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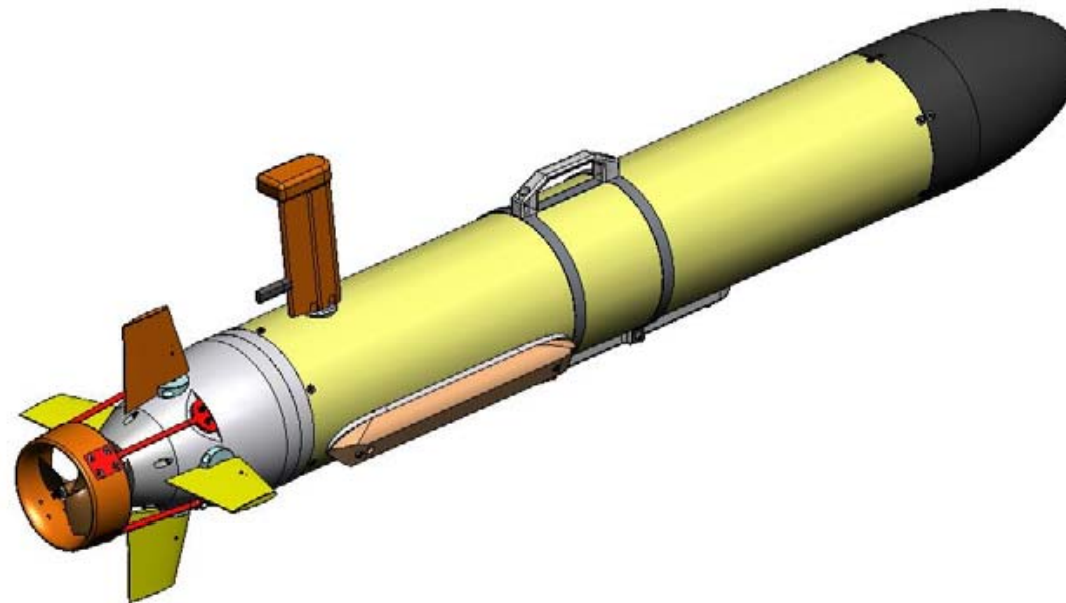
CSIC Mini AUV.

First experiences

Pablo Rodríguez. OFEGTech,. 22-23 rd. September 2011. Southampton

AUV OceanServer

- **YSI Ecomapper**
- **Oceanserver35**



CONFIGURACIONES

COMMON CONFIGCOMÚN:

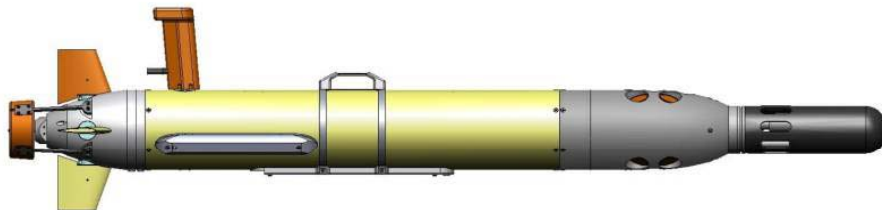
- Depth + Altimeter.
- WiFi+GPS
- Pinger Beacon
- Autonomy > 8 h.
- Expandible (2º CPU + SDK)

WATER QUALITY VEHICLE [WQ]

- CTD Multiparamét.:
(CTD+pH+DO+Clorophy + Turbidity))
- DVL+ADCP 10 h.
- Safety float
- Máx Depth= 200 m.

IMAGING VEHÍCULE [CAM]

- Still + video
- DVL+ADCP 6 h.
- Sidescan Sonar 330 / 800 kHz.
- Max. Depth = 100 m.



