sensitive habitats / MPAs**

**Marine Spatial Planning**



# Aquaculture



**ICES has a long history of working and advising on aquaculture issues. ICES has a focal point for aquaculture-environment interactions. ICES is the institution for addressing advisory and science requests related to the sustainability of aquaculture farming practices.**

**In support of the Galway Statement &  
North Atlantic Action Plan**

# OBSERVING SYSTEMS

**...another core area of ICES competence. Annually more than 100 research vessel surveys, equalling more than 1200 days at sea, are coordinated by ICES to ensure best use of resources, and to cover as broad a geographic area as possible.**



**In support of the Galway Statement & North Atlantic Action Plan**

# DATA and ACCESS TO DATA

**ICES has a well-established Data Centre, which manages a number of large and long-time datasets under a clear open-access data policy.**

There are...

- **Fisheries data** (e.g. fish abundance and distribution, catch data, growth)
- Data on **physical oceanography** (e.g. temp., salinity, oxygen, currents, chemical compositions, pollutants)
- **Marine Microbial Data (Plankton)** data
- **Ecological data** (predator – prey data, invasive species, diseases etc.)

**The ICES Data Centre could play an important role in developing standard formats and could act as a data repository for projects on transatlantic cooperation as for projects under, e.g., Horizon 2020 as ICES is already a repository for the FP6 projects.**

**In support of the Galway Statement  
& North Atlantic Action Plan**

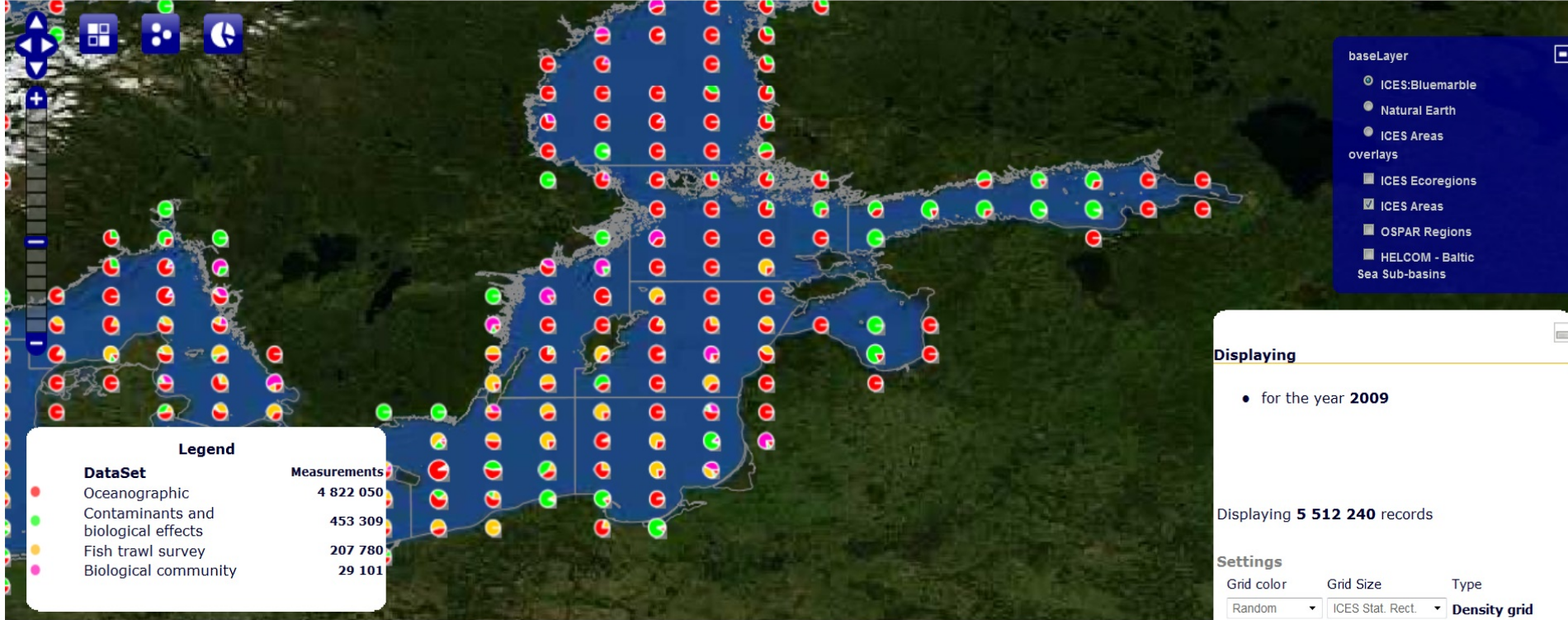


Group by:  Dataset  Parameter  Species(TAXA)  Matrix  Year  Area

View changes on map [Reset] All All All All 2009 All

Density Grid | Stations | Charts

Click a point/chart on the map to view additional information



baseLayer

- ICES:Bluemarble
- Natural Earth
- ICES Areas

overlays

- ICES Ecoregions
- ICES Areas
- OSPAR Regions
- HELCOM - Baltic Sea Sub-basins

**Legend**

DataSet	Measurements
Oceanographic	4 822 050
Contaminants and biological effects	453 309
Fish trawl survey	207 780
Biological community	29 101

**Displaying**

- for the year **2009**

Displaying **5 512 240** records

**Settings**

Grid color: Random | Grid Size: ICES Stat. Rect. | Type: **Density grid**



# GLOBAL CLIMATE CHANGE

- **Researchers of the Americans and Europe work on numerous themes already in intense transatlantic cooperation in ICES expert groups.**
- **The ICES Report on Ocean Climate (IROC) is one example of the climate work being done in ICES.**

