

Glider Experiment in the Ligurian Sea as part of MREA08

R. Gerin, F. Brunetti, E. Mauri, N. Medeot and P.-M. Poulain

OGS, Trieste, Italy



Outline

- MREA08 Experiment
- Glider Experiment
 - OGS Glider
 - Planning of missions and testing
 - Missions
 - Leg 1
 - Leg 3
 - Preliminary results
- Conclusions
- Acknowledgments



MREA08 Experiment

- Main goals:
 - collect oceanographic data to calibrate and validate model system
 - demonstrate the utility of MREA model system for contaminant dispersal forecasting
 - study mesoscale processes in the Ligurian Sea and their importance on contaminant dispersal
- Ship: R/V Amm. Magnaghi
- Periods:
 - 30 Sep – 4 Oct (30 Sep – 1 Oct)
 - 13 – 17 Oct (9 – 11 Oct)
 - 20 – 24 Oct (20 - 23 Oct)
- Experiments:
 - glider (OGS)
 - drifters (OGS, INGV, CNR)
 - XBT (ENEA)
 - CTD (R/V Amm. Magnaghi)
 - models (UNIBO, INGV)

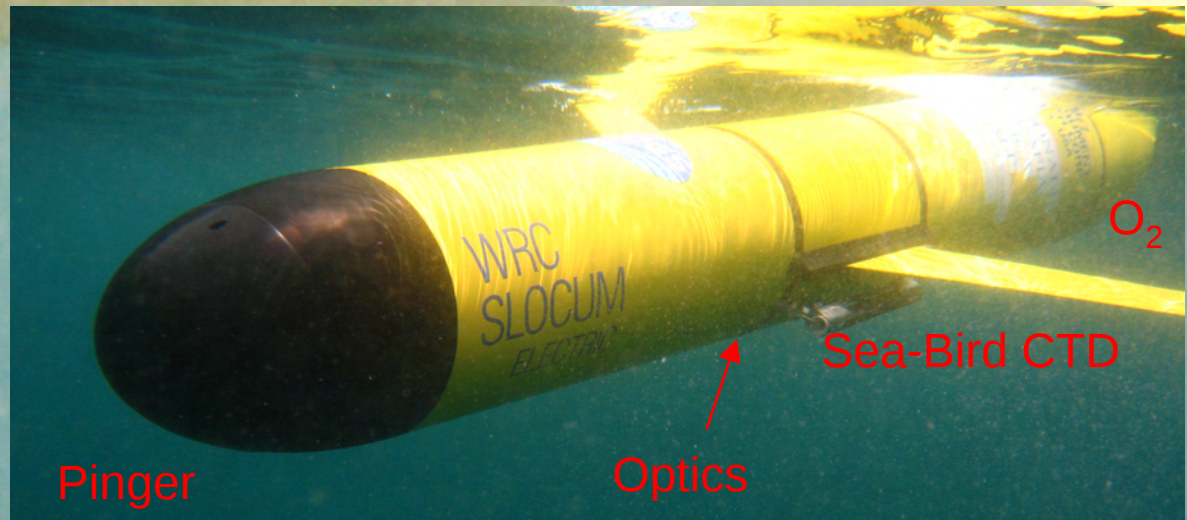
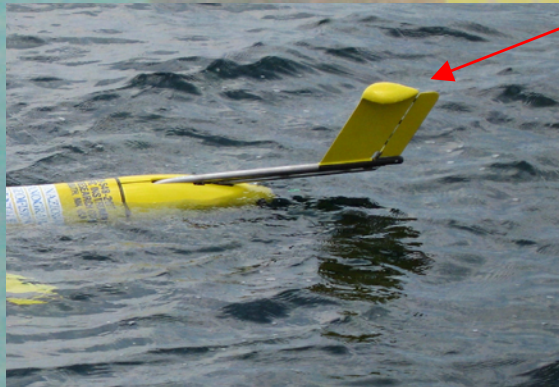


OGS Glider: “Trieste1”

Slocum Electric Glider (WEBB Research)

