

ICES Report on Ocean Climate (IROC) Online

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International Council for the Exploration of the Sea (ICES)

- 20 member countries
- 4000 scientist
- 300 institutes
- 160 working/expert groups

Working Group on Oceanic Hydrography (WGOH)

- WGOH closely monitors the oceanographic conditions in the ICES region (North Atlantic) by updating and reviewing the results from standard hydrographic sections and stations.



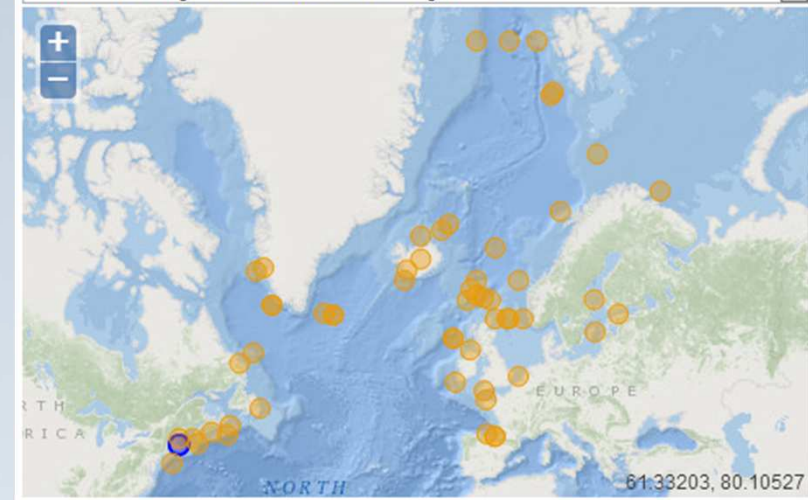
Sections / Stations

Table 3. Details of the datasets included in Figures 1 and 2 and in Tables 1 and 2. Blank boxes indicate that no information was available for the area at the time of publication. T stands for temperature, S for salinity. Some data are calculated from an average of more than one station; in such cases, the latitudes and longitudes presented here represent a nominal midpoint along that section.

