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PAN-EUROPEAN INFRASTRUCTURE
FOR OCEAN & MARINE DATA
MANAGEMENT

Report on the Mediterranean Sea: Climatologies and the V2 Historical Data Collection

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OUTLINE

- Climatology settings
- Temperature and salinity Maps
- Consistency analysis
- Results
- Description of Mediterranean Sea V2 historical data collection
- Data population increase
- Quality Flag statistics
- Results of V2 analysis

CLIMATOLOGY SETTINGS

- DIVA (4.6.9 version)
- GRID: 1/8°x1/8° on 33 IODE standard levels
- Monthly temperature fields
- Seasonal/Monthly salinity fields
- Background fields: annual semi-normed analysis for salinity and 3 months semi-normed analysis for temperature centered on each analysis month
- Error field: “clever poor men’s error field” (ispec=111)

Parameter	AN	REF
Lc correlation length	2	2
lcoord change	1	1
ispec	111	111
ireg	1	0
xori	-9.25	-9.25
yori	30	30
dx	0.125	0.125
dy	0.125	0.125
nx	367	367
ny	129	129
valex	-9999.0	-9999.0
snr	0.5	0.5
varbak	0.6	0.6

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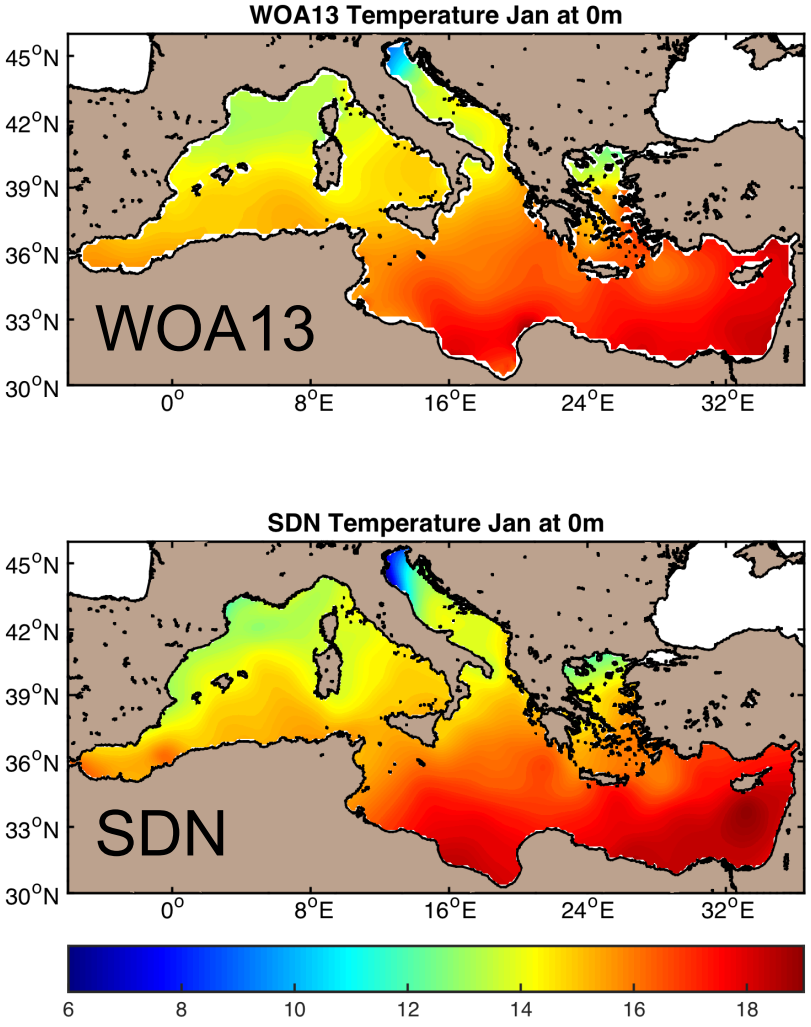
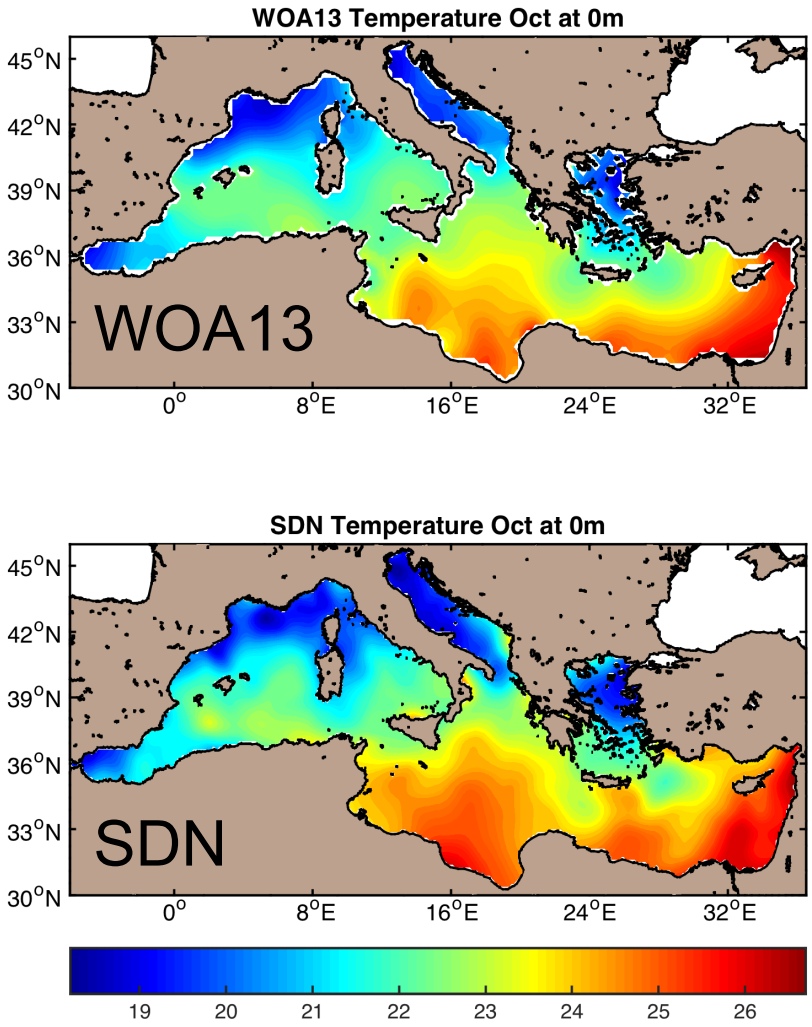
TEMPERATURE

