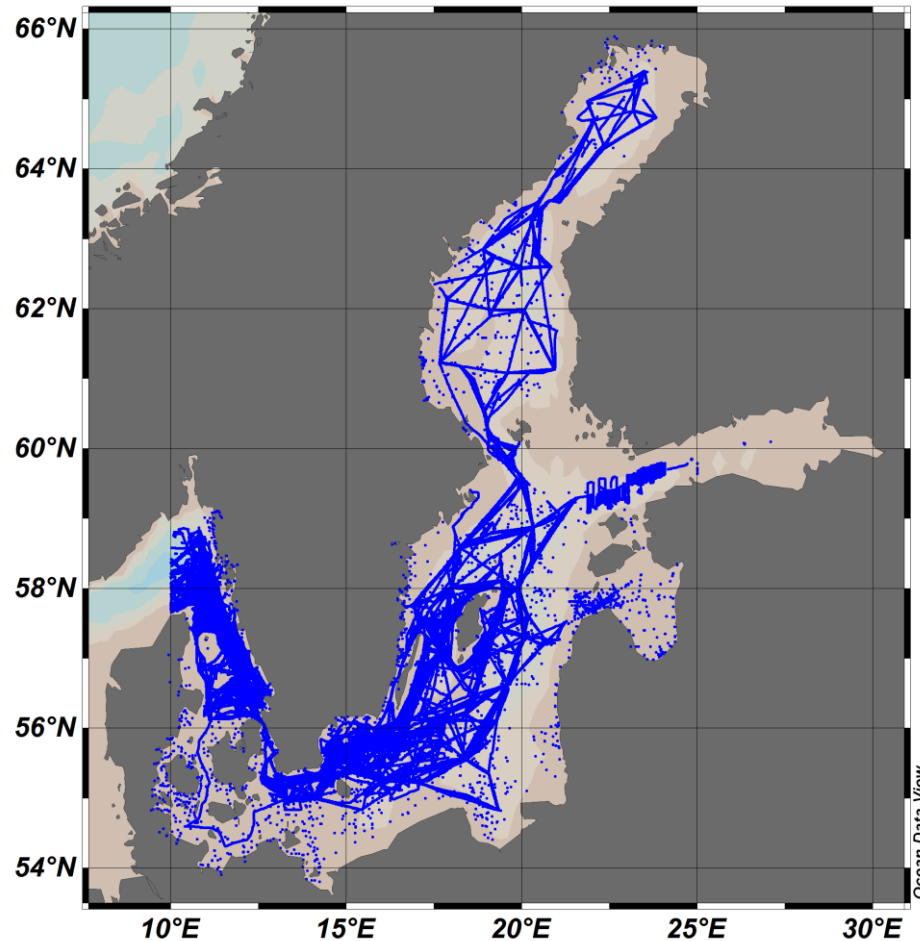


Baltic Sea V1 aggregated dataset (1990-)

V1_aggregated_20130215



Station Selection Criteria:

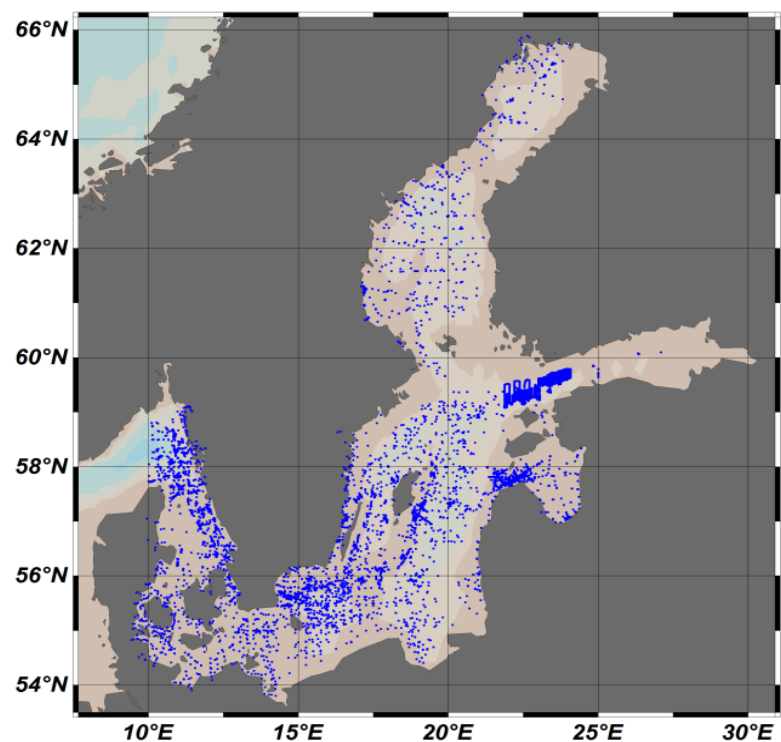
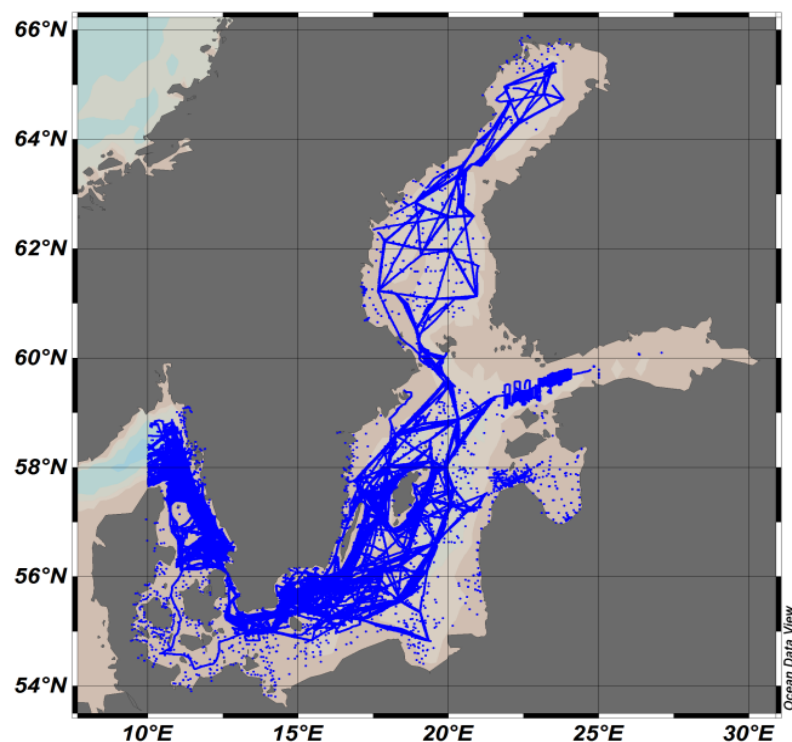
1/Jan/1990-