Index	Description	Area	Measurement depth	Long-term average	Lat	Lon	Mean T, °C	S.d. T, °C	Mean S	S.d. S
1	Fram Strait - East Greenland Current	1a	50-500 m	1980-2010	78.83	-6.00	0.84	0.61	34.702	0.109
2	Station 4 - Fylla Station - Greenland Shelf	1	0-50 m	1983-2000	63.88	-53.37			3.359	1.003
3	Cape Desolation Station 3	1	35-200 m	1983-2000	60.47	-50.00	5.44	0.61	34.903	0.060
4	Area 2b - west-central Labrador Sea - ARW stations	2b	0-150 m	1979-2000	56.70	-52.50	3.73	0.38	34.760	0.088
5	Station 27 - Newfoundland Shelf (temperature) - Canada	2	0-175 m	1979-2000	47.55	-52.59		0.35		0.233
6	Cleander Section (trough of 500 m isobath) - Mid-Atlantic Bight - USA	2c	Surface	1980-2010	39.00	-71.50				
7	Northwest Georges Bank - Mid-Atlantic Bight - USA	2c	1-30 m	1980-2010	41.00	-70.00	9.98	0.79	32.600	0.280
8	Emerald Bank - Central Scotian Shelf - Canada	3	Near bottom	1981-2010	44.00	-63.00		1.31		0.221
9	Mixaine Bank - Northeastern Scotian Shelf - Canada	3	Near bottom	1981-2010	45.00	-59.00		0.58		0.199
10	Sighava Station 2-4 - North Iceland Irminger current	3	50-150 m	1979-2000	67.00	-18.00	3.34	1.01	34.823	0.114
11	Lanangeri Station 3-6 - Northeast Iceland - East Icelandic Current	3	0-50 m	1979-2000	67.50	-19.50	1.24	0.95	34.698	0.137
12	Selvogandi Station 5 - Southwest Iceland - Irminger Current	3	0-300 m	1979-2000	63.00	-22.00	7.64	0.37	35.754	0.037
13	Main Head Weather Station	4b	Surface	1979-2000	55.37	-9.34	10.57	0.50		
14	Point 33 - Aolan	4b	5 m	1996-2010	48.78	-9.94	12.69	0.35	35.310	0.111
15	Western Channel Observatory (WCO) - Is - UK	4b	Depth average 0-40 m	1979-2000	50.01	-4.37	12.00	0.39	35.866	0.095
16	Ellet Line - Rockall Trough - UK (Section average)	5	0-800 m	1979-2000	56.75	-11.00	9.26	0.33	35.328	0.040
17	Central Irminger Sea - Subpolar Mode Water	5b	300-400 m	1999-2000	39.40	-26.80	5.97	0.52	34.876	0.030
18	Faroe Bank Channel - West Faroe Islands	6	Upper layer, high salinity core	1988-2000	61.00	-8.00	8.53	0.37	35.772	0.044
19	Faroe Current - North Faroe Islands (Modified North Atlantic Water)	6	Upper layer, high salinity core	1988-2000	63.00	-6.00	7.84	0.40	35.218	0.043
20	Faroe Shetland Channel - Shetland Shelf (North Atlantic Water)	7	Upper layer, high salinity core	1979-2000	61.00	-3.00	9.57	0.35	35.363	0.040
21	Faroe Shetland Channel - Faroe Shelf (Modified North Atlantic Water)	7	Upper layer, high salinity core	1979-2000	61.50	-6.00	7.85	0.25	35.319	0.035
22	Ocean Weather Station Mike - 52m	10	50 m	1979-2000	66.00	-3.00	7.49	0.44	35.348	0.045
23	Southern Norwegian Sea - Svinøy Section - Atlantic Water	10	50-200 m	1979-2000	63.00	3.00	7.68	0.50	35.310	0.056
24	Central Norwegian Sea - Gimsøy Section - Atlantic Water	10	50-200 m	1979-2000	69.00	12.00	6.45	0.44	35.119	0.053
25	Pagloya - Bear Island Section - Veiðisvír Basen Sea - Atlantic inflow	11	50-200 m	1977-2006	73.00	10.00	5.35	0.54	35.059	0.049
26	Kola Section - East Barents Sea	11	0-300 m	1979-2000	71.50	23.50	3.92	0.49	34.763	0.060
27	Greenland Sea Section - West of Spitzbergen	12	300 m	1996-2010	76.50	30.50	3.39	0.61	35.058	0.045
28	Northern Norwegian Sea - Stribopp Section - Atlantic Water	10	50-200 m	1979-2000	76.33	10.00	3.80	0.68	35.054	0.046
29	Fram Strait - West Spitzbergen Current	12	50-500 m	1980-2010	78.83	3.00	3.08	0.71	35.023	0.099
30	Santander Station 6 (shelf break) - Bay of Biscay - GSW	4	5-200 m	1993-2000	43.30	-3.78	12.69	0.31	35.477	0.064

Station

Northwest Georges Bank - Mid Atlantic Bight - USA



ICES Report on Ocean Climate (IROC)

- The material presented at the WGOH meetings each year is consolidated and published in the annual ICES Report on Ocean Climate (IROC).



- With the IROC, the Working Group analyses multiple time-series in a consistent way to give an overview of the state-of-the-environment in the North Atlantic that includes:
 - North Atlantic climate headlines
 - Summary of upper ocean conditions
 - The North Atlantic Atmosphere
 - Detailed area descriptions, part I: The upper ocean
 - Detailed area descriptions, part II: The deep ocean