January

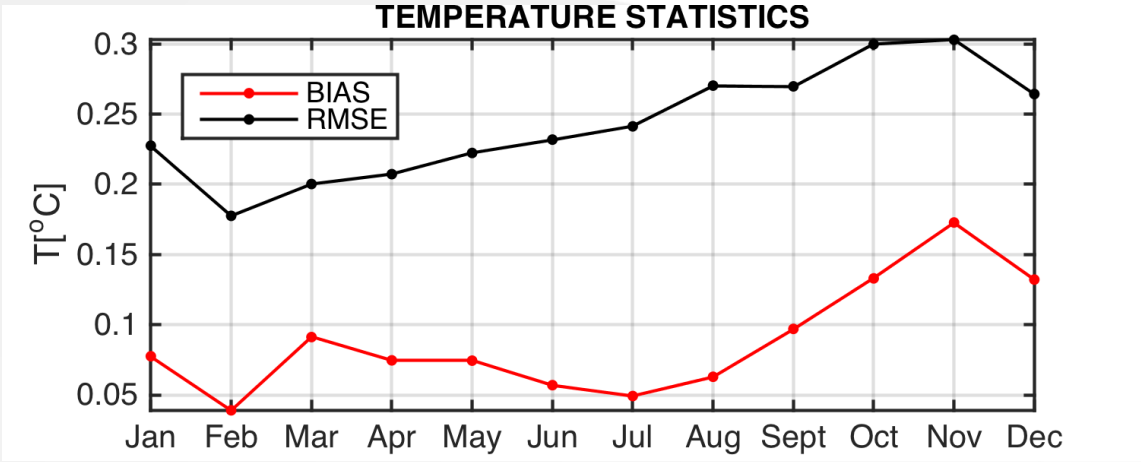


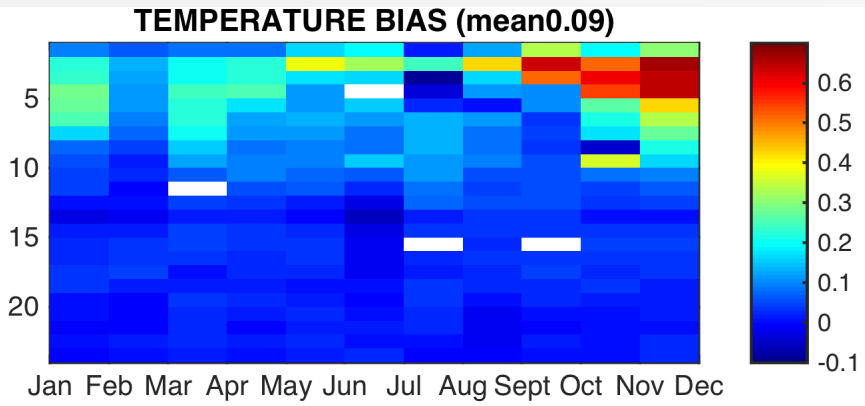
October

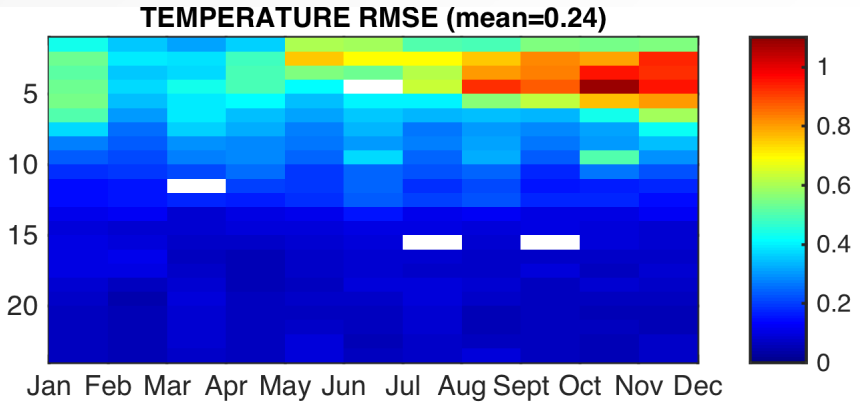


CONSISTENCY ANALYSIS

SDN-WOA13 monthly basin average BIAS and RMSE







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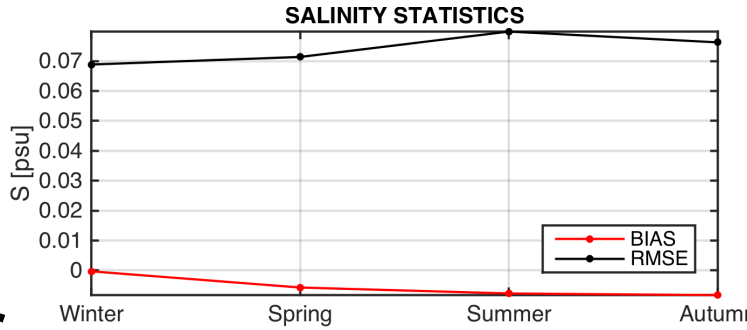
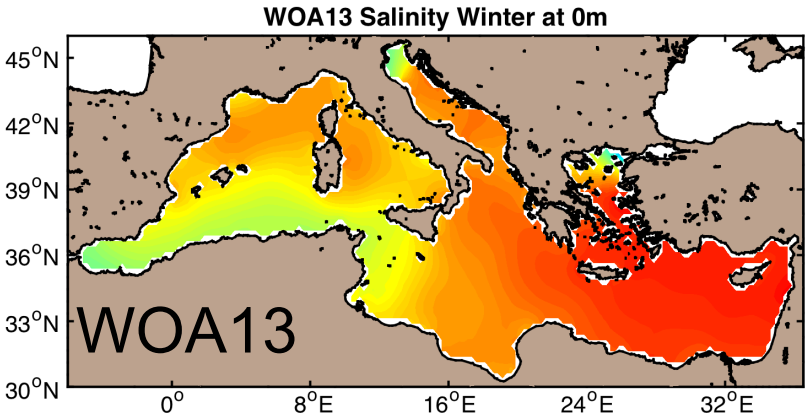
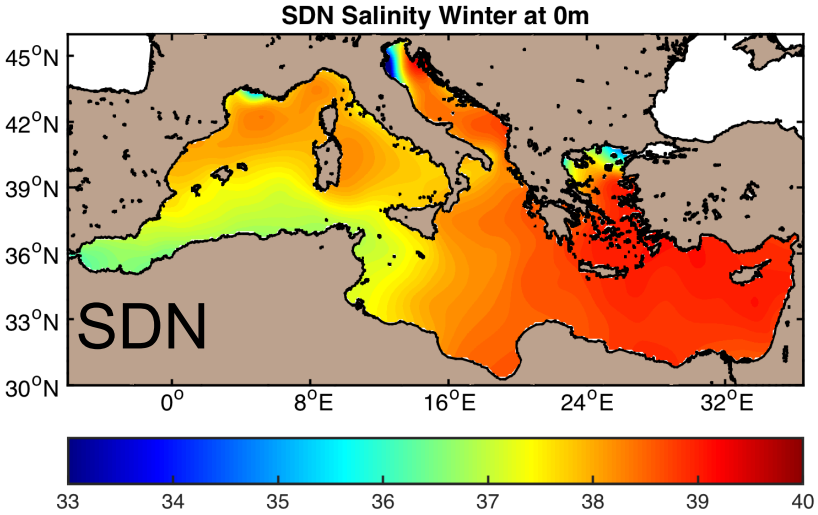