SERVICE

- The vehicles will be programmed as another service.
- Web booking (as a van or the small boat).
- Assignment on temporal order (FIFO)
- Short surveys (maxima 8-10 days)
- Not shipborne (temporal)

... What we have learnt

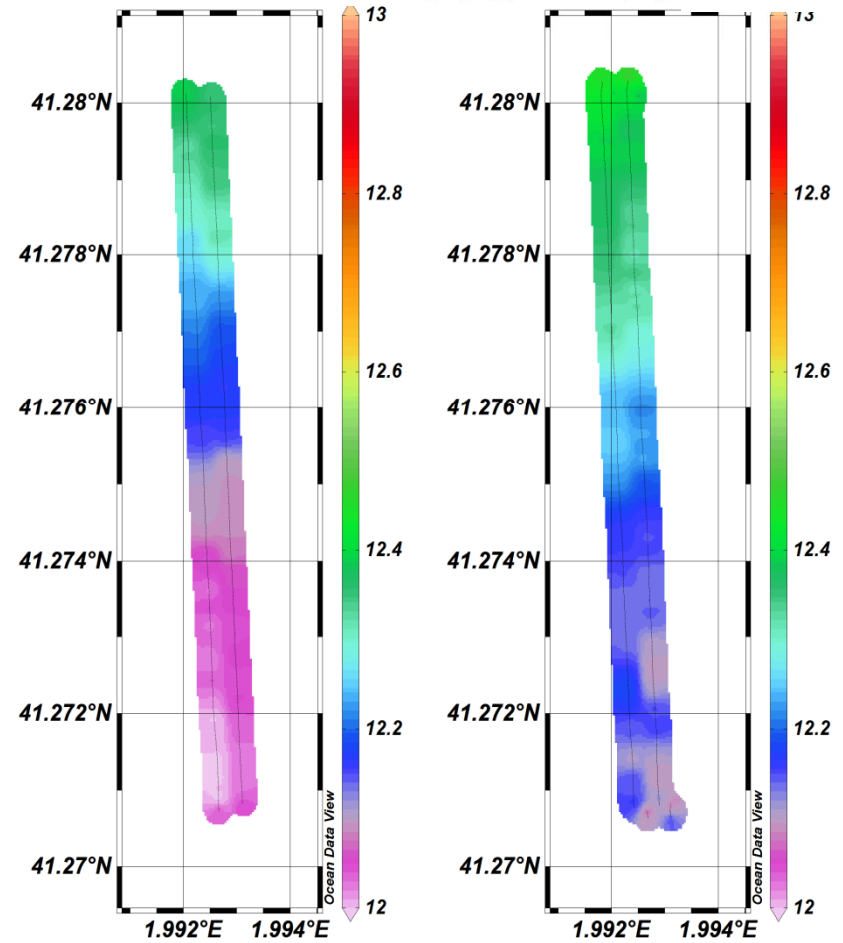
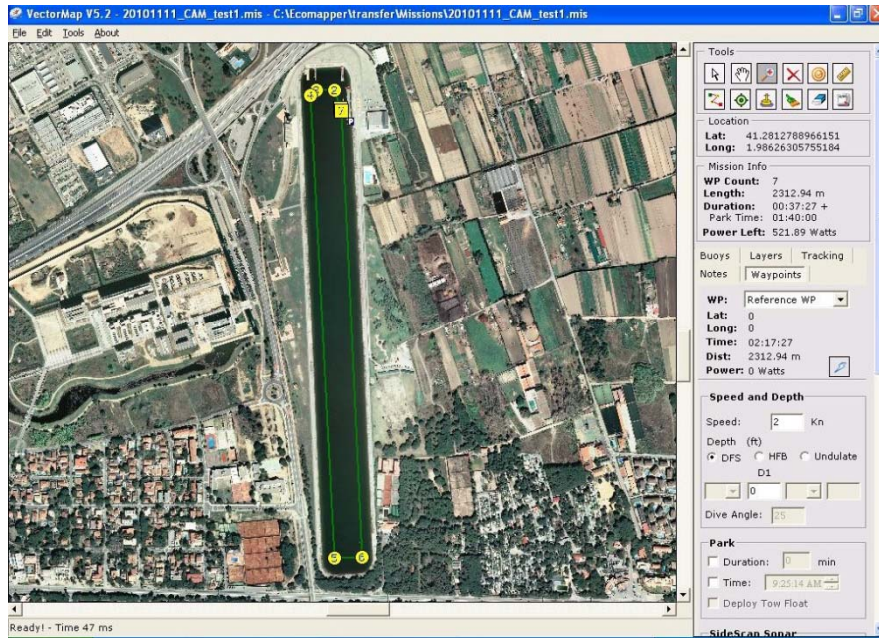
- **Carefully planning** (tra activities, leisure boats, n
- **Support vehicle requir**
- **Specialized processing**