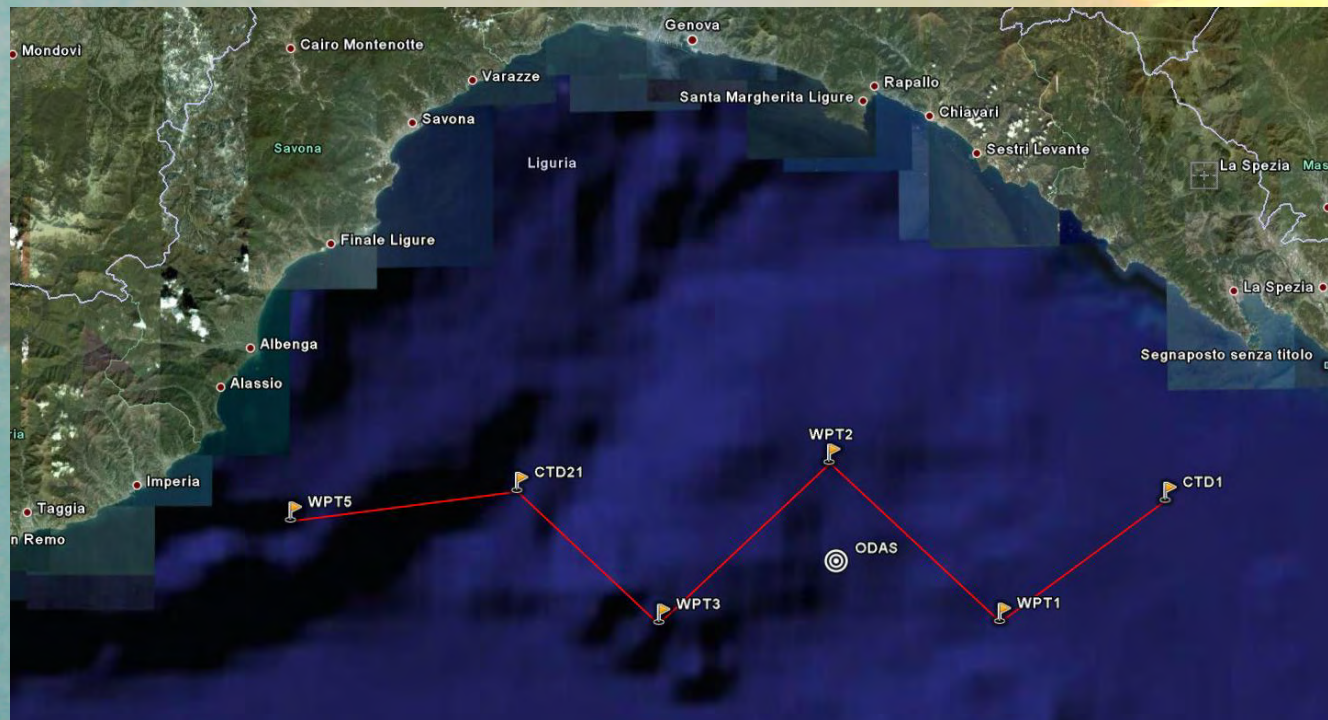
- Sea-Bird CTD
- Aandeera Optode (dissolved oxygen)
- WetLab Optics (Chl and turbidity)