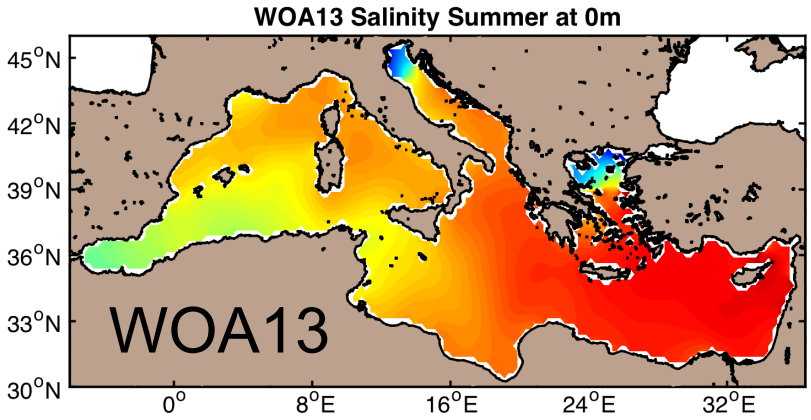
SALINITY

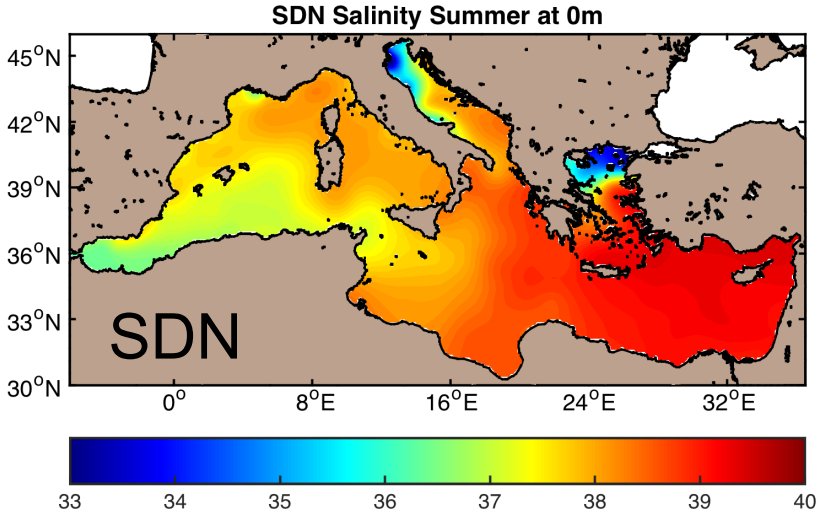
Winter





Summer





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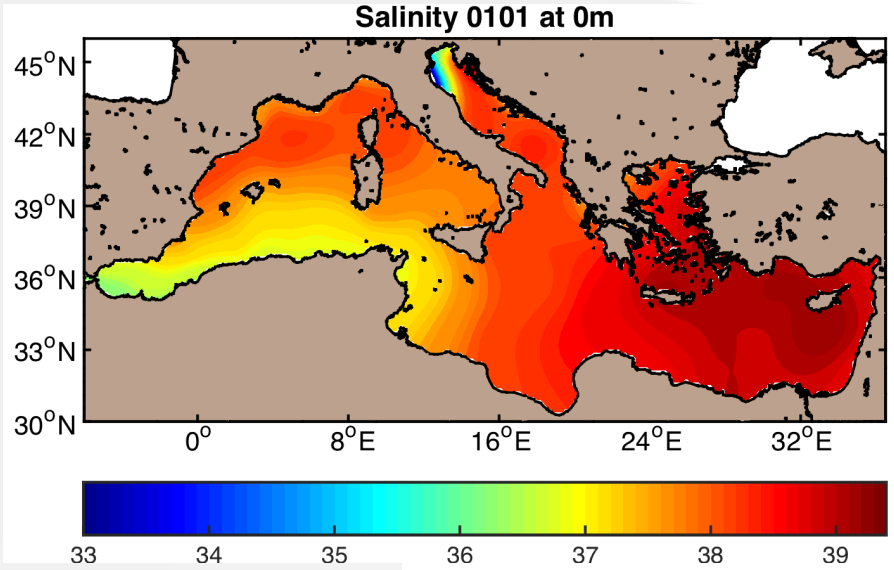
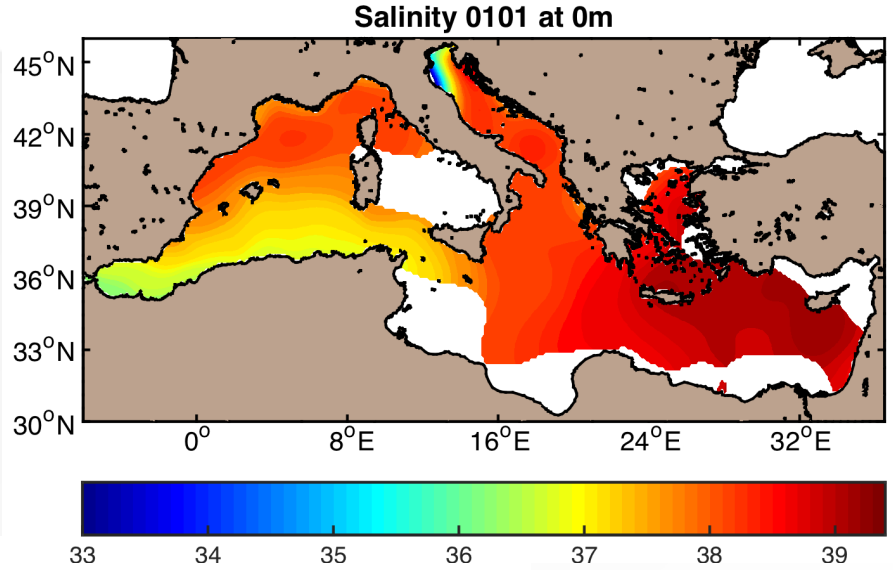
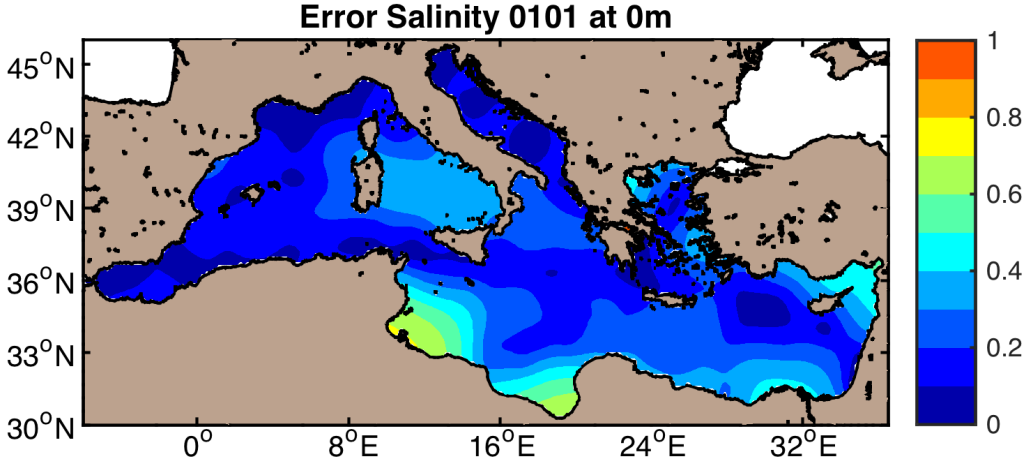
January Salinity climatology





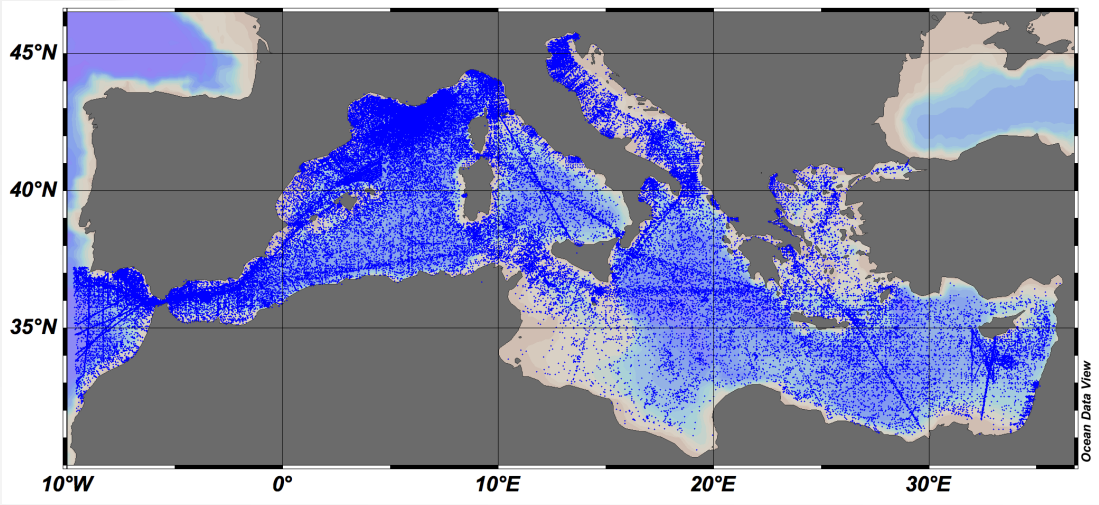


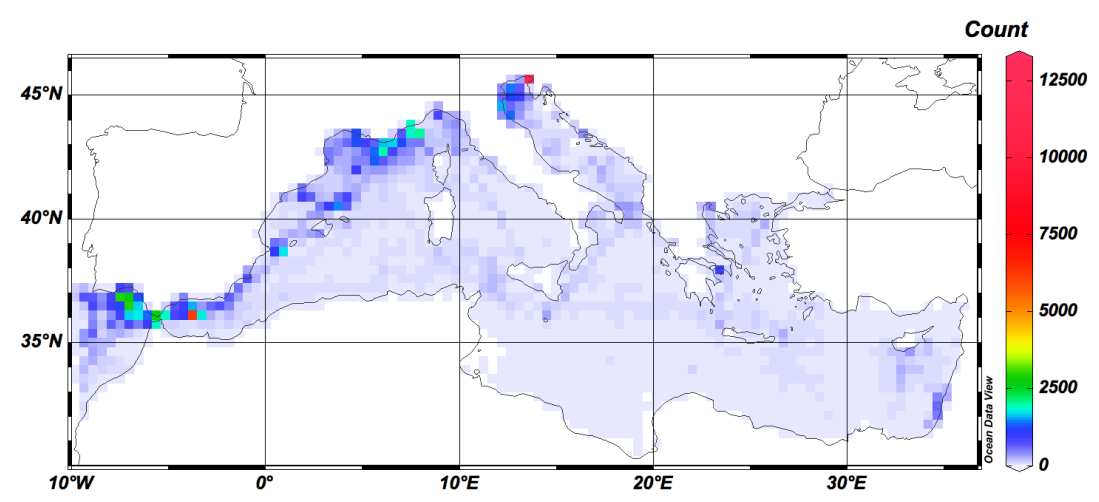
Results on climatologies

- Consistency analysis shows consistency between SDN climatology and WOA2013
- SDN climatology present stronger temperature and salinity gradients than WOA13
- Additional working is on going to finalize the consistency analysis and monthly salinity fields
- A higher number of data would allow to increase horizontal and vertical resolution
- A more homogeneous data distribution would increase the quality of the climatology
- Work will keep going to refine the consistency analysis for scientific publications