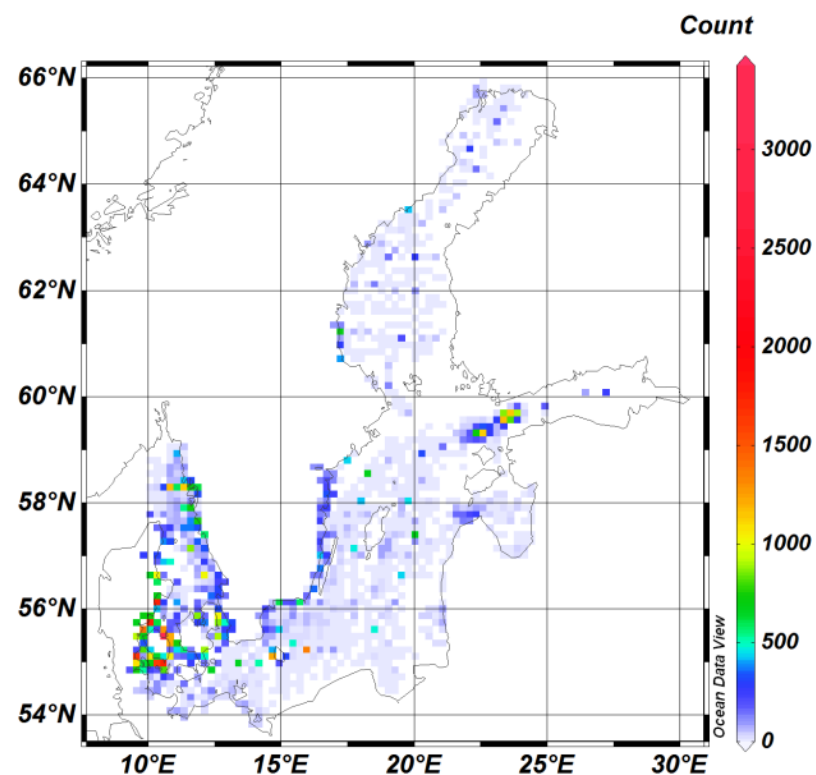
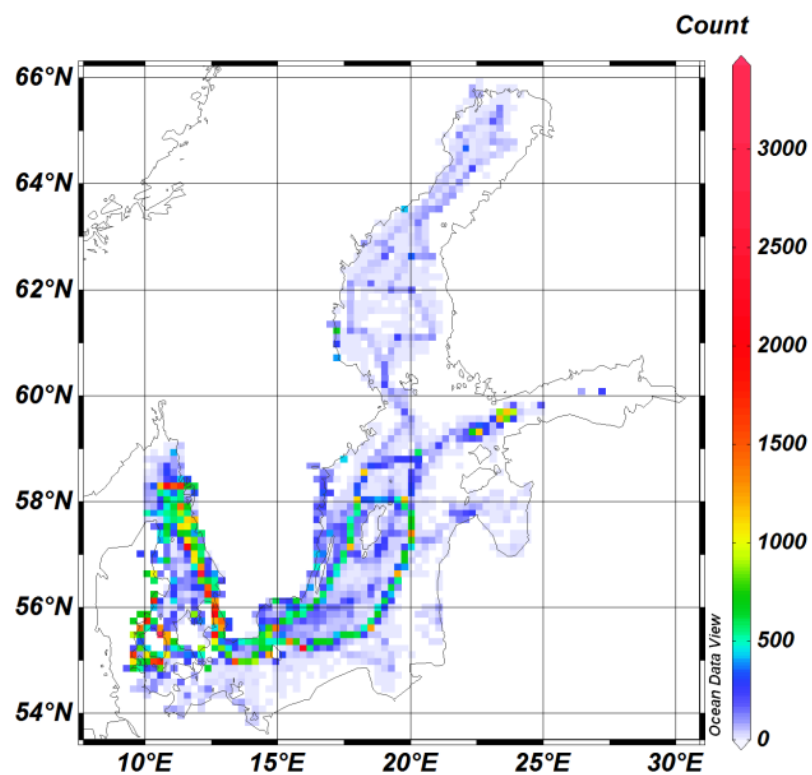
Polygon Selection → to avoid North Sea (East of 10°E in the Skagerrak)

Data distribution and data density map

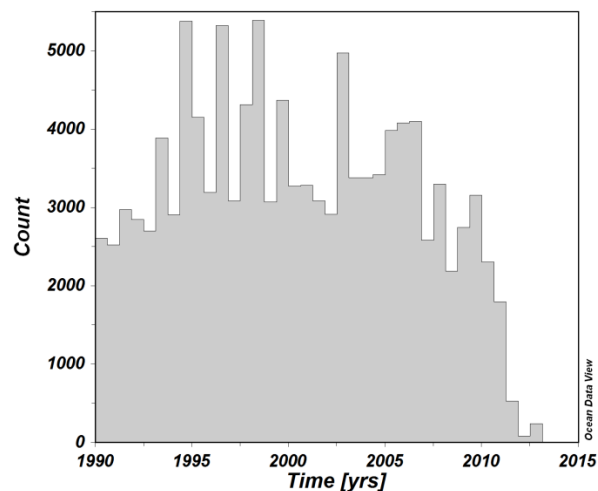
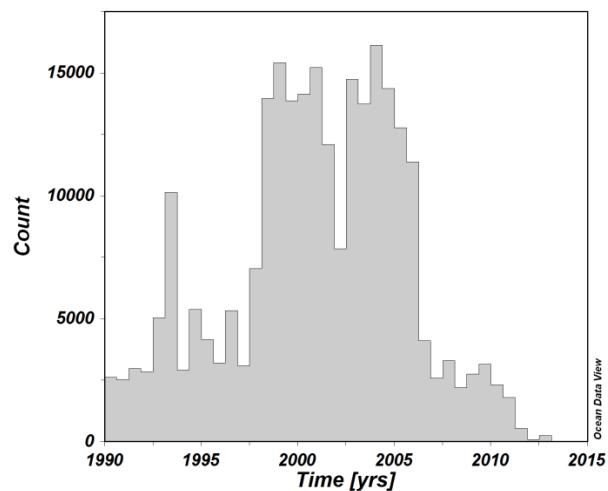
TOTAL: 255871 Data points (including profiles and “surface points” from ferry box) (left)

117449 Data points with ferry box excluded (right)

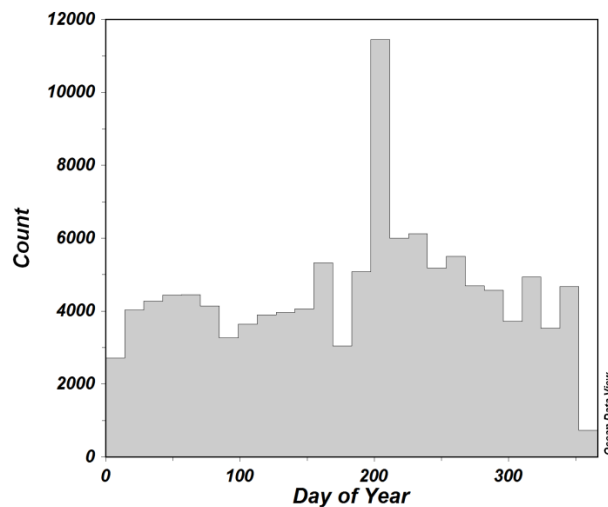
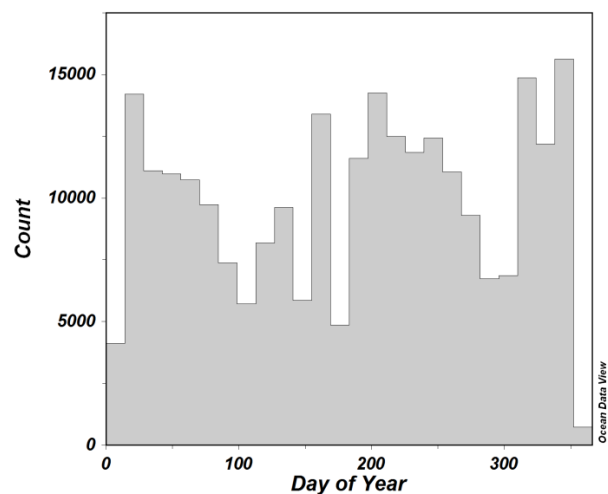