Argos, Iridium,
VHF link



Planning of missions

3 glider missions: 30 Sep – 4 Oct
4 – 13 Oct
13 – 24 Oct



A. Alvarez and OGS Glider Team

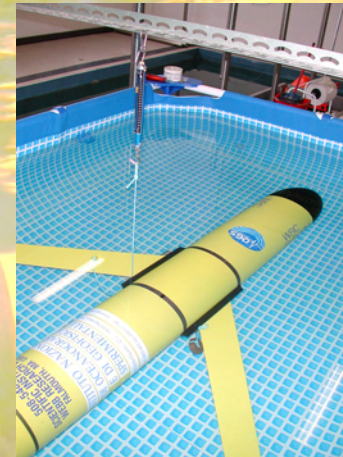


Ballasting and testing

Laboratory C-T evaluation



Ballasting



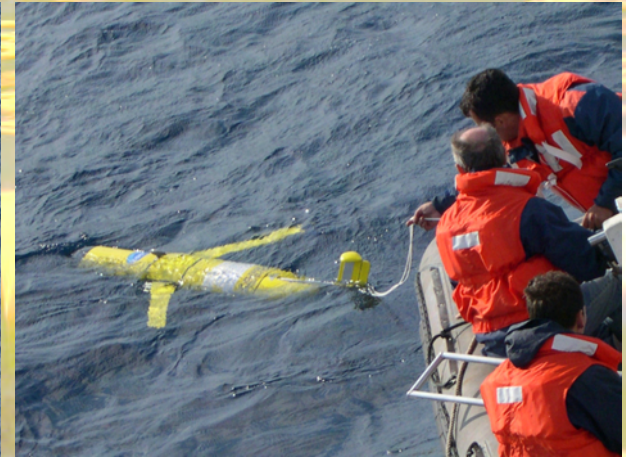
Tests in the Gulf of Trieste

- Status
- Ballast
- Overtime
- Ovrdepth
- Ini*
- Short missions



Leg 1

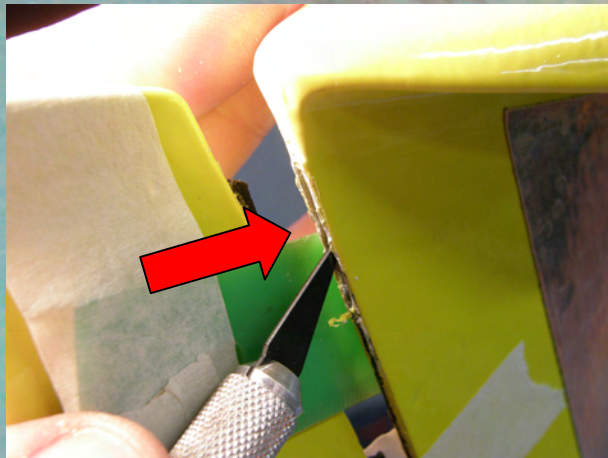
30 Sep – 1 Oct



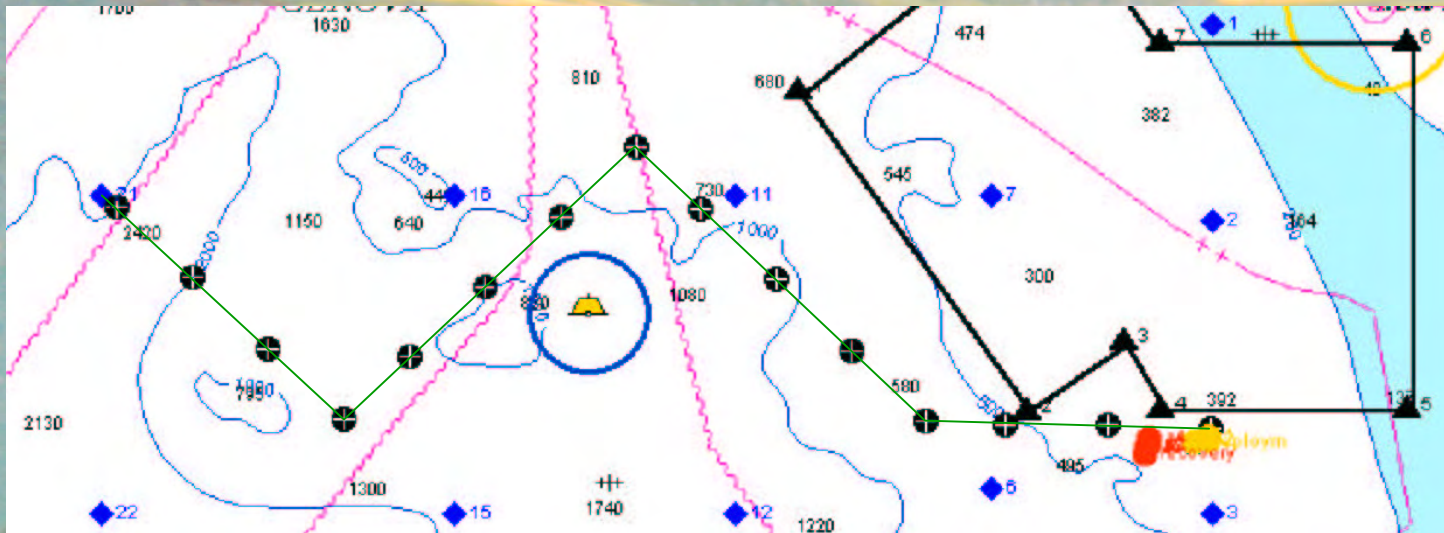
but sometimes things go wrong ...



