SeaDataNet

PAN-EUROPEAN INFRASTRUCTURE
FOR OCEAN & MARINE DATA
MANAGEMENT

Report on the Mediterranean Sea V1.1 Historical Data Collection

Antonio Guarnieri
on behalf of S.Simoncelli & M.Tonani (INGV)

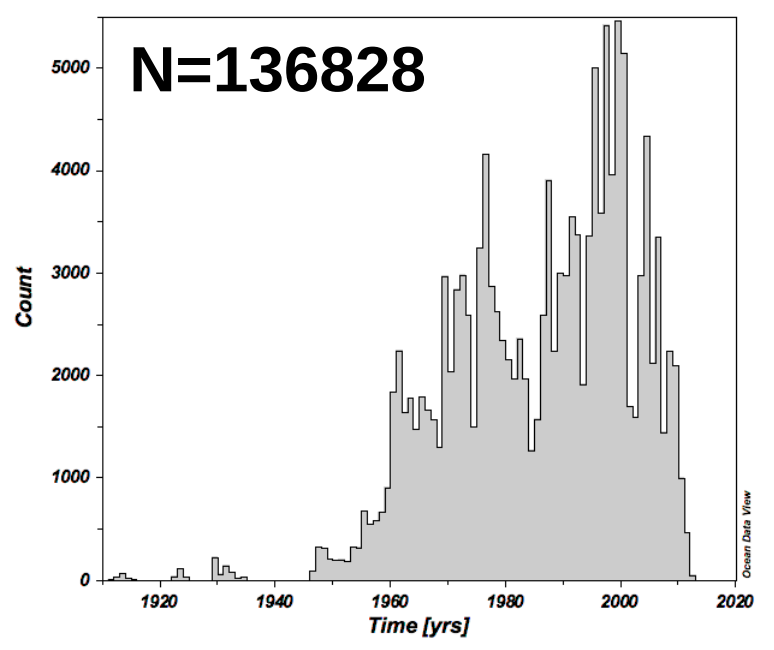
OUTLINE

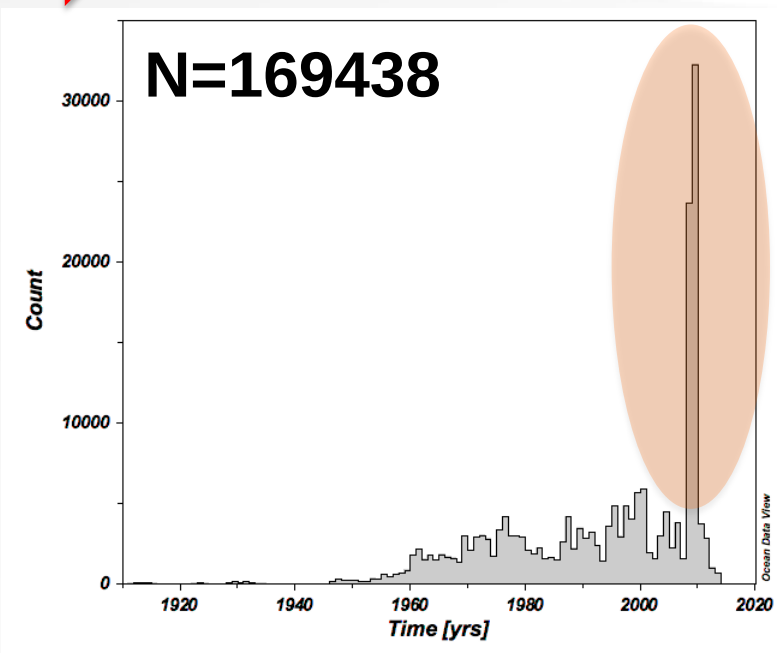
- SDN database content improvement
- Description of Mediterranean Sea V1.1 historical data collection
- Data Analysis
  - ✓ Temperature and Salinity
  - ✓ TS diagrams
  - ✓ Restricted Data Set
- Conclusions

Improvements during SDN Project

1900-2012

V1 → **V1.1**



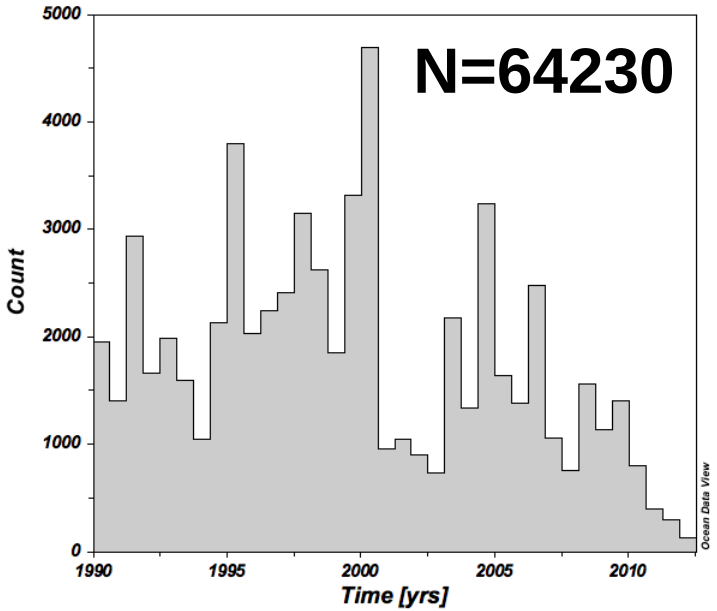


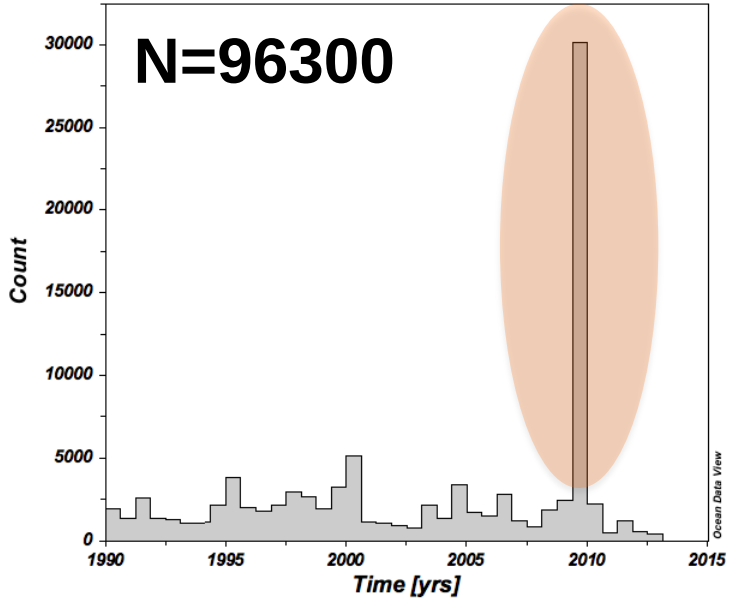
Data population for the time period 1900-2012 increased by 32610 data points

