

# D.O.P.\* - Universidade dos Açores

## D.O.P. – University of the Azores

\* Membro Honorário da Ordem Militar de Sant'Iago de Espada



Breve caraterização do DOP e das suas embarcações: passado, presente e futuro.

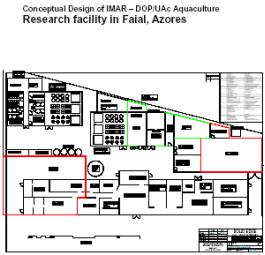
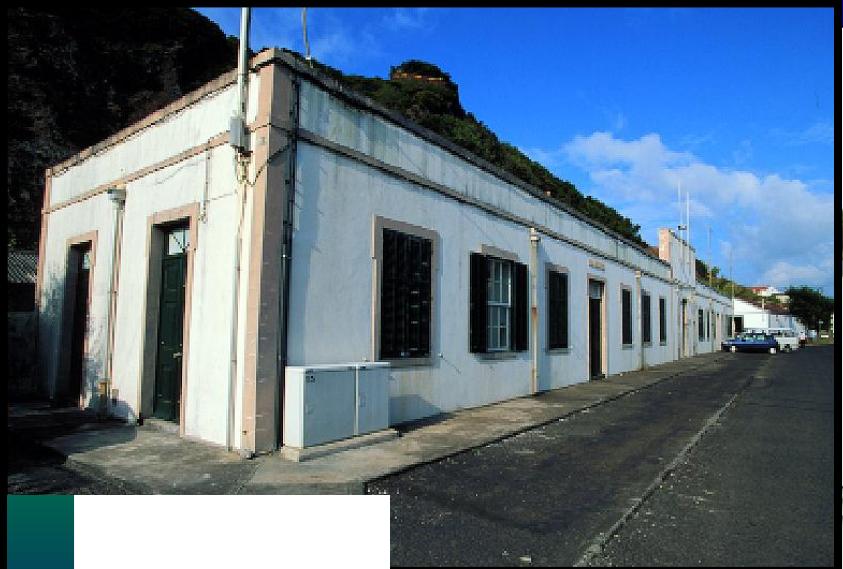
DOP and their research vessels: past, present and future



# DOP – Criado em 1976 (Created in 1976)

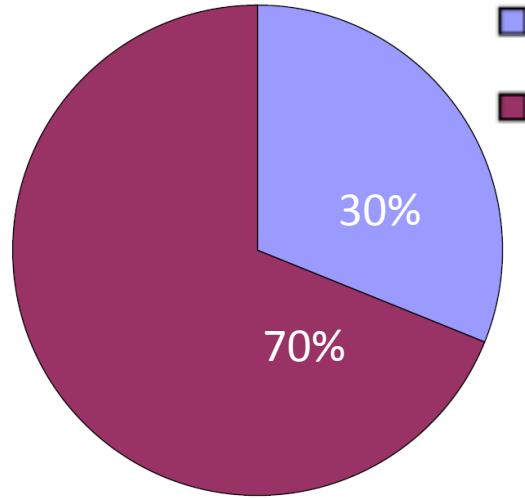
Membro do IMAR desde 1991 (member of IMAR since 1991)

Since 2001 is member of ISR (an Associate Laboratory)



Future:  
Aquaculture?

# Recursos Humanos (Human Resources)



■ Permanente  
■ Precário

30%

70%

(estudantes não incluídos)

# Alguns projectos mais recentes:

## Some of the more recent projects:



- CORALFISH**: Assessment of the interaction between corals, fish and fisheries, in order to develop monitoring and predictive modeling tools for ecosystem based management in the deep waters of Europe and beyond. FP7-Env-2007-1: 213144.
- MEFEPO**: Making the European Fisheries Ecosystem Plan Operational. FP7-KBBE-2007-1: 212881.
- MADE**: Mitigating Adverse Ecological Impacts of Open Ocean Fisheries. FP7-KBBE-2007-1: 210496
- CAREX: Coordination Action for Research Activities on life in Extreme Environments. ENV.2007.2.2.1.6: 211700
- HERMIONE - Hotspot Ecosystem Research and Man's Impact on European Seas. ENV/2008/1/226354.
- CONDOR – Observatory for long-term study and monitoring of Azorean seamount ecosystems
- MARPROF – Bases para a gestão e valorização gastronómica de espécies pesqueiras da Macaronésia. Programa de Cooperação Transnacional MAC 2007-2013, ref. MAC/2/M065



R/V “Geralda” 1930?/1976-1990



# Mobilidade no Mar (Mobility at the sea)

R/V “Arquipélago” construído em 1993 (built in 1993)