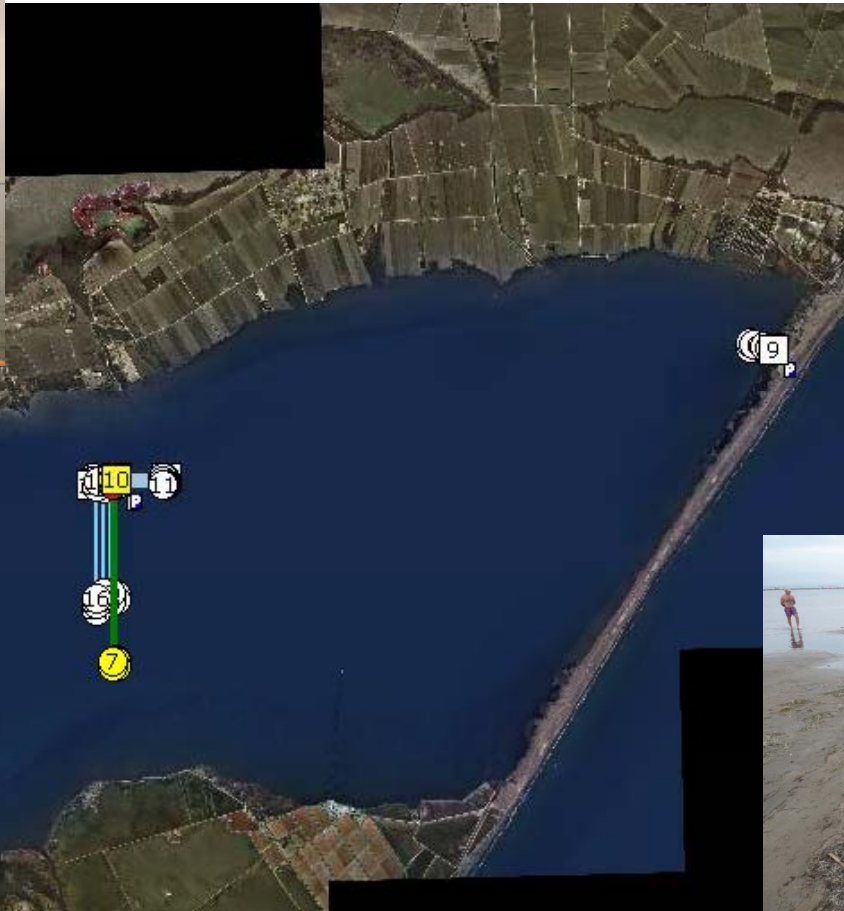
FIRST DEPLOYMENTS

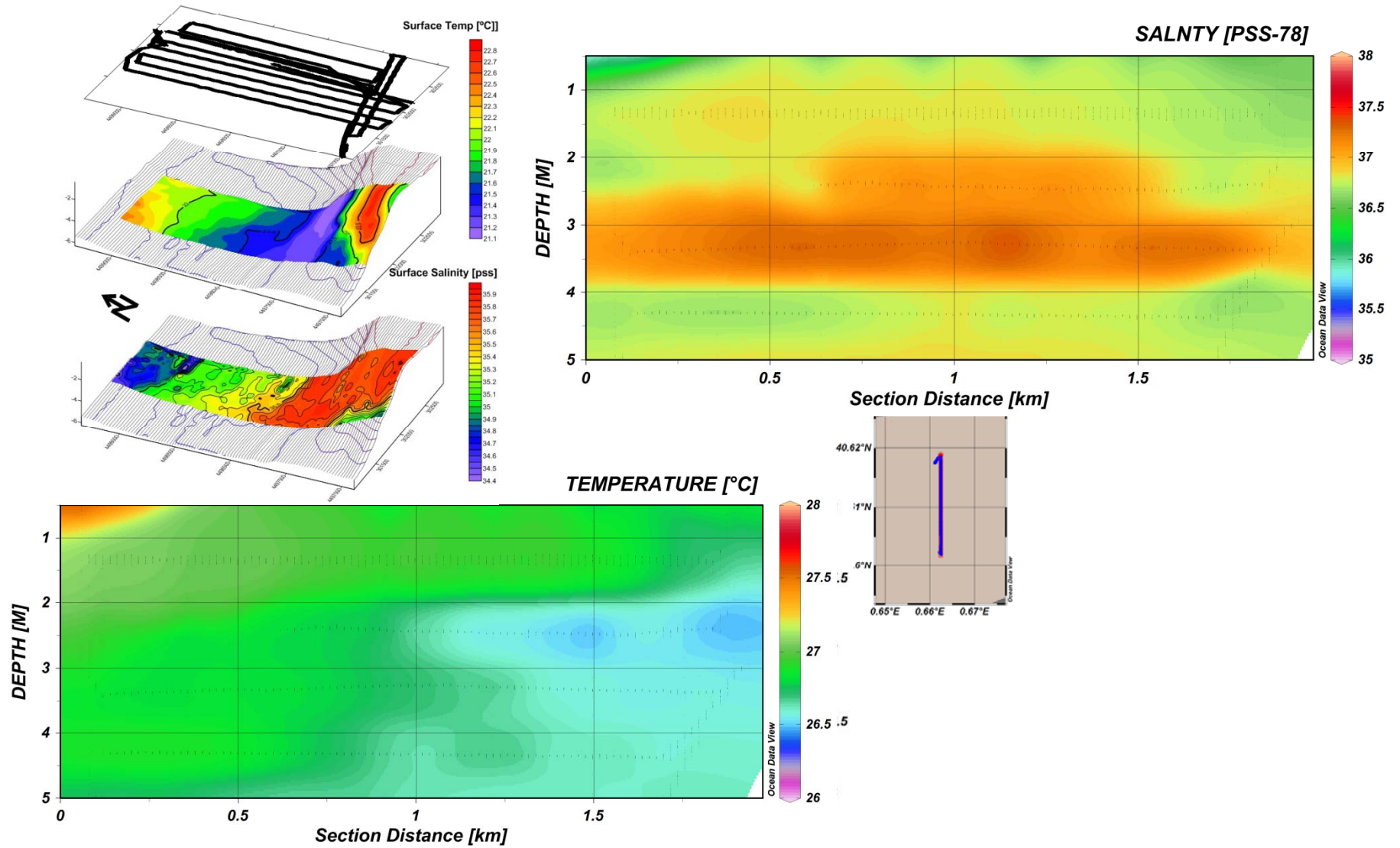
OLIMPIC CHANNEL TESTS