Improvements during SDN Project

1990-2012

V1 → **V1.1**

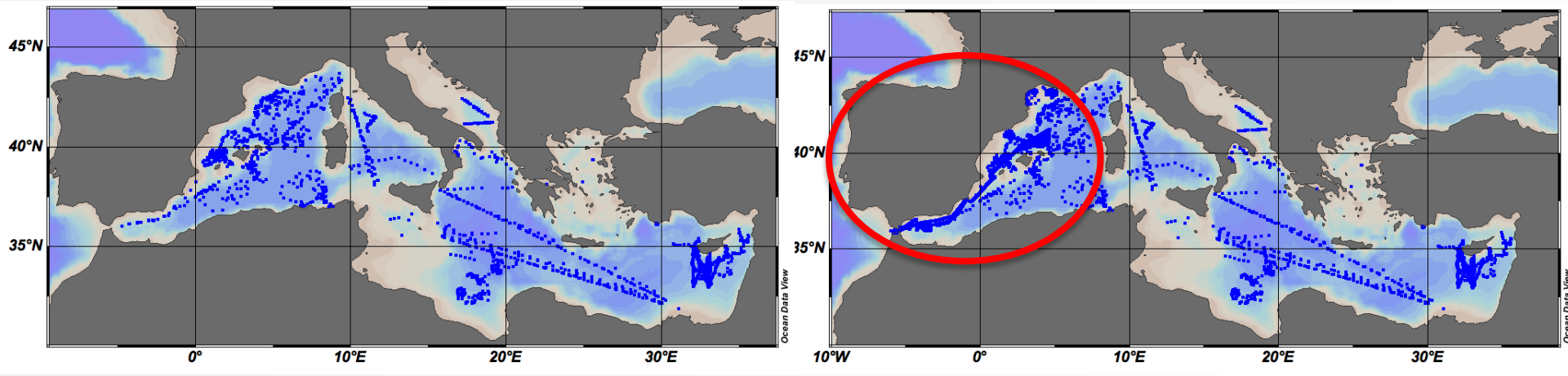




In 2009 a lot of SeaGliders were introduced (EDMOCODES 108, 120, 1130 1338 134 136 164 353 …)

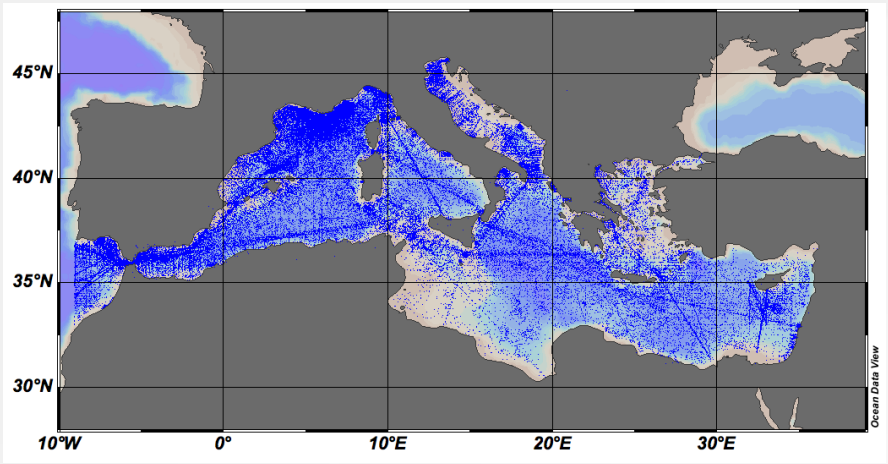
Improvements during SDN Project

V1 **2009** **V1.1**

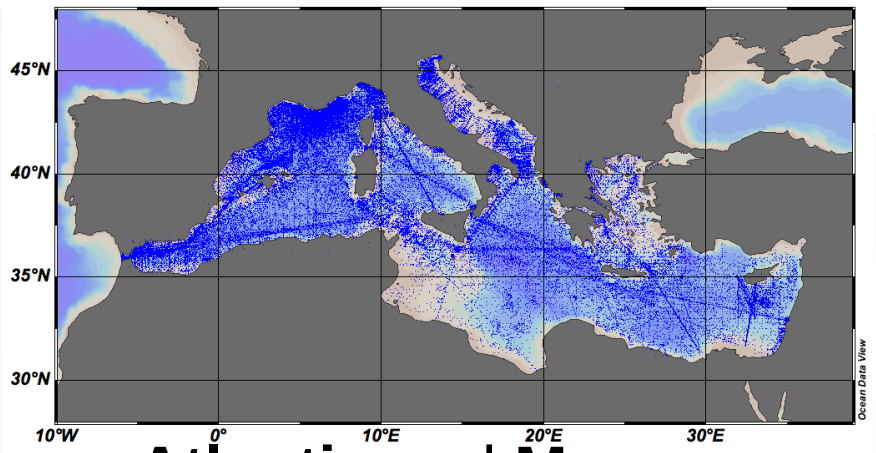


In 2009 a lot of SeaGliders were introduced (EDMO CODES 108, 120, 1130 1338 134 136 164 353 …)