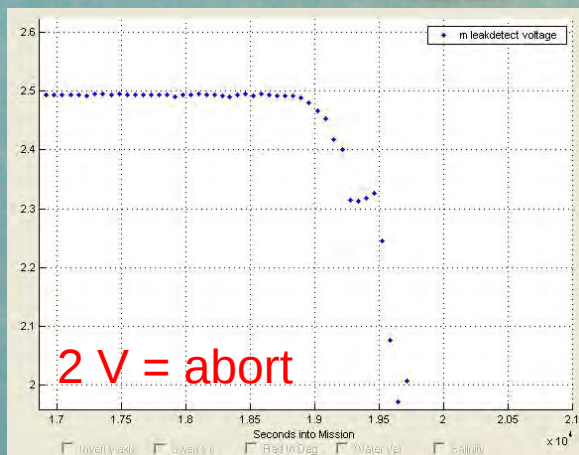
Rudder and air bladder repair



Leg 3 20 - 23 Oct

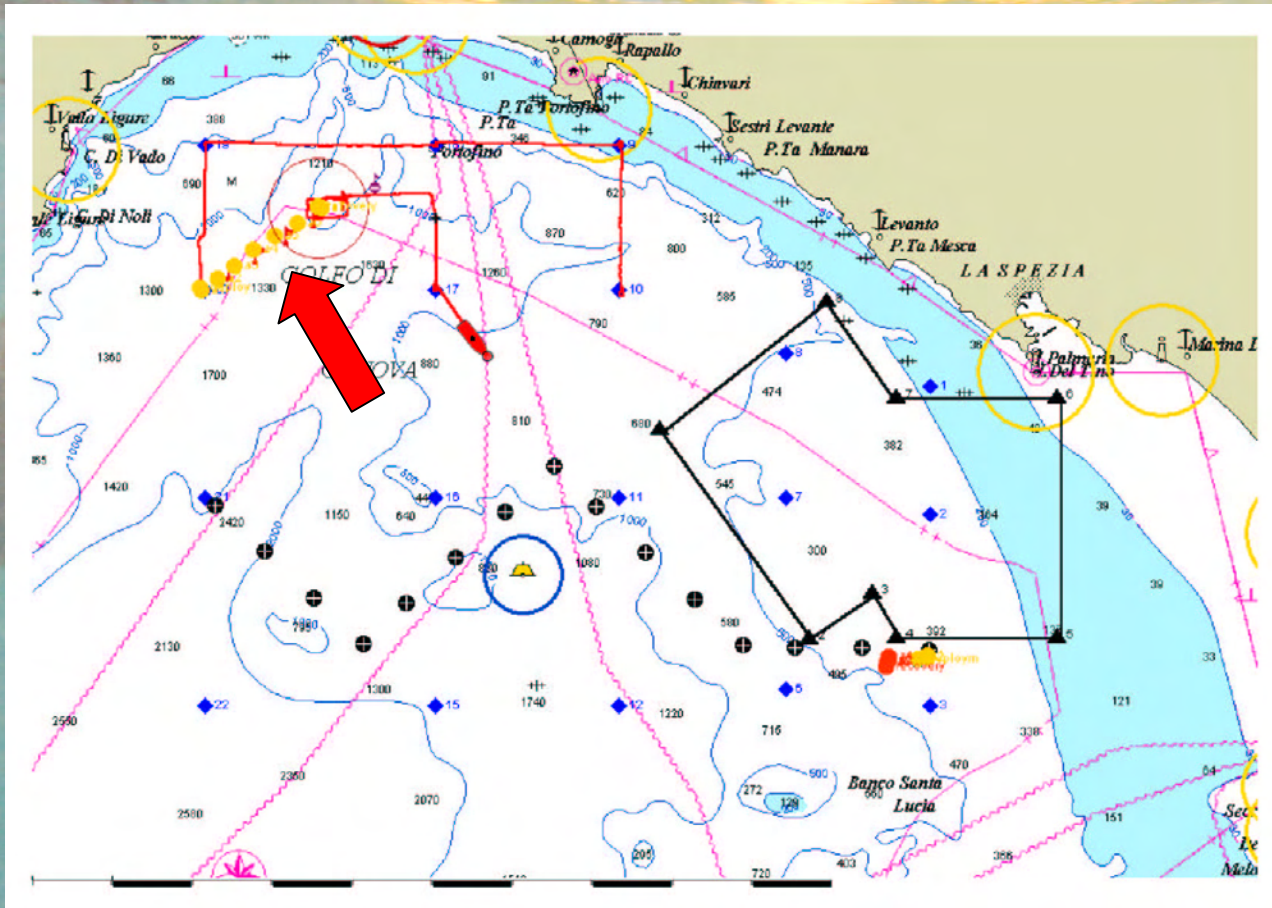


