

structure and tectonics of southeast asia



STUDIES

STRUCTURE AND
TECTONICS

GETECH

GETECH's global series of **Structure and Tectonics** studies will re-evaluate, region-by-region, the fundamental structural and tectonic framework that underpins oil and gas exploration. The studies are based on Landsat imagery, radar topography data and GETECH's best available gravity and magnetic data. The ultimate goal is a series of detailed, kinematically realistic, **structural maps** and an **original global plate tectonic model**.



project rationale *and objectives*

Each study integrates two technical approaches:

- **Structural mapping:** ground-truthing of current interpretations; new interpretations from remote sensing imagery and potential field data; 2D gravity and magnetic profile modelling to accurately identify the limit of unstretched continental plates.
- **Plate modelling:** a new PaleoGIS plate tectonic model utilising the results of the structural mapping to quantify plate motions and constrain basin evolution.

The Southeast Asia module incorporates: Irian Jaya in the southeast to the Andaman Islands in the west and the Yangtze River to the north. **This scope of study has not been attempted previously, either at this scale, level of detail, or by utilising such comprehensive and continuous gravity, magnetic and topographic datasets.**