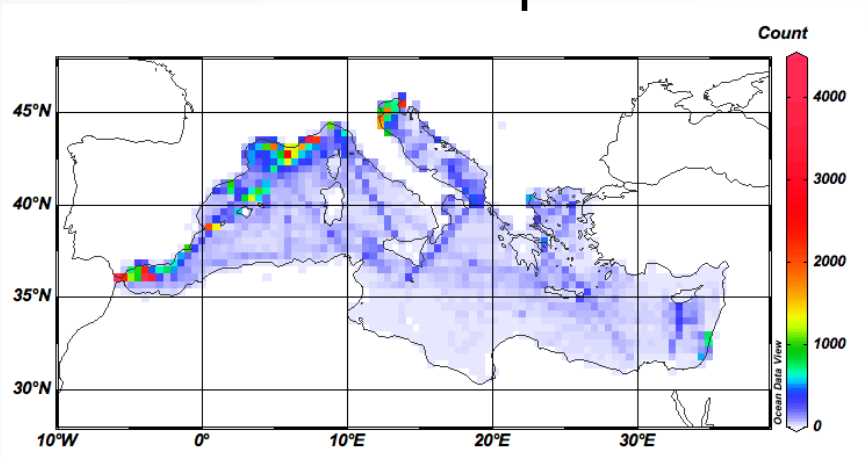
V1.1 Data Distribution and Density Map



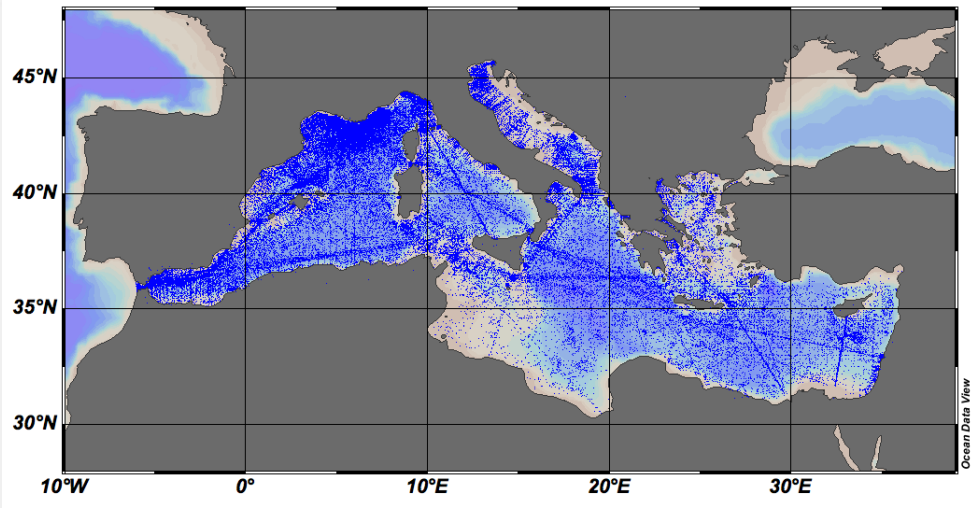
entire collection
200904 data points

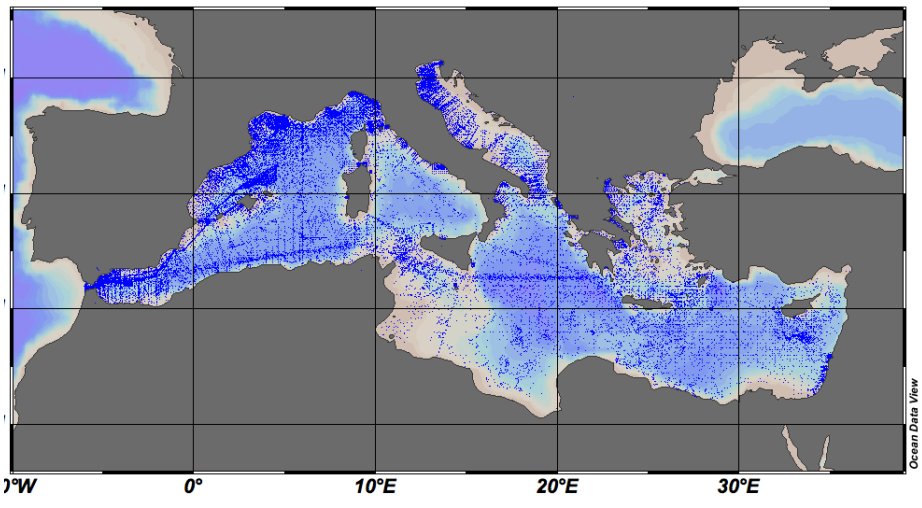


no **Atlantic** and **Marmara**
169438 data points



Data Distribution and Density Map

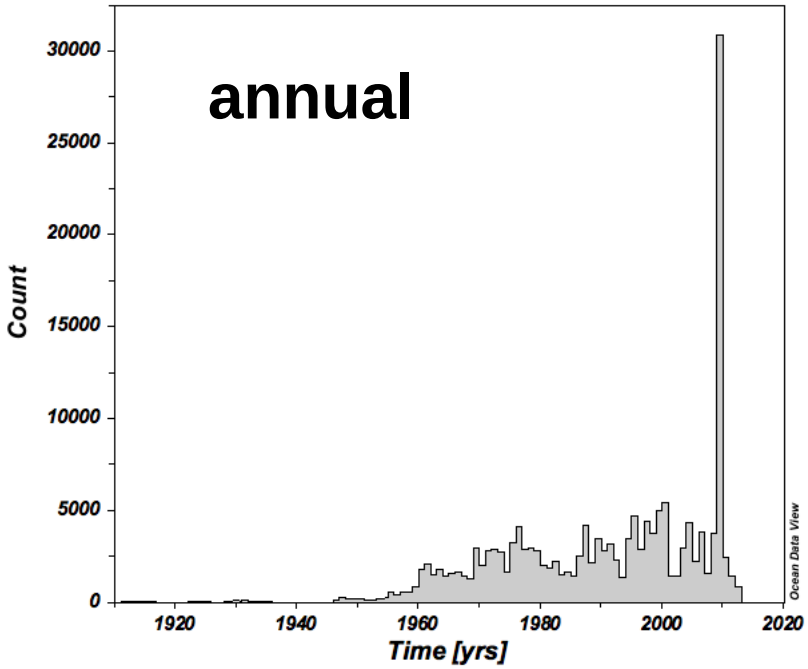


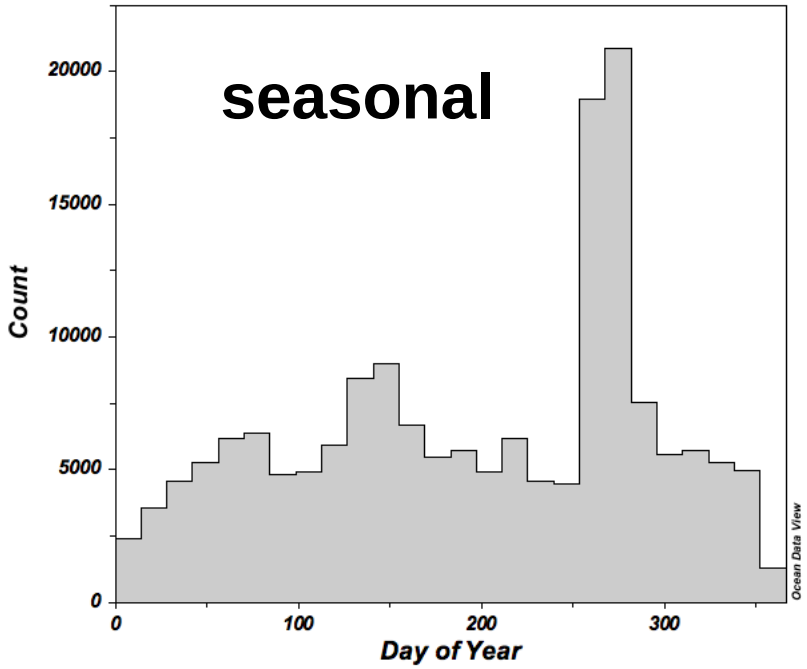