abort mission because of leak

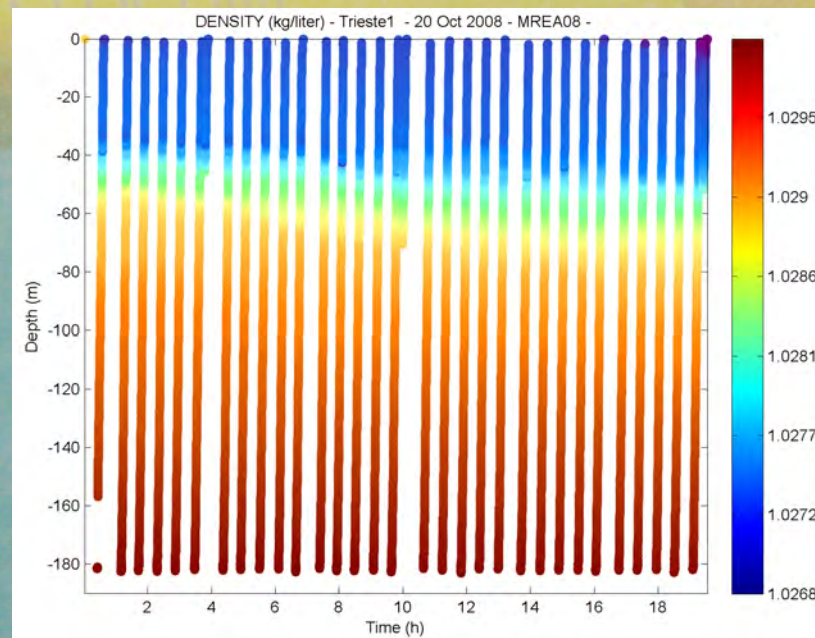
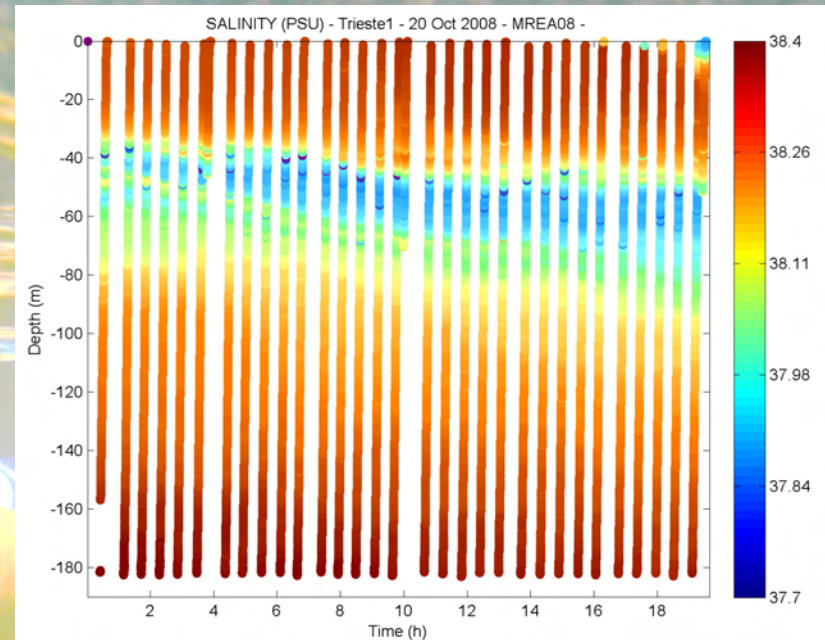
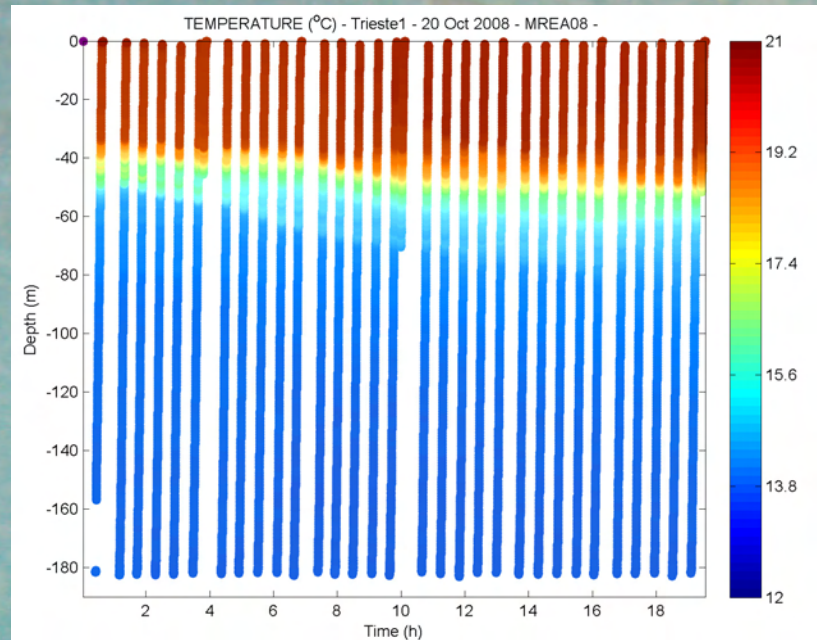


