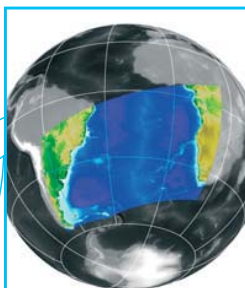


STUDIES

geodynamics and petroleum geology of the south atlantic margins



- GRAVITY AND MAGNETIC DATA INTERPRETATION
- STRUCTURES AND PLATE TECTONIC MODELLING
- STRATIGRAPHIC FRAMEWORK
- PETROLEUM GEOCHEMISTRY
- PALAEOCLIMATOLOGY AND PALAEOCEANOGRAPHY
- DRAINAGE ANALYSIS AND PALAEODRAINAGE
- PALAEOGEOGRAPHIC RECONSTRUCTIONS
- PETROLEUM SYSTEMS



GETECH

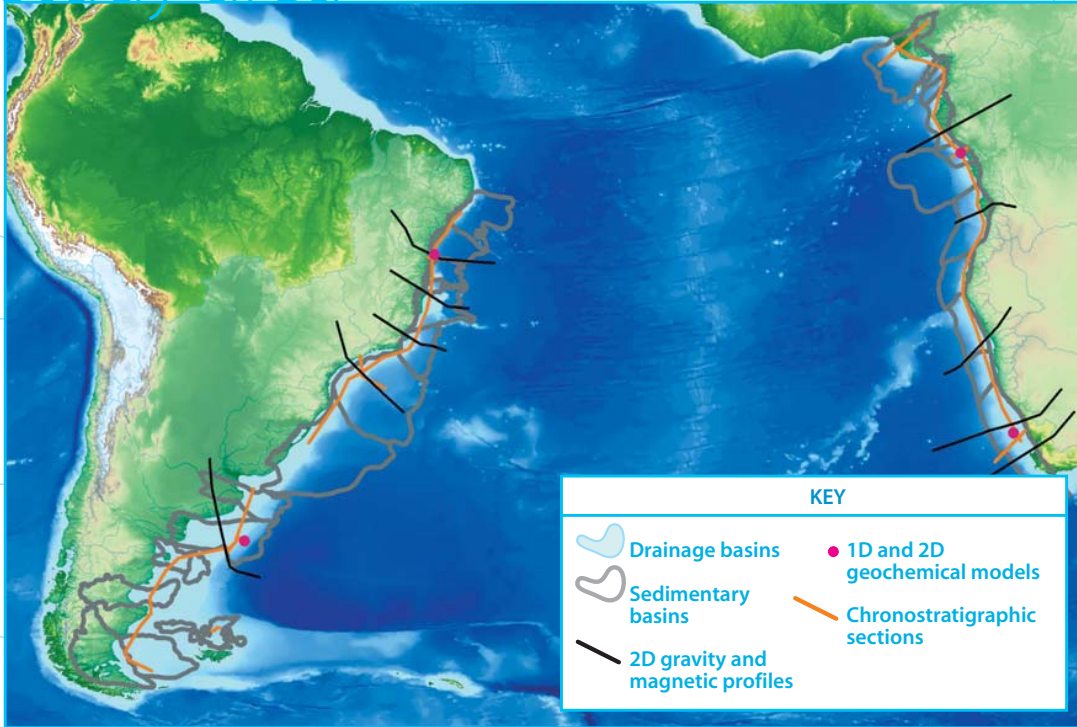
summary

This major new GETECH study examines the influence of regional scale tectonic events on the landscape evolution and petroleum geology of the conjugate margins of the South Atlantic. The study area covers both margins from the Niger Delta to the Cape of Good Hope, and from the Sergipe-Alagoas Basin to Tierra del Fuego. The study will assist oil companies exploring in these exciting emergent basins through integration of key gravity and magnetic data and the expertise of GETECH's team of geoscientists.

study area

SOUTH AMERICAN BASINS COVERED

- Sergipe-Alagoas
- Reconcavo
- Camamu-Almada
- Jequitinhonha
- Cumuruxatiba
- Espirito Santo
- Campos
- Santos
- Pelotas
- Salado
- Colorado
- Valdez
- Rawson
- San Jorge
- San Julian
- Magallanes
- Malvinas
- North Falkland