TEMPERATURE **SALINITY**

PAR	# points
	169438
T	165243
S	110670
TS	109249

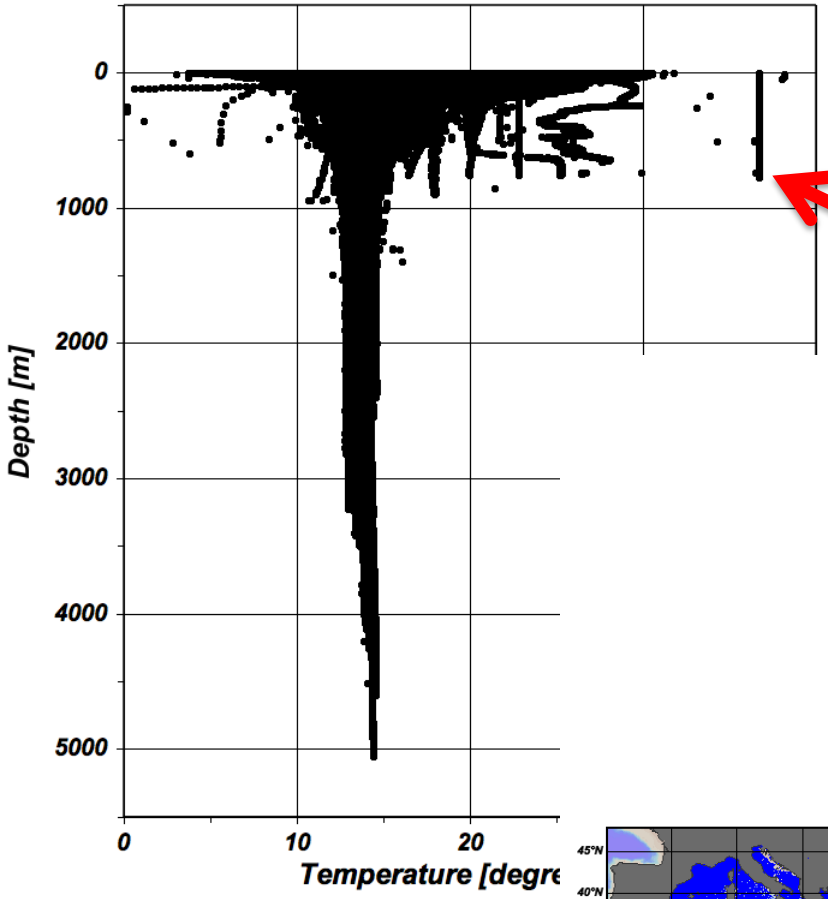
Time distribution

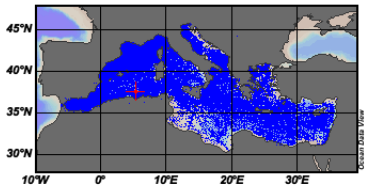


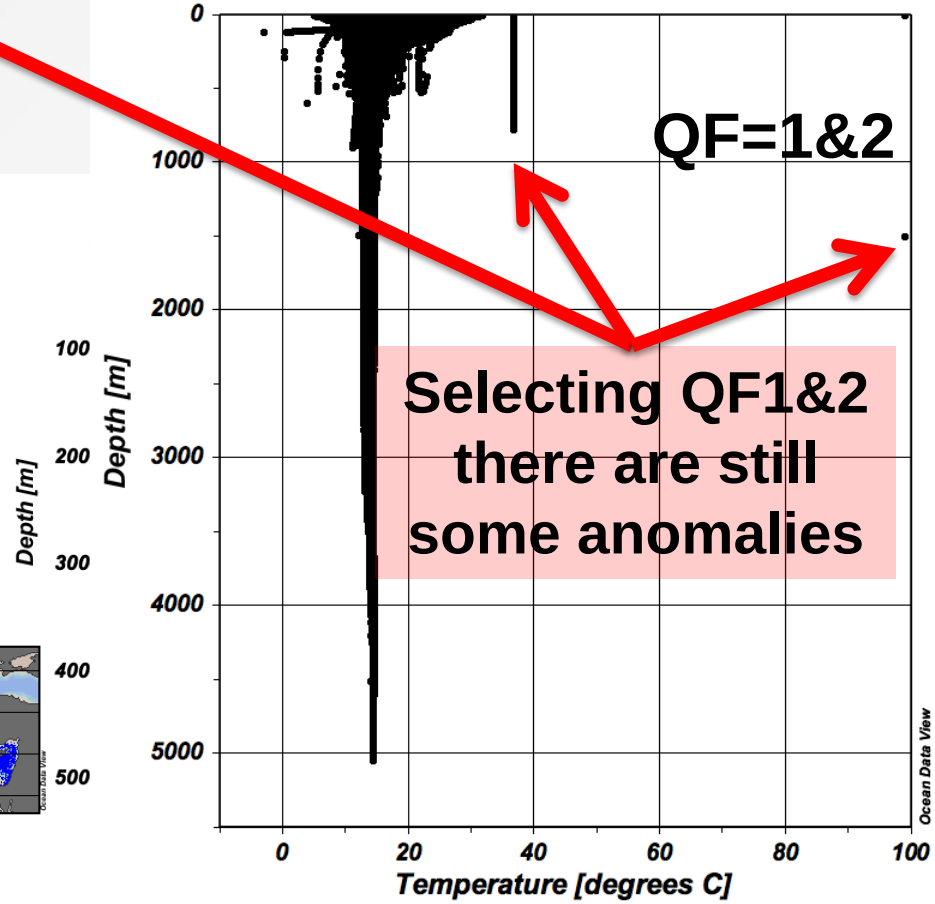


Scatter Plots: TEMPERATURE

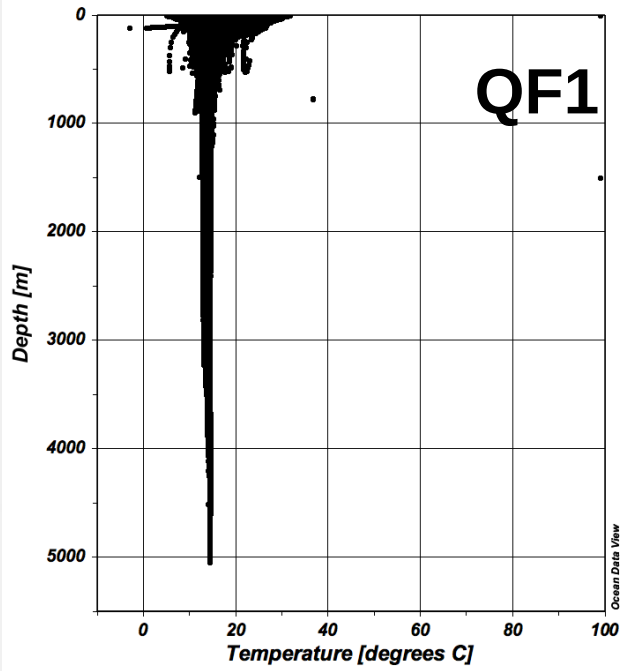
Temperature scatter plot of all obs shows that there are some anomalies → bad data flagged 1