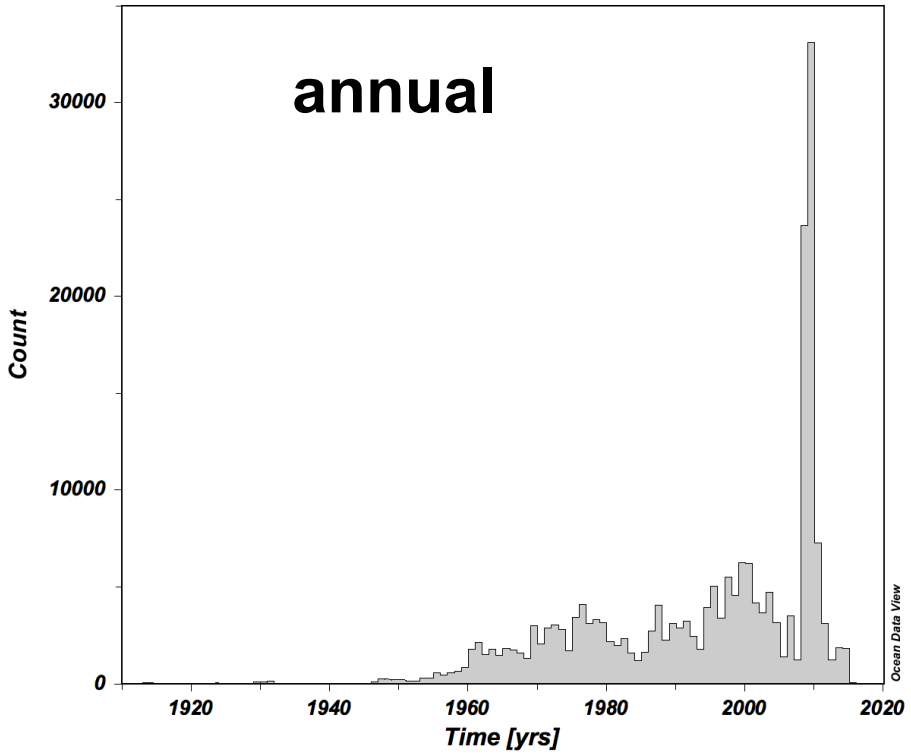
V2 Data Distribution and Density Map

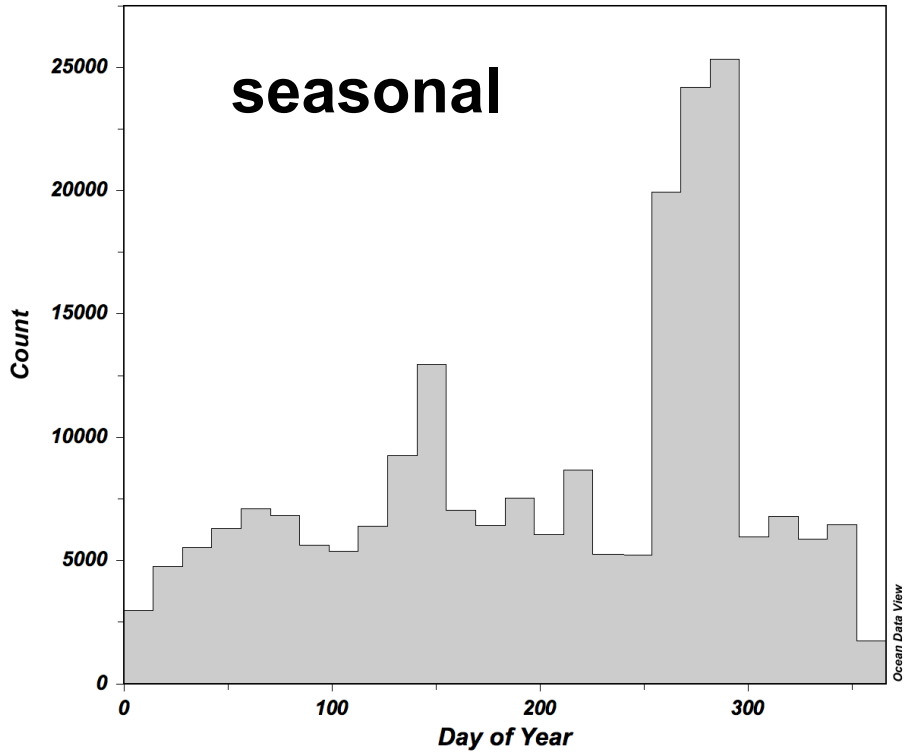
V1.1 → 200904
V2 → 215520
+ 7% data points