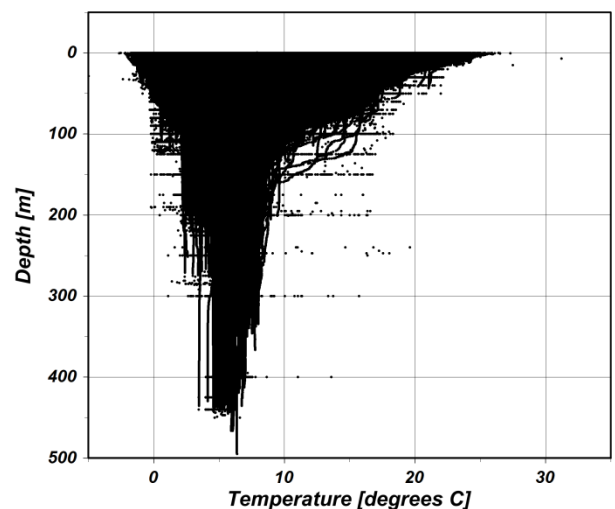
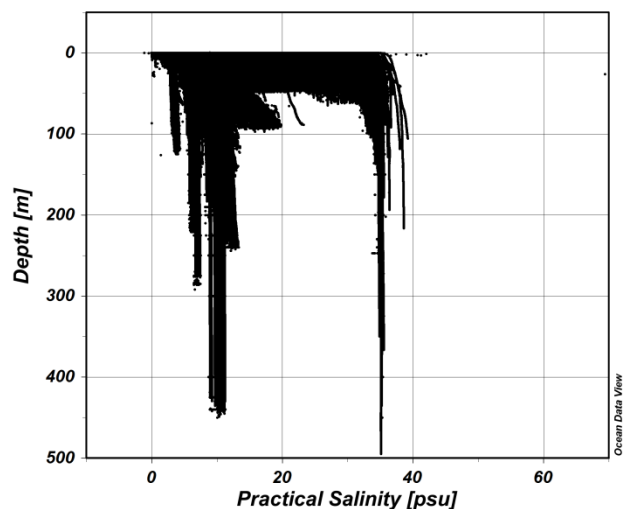


Data density map; (left) with ferry box; (right) without ferry box

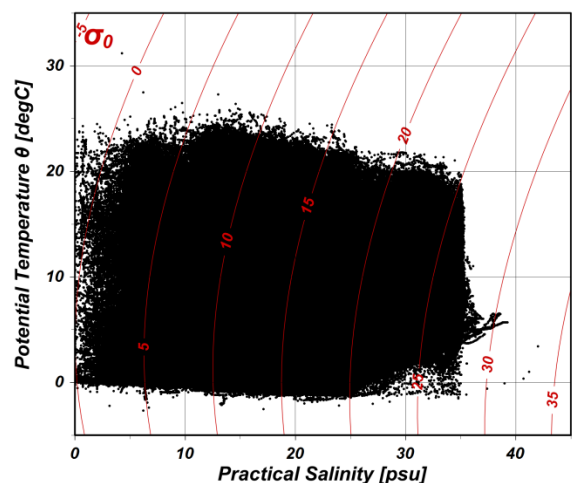
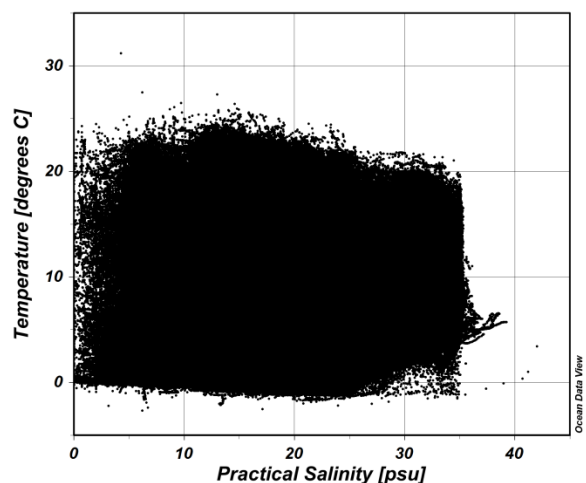


(top) Annual data distribution and
(bottom) seasonal data distribution;
(left) with ferry box;
(right) without ferry box

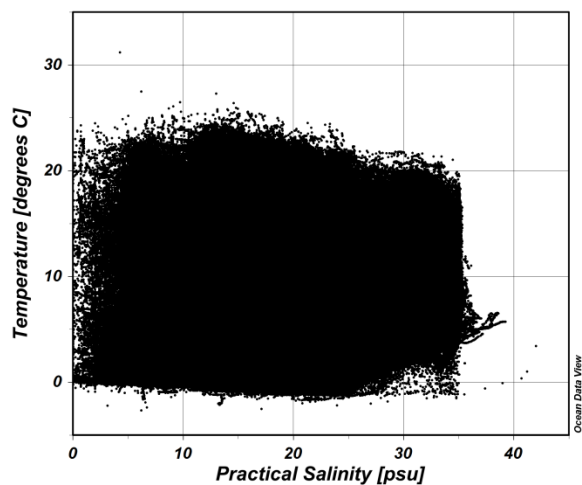




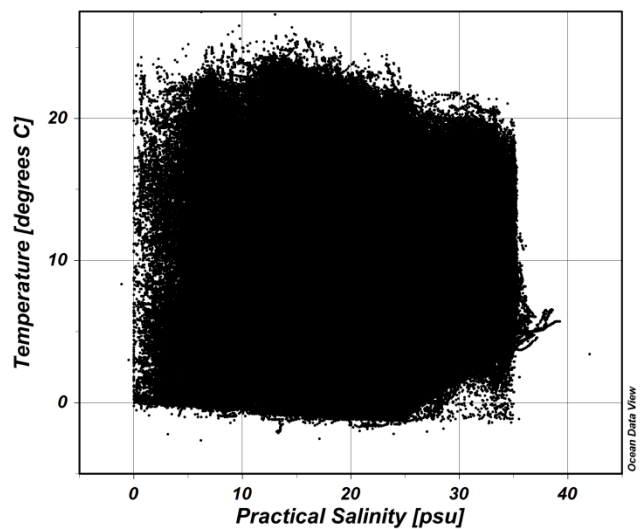
Salinity (left) and Temperature (right) scatter plots of V1 raw aggregated data set.



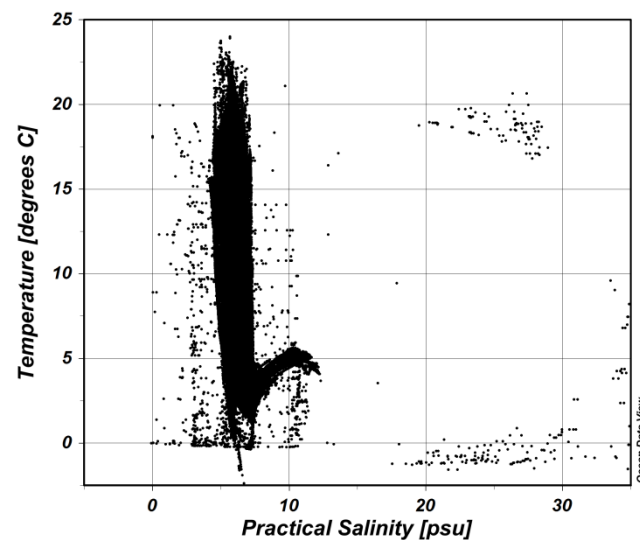
(left) Temperature and Salinity diagram of V1 aggregated dataset; (right) Potential Temperature and Salinity diagram with over imposed the potential density anomaly curves (red line).



