PAMPA AZUL MACRO PROGRAM

ARGENTINE OFF-SHORE PROSPECTING CAPABILITIES

PAMPA AZUL

CONICET

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PAMPA AZUL: STRUCTURE & OBJECTIVES

→ OBJECTIVES

→ STRUCTURE

Pampa Azul Objectives

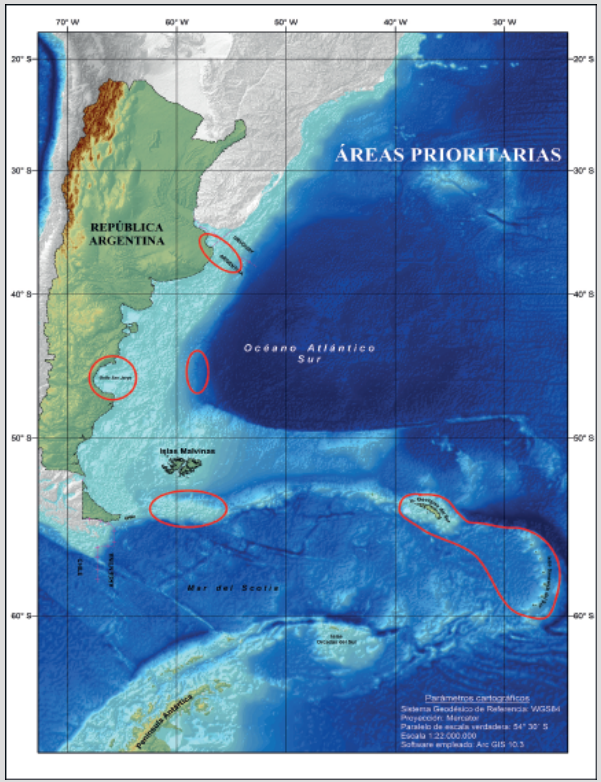
Pampa Azul is an initiative aimed at promote research activity, technological development, and productive innovation in the south Atlantic Ocean.

- Generate interdisciplinary scientific knowledge which works as fundament for preservation and sustainable management of marine resources.
- Impulse technological innovations that contribute to the reinforcement of the sea linked industries and to the economic development of maritime argentine areas.
- Promote in argentine society a deeper awareness about their maritime patrimony and responsible use of its resources.

Pampa Azul Research scheme

Priority Areas

- Budwood Bank
- Agujero Azul
- San Jorge Gulf
- Subantárticas Islands
- Río de la Plata Estuary



Horizontal Areas

- Biodiversity
- Climate Change
- Environmtal protection
- Geological and Geophysical Prospection
- Fisheries Research

Geological and Geophysical Prospection

This group is composed by 27 researchers and technician from 14 institution, companies and governmental agencies

Objectives

- Study and characterice morphology and deep sea seafloor in prioritary areas.
- Analize stability of seafloor in submarine canyons and slide areas.
- Explore hydrocarbon potential of the main off-shore sedimentary basins.

PAMPA AZUL
EL CONOCIMIENTO CIENTÍFICO AL SERVICIO DE LA SOBERANÍA NACIONAL

DEFINE STRATEGIC RESEARCH LINES

Marine Geology Working Group
PAMPA AZUL

Scientific Responsible: Dr.Tassone
tassoneale@yahoo.com.ar

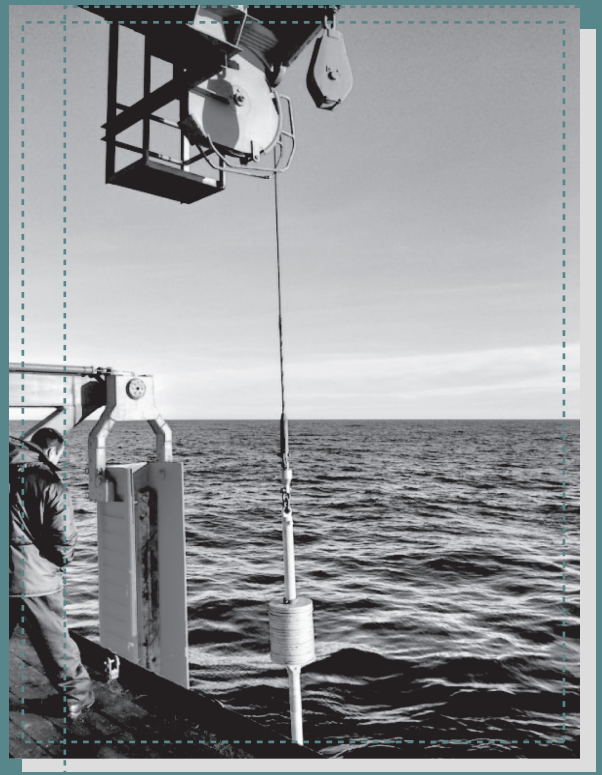
CONICET

EXECUTE PLANS

UNIDAD PROMAR
Coordinate logistics for surveys

- Responsible: Dr. Laborde
  miguellaborde@conicet.gov.ar
- Coordinator: Dr. Acuña
  pablofedericoacuna@gmail.com
- Technical Responsible: Dr.Tassone
  tassoneale@yahoo.com.ar