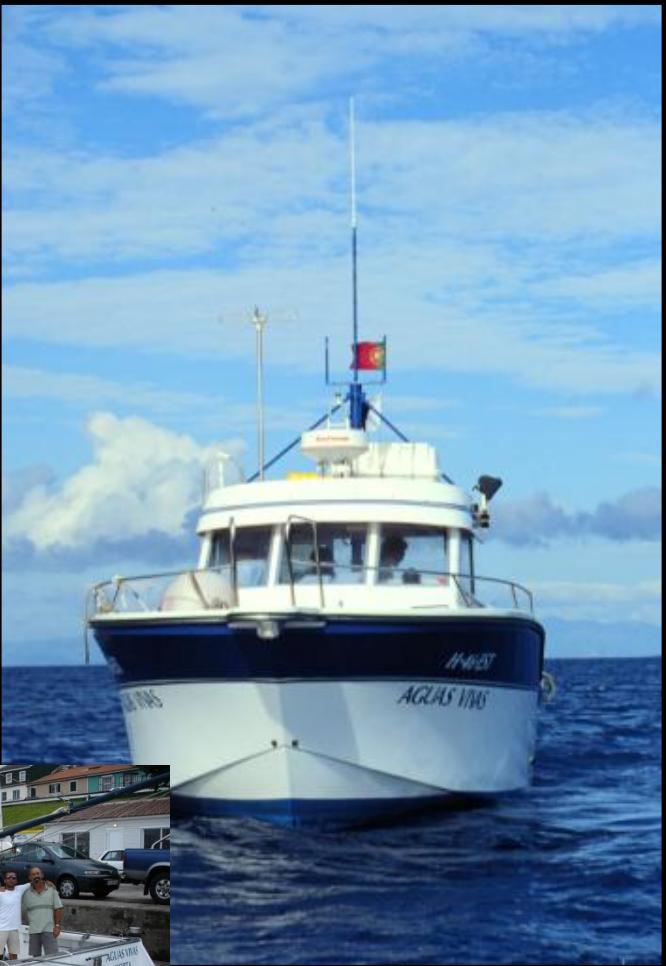


Embarcação de 26m preparada para investigação em pescas e oceanografia. ( a 26m length Multipurpose research vessel for fisheries and oceanography)



# Mobilidade no Mar (Mobility at the sea)

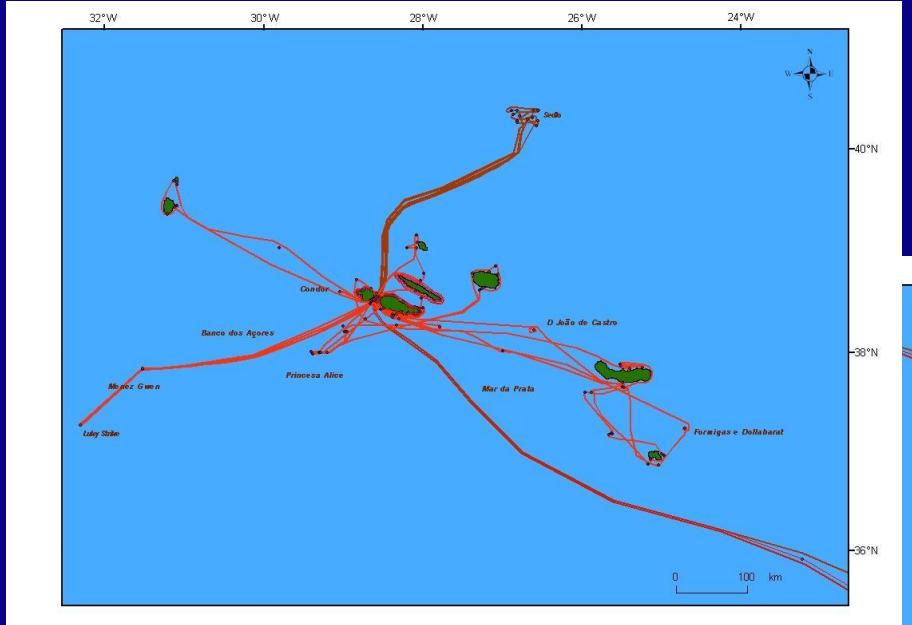
A L/I “Águas Vivas”, com 11 m de comprimento, está preparada para trabalhos costeiros e tem operado em todas as ilhas/ 11m vessel for coastal work – it has been used on all the Azorean islands.



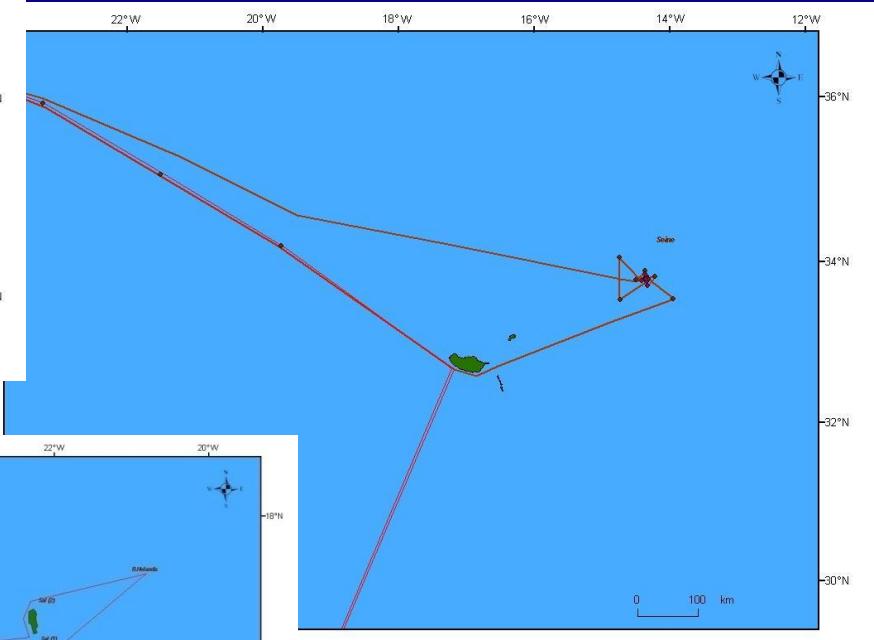
Quatro semi-rígidos para trabalhos costeiros.  
Four rubber boats for coastal work