All data



QC flags equal to 1 (good)



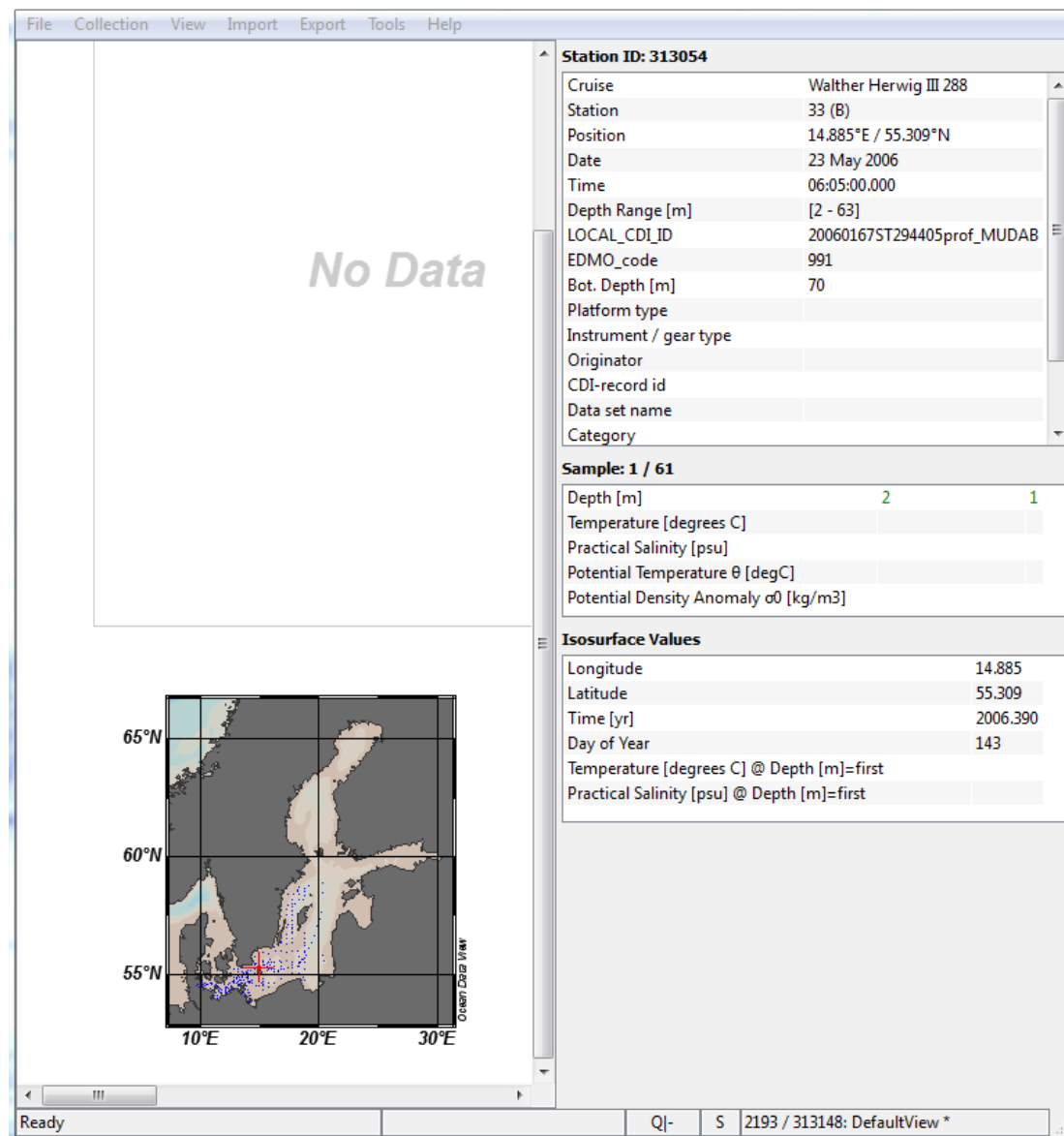
QC flags equal to 0 (no quality control)

QF	0	1	2	3, 4	Total	Outside range check	
	not checked	good	probably good	probably bad, bad			
Depth	1329207	6522019	0	0	7851073	N/A	25859 with only depth
	16,93%	83,07%	0,00%	0,00%			
Temperature	1093819	6709649	0	10	7803478	24 (1 with flag 3)	-2 - 27 °C
	14,02%	85,98%	0,00%	0,00%		0,00%	
Salinity	1093916	6663121	0	107	7757144	267 (8 with flag 4)	0.01 - 40
	14,10%	85,90%	0,00%	0,00%		0,00%	

Some bad flags have been added afterwards in ODV, and not yet changed in the data files (mostly data from SMHI, a few obvious errors have gotten flag 3)

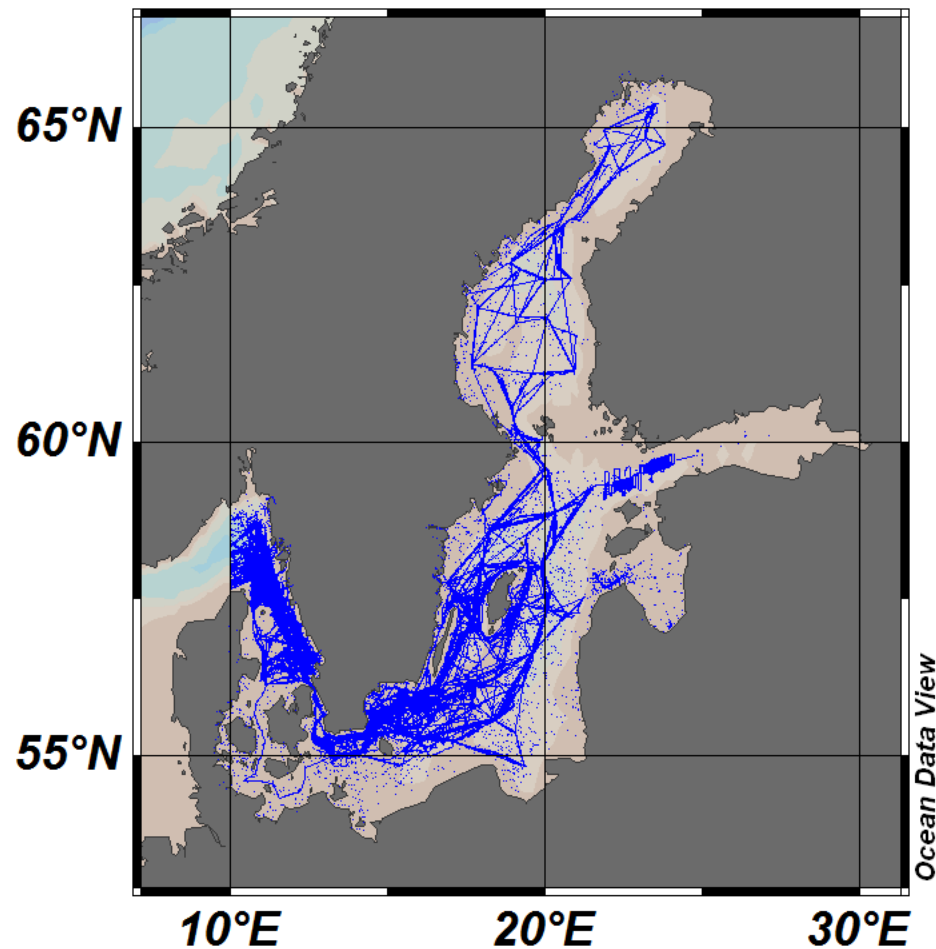
Cruises missing both salinity and temperature (only depth):