North Atlantic climate headlines

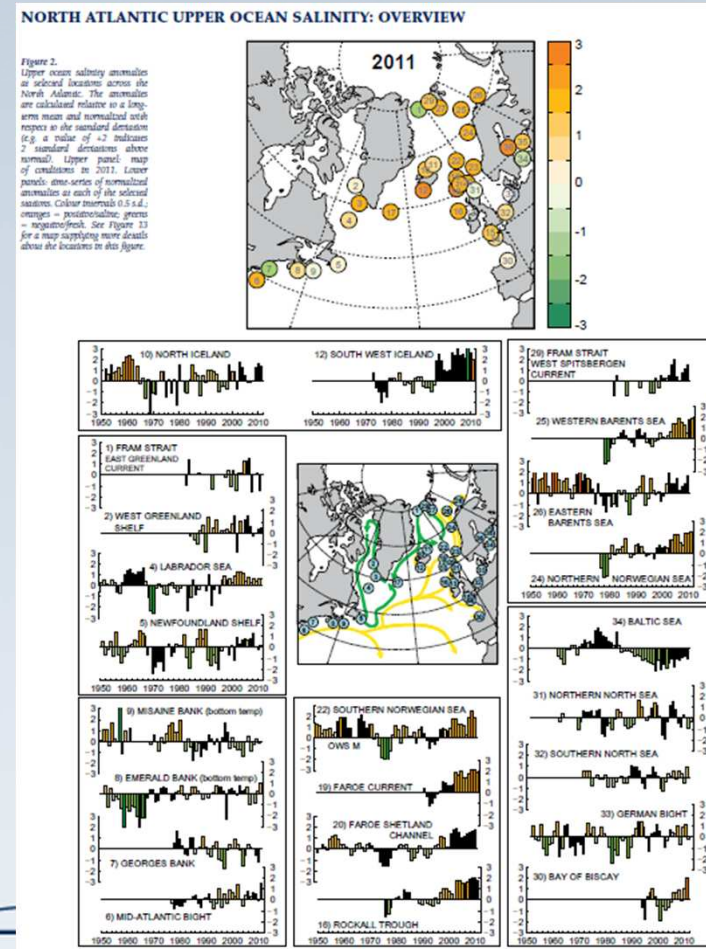
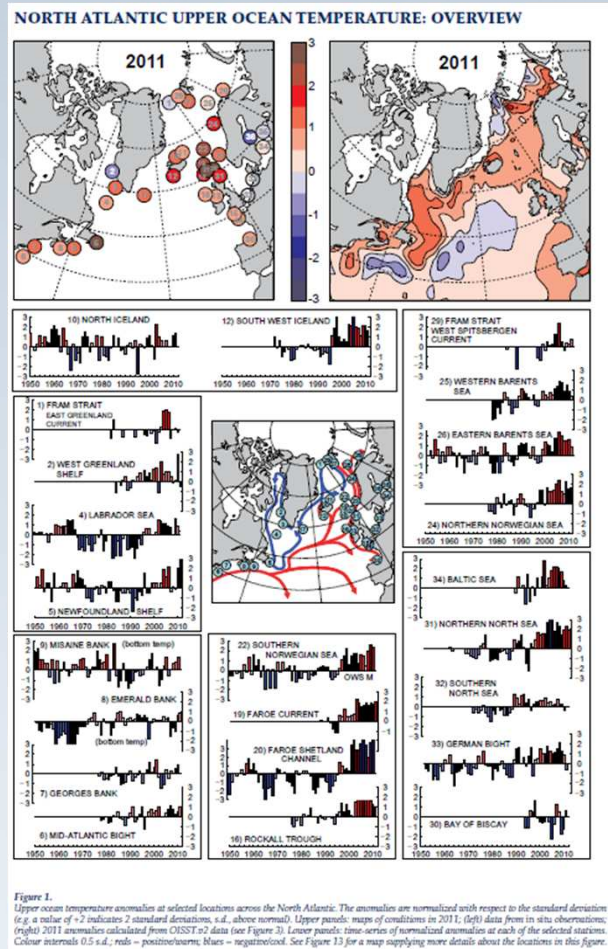
1.1 Highlights of the North Atlantic for 2011

- The upper layers of the northern North Atlantic and the Nordic seas were warm and saline in 2011 compared with the long-term average.
- In the northwestern North Atlantic, the warm winter led to high ocean temperatures. Low sea ice extent and a low number of icebergs were observed in the Labrador Sea.
- The Nordic seas along the pathway of the North Atlantic Current (NAC) were very saline in 2011, while the interior of the Norwegian Sea continued to freshen at the surface.
- Strong inflow of Atlantic Water entering the Arctic via the West Spitsbergen Current occurred in spring 2011, following very weak inflow in winter 2010/2011.
- Deep water in the Norwegian Sea is at its warmest and most saline, matching the properties of deep waters exiting the Arctic.
- Severe ice winter conditions occurred for a second year in the Baltic.
- Dry weather and flow from the south led to record-high salinities on the shelf and slope in the Bay of Biscay.