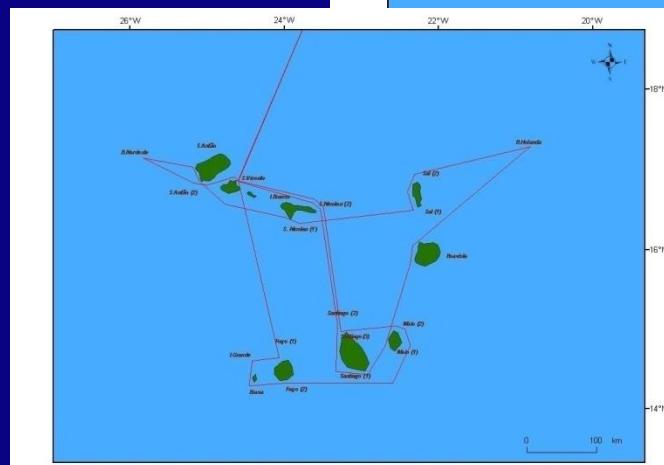
# Áreas de trabalho / Operational Areas



Açores / Azores



Madeira / Madeira



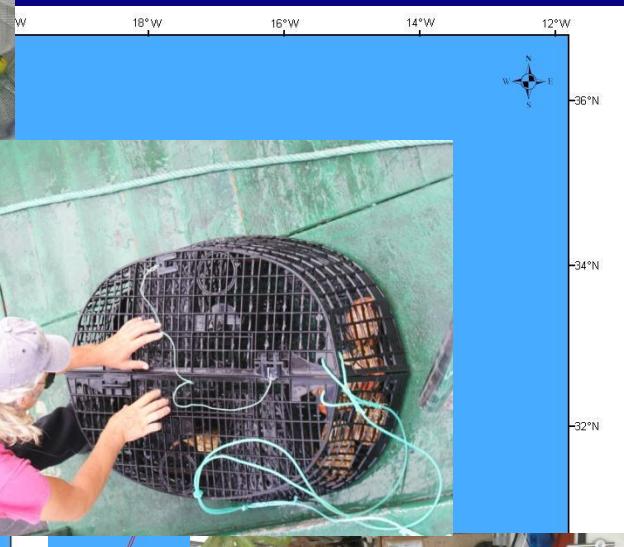
Cabo Verde / Cape Verde



# Operações mais regulares/ Regular Cruises



Azores



Cabo Verde / Cape Verde



# Outras missões / Other missions Oceanographic moorings

CTD / Rosette



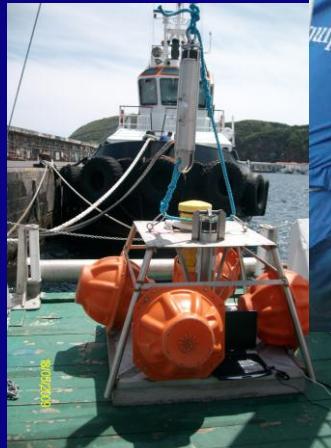
Redes Bongo / nets



Tucker net



ADCP



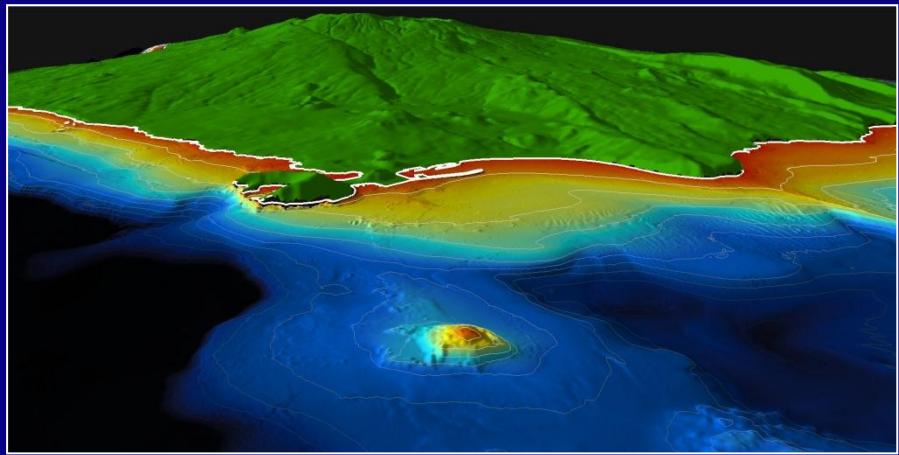
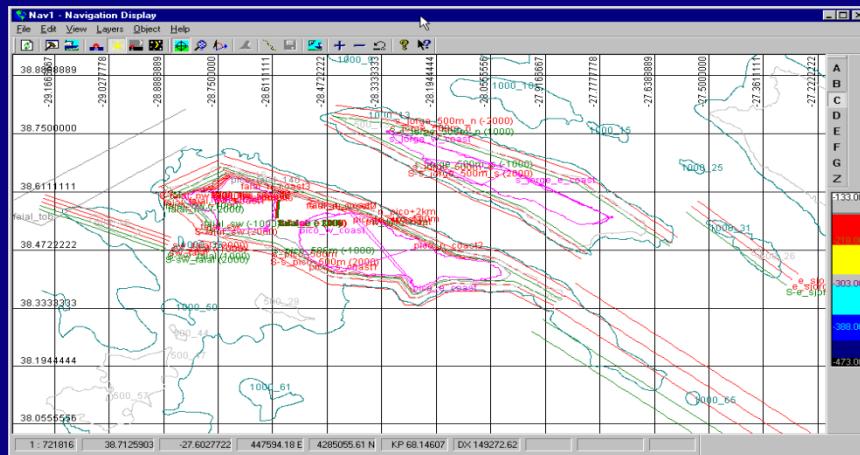
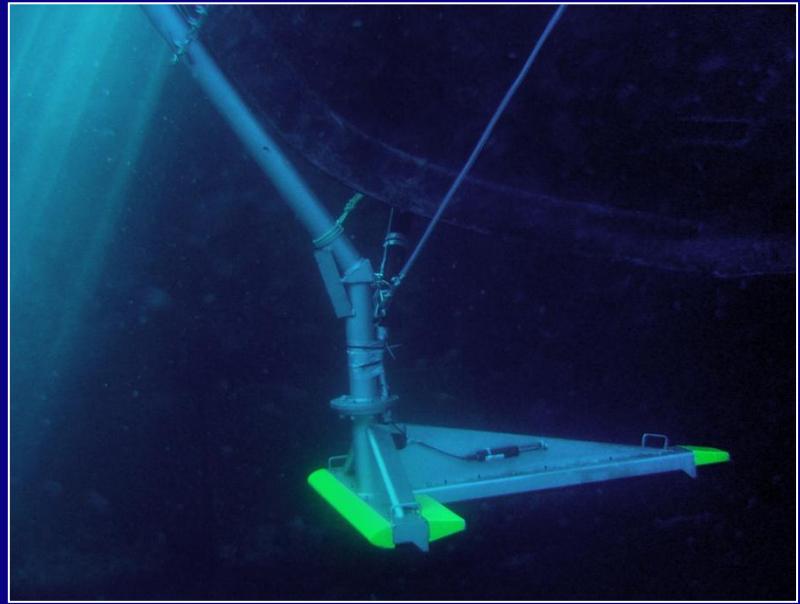
Multiclosing