TEMPERATURE [°C] @ DEPTH [M]= 0.9 m [°C] @ DEPTH [M]= 0.6 m



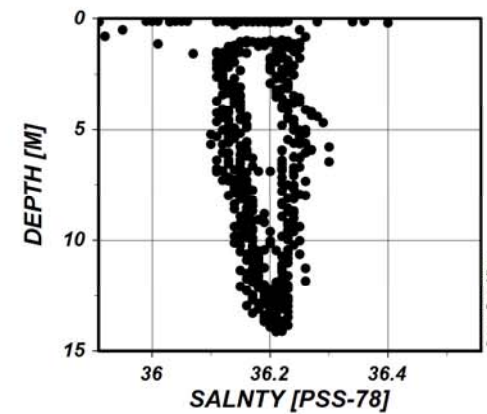
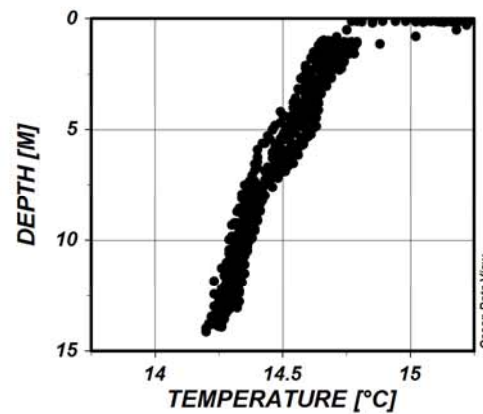
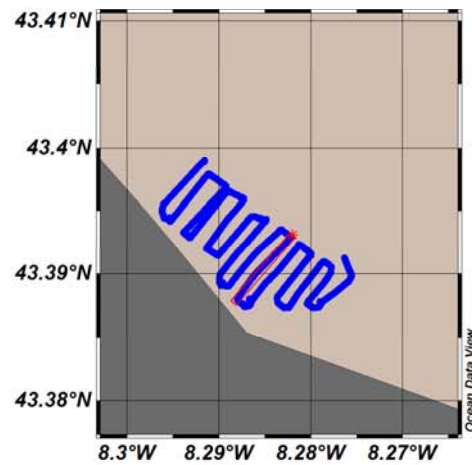
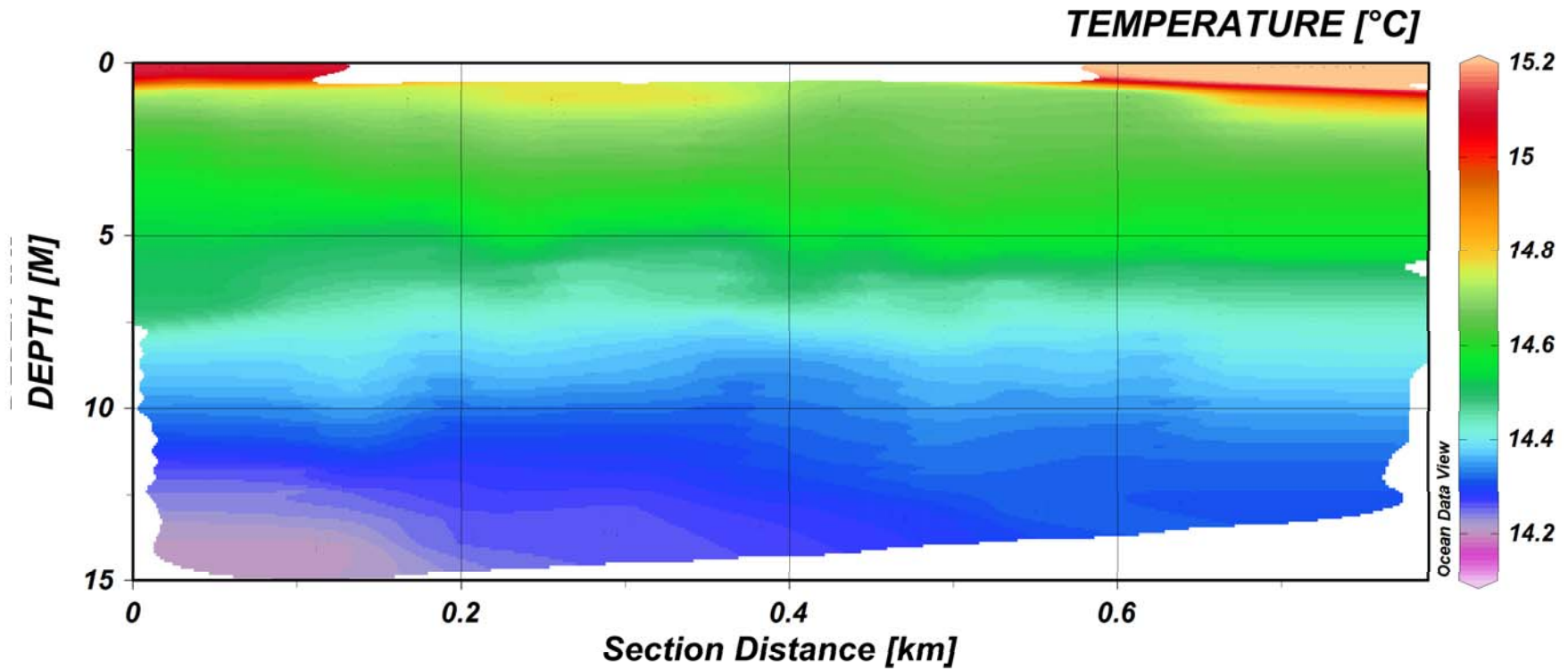
Bahía del Alfacs