AFRICAN BASINS COVERED

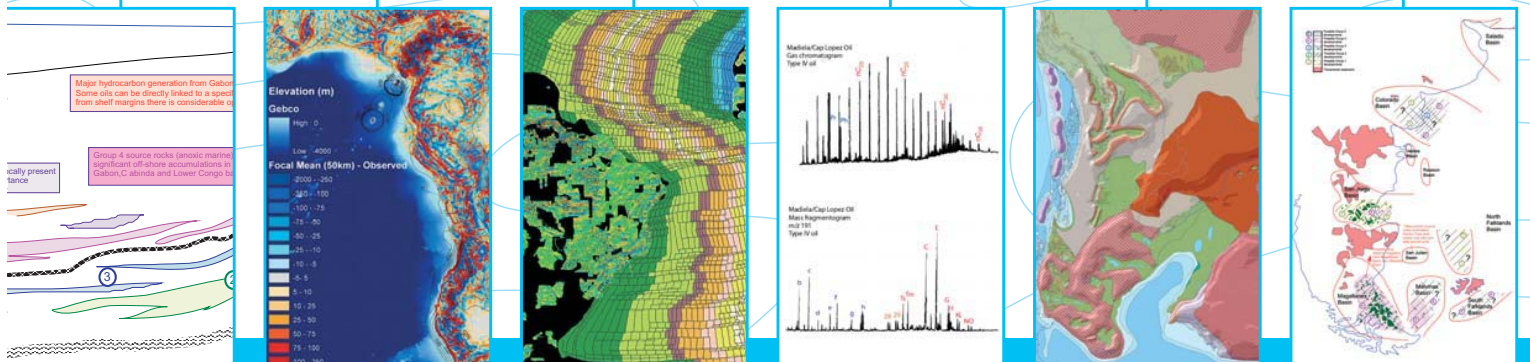
- Anambra
- Niger Delta
- Cameroon
- Rio Muni
- Gabon
- Lower Congo
- Congo Fan
- Kwanza
- Namibe
- Walvis
- Luderitz
- Orange

project rationale and objectives

The study builds on GETECH's unique global gravity and magnetic data to underpin a re-evaluation of the structural development of the conjugate margins of the South Atlantic and implications for the opening history. This forms the basis for the mapping of ten critical palaeogeographic and palaeolandscape timeslice reconstructions. Aided by an analysis of the modern day drainage, the study reviews the landscape evolution and likely effects on sediment dispersal. It also contains a review of the geochemical literature, new geochemical modelling, a synthesis of the stratigraphic framework and palaeoclimatology and palaeoceanography. All these have been utilised to generate new insights into the petroleum systems of the South Atlantic margins.

Some critical issues addressed in the study include:

- Timing and nature of the opening of the South Atlantic and its influence on lacustrine source rock deposition, marine incursions, and clastic supply from adjacent hinterlands.
- The extent of salt deposition to understand its influence on later structural development (trap formation, migration pathways).
- Importance of hinterland changes in the Late Cretaceous for supplying clastics to the West African and Brazilian margins.



Major hydrocarbon generation from Gabon. Some oils can be directly linked to a specific shelf margin; there is considerable uncertainty.

Group 4 source rocks (benzoin) maintain significant off-shore accumulations in Gabon, C. abinda and Lower Congo basins.

deliverables

The study is delivered as:

**A multi-volume A3 Report, with accompanying A0 enclosures (hardcopy and PDF)
GIS Project (ArcGIS 9.x)**

the report

Executive Summary and Introduction

Geophysical Interpretation

Images of the gravity and magnetic data to illustrate key features
Ten regional 2D modelled gravity and magnetic profiles across the principal basins
Depth-to-basement case study for the Santos Basin

Structure and Tectonics

Structural interpretation of the gravity and magnetic data
Re-evaluation and testing of published structures
Mapping of Precambrian structural fabric

Plate Modelling

Plate tectonic modelling and review of opening history of the South Atlantic

Stratigraphic Framework

Petroleum Geochemistry

Source rock characterisation and evaluation
Burial history modelling
Correlation of available source rock and oil data

Palaeoclimatology and Palaeoceanography

Drainage and Landscape Analysis

Palaeogeography and Palaeolandscapes

Ten palaeogeographic reconstructions
(maps of rotated data locating palaeoenvironments, tectonophysiographic terrains and lithologies)
Palaeoelevation interpretation and derived palaeo-digital elevation models
Palaeodrainage reconstruction (including drainage basin geometry and evolution through time)