Cruise Label	Cruise ID	# Stations	# Samples	Station IDs	Time Period	Availability
Alkor 310	824	59	481	253177 ~ 253235	26 Oct 2007 ~ 03 Nov 2007	9~~
Alkor 313	825	37	229	253236 ~ 253272	10 Feb 2008 ~ 20 Feb 2008	9~~
Alkor 329	826	36	283	253273 ~ 253308	15 Nov 2008 ~ 25 Nov 2008	9~~
Deneb 80	827	26	417	253309 ~ 253334	12 Jun 2007 ~ 19 Jun 2007	9~~
Deneb 88	828	39	764	253335 ~ 253373	17 Jun 2008 ~ 25 Jun 2008	9~~
Gauss 453	829	62	4811	253374 ~ 253435	26 Jan 2006 ~ 04 Feb 2006	9~~
Gauss 460	830	57	4338	253436 ~ 253492	04 May 2006 ~ 11 May 2006	9~~
Gauss 461	831	26	479	253493 ~ 253518	13 Jun 2006 ~ 20 Jun 2006	9~~
Haithabu 2005	833	150	280	253528 ~ 253677	10 Jan 2005 ~ 16 Nov 2005	9~~
Haithabu 2006	834	92	169	253678 ~ 253769	09 Jan 2006 ~ 22 Nov 2006	9~~
Haithabu 2007	835	143	266	253770 ~ 253912	05 Feb 2007 ~ 29 Nov 2007	9~~
Heincke 316	836	36	241	253913 ~ 253948	27 Jan 2010 ~ 05 Feb 2010	9~~
LANU 2008	837	162	290	253949 ~ 254110	14 Jan 2008 ~ 10 Dec 2008	9~~
LLUR 2009	838	156	284	254111 ~ 254266	13 Jan 2009 ~ 09 Dec 2009	9~~
LUNG 2005	839	470	857	254267 ~ 254736	04 Jan 2005 ~ 20 Dec 2005	9~~
LUNG 2006	840	355	636	254737 ~ 255091	03 Jan 2006 ~ 19 Dec 2006	9~~
Prof. A. Penck 07-18	851	60	509	255390 ~ 255449	26 Jul 2007 ~ 04 Aug 2007	9~~
Prof. A. Penck 08-10	852	34	1369	255450 ~ 255483	29 Apr 2008 ~ 06 May 2008	9~~
Prof. A. Penck 09-07	853	32	201	255484 ~ 255515	21 Mar 2009 ~ 29 Mar 2009	9~~
Prof. A. Penck 10-07	854	20	127	255516 ~ 255535	17 Mar 2010 ~ 25 Mar 2010	9~~
Walther Herwig III 281	865	15	582	255731 ~ 255745	06 Dec 2005 ~ 16 Dec 2005	9~~
Walther Herwig III 288	866	126	8246	255746 ~ 255871	20 May 2006 ~ 05 Jun 2006	9~~



Baltic Sea V1 aggregated dataset (1900-)

V1_aggregated_20130215



Station Selection Criteria:

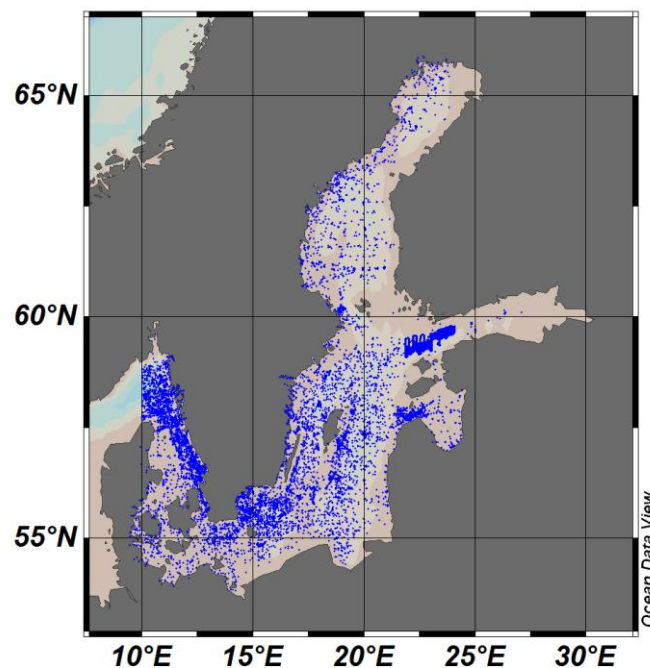
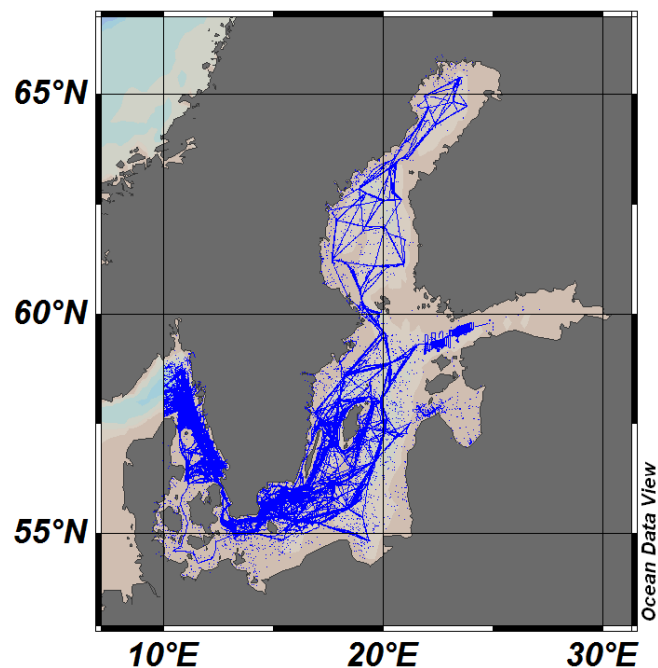
1/Jan/1900-

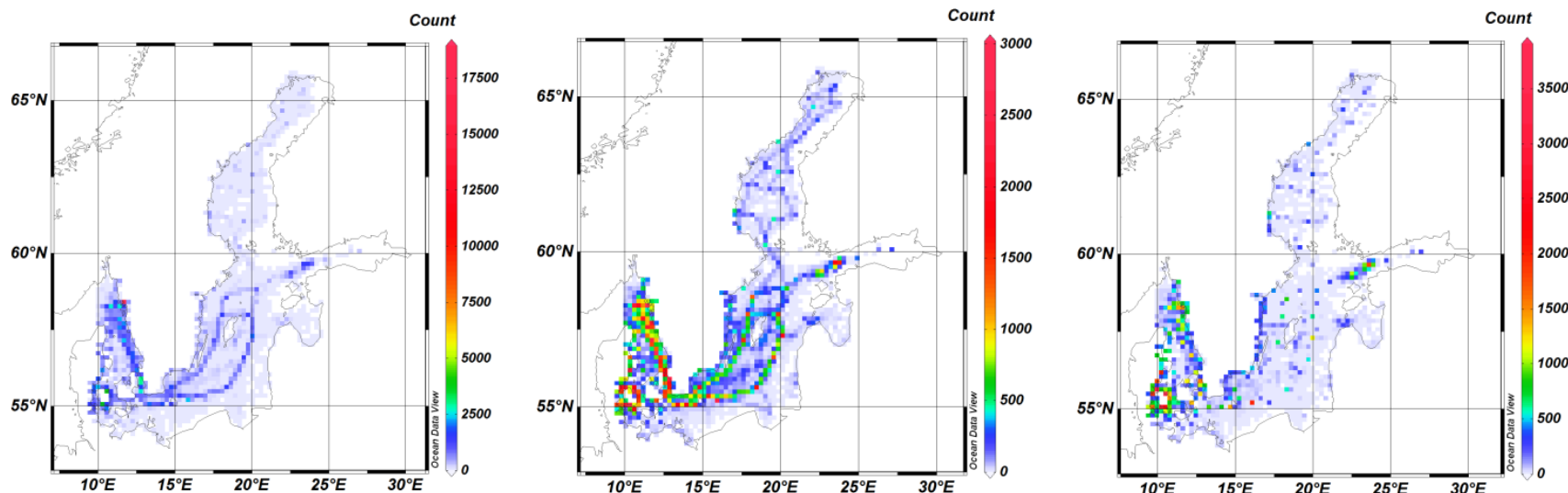
Polygon Selection to avoid North Sea (East of 10°E in the Skagerrak)