# Sistemas de Sondagem (Echosounding Systems)

## Multibeam Sonar: Reson 8160, 50kHz beam-forming system





# Cooperação / Cooperative missions

**LabHorta** – “*Large Scale Facility*” para estudos experimentais com organismos de profundidade.

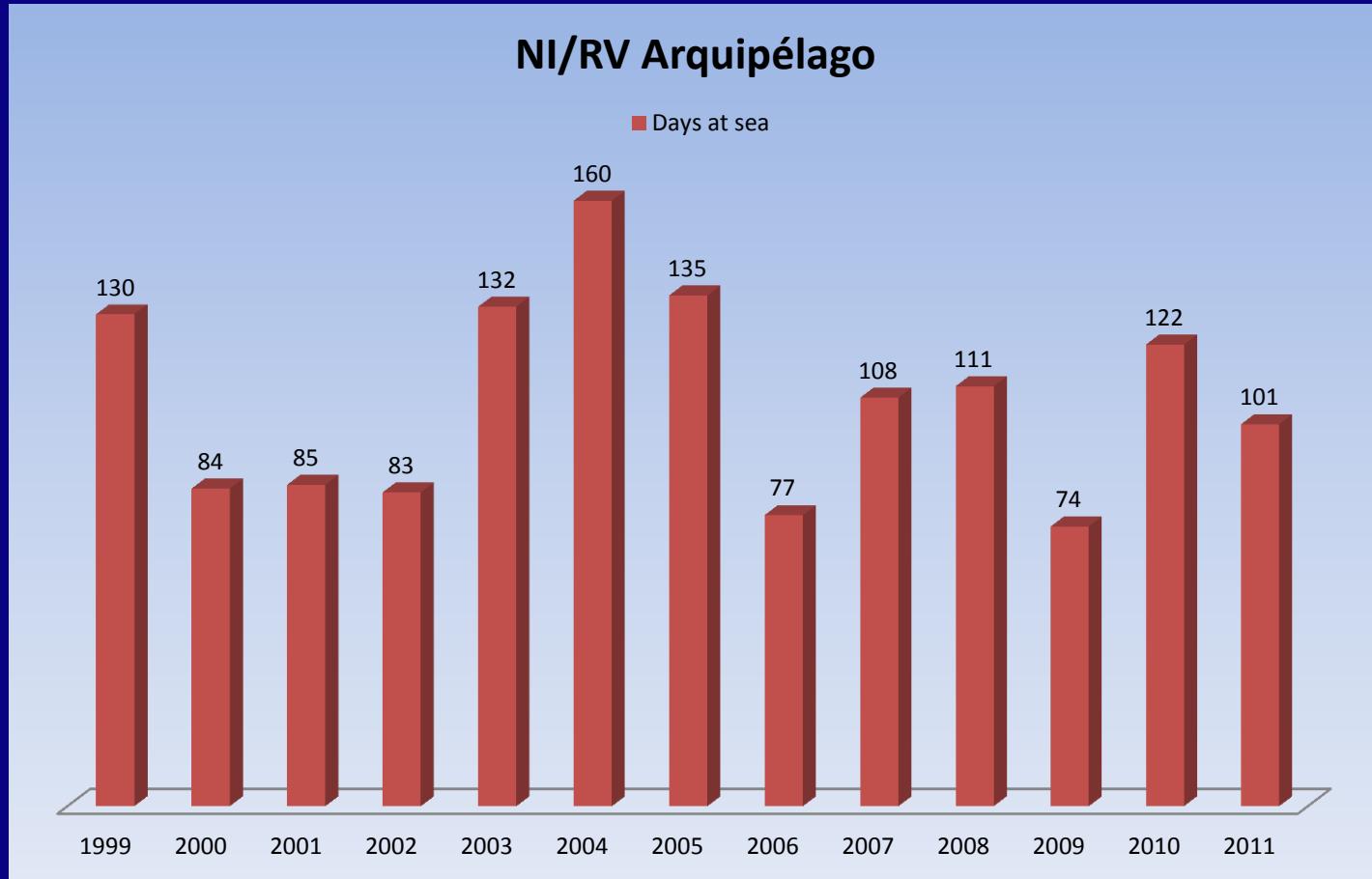


NI “Arquipélago” e NI “Atalante” encontram-se no sítio do Menez Gwen para transferência de cientistas, material biológico e colocação de jaulas.