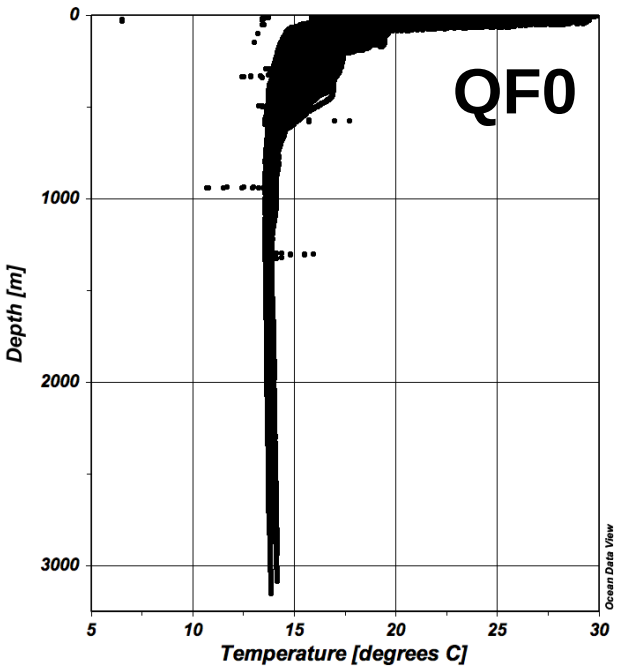


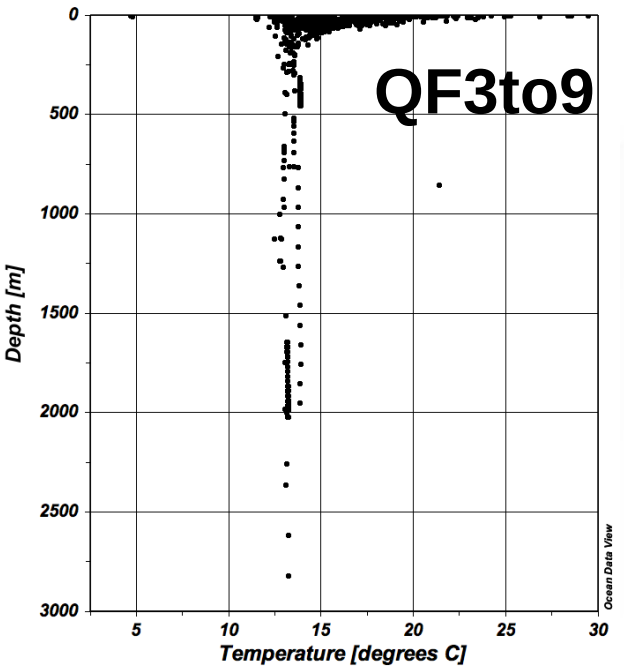




Scatter Plots: TEMPERATURE



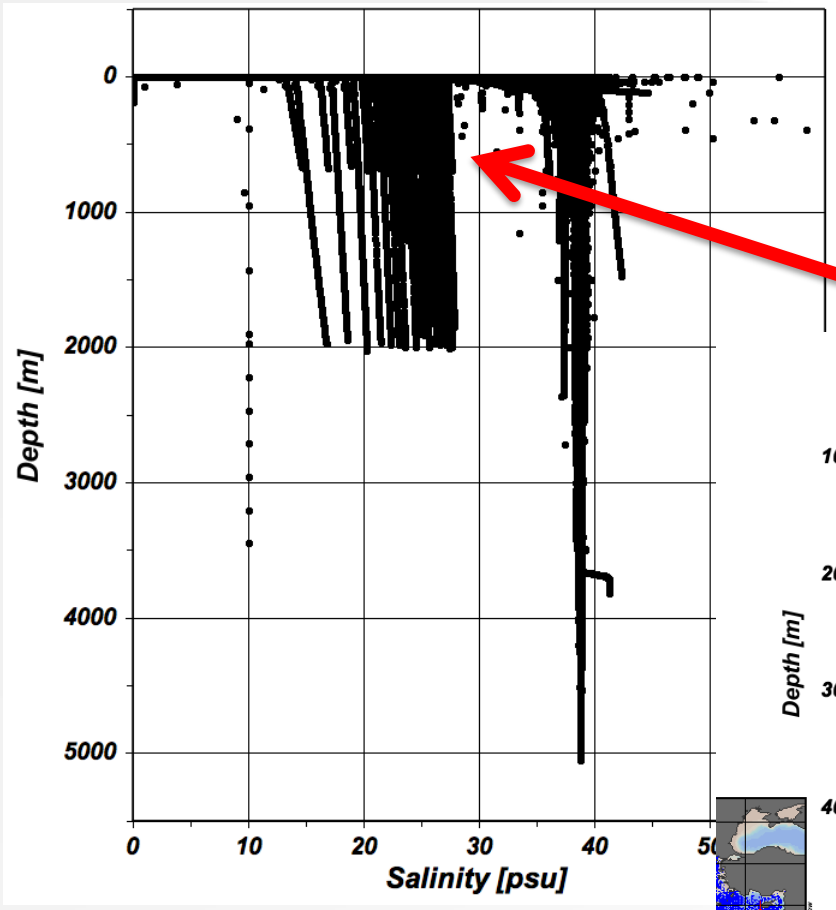


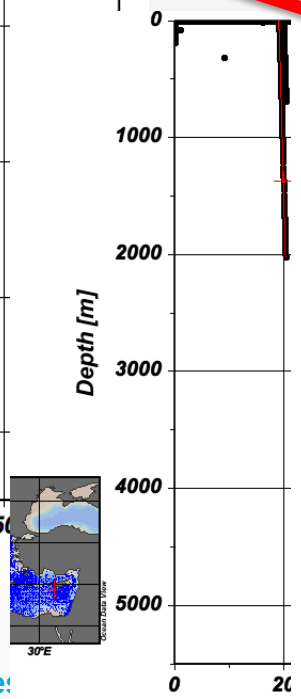


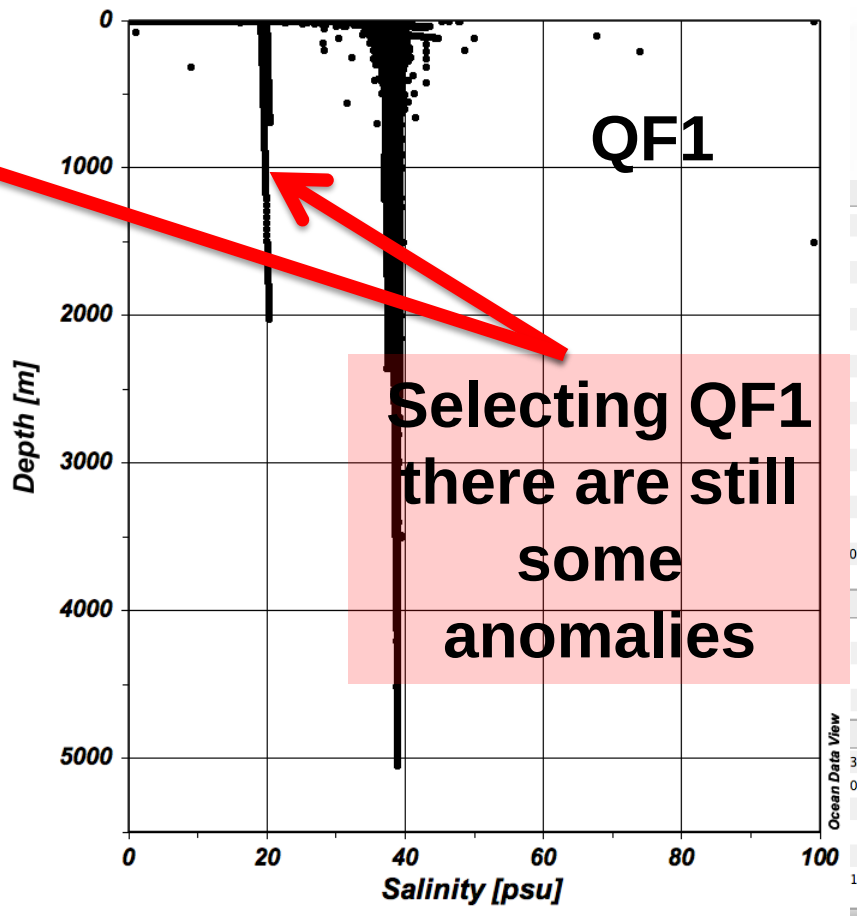
	TOT	QF0	QF1	QF2	QF>3
T	24889496	718157 **2.9%**	24086659 **96.8%**	49610 **0.2%**	35070 **0.1%**

Scatter Plots: SALINITY

Salinity scatter plot of all obs shows that there are some anomalies → bad data flagged 1