Leg 3 20 - 23 Oct

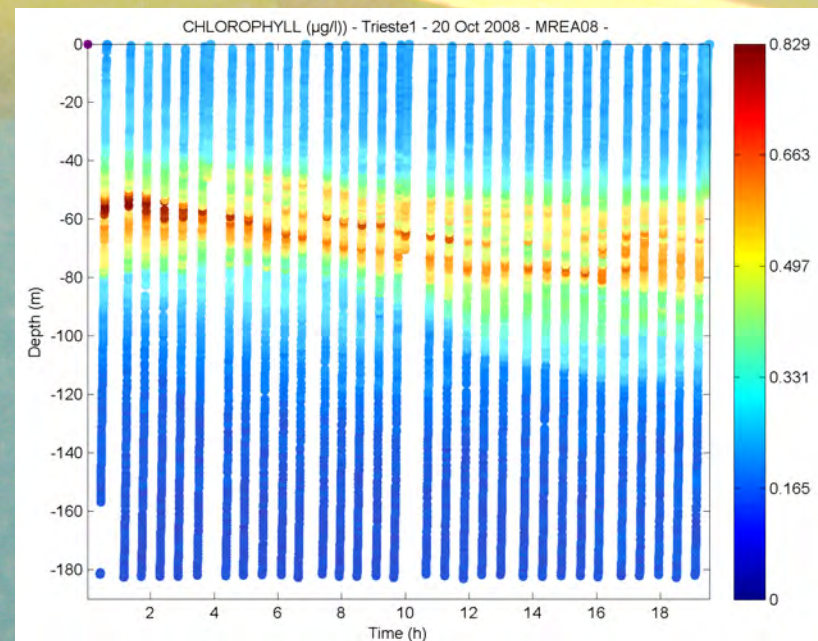
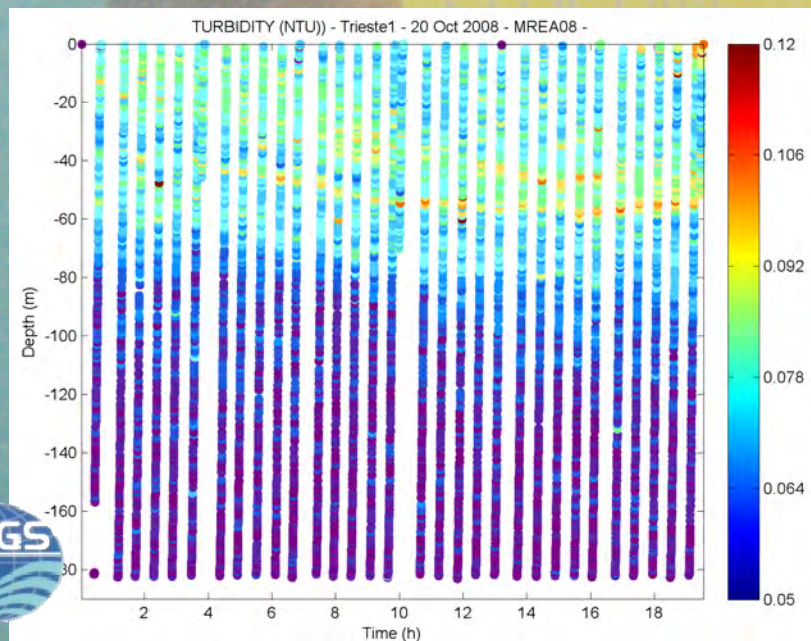
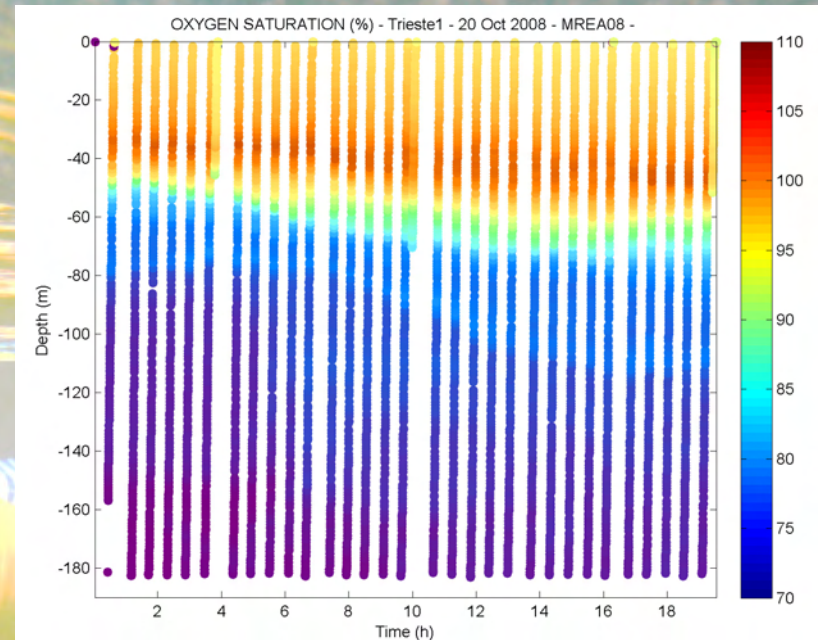
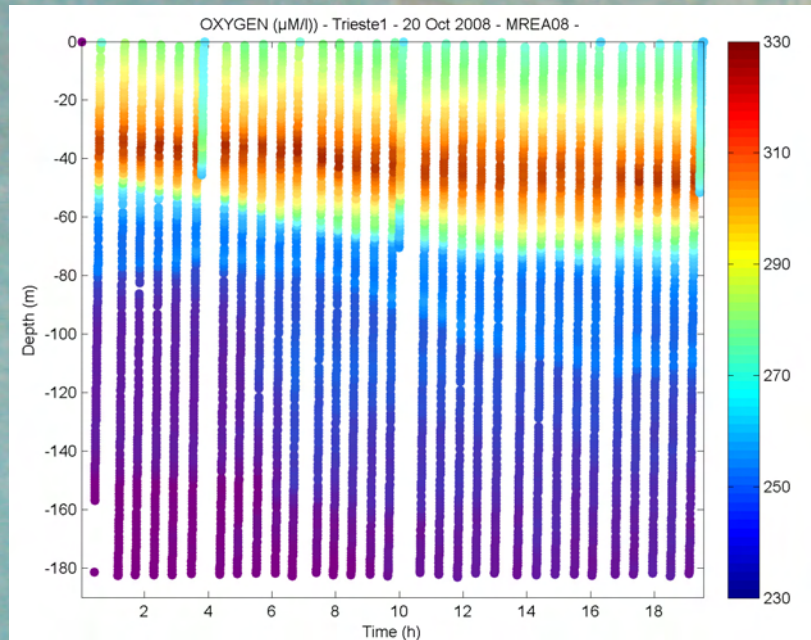
31 yo-yo's down to 180 m in 19 hours (9 nm)



Preliminary results



Preliminary results



Conclusions

Despite all the technical problems, the OGS glider operations carried out during the MREA08 campaign were very successful. The glider was operated for a mission exceeding 19 hours on Tuesday-Wednesday 21-22 Oct.