# Dias de mar / Days at sea

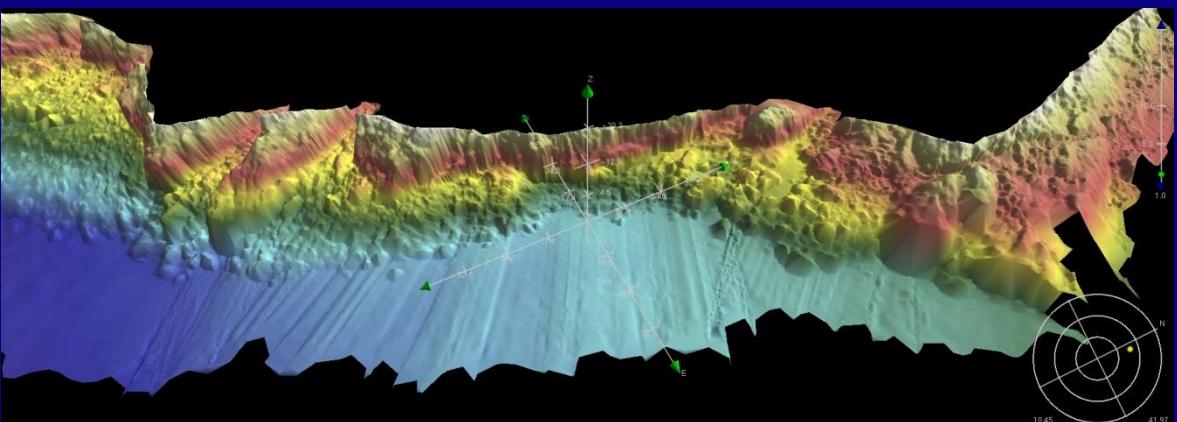


# Sistemas de Sondagem (Echosounding Systems)



Echoplus: Acoustic Ground Discrimination System

Multibeam system: Reson 8125 beam forming system

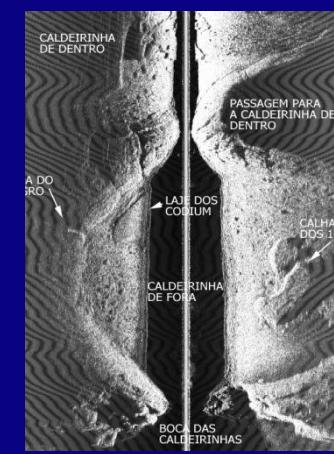
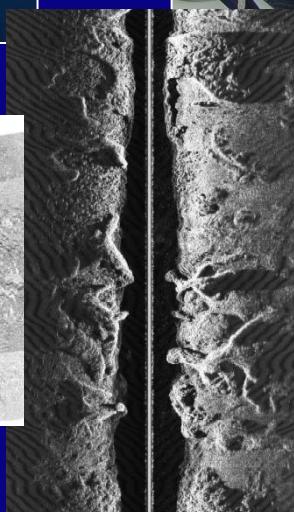
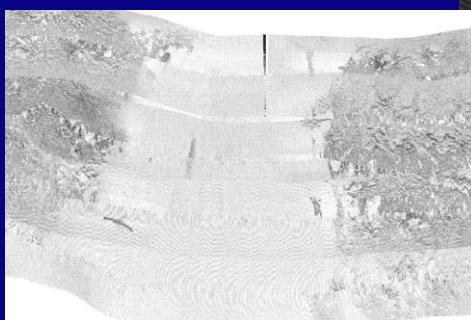
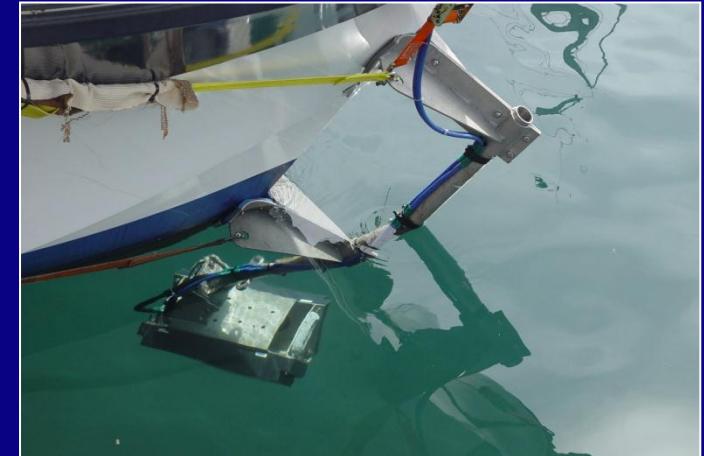