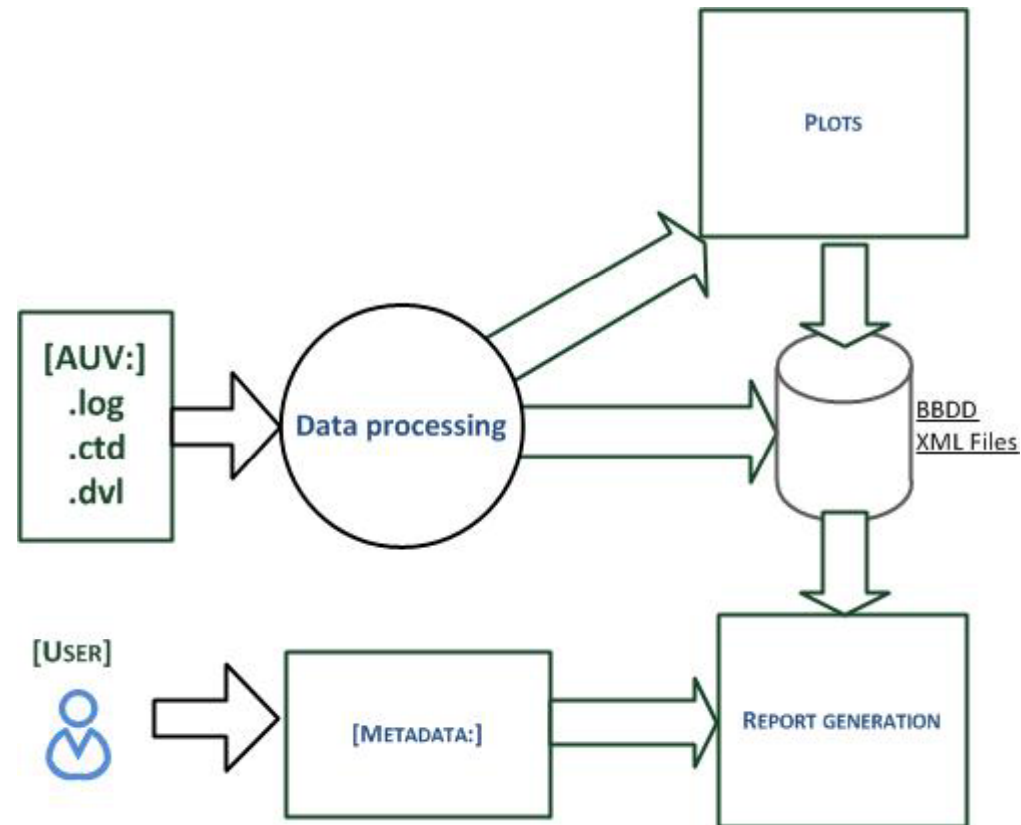


