

ERVO2019, JUNE 11-13, HAMBURG, GERMANY

Romania - National update

R/V MARE NIGRUM

R/V ISTROS

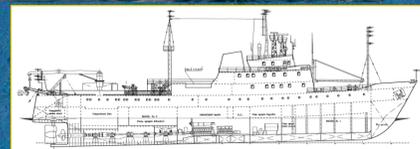
EMSO ERIC BLACK SEA NODE - EUXINUS NETWORK

Vessels and Facilities

Research Vessel *Mare Nigrum*



Owner:
GEOCOMAR, Romania



Vertical section showing the internal distribution of the technical and scientific areas

Laboratories on - board




- ✓ Wet lab
- ✓ Hydrology
- ✓ Geophysics
- ✓ Biology
- ✓ Geochemistry
- ✓ Computer room
- ✓ Seismo-acoustics
- ✓ Tomography
- ✓ Photo

- Total area ~ 200 m²
- Computer network
- Air conditioning
- Sea and freshwater

Research Vessel Istros




Dimensions:

- Length – 32 m
- Breadth – 6.92 m
- Height – 1.65 m
- Displacement – 171 t
- Crew – 7
- Scientific crew - 10

Multibeam

- Bathymetric System
- SEABEAM 1050 ELAC – Nautik (180 KHz)
- DGPS OMNISTAR HP
- GPS Trimble R3

Summary of 2016 Programmes- Mare Nigrum



- April :PN 09 41 03 01 (GEOSIDMAR national core programme) Geological and geophysical mapping
- May :Eurofleets2 cruise
 - May : UNDP(United Nation development Programs)
 - June : UNDP(United Nation development Programs)
- The Black Sea Security System EUXINUS
- PN 09 41 02 01 project (GEOSIDMAR national core programme) "Complex Researches to identify new mineral and energy marine resources"
- July : The Black Sea Security System EUXINUS
- PN 09 41 03 01 (GEOSIDMAR national core programme) Geological and geophysical mapping
- August: Boskalis – Soil Campaign
- September: The Black Sea Security System EUXINUS
- October: PN 09 41 02 01 project (GEOSIDMAR national core programme) "Complex Researches to identify new mineral and energy marine resources"
- November: Electric Survey – Siberian Geophysics Rusia Federation

I.1 Activities of R/V *Mare Nigrum* in 2017

- April :PN 16 45 0101 (GEOSIDMAR national core programme) Geological and geophysical mapping
- May :PN 16 45 0103 (GEOSIDMAR national core programme) Geological and geophysical mapping
- June : The Black Sea Security System EUXINUS
- July : The Black Sea Security System EUXINUS
- August: UNDP(United Nation development Programs)
- September: UNDP(United Nation development Programs)
- October: PN 09 41 02 01 project (GEOSIDMAR national core programme) "Complex Researches to identify new mineral and energy marine resources"
- November: The Black Sea Security System EUXINUS

I.2 Activities of R/V *Mare Nigrum* in 2018

- January,February: The Black Sea Security System EUXINUS cruise
- March: Evaluation of the pollution degree with microplast in recent sediments, water and organisms from the macro-geo-systems Danube - Danube Delta - coastal area - Black Sea.
- May, June, July :PN 16 45 0103 (GEOSIDMAR national core programme) Geological and geophysical mapping
- August: PN 09 41 02 01 project (GEOSIDMAR national core programme) "Complex Researches to identify new mineral and energy marine resources"
- September: : PNIII: U-biogas-1
- November: The Black Sea Security System EUXINUS

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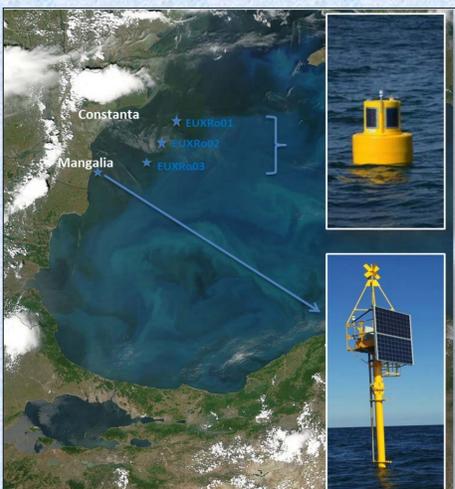


Figure 1. Location of the three offshore Romania oceanographic observatories and the coastal gauge.

Sensor type	Manufacturer	Parameter	Range	Accuracy	Module
All-in-One Weather Sensor	Climatronics	Wind speed (w.s.)	0–50 m/s	±0.5 m/s	SRB&CG
		Wind direction	0–360°	±5°@w.s. +2.2 m/s	SRB&CG
		Temperature	–40°C to +50°C	±0.2°C	SRB&CG
		Pressure	600–1100 hPa	±0.35 hPa@25°C	SRB&CG
		Compass		±2°	SRB&CG
		Current speed	0–300 cm/s	±0.15 cm/s	SRB&IML&CG
Z Pulse Doppler current sensor	Aanderaa	Current direction	0–360°	±5° for 0–15° tilt	SRB&IML&CG
		Tilt	Magnetic 0–45°	±1.5°	SRB&IML&CG
AADI Optode 4835	Aanderaa	Oxygen concentration	0–500 µM	<8 µM	SRB&CG
		Air saturation	0–150%	<5%	SRB&CG
AADI 4880/4880R	Aanderaa	Temperature	–4 to +36°C	±0.03°C	SRB&IML&CG
AADI 4319B	Aanderaa	Conductivity	0–75 mS/cm	±0.0018 S/m	SRB&IML&CG
AADI 4112B	Aanderaa	Temperature	–5 to +40°C	±0.1°C	SRB&IML&CG
AADI 4646C	Aanderaa	Turbidity	0–500 FTU	200 mV/FTU	SRB&CG
CYCLOPS-7	Turner Design	Pressure	0–3100 kPa, ≈300 m	±0.04% FSO	SRB&IML
		Temperature	0–36°C	±0.2°C	SRB&IML
		Chlorophyll <i>in vivo</i>	0–500 µg/l	MDL = 0.025 µg/l	SRB

Table 1: The description of the sensors installed on the buoys.

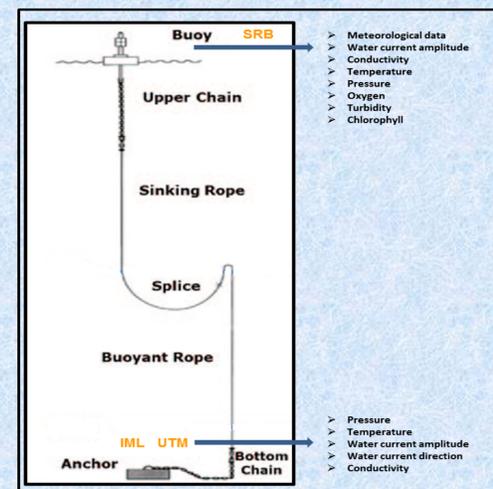


Figure 2. The main modules of the offshore buoys and the measured parameters

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