# Echosounding Systems

LI Águas Vivas

Interferometric swath sonar:  
SEA Swathplus, 117 kHz phase-measuring system



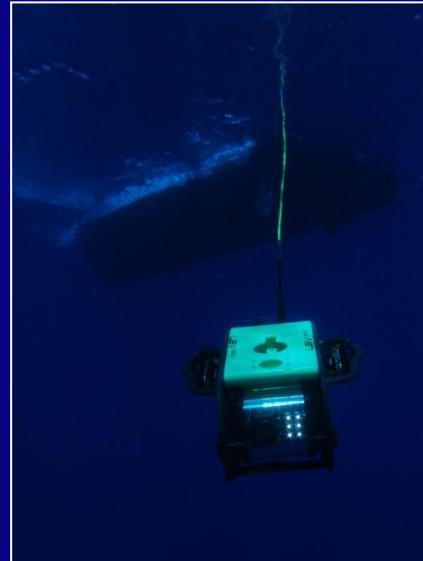


# Sistemas de imagem / Imaging Systems: ROVs, Drop-down Cameras, AUV

Drop down camera



ROV SP



ROV Univ St Andrews



AUV – IST/ISR



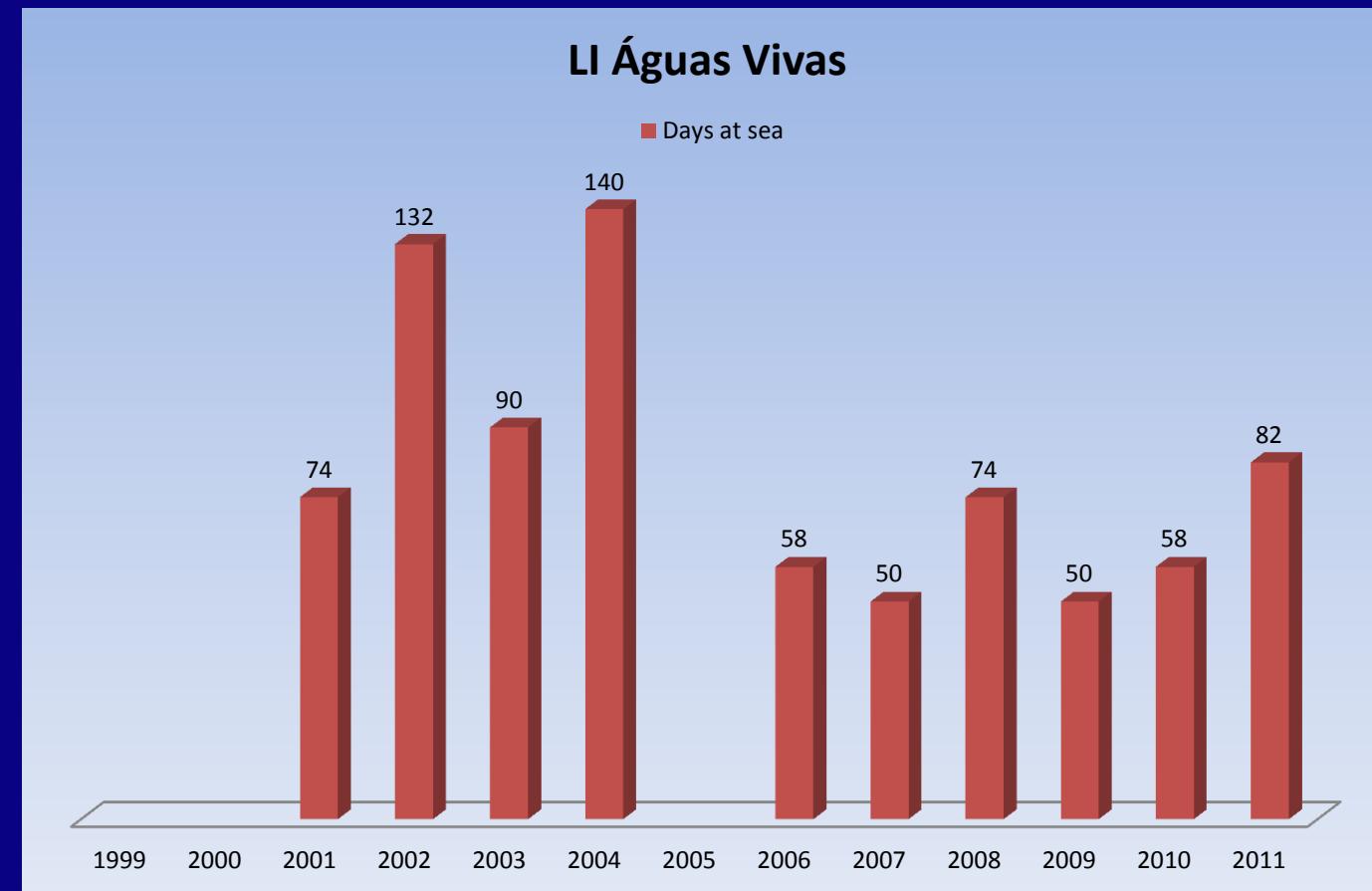
CHIRP







# Dias de mar / Days at sea





## Semi-rígidos/ Rubber boats



Maré Alta – 4,70m – dá apoio a missões de mergulho no N/I Arquipélago e também ações de sensibilização ambiental.  
*(Supports diving missions on the NI Arquipelago and actions for environmental education and sensitization)*



Zílio – 5,50m – dá apoio a trabalhos costeiros que envolvam mergulho .  
*(coastal work / diving)*



Arion – 5,70 – dá apoio a trabalhos mais afastados da costa principalmente com Cetáceos.  
*(Supports short missions more far apart from the coast, it has been intensivly used by the Cetaceans team)*



Pintado – 8,60m – Aquisição recente que torna possível a realização de alguns trabalhos nos Montes Submarinos mais próximos.  
*(Recently adquired to be used on seamounts close to islands)*