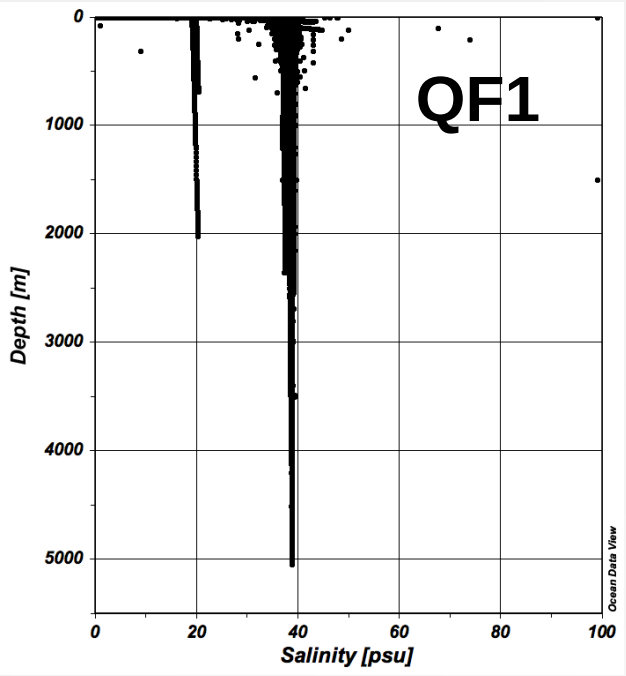


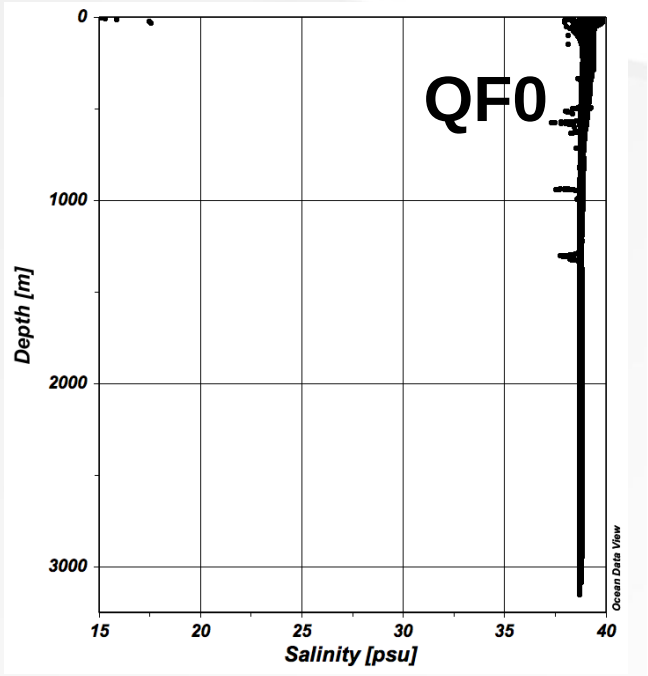


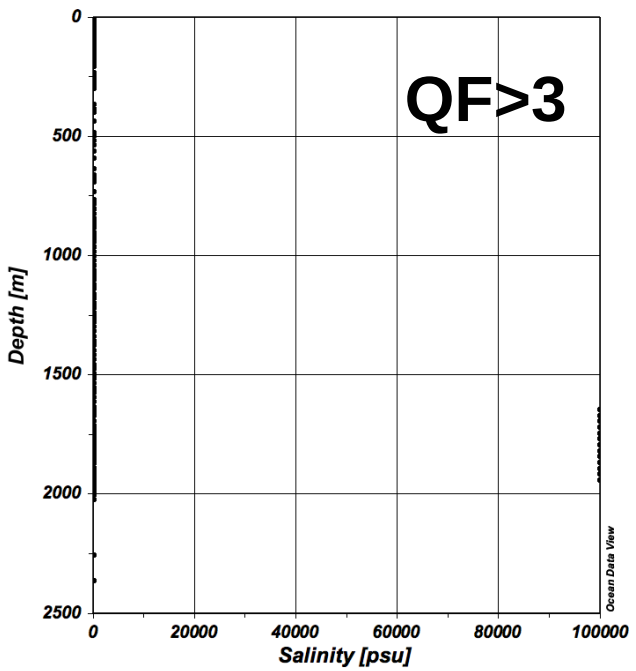


Selecting QF1 there are still some anomalies

Scatter Plots: SALINITY

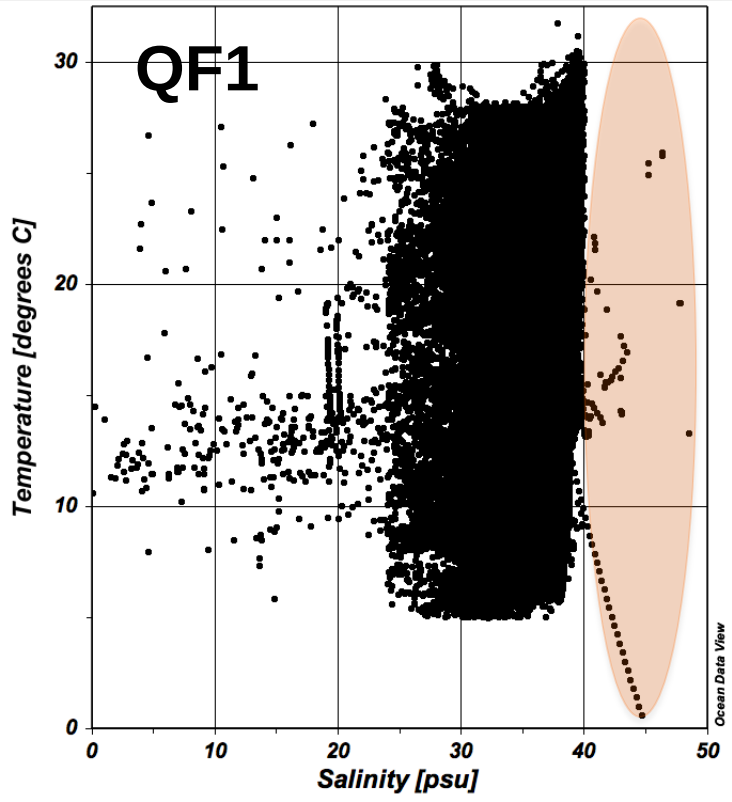


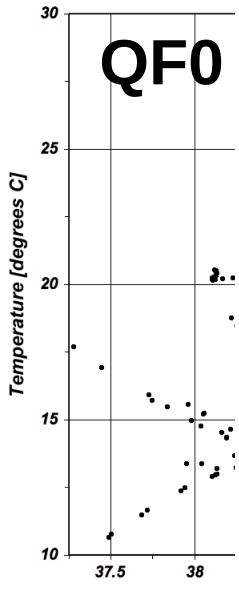


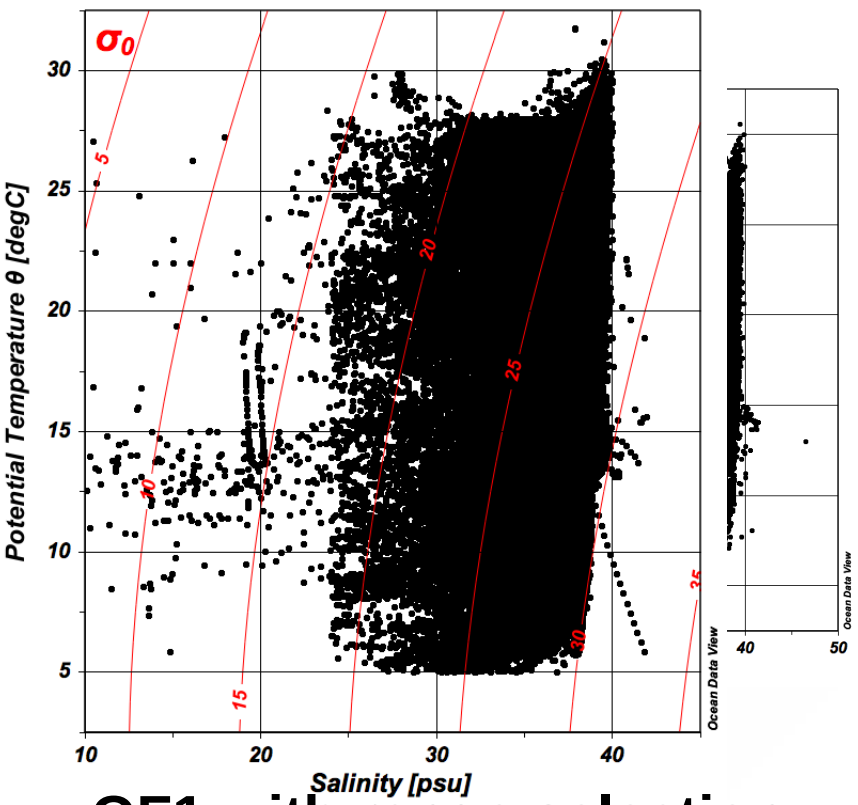


	TOT	QF0	QF1	QF2	QF>3
S	16121430	718517 **4.5%**	15360727 **95.3%**	0	42186 **0.3%**

TS diagrams

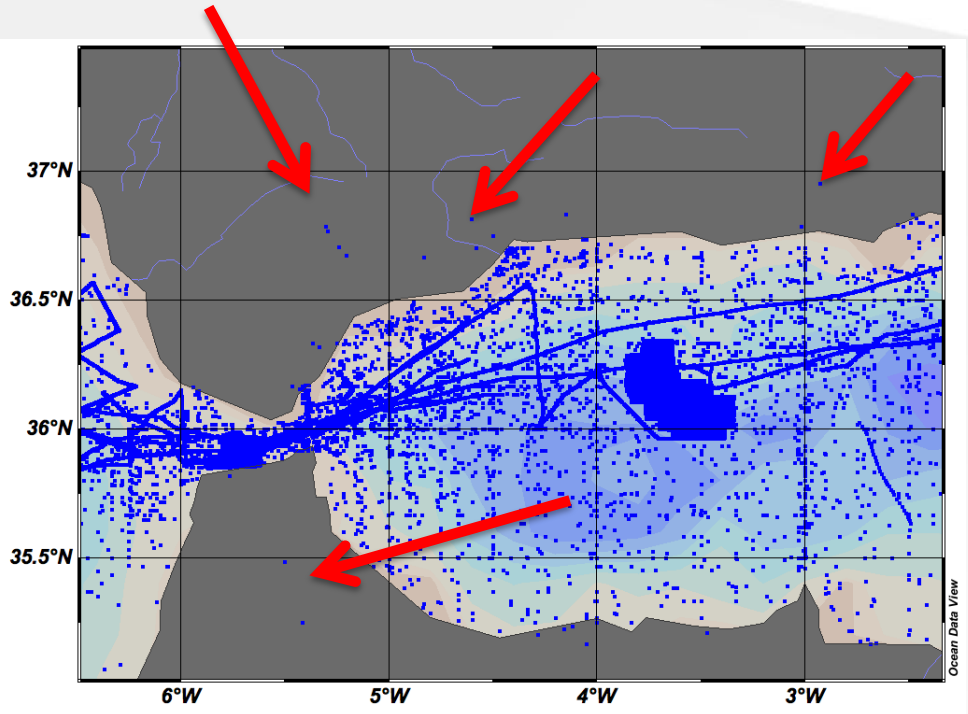




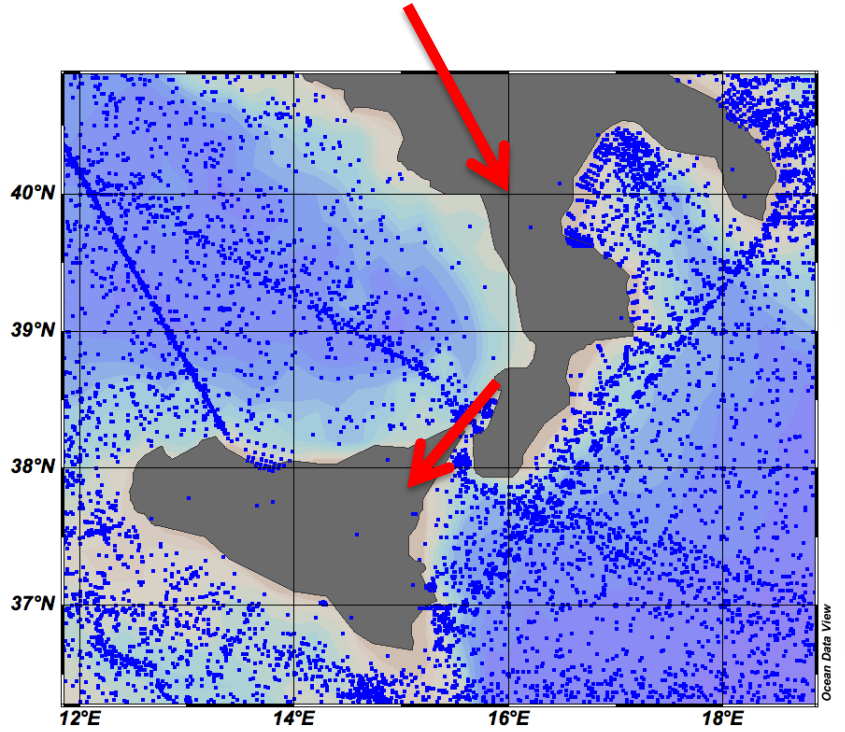


QF1 with range selection
T 4 - 32°C
S 10 - 42psu

Land Points

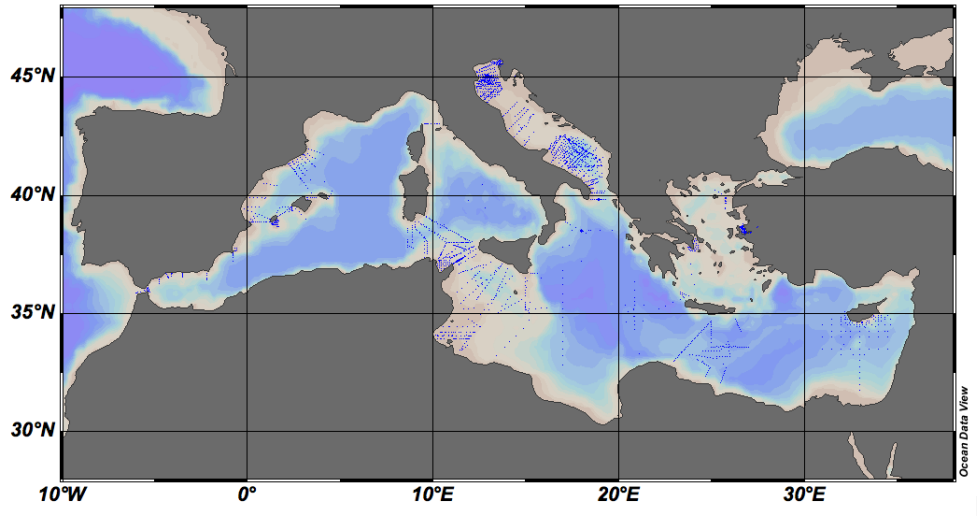


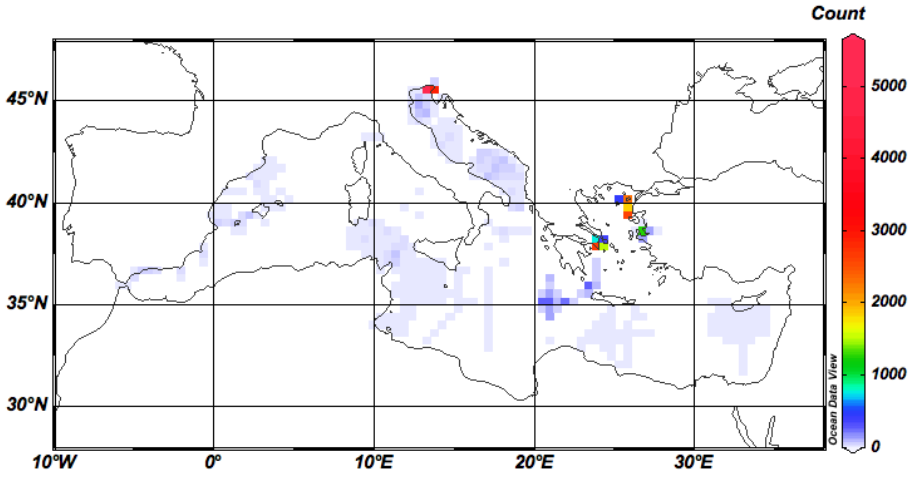
EDMO CODES
540 and 353



EDMO CODES
237, 486, 540, 353