Data distribution and data density map (Figure 1)

TOTAL: 313138 Data points (including profiles and “surface points” from ferry box)

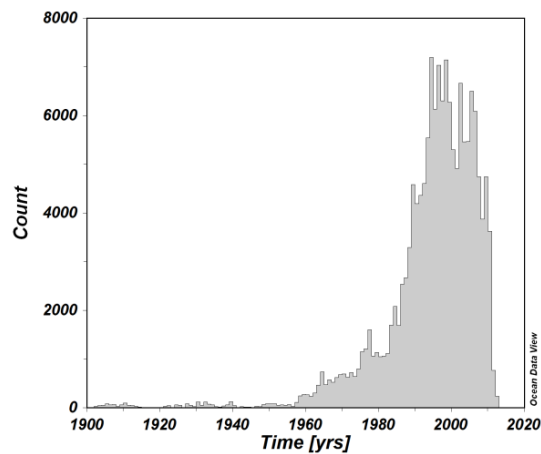
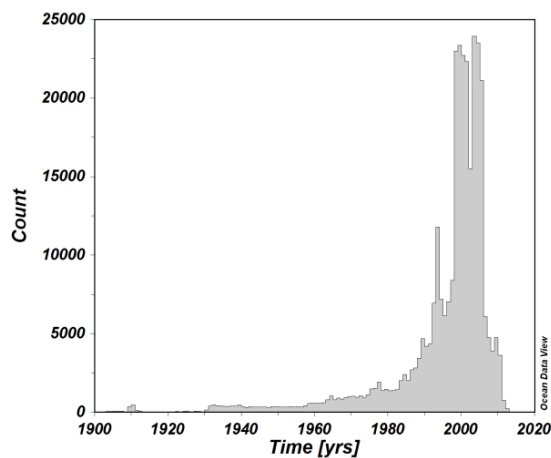
But I have found a portion of metadata with no data in my dataset which I have not had time to investigate thoroughly. If I select CDIs *prof_MUDAB, I get 2193 data points with no data, and also no metadata from the CDI. Only the metadata from the ODV-file is present.



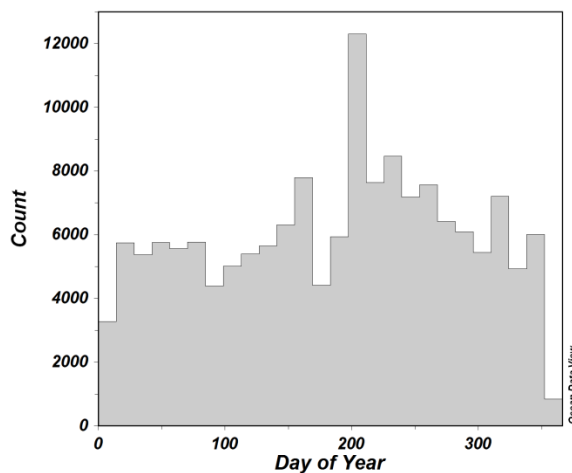
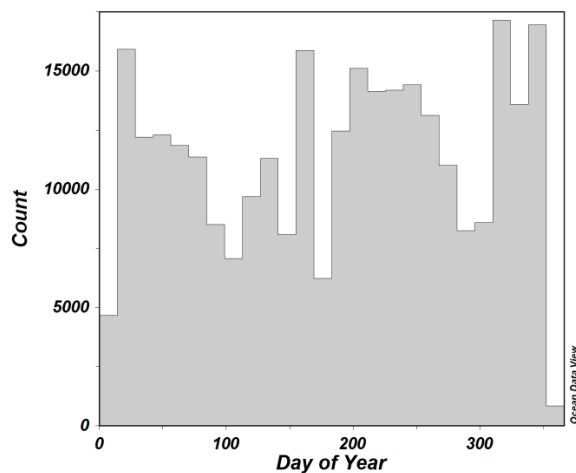


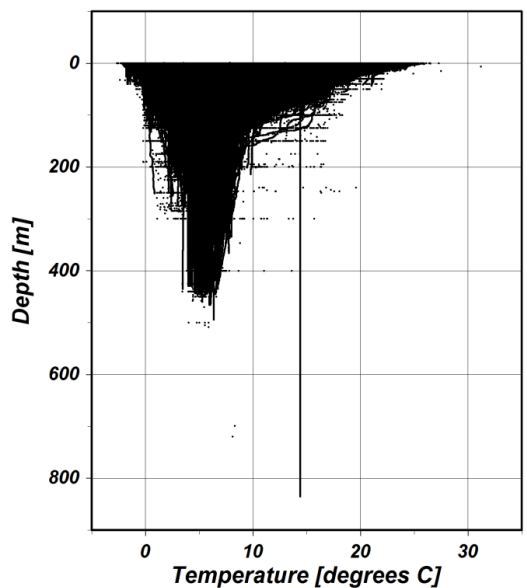
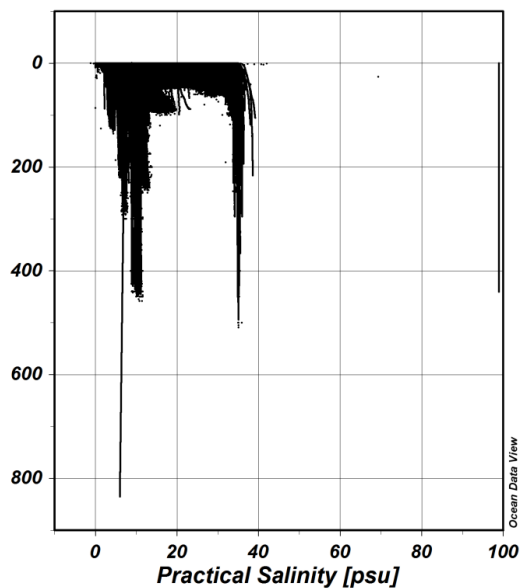
(left) Data density map, (middle) data density map without stationary daily station, (right) data density map without stationary daily station and without high resolution “surface” ferry box.

Red dot in density map (left) is from a stationary monitoring station measured daily. This creates a very large scale range which makes it hard to see the “true” spatial density distribution. Similar with data from ferry box(many data points) it’s hard to see anything else. Two extra figures were created, with these data excluded, to see a more correct spatial distribution.