Time distribution

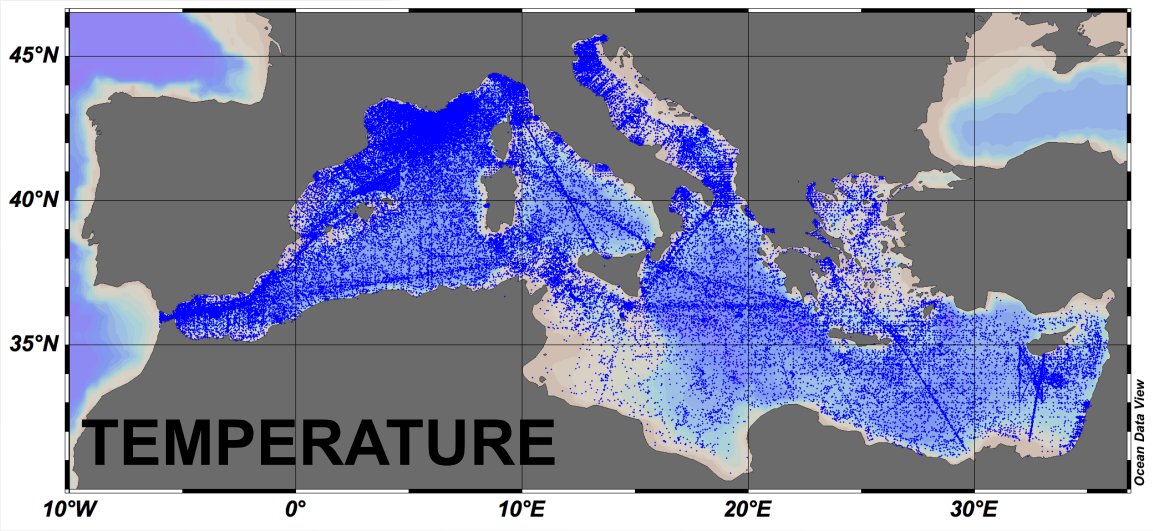


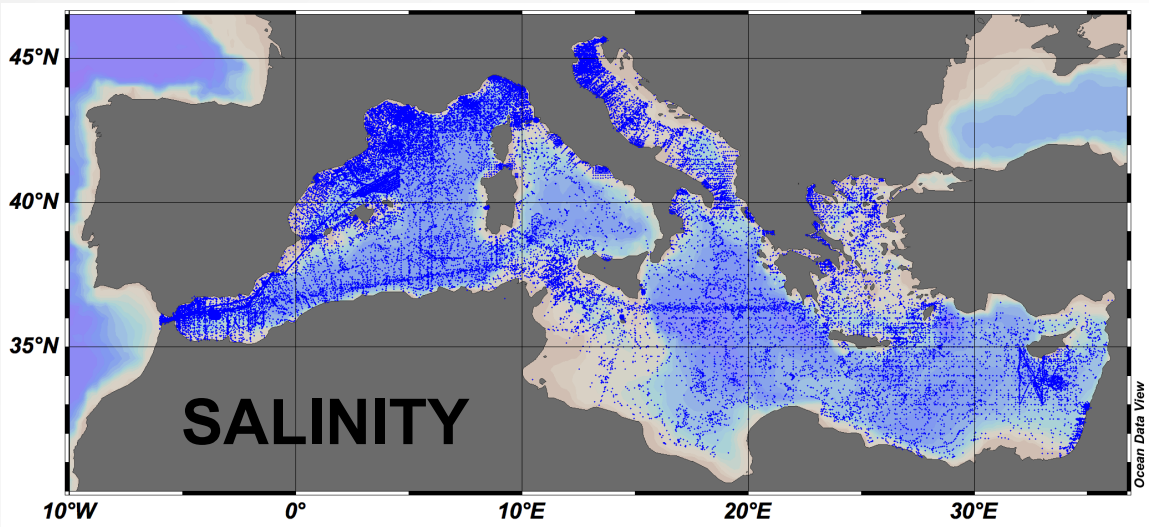


par	V1.1	%	V2	%
total	169438		176201	
T	165243	97.5	174246	98.9
S	110670	65.3	123303	70.0
TS	109249	64.5	121927	69.2