PAMPA AZUL - CONICET
OFF-SHORE PROSPECTING CAPABILITIES



→ RESEARCH VESSEL FLEET

→ EQUIPMENTS & FACILITIES

PAMPA AZUL

ARMADA ARGENTINA

CONICET

R/V PUERTO DESEADO

BIOLOGICAL RESEARCH VESSEL

Vessels tripulated by Armada Argentina
Scientific Equipments are operated by CONICET and Armada Argentina

Length 70.8m
Beam 13.2m
Draught 4.5m
Multipurpose researchvessel
Maximum speed .....12 knots
service speed .....≤7 knots
endurance .....90 days
accommodation 90: 30 scientists, 50 crew.
NAVIGATION
Bow thruster
Differential GPS

R/V AUSTRAL

GEOLOGICAL GEOPHYSICAL PROSEPECTION VESSEL

Vessels tripulated by Armada Argentina
Scientific Equipments are operated by CONICET and Armada Argentina

Length 97.61m
Beam 14.2m
Draught 6.8m
Gross tonnage.....4.950t
Multipurpose researchvessel
Maximum speed .....12 knots
service speed .....≤7 knots
endurance .....50 days
accommodation 50: 25 scientists, 25 crew.
scientists' quarters: 12 double berth cabins,
1 single cabins

NAVIGATION

Bow thruster

Motion reference system.

Differential GPS

Dynamic Positioning system

SCIENTIFIC EQUIPMENTS

HULL-MOUNTED SYSTEMS

- Multi-beam Kongsberg EM122
- Multi-beam Kongsberg EM2040
- Single-beam Simrad EK80
- Single-beam Kongsberg EA600
- ADCP Ocean Suerveyor
- Sub-bottom Profiler Parasound P70
- Single-beam Kongsberg EA400

TOWED INSTRUMENTS

- Vapor Cesium Magnetometer
- Sparker and Boomer
- 2D Multichannel Seismic *(*Potential)*

SEDIMENTARY AND OCEANOGRAPHIC SAMPLERS

- Gravity Coring system
- Dredge Drag
- CTD and Rosette Sampler
- Box-Corer
- BODO Hydraulic Dredge

R/V AUSTRAL
R/V PUERTO DESEADO

HULL-MOUNTED SYSTEMS

Multi-beam Echosounders
- Kongsberg EM122
- Kongsberg EM 2040

Sub-bottom Profiler
- Parasound P70

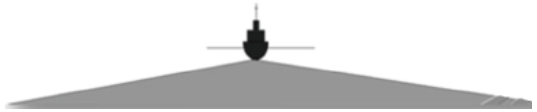
- R/V AUSTRAL
- R/V PUERTO DESEADO

Multi-beam echosounders & Sub-bottom Profiler

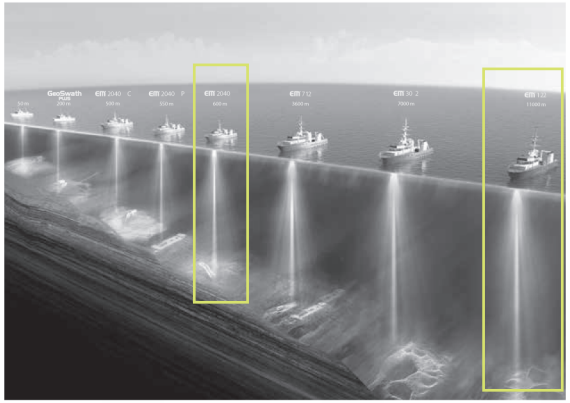
Kongsberg EM 122

Depth Range from 200 to 11000m.

Swath width up to 6 times water depth (Max. 30 km).



Swath



Kongsberg EM 2040

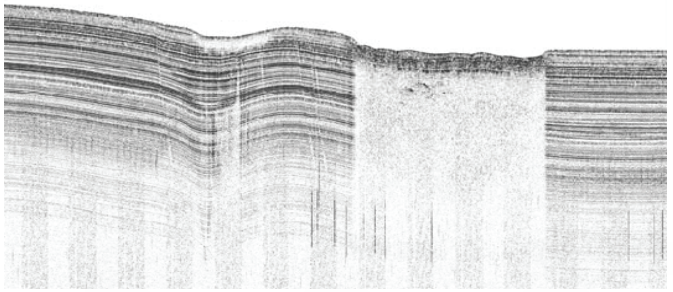
Centrimetic resolution.