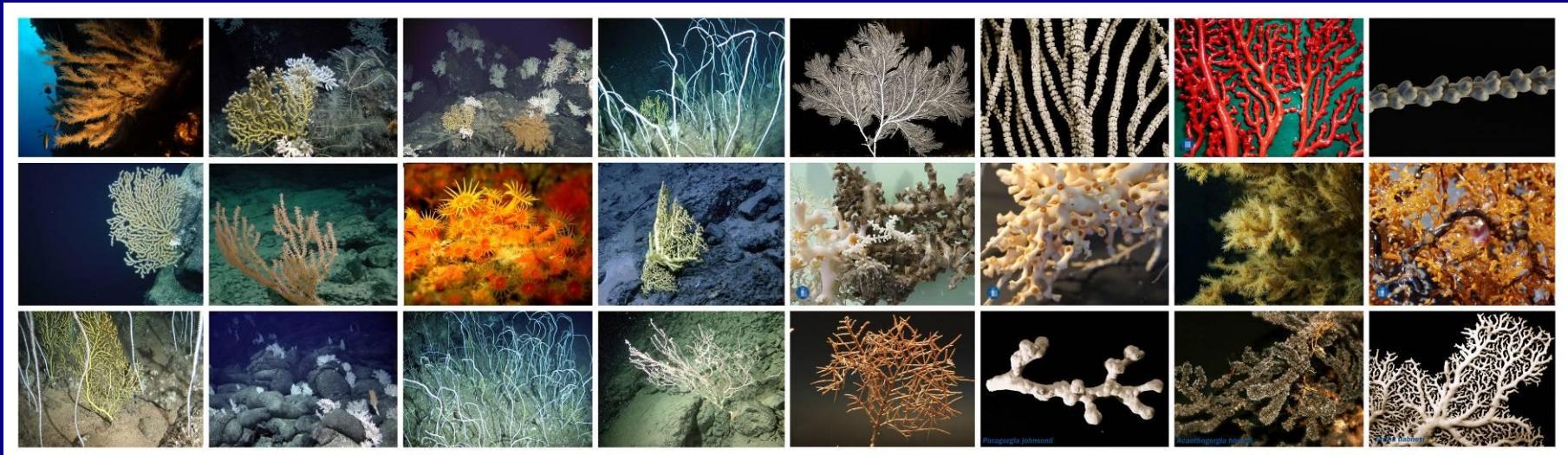
Model: SeaBotix LBV300S-6

Tether length: 350 m

Maximum depth of operation: 300 m

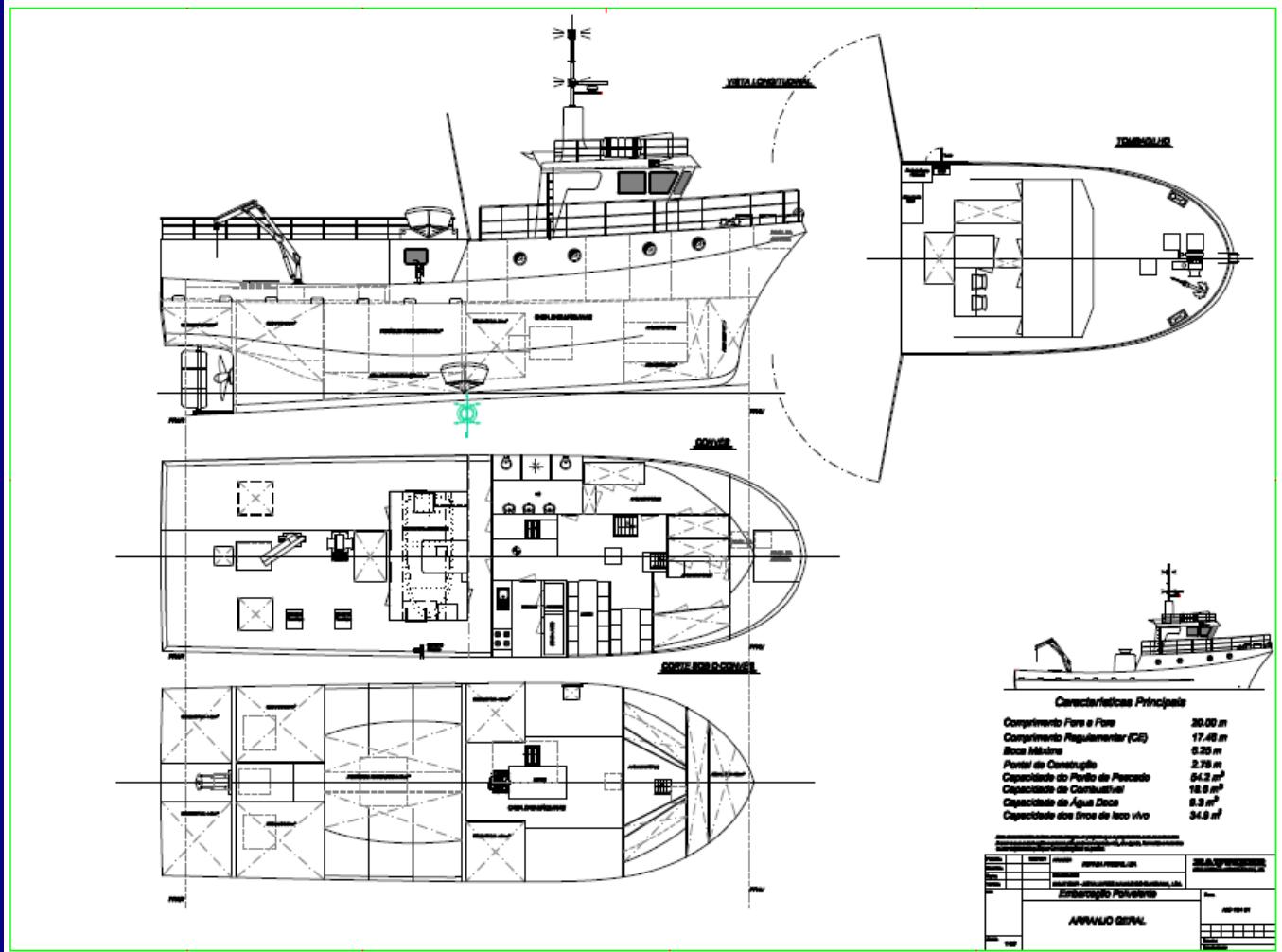
O ROV possui (**The ROV has**) :