The OGS Glider Team managed successfully all the Glider operations (repair, handling of abort mission, etc.) and experienced a night recovery.

Acknowledgment

We would like to thank all the people who were involved in the MREA08 glider operations and in particular:

- the Italian Navy for the collaboration and professional support;
- the R/V Amm. Magnaghi crew for their enthusiastic help;
- A. Alvarez for the inputs of the glider mission planning.



Future plans

- Short missions in the Gulf of Trieste (1 or 2 days)
- Opportunity to use the Glider in the Sicily Channel (R/V Amm. Magnaghi)

The OGS Glider Team

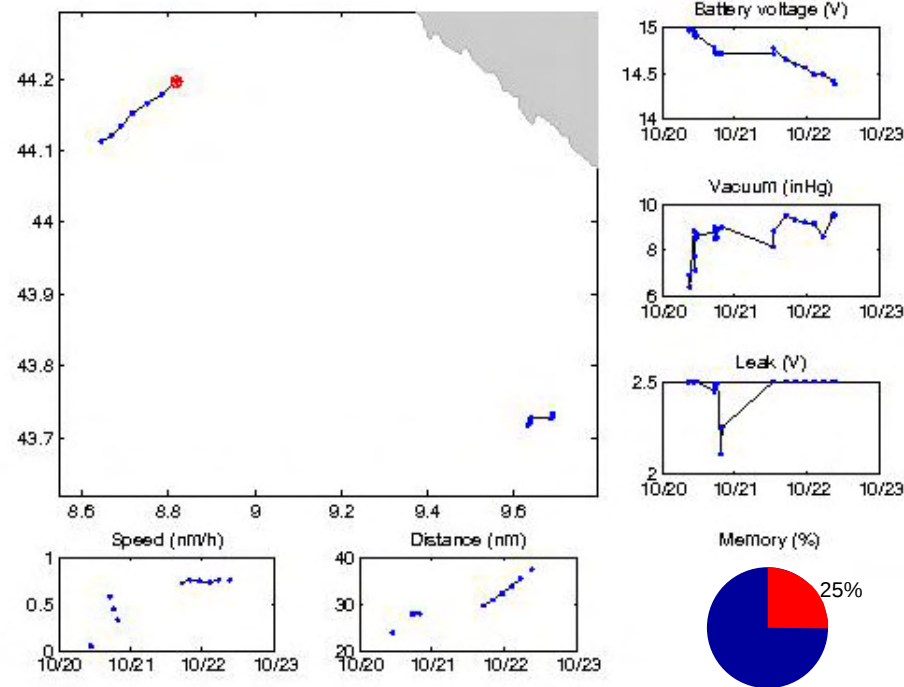


<http://poseidon/sire/glider/control/control.html>

Trieste_1 control panel

last update: 22-Oct-2008 09:08:29

state: 



date	time	lat	lon	volt	vacuum	leak	n_abort	abort_cause	abort_time	abort_miss	mission	memory	dist	speed	behaviour
------	------	-----	-----	------	--------	------	---------	-------------	------------	------------	---------	--------	------	-------	-----------

20-Oct-2008	08:52:42	69697000	69697000	14.9535	6.922	2.4932	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
20-Oct-2008	09:06:01	69697000	69697000	14.9654	6.3517	2.4951	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
20-Oct-2008	09:16:08	69697000	69697000	14.9865	6.3591	2.4957	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
20-Oct-2008	10:38:02	4343.962	941.388	14.9595	8.8287	2.4929	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
20-Oct-2008	10:50:14	4343.842	941.214	14.917	7.0827	2.4942	2	MS_ABORT_OVERTIME	20-Oct-2008 10:48:59	OVERTIME.MI	NaN	NaN	NaN	NaN	NaN
20-Oct-2008	11:01:54	4343.749	941.18	14.9203	7.7116	2.4962	2	MS_ABORT_OVERTIME	20-Oct-2008 10:48:59	OVERTIME.MI	NaN	NaN	23.7796	0.043775	NaN
20-Oct-2008	11:05:32	69697000	69697000	14.8898	8.4393	2.4965	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

For more information please contact [R. Gerin](#).

Glider deployment



Svageolog