Depth Range from 0 to 600 m

Sub-Bottom Profiler Parasound P70

Depth range 11000 m

Max. bottom penetration >200 m



HULL-MOUNTED SYSTEMS

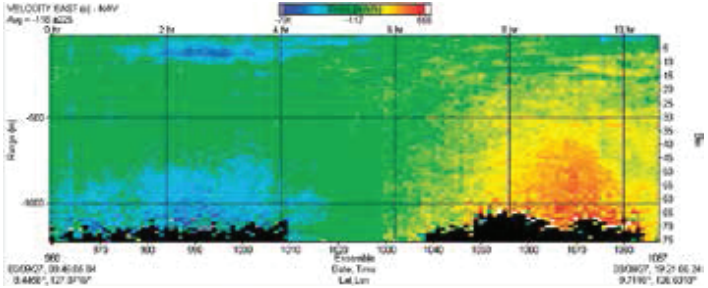
Single-beam Echosounders
- Simrad EK80
- Kongsberg EA600
- Simrad EA400

Water velocity Profiler
- Ocean surveyor ADCP

- R/V AUSTRAL
- R/V PUERTO DESEADO

Single-beam echosounders & ADCP

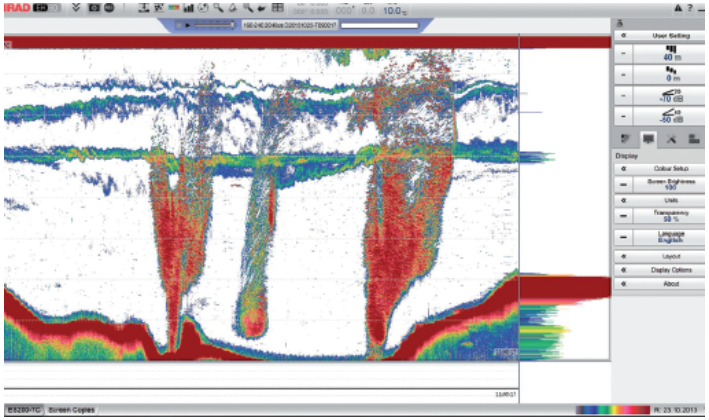
ADCP Ocean Surveyor



Max. working depth 1000m.

Current Velocity Profile. Water masses with opposite directions.

Simrad EK80



Wideband single beam echosounder.
That means that you can transmit a signal that varies across the transmission, called a chirp.
filtering techniques you
can correlate the returned signal with what you sent out, and the result is improved range resolution of single targets

Releasing gas that slowly drifts towards the surface a substantial layer of plankton and small jelly fishes.

TOWED INSTRUMENTS

- Vapor Cesium Magnetometer
- Sparker/Boomer

- R/V AUSTRAL
- R/V PUERTO DESEADO

Vapor Cesium Magnetometer

Sparker and Boomer for Shallow and deep water

TOWED INSTRUMENTS

2D multichannel Seismic

R/V AUSTRAL

Air Compressor 300 Bar capacity.

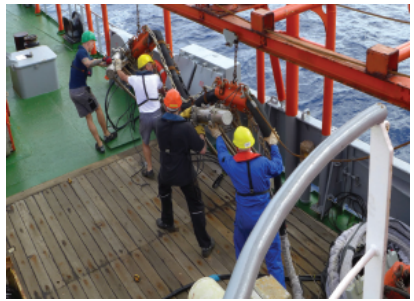
R/V PUERTO DESEADO

Vessel can support a portable 2D multichannel seismic system.

Compressors ✓

Streamers ✗

Air guns ✗



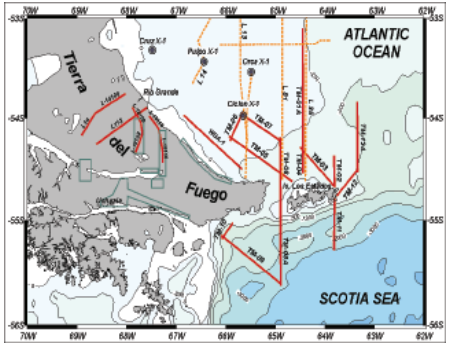
R/V PUERTO DESEADO 2D MCS acquired near Tierra del Fuego in 1998