- 2 cameras video & 5 conjuntos de luzes LED (2 video cameras & 5LED light arrays)
- 2 lasers para a calibração de imagens ( 2 parallel lasers for image calibration)
- 1 compasso magnético e sensores de atitude (a mag. compass & pitch and roll sensor)
- Sistemas de posicionamento e de deteção de obstáculos e um altímetro (a tracking/positioning system (a surface USBL transducer) , a 750 MHz sonar used for obstacle/target detection and a Altimeter.





# The near future



# The near future?

Substituição do NI Arquipélago (por um navio de 35m)

Replacement of the RV Arquipelago (26m by a 35m long)

Substituição da LI Águas Vivas

Replacement of RV Águas Vivas

# Bringing Europe Closer to Mid-ocean Marine Research

## Imag DOP

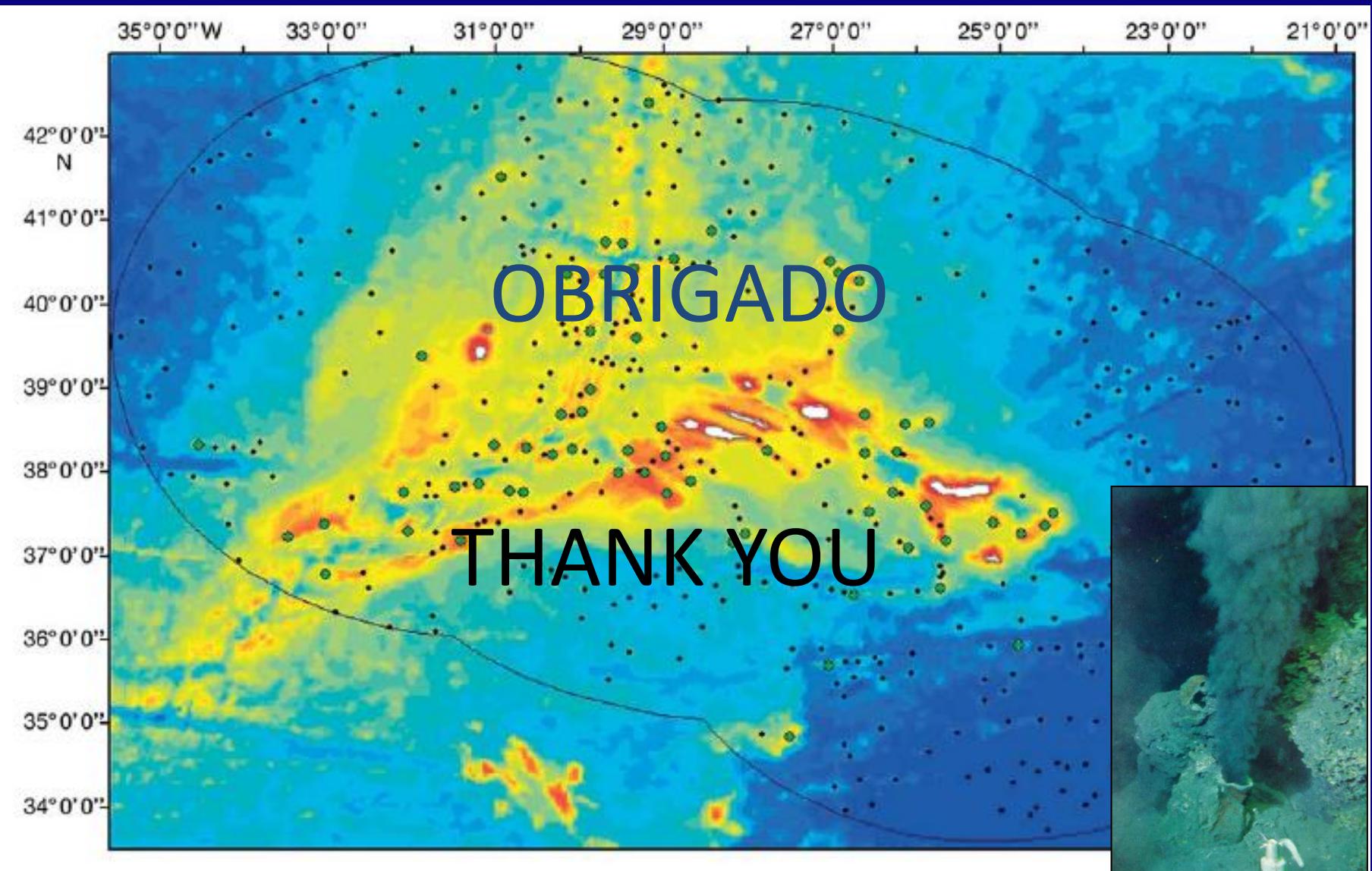
UNIVERSITY OF THE AZORES

[www.horta.uac.pt](http://www.horta.uac.pt)

Within the last ten years, ImagDOP, UAc has:

- archived more than 200,000 photo images
- provided images or scientific input for more than 500 publications
- collaborated in the production of more than 50 short films or documentaries





# Inquéritos – Total capturas