Petroleum Systems Identification and Evaluation

Key Exploration Issues

Conclusion, References and Appendices

Nineteen A0 Enclosures

the GIS project

A series of .mxds illustrating:

Potential Field Data

Gravity data and derivatives (images)

Structural Framework

Structures, tectonic boundaries and Precambrian structural framework

Palaeogeographies

A series of maps:

- Palaeoenvironments and tectonophysiographic terranes
- Palaeotopography/Palaeo-digital elevation models
- Palaeodrainage

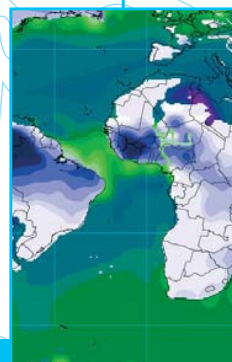
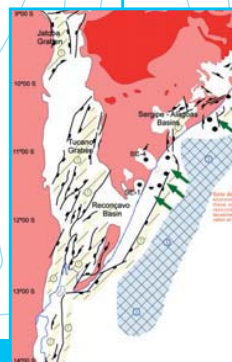
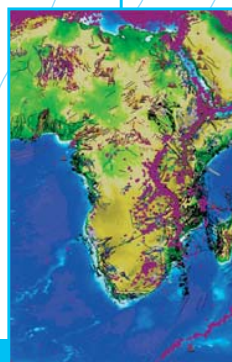
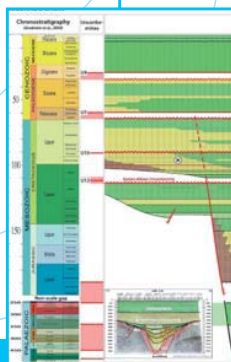
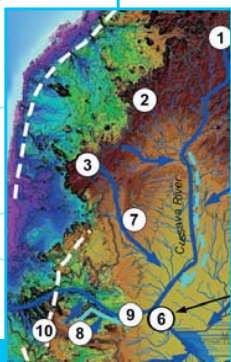
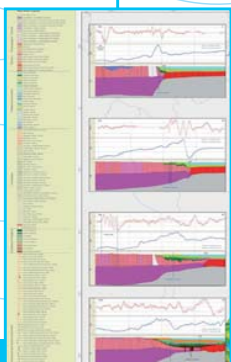
Modern Day Drainage

Landscape analysis grids and shapefiles

For each of ten timeslices:

Tithonian	Campanian
Berriasian	Maastrichtian
Barremian	Early Eocene
Aptian	Late Oligocene
Cenomanian	Middle Miocene

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other products

geodynamics and petroleum geology of the east african margins

This new non-exclusive study examines the petroleum systems of East Africa from Mozambique to Somalia, including Madagascar. The study is an evaluation of the tectonostratigraphic evolution of the East African passive margin basins and the key issues of source, reservoir and seal development and maturation history.

gravity and magnetic data

The underlying digital grids of gravity and magnetic data which have been utilised in our studies are also available separately or as a complementary data set to the study.



SERVICES

Multi-disciplinary teams of technical experts



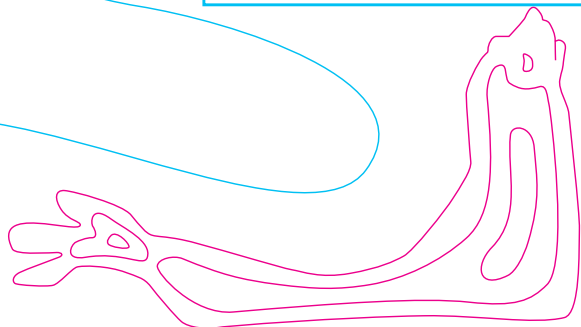
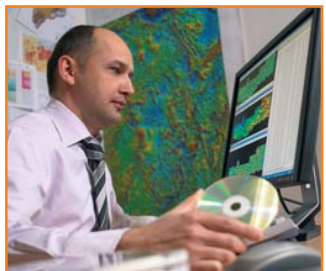
DATA

Including the world's largest gravity and magnetic library



STUDIES

A global portfolio of focussed exploration reports



further information

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