1.2 Highlights of the North Atlantic atmosphere in winter 2010/2011

- The North Atlantic Oscillation (NAO) index in winter 2010/2011 was negative, but not as strong as the previous winter, generating less extreme conditions. This was the third winter in succession that showed a negative index, which has not happened since the winters 1968/69 through 1970/71.
- Surface air temperatures were near average over the northeast Atlantic, North Sea, and Nordic seas, and above average over Greenland and the Labrador Sea. The Baltic and northeastern Europe experienced cold winter conditions.
- Mean winds were weaker than normal across the Rockall Trough and into the North Sea. Winds were slightly stronger than average west of Spain and Portugal.
- The winter atmospheric low over the eastern Nordic seas was weaker than average.

Summary of upper ocean conditions



Detailed area descriptions, part I: The upper ocean

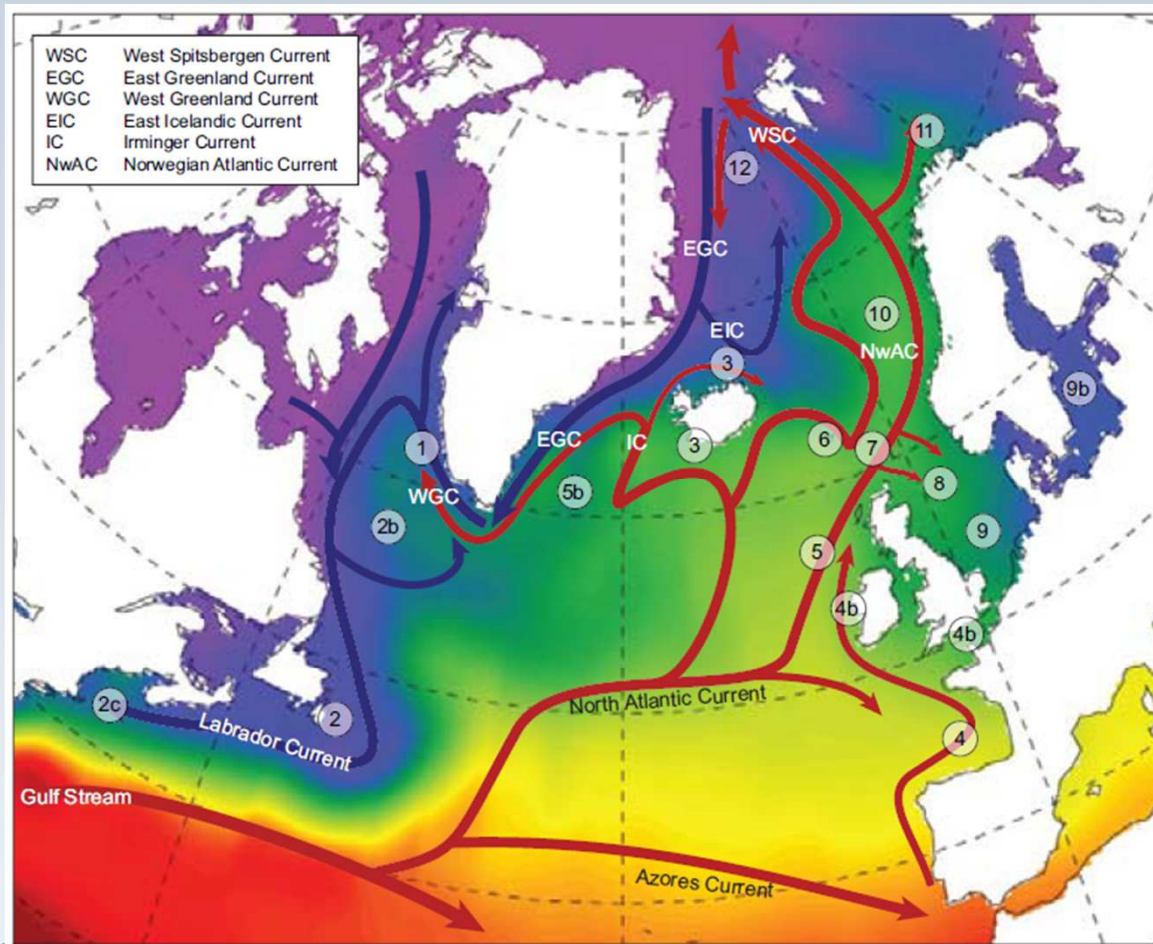
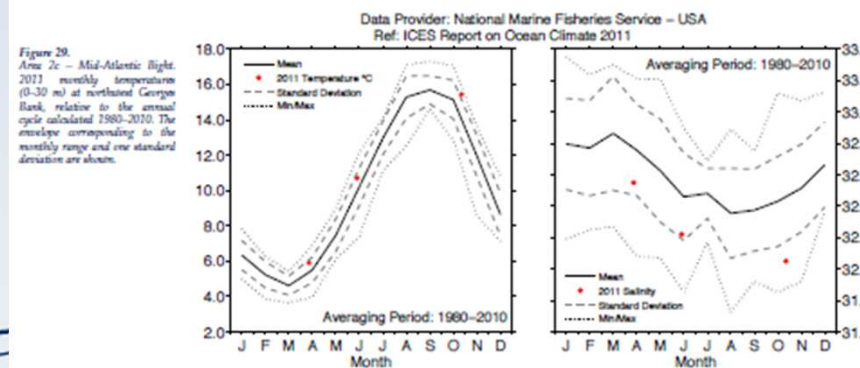
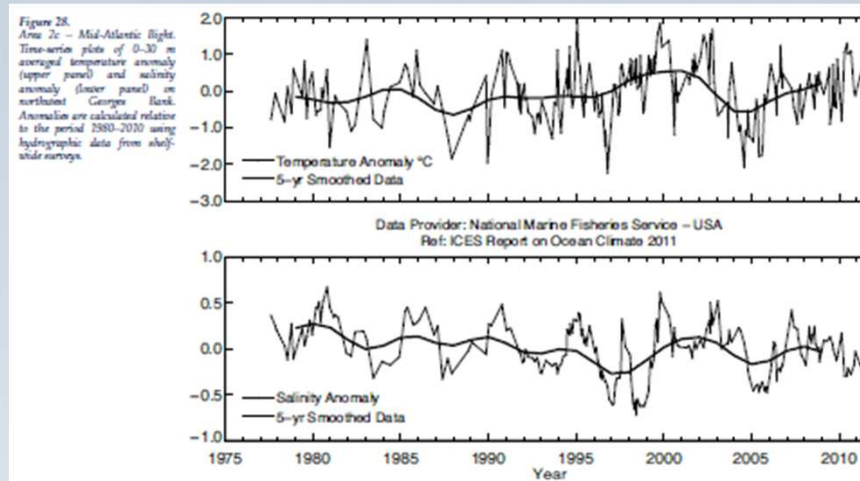
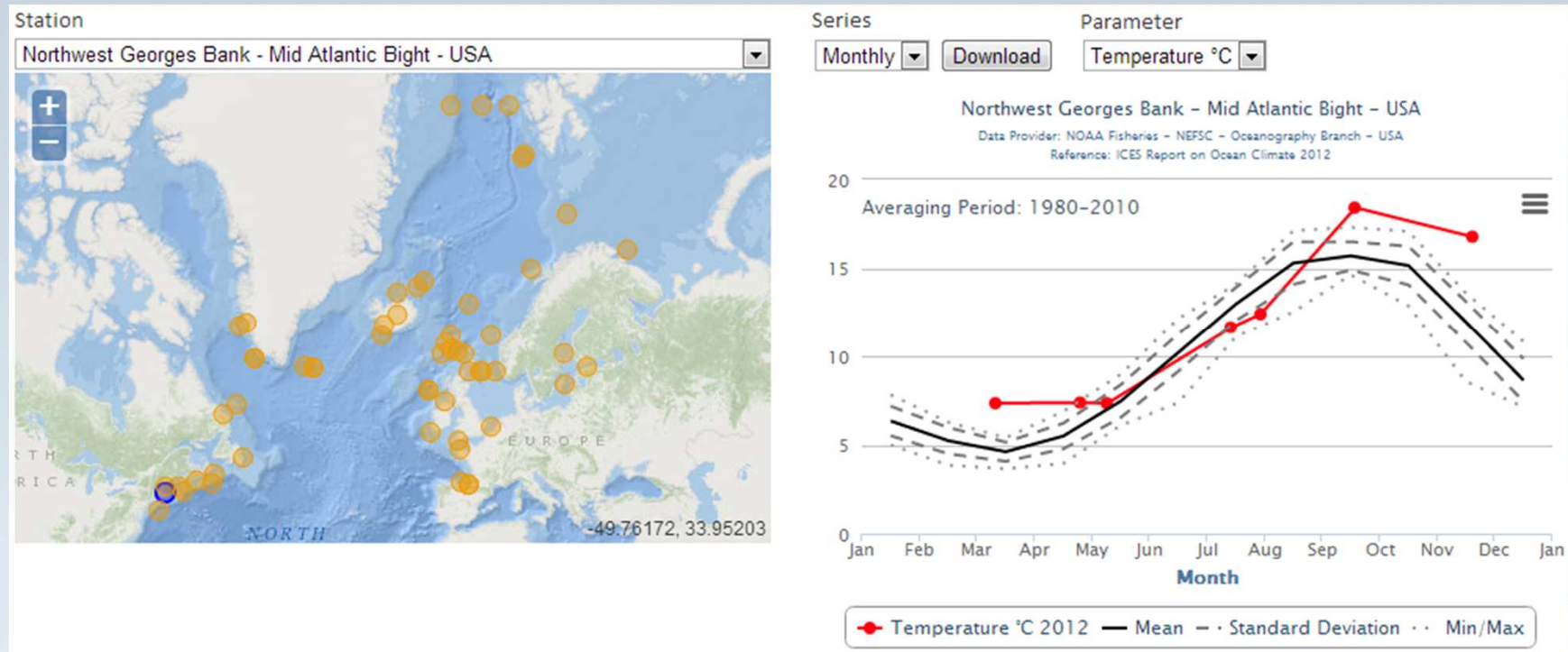