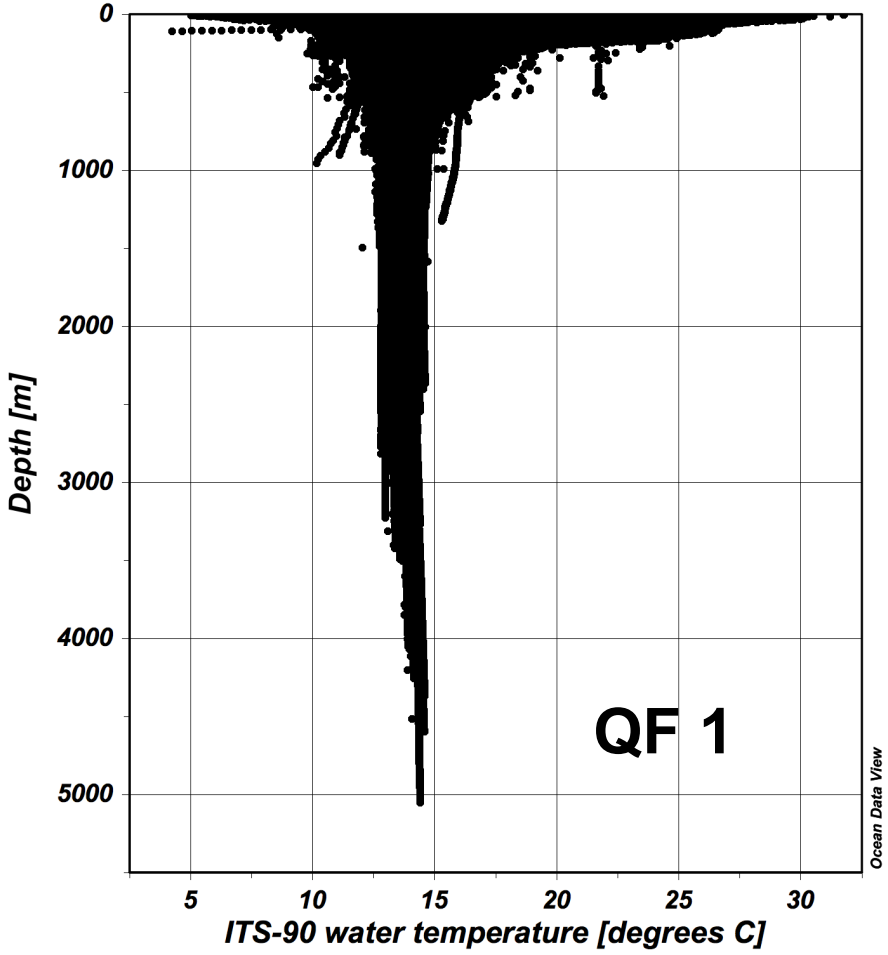
+4%

MEDITERRANEAN SEA

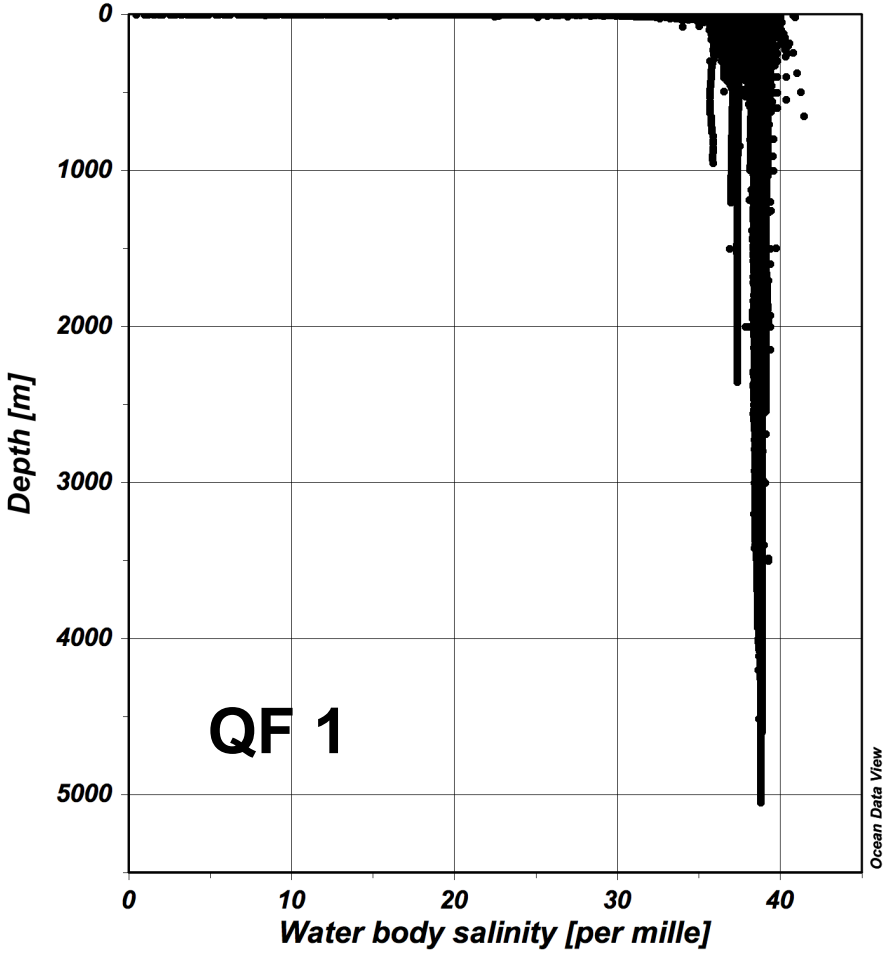




TEMPERATURE



SALINITY



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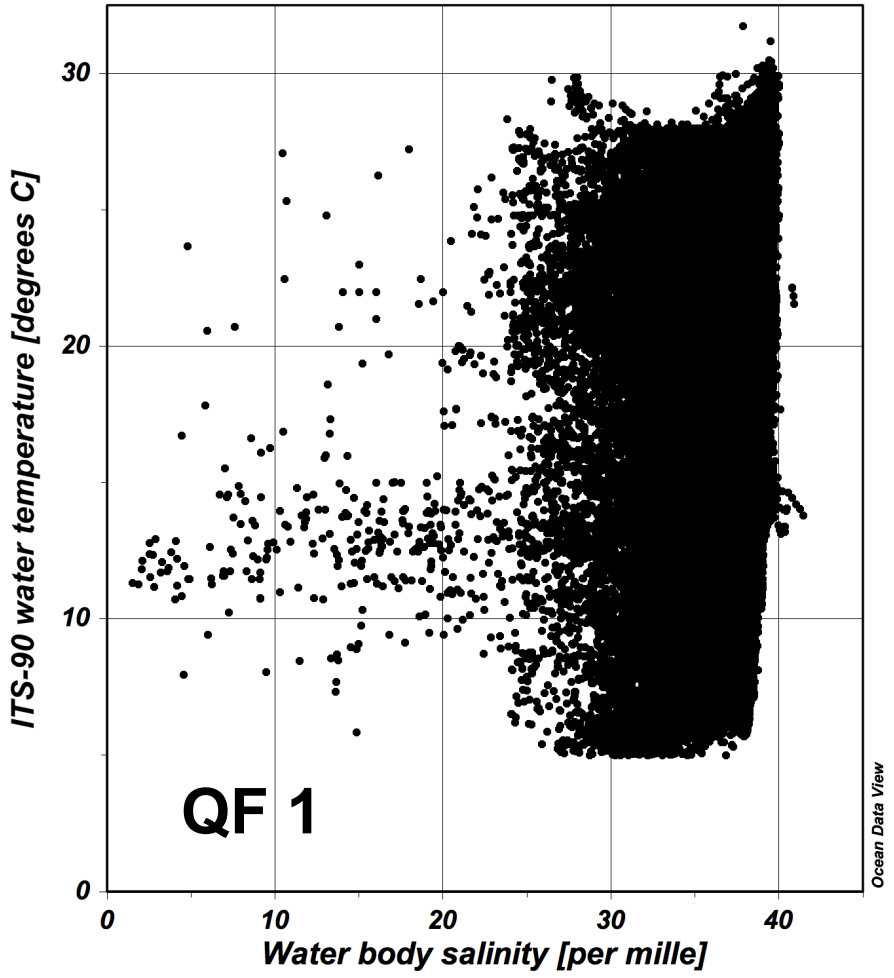
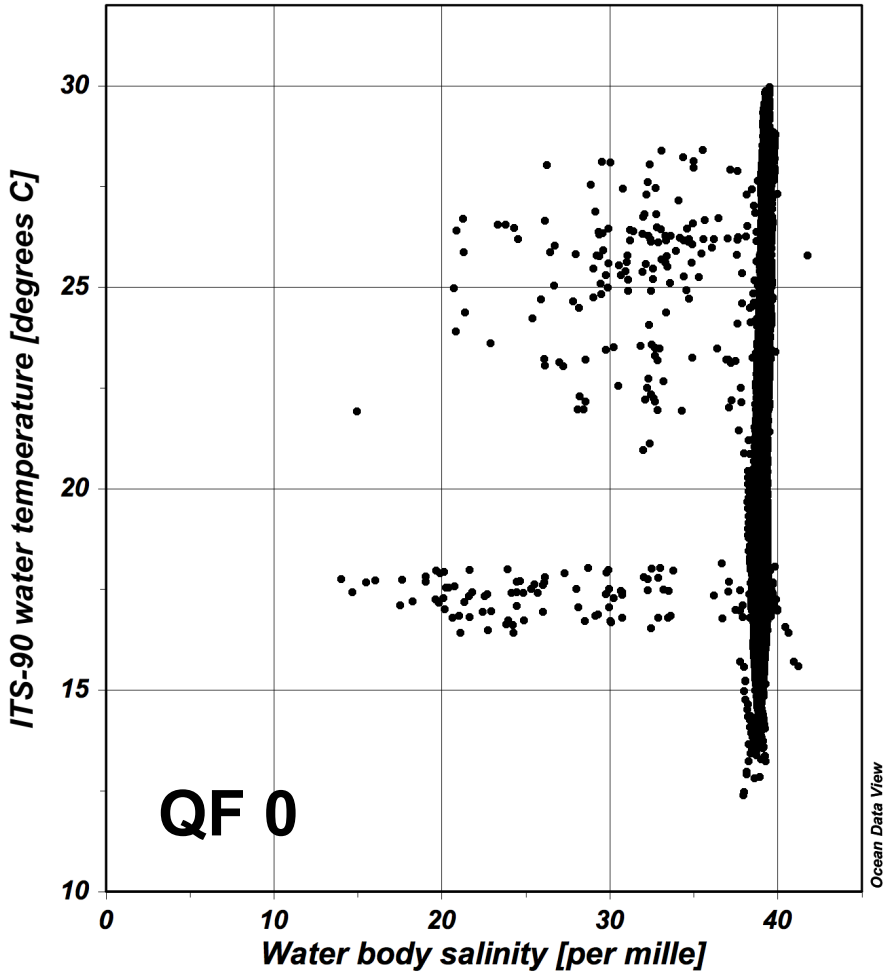
TS diagrams