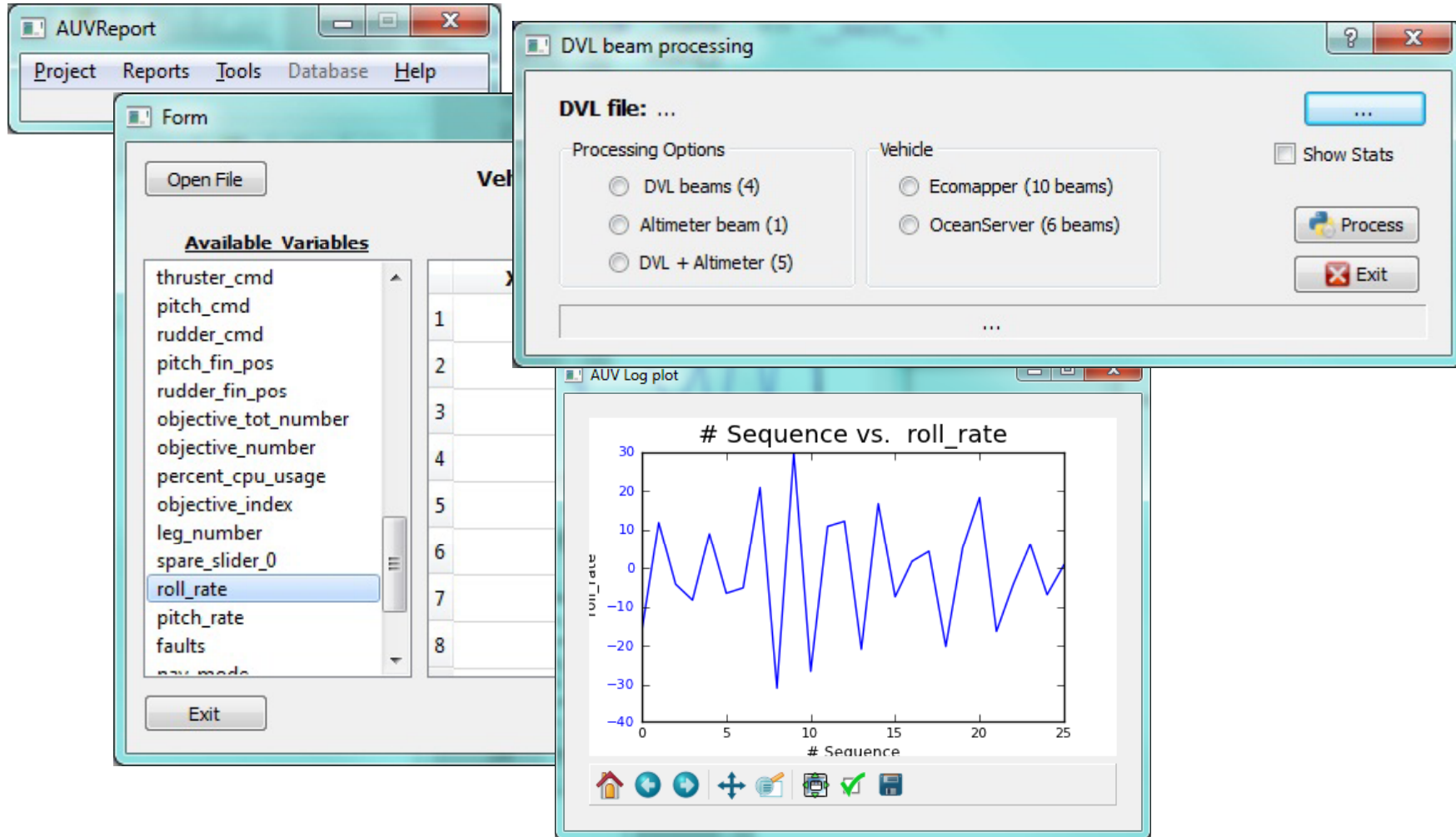
Poligono de Lorbé (Sada, A coruña)