**(top) Annual data distribution and
(bottom) seasonal data distribution;
(left) with all data;
(right) without ferry box and
stationary daily station**

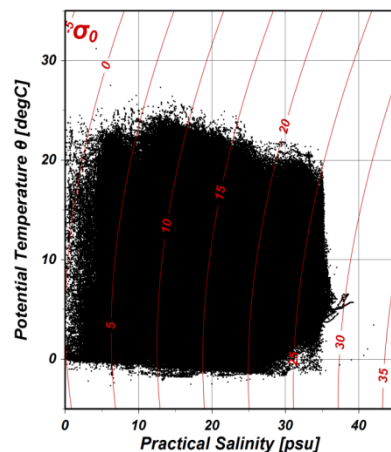
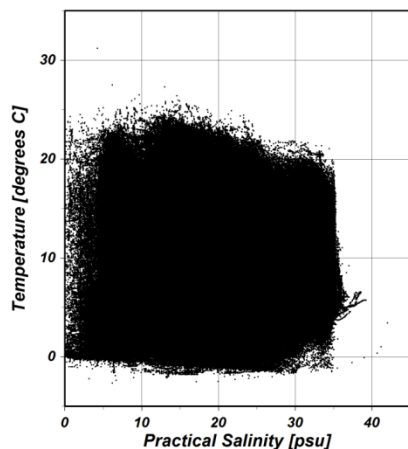




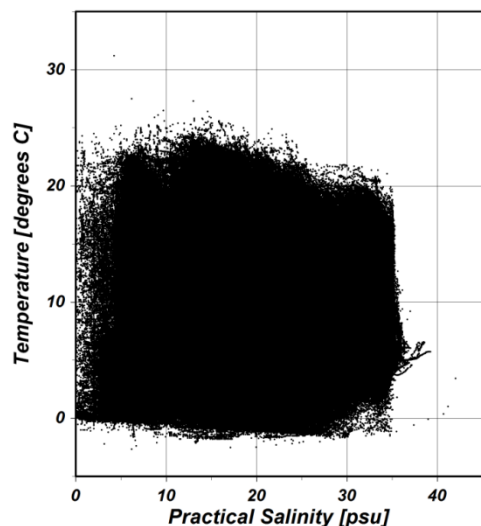
One corrupt CTD profile down to 800+ meters.

Some CTD profiles with salinity 99, these will be updated with correct data.

Salinity (left) and Temperature (right) scatter plots of V1 raw aggregated data set.

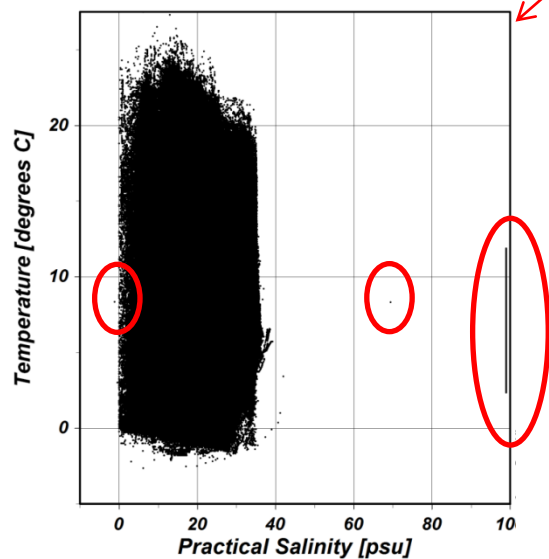


(left) Temperature and Salinity diagram of V1 aggregated dataset; (right) Potential Temperature and Salinity diagram with over imposed the potential density anomaly curves (red line).

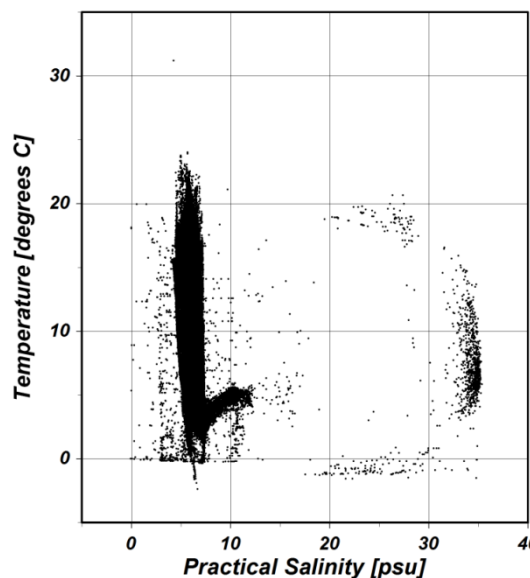


Same as earlier figure with salinity 99, these will be updated. But still a few other values with flag 1 that probably aren't good.

All data



QC flags equal to 1 (good)

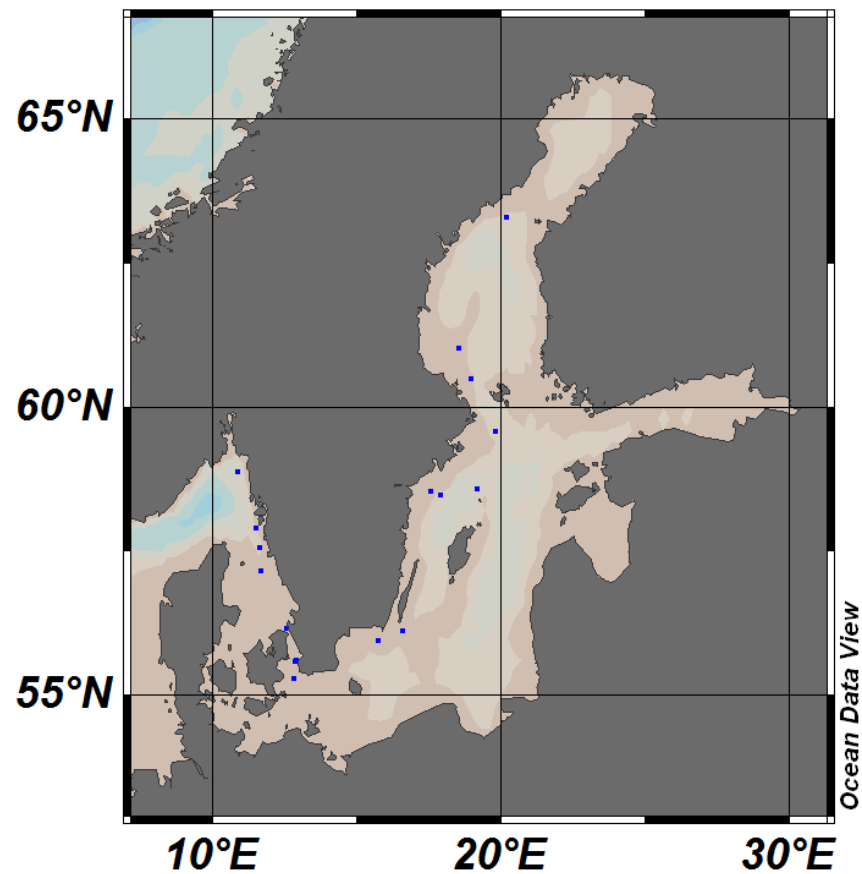


QC flags equal to 0 (no quality control)