Restricted Data Set

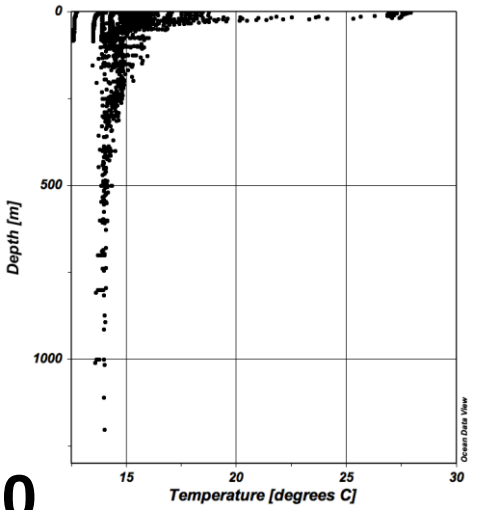


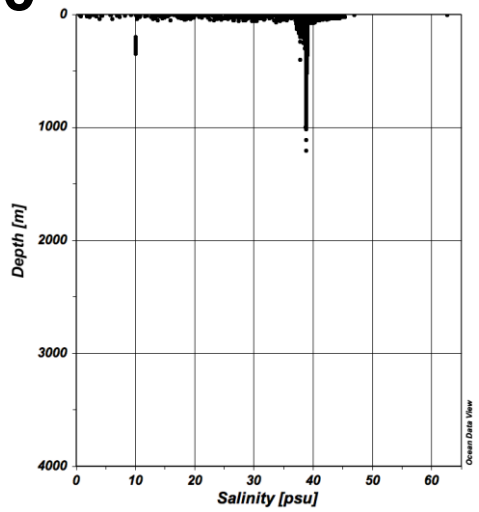


PAR	# points
	28690
T	25889
S	28289
TS	25543

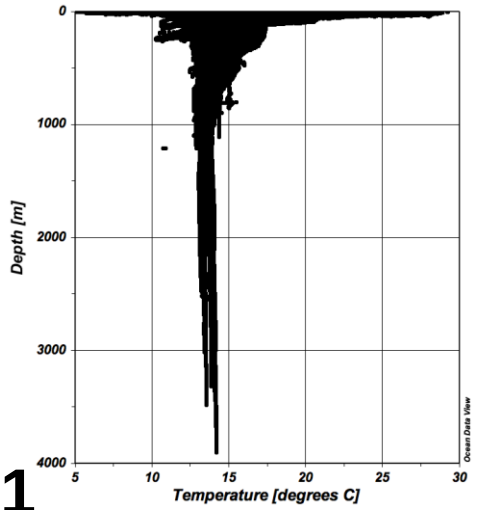
Restricted Data Set

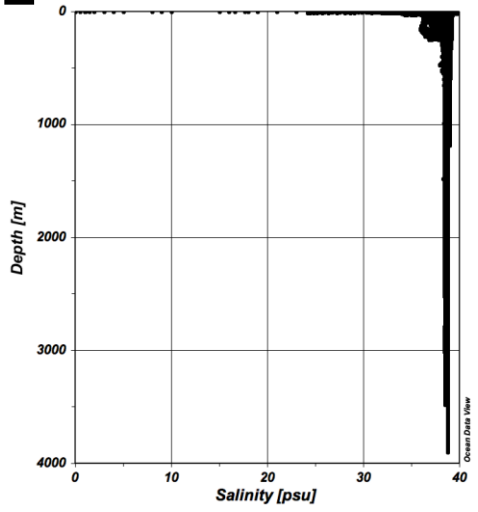
QF0



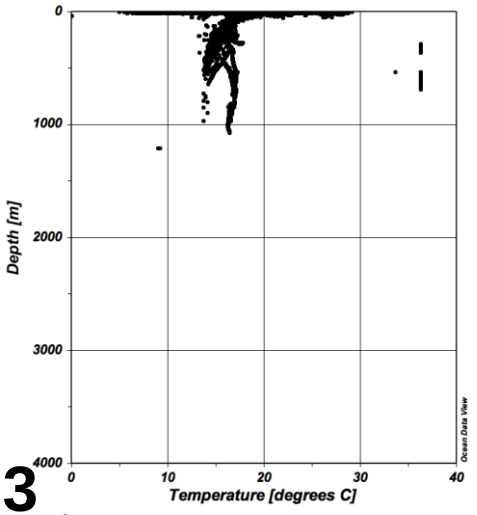


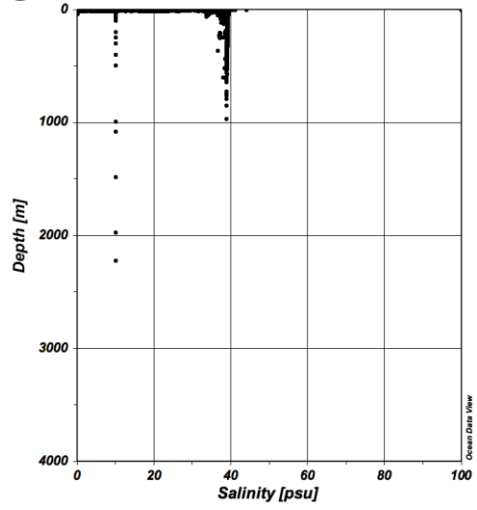
QF1





QF>3





	TOT	QF0	QF1	QF2	QF>3
T	6638252	2094	6621344 (**98.8%**)	0	11414 (**0.2%**)
S	6622804	67791 (**1%**)	6542113 (**98.8%**)	0	12900 (**0.2%**)

Conclusions

- V1.1 data collection contains more data than V1 version;
- V1.1 data quality is better than V1 thanks to the QC strategy implemented between RCs-MyO INSTAC-NODCs;
- Restricted data, retrieved during last aggregation exercise, are still 14.5% of the total number of data within SDN infrastructure;
- QC analysis of V1.1 data set highlighted that there are still some:
    1. bad data are flagged as good
    2. data on land
    3. wrong longitude format (360° instead of ±180°)
- **V1.1 data collection presents a good quality and can be delivered to external users from the point of view of quality;**
- **V1.1 restricted dataset presents good quality as well and can be used for CLIMATOLOGY computation purposes;**
- **ODV** tool presents some limitations for QC analysis (control on axis limits, colorbars, loss of info on instrument type) → difficult to make comparison between different versions