QF statistics

after QC	TOT	QF0	QF1	QF2	QF>3
T	26527320	1129991	25252755	17379	96095
		4.3%	**95.2%**	**0.1%**	**0.4%**
S	19586043	1286013	18170767	50450	78616
		6.6%	**92.8%**	**0.3%**	**0.4%**
TS	19414546	855106	17975659	4034	34764
		4.4%	**92.6%**	**0**	**0.2%**

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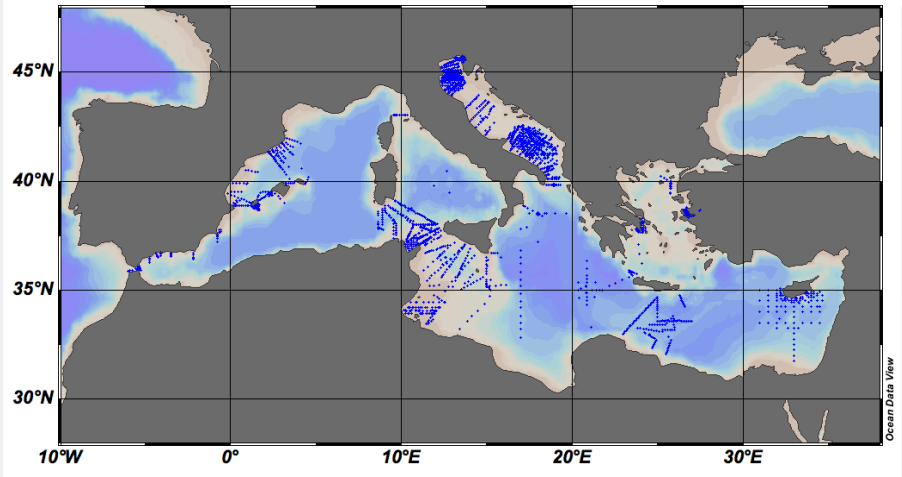
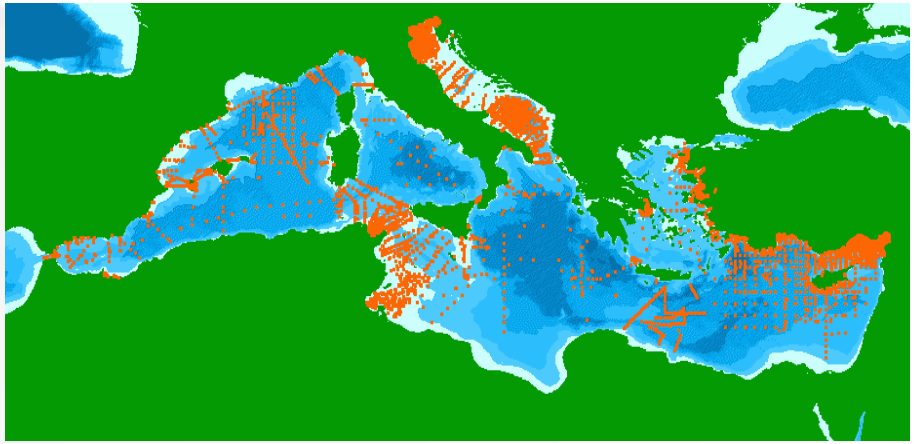
RESTRICTED DATA

V1.1 HARVESTING



WEB SEARCH July 2015



WEB SEARCH	Med only		Marmara	
unrestricted+SDN license	163330		281	
restricted	36403	18.2%	6709	96.0%
TOT	199733		6990	

Results of V2 analysis

- QC analysis of V2 highlighted that most of the data anomalies observed in V1.1 were checked and corrected by data providers
- New data anomalies on 126 stations have been found and the corresponding QF have been changed to 4 (bad data) or 3 (probably bad data)
- data anomalies were mainly spikes and outliers
- Only one systematic error of salinity values in 2009 around Cyprus was found
- The list of data anomalies was ordered by EDMO code and send to the corresponding data centre asking for checking and correcting the data
- The restricted data issue persists in Mediterranean Sea compromising the quality of climatologies