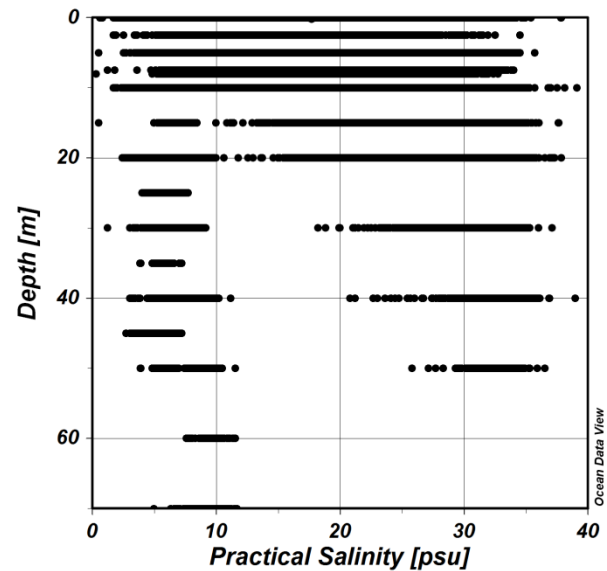
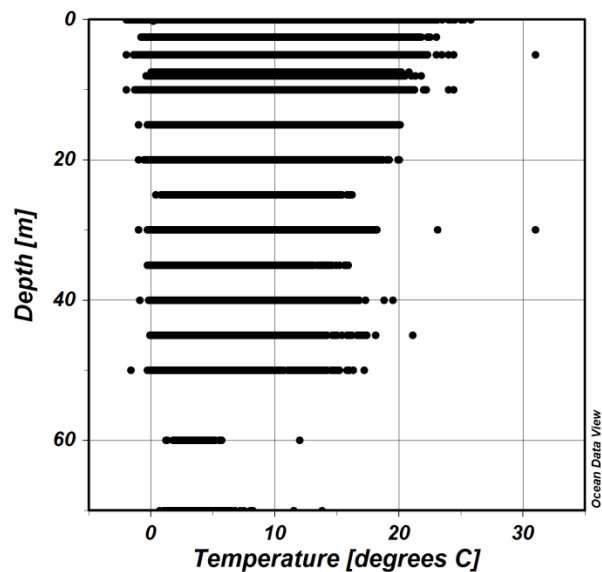
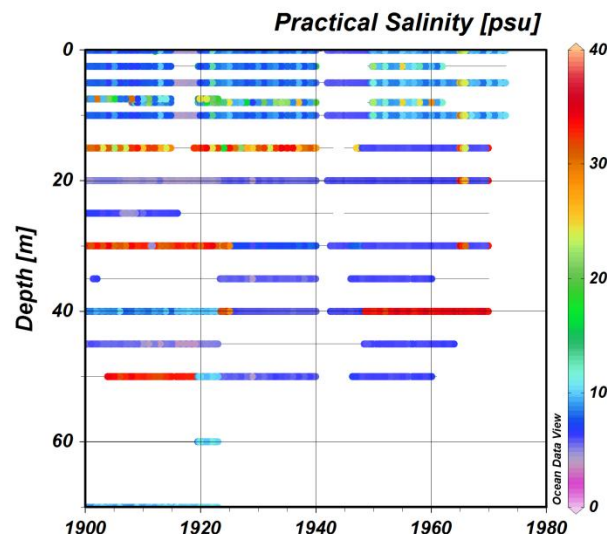
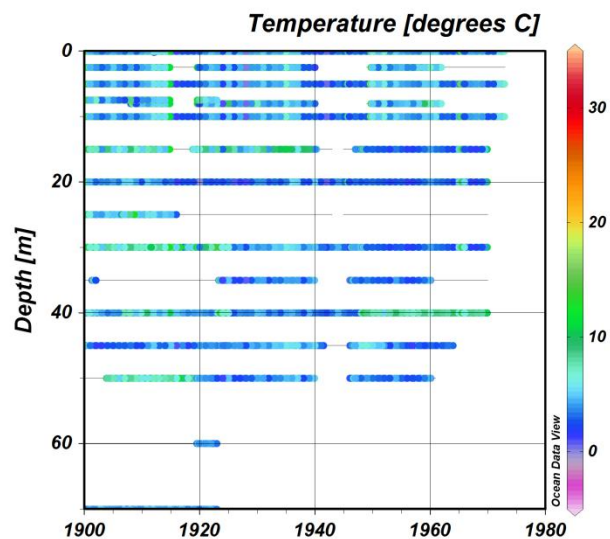
QF	0	1	2	3, 4	Total	Outside range check	
	not checked	good	probably good	probably bad, bad			
Depth	1675540	6954983	0	0	8630523	N/A	25859 with only depth
	19,41%	80,59%	0,00%	0,00%			
Temperature	1095731	7466786	0	9	8562526	28	-2 - 27 °C
	12,80%	87,20%	0,00%	0,00%		0,00%	
Salinity	1095835	7408623		99	8504557	26594	26325 is from errors in some CTD-files
	12,89%	87,11%	0,00%	0,00%		0,31%	0.01 - 40
						269	true outliers (5 already flagged as bad)
						0,00%	

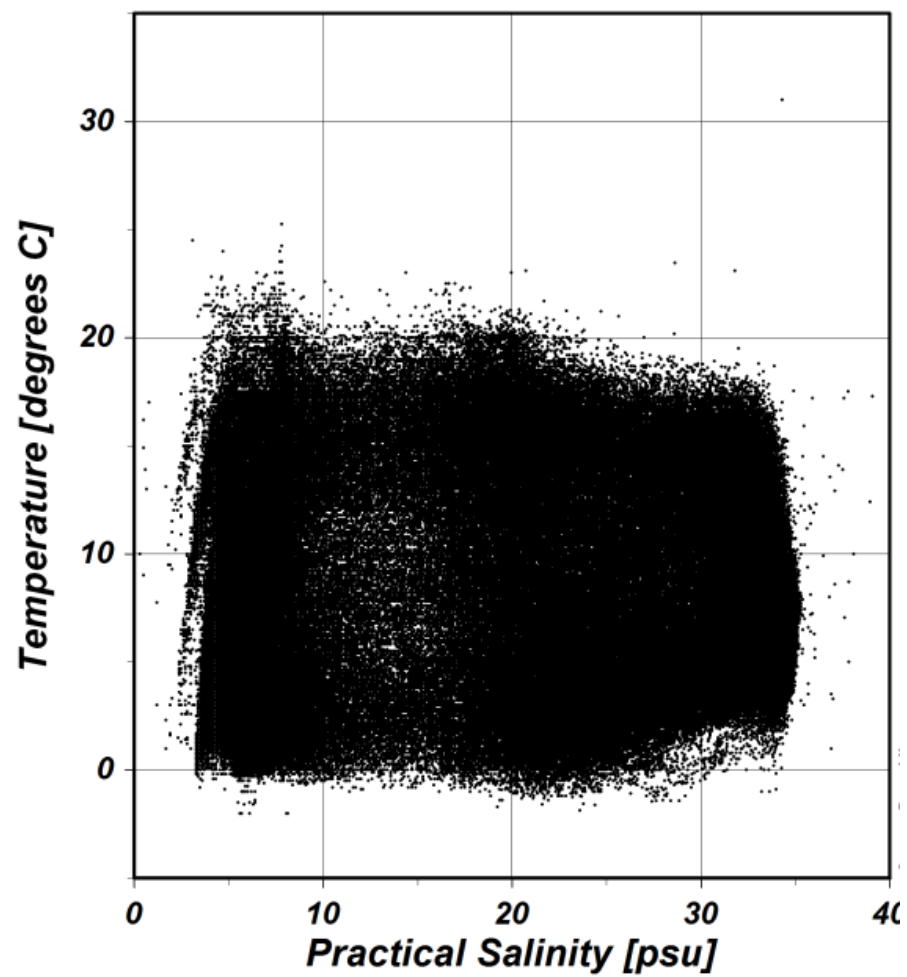
Times series

V1_aggregated_20130215



Available data





- Hard to find errors in the Baltic region with range checks for the whole dataset.
 - Maybe seasonal checks and/or regional (sea area) checks...
 - Range checks deeper water, with tighter ranges.
- Further quality checks? Stable profiles (density)? Spikes?
 - Common procedures
- Overall good quality with the very limited controls performed.