Figure 13. Schematic of the general circulation of the upper ocean (approximately 0–1000 m) in the North Atlantic in relation to the numbered areas presented below. Blue arrows = movement of cooler waters of polar and subpolar influence; red arrows = movement of warmer waters of Atlantic influence.

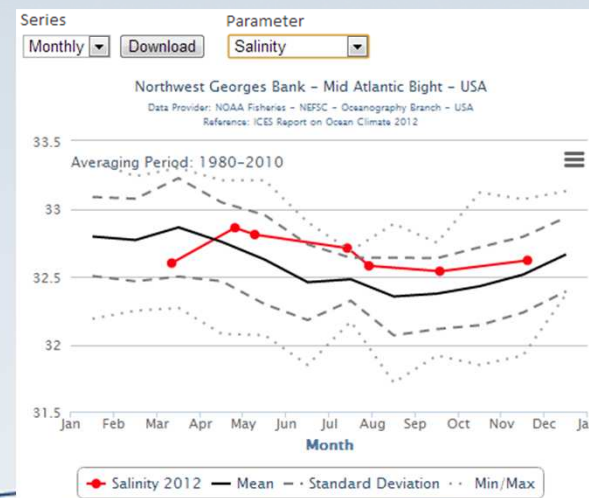
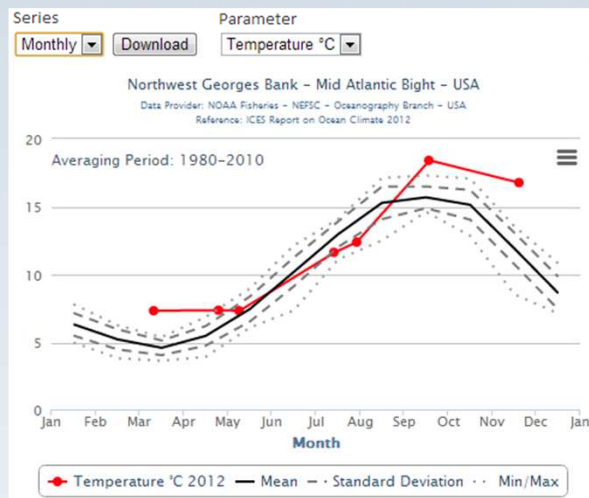
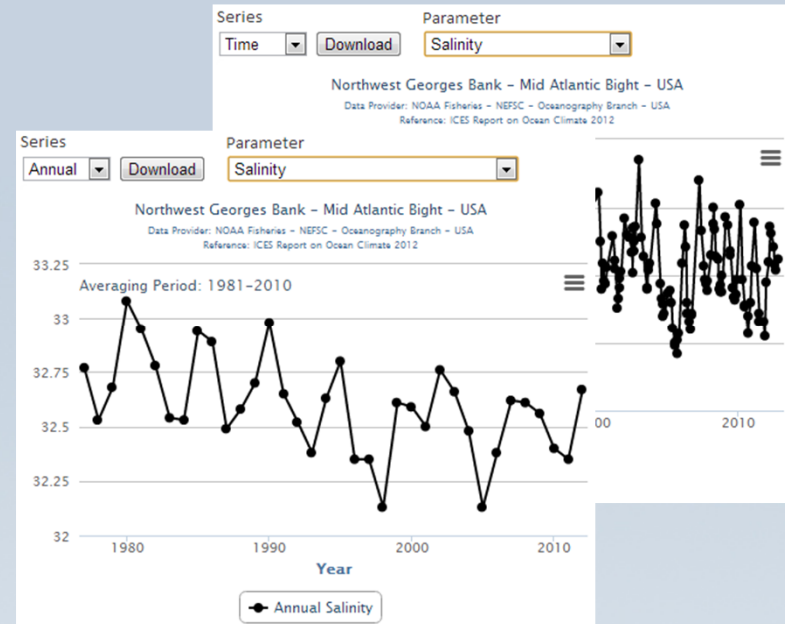