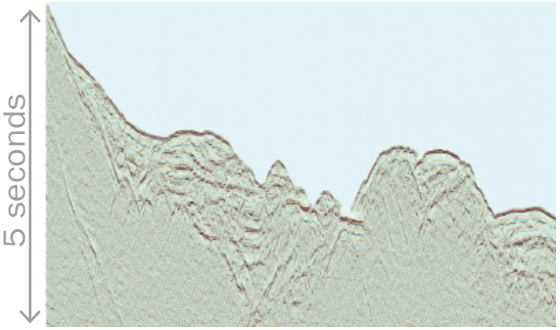
Portable MCS system:

96 channels

1.2 kilometer long streamer

2 air guns
210 cubic inches





SEDIMENTARY AND OCEANOGRAPHIC SAMPLERS

- Gravity Coring system
- Rosette + CTD
- Dredge Drag
- BODO Drag

R/V AUSTRAL
R/V PUERTO DESEADO

Gravity Core

Up to ten meters penetration

Main deck capable to receive 24 meters

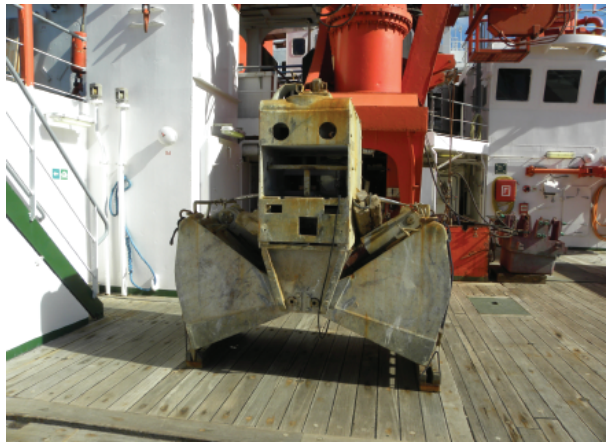
CTD and Rosette sampler

24 Bottles 10 L capacity

SEDIMENTARY AND OCEANOGRAPHIC SAMPLERS

- Gravity Coring system
- CTD with 12 bottles
- Dredge Drag
- BODO Jaw dredge

R/V AUSTRAL
R/V PUERTO DESEADO



BODO Hydraulic Jaw Dredge

1m3 Capacity

Recording camera included

Able to work in up to 6000 m water depth

Dredge Drag

500 kg Capacity

LABORATORIES

WET LABORATORIES

- Coring laboratory
- Geochemical laboratory
- Rock laboratory

DRY LABORATORIES

- Hydroacustic laboratory
- Seismic laboratory
- Gravimetry laboratory
- Magnetometry laboratory

R/V AUSTRAL
R/V PUERTO DESEADO

WET LABORATORIES

Laboratory for coring sampling

6 m long table.

Connected with main deck

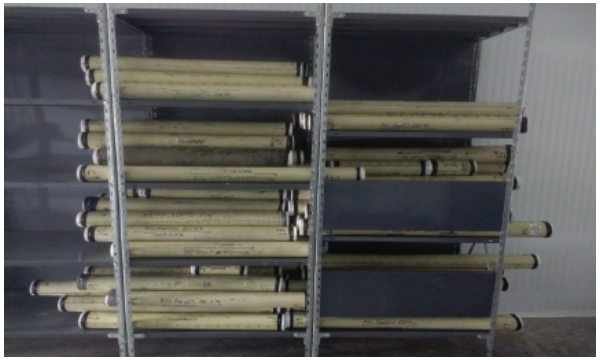
Rack with screens

Vessel position velocity etc

On line record submerged cameras

LABORATORY FOR ROCK SAMPLING

COLD ROOMS



R/V AUSTRAL

R/V PUERTO DESEADO

DRY LABORATORIES

Gravimeter laboratory
Base for gravimeter installation

** Gravimeter Lacoste Romberg
(to be acquire in 2018-2019)

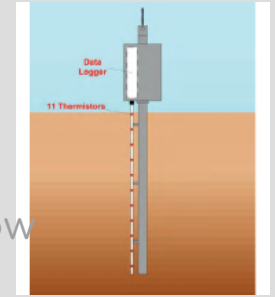
Hydroacustic laboratory
Screens and Computers for watchkeeping

R/V AUSTRAL

R/V PUERTO DESEADO

WINCHES

- Set of Winches suitable for coring, trawling and drop camera operations
- Set of Winches suitable for coring and trawling.



Heat Flow Probe
(to be acquired in 2018-2019)

STEEL ROPES

SOLID CORE WIRE

- 6 km length - 18.2 mm
- 6 km length - 11 mm

COAX WIRE

- 6 km length - 11 mm

FIBER OPTIC WIRE

- 8 km length - 18.2 mm

R/V AUSTRAL
R/V PUERTO DESEADO