**In support of the  
North Atlantic Action Plan**



# ICES REPORT ON OCEAN CLIMATE (IROC)

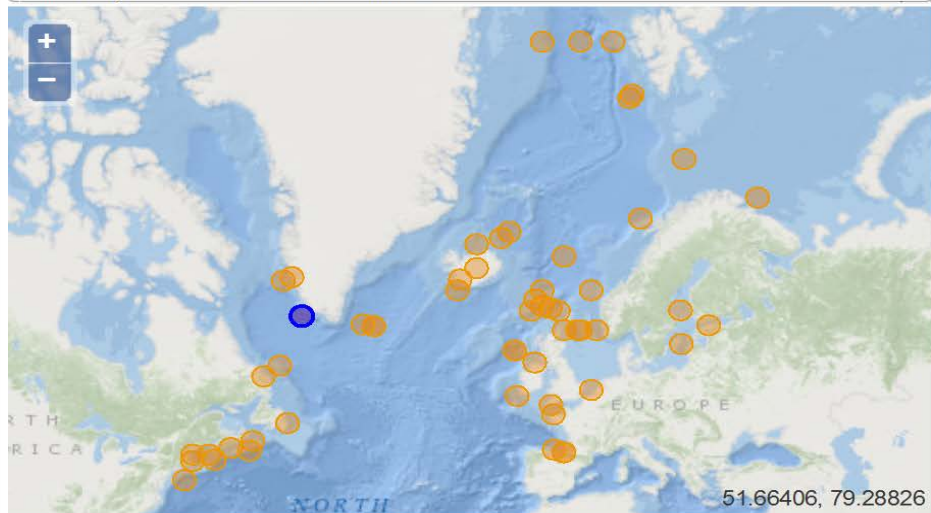
The ICES Report on Ocean Climate (IROC) provide summary information on climatic conditions in the North Atlantic.



Download the most recent report [here](#) and/or Browse the associated data series below.

Station

Baltic Proper - East of Gotland - Baltic Sea

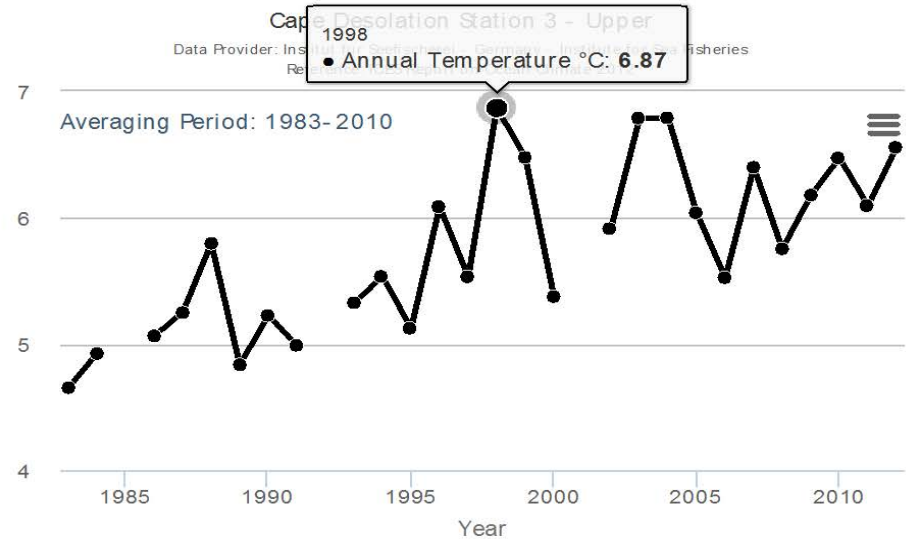


Series

Annual

Parameter

Temperature °C



● Annual Temperature °C

# ARCTIC



**The Arctic is a priority area for ICES. ICES contributes to Arctic and sub-Arctic work on: zooplankton; subarctic fish stocks; hydrography and warming of the Arctic Ocean; modelling of biological consequences of a decrease in sea ice.**

**ICES has identified the environmental risks of oil and gas exploitation and shipping; the spread of non-native species, and ocean observing systems as potential areas of work.**

**In support of the Galway Statement  
& North Atlantic Action Plan**

# TRAINING

**ICES has an established training programme that could be used to promote skill development on trans-Atlantic research priorities.**



**In support of the Galway Statement  
& North Atlantic Action Plan**

Fig. © Thünen Inst., Germany

# ICES Training Programme


Since 2009, over 30 courses have been offered on a wide diversity of topics, including: stock assessment (introductory and advanced), ecosystem modelling, model building, management strategy evaluation, Bayesian inference, fisheries advice, trawl survey design and evaluation, integrated ecosystem assessment, analysing and visualization of Vessel Monitoring Systems, communication of science and advice, and how to lead an effective technical meeting.

The courses have been provided also to **stakeholders**, **policy-makers**, and **clients** to explain the science behind the advisory process.

Almost **1000 participants** have attended ICES courses from over 30 countries with lecturers from both sides of the Atlantic.



**Building Capacity;**  
**Up-skilling Scientists;**  
**Quality Assurance;**  
**Common Understanding;**  
**Outreach;**  
**New Perspectives;**



Wojciech Wawrzynski

Deputy Head of Science Programme

Working Group on Resilience and Marine Ecosystem Services

Working Group on Large Marine Ecosystem Programme Best Practices

International Council for the Exploration of the Sea

Visiting Scholar Berlin School of Economics and Law

European Association of Environmental and Resource Economists