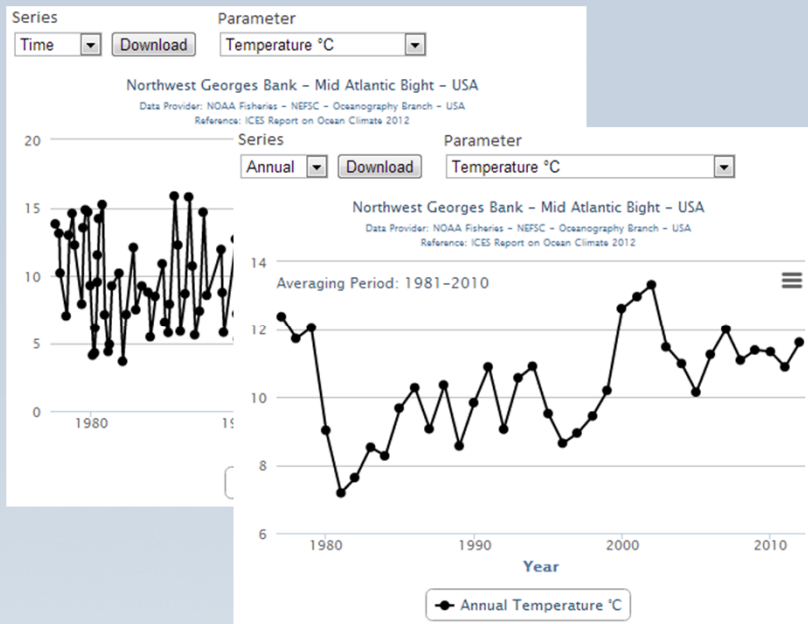
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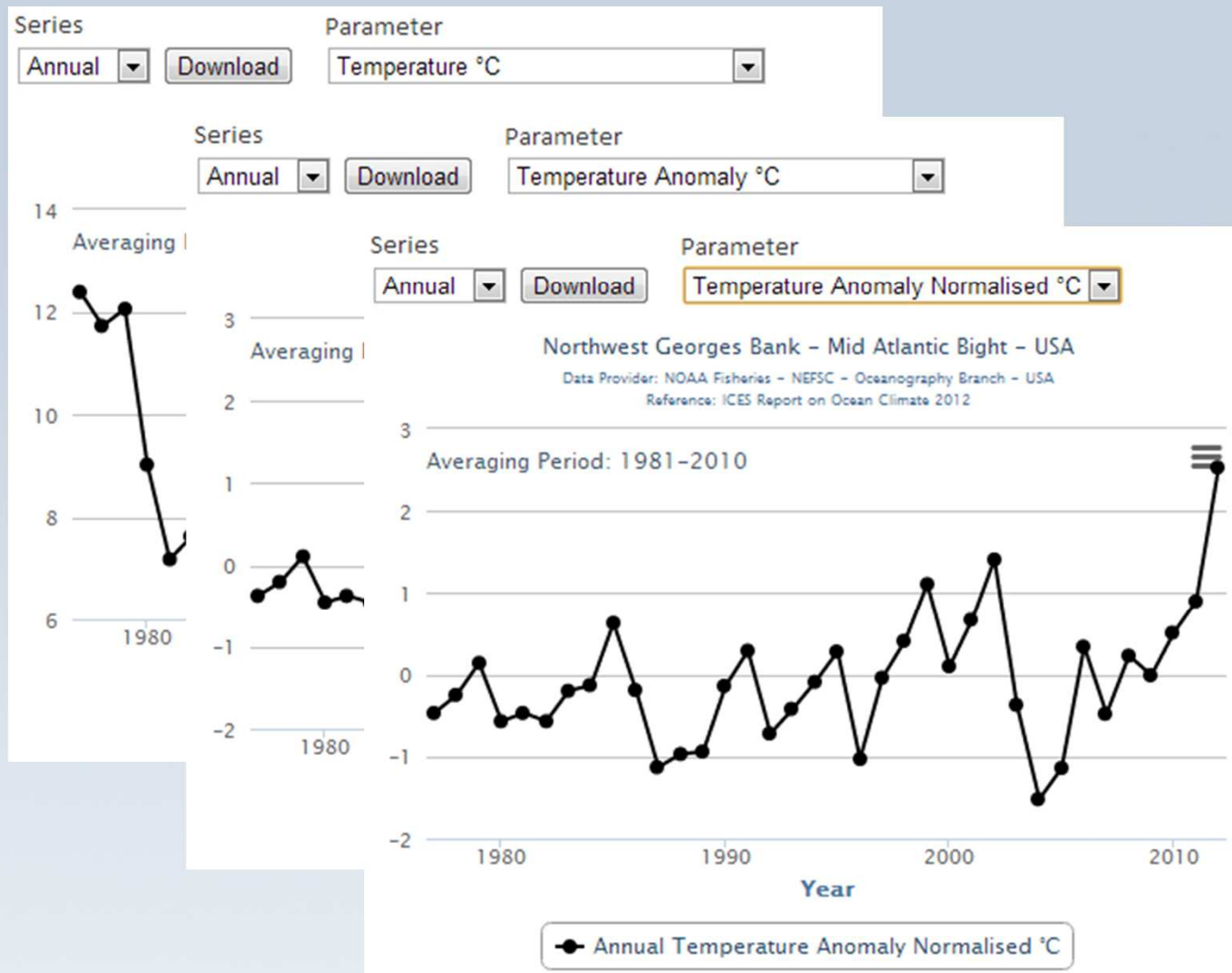


IROC on the web




<http://ocean.ices.dk/iroc>





Next

- Allow for changing the reference period in the annual and monthly plots and changing the reference year in the monthly plots.
- Add gridded fields onto the map
- Other expert groups like WGZE
- Eco system overviews / based advise



Thanks for your attention