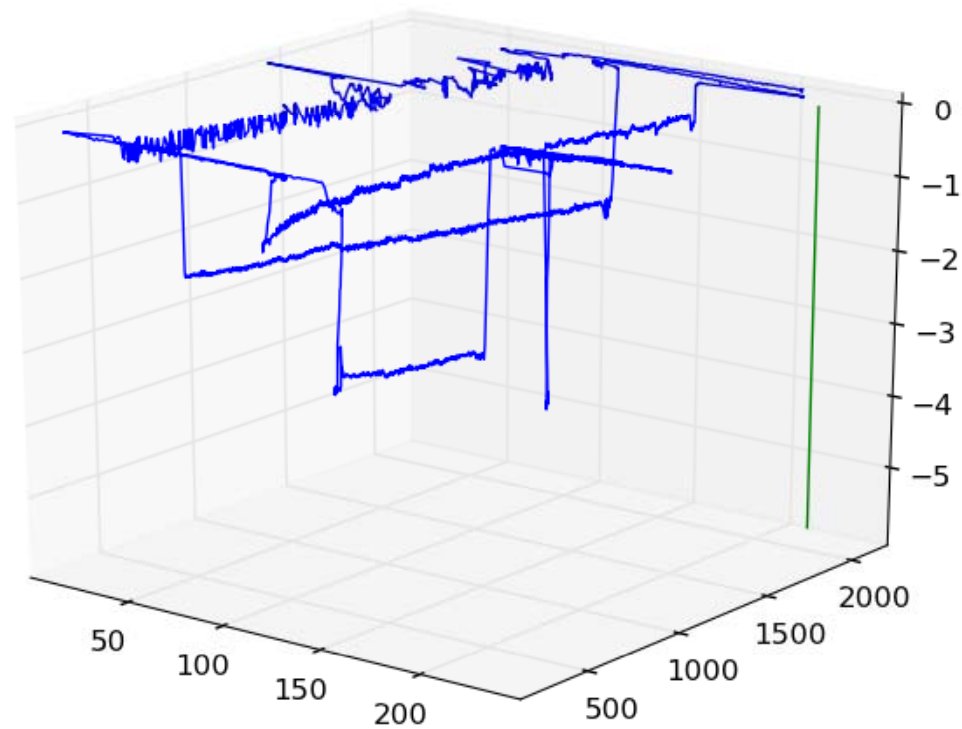
OPEN SOURCE TOOLS FOR AUV QC AND REPORTING





The image displays three overlapping software windows:

- AUVReport**: A menu-driven window with options: Project, Reports, Tools, Database, Help.
- Form**: A configuration window with an "Open File" button and a list of "Available Variables". The variable "roll_rate" is selected. Other variables include thruster_cmd, pitch_cmd, rudder_cmd, pitch_fin_pos, rudder_fin_pos, objective_tot_number, objective_number, percent_cpu_usage, objective_index, leg_number, spare_slider_0, pitch_rate, faults, and nav_mode. An "Exit" button is at the bottom.
- DVL beam processing**: A window for configuring DVL data processing. It includes a "DVL file: ..." field with a browse button. Under "Processing Options", radio buttons are available for "DVL beams (4)", "Altimeter beam (1)", and "DVL + Altimeter (5)". Under "Vehicle", radio buttons are available for "Ecomapper (10 beams)" and "OceanServer (6 beams)". A "Show Stats" checkbox is present. "Process" and "Exit" buttons are at the bottom right.
- AUV Log plot**: A window showing a line graph titled "# Sequence vs. roll_rate". The x-axis is "# Sequence" (0 to 25) and the y-axis is "roll_rate" (-40 to 30). The graph shows a fluctuating blue line representing roll rate over time. A toolbar with various icons is at the bottom.



CONCLUSIONS

- ✓ Good learning tool
- ✓ Limited R+D capabilities -> Starter.
- ✓ Special attention to operational hazards
- ✓ Issues for the near future:
 - Sensor calibration (Chlorophyll / turbidity)
 - OS Reporting tool (started)
 - Mikado / INSPIRE exporting tool (TODO)
 - New sensor integration ? -> manpower issues

New Mid-water AUV -> HROV w/ intervention capabilities (U. Girona)

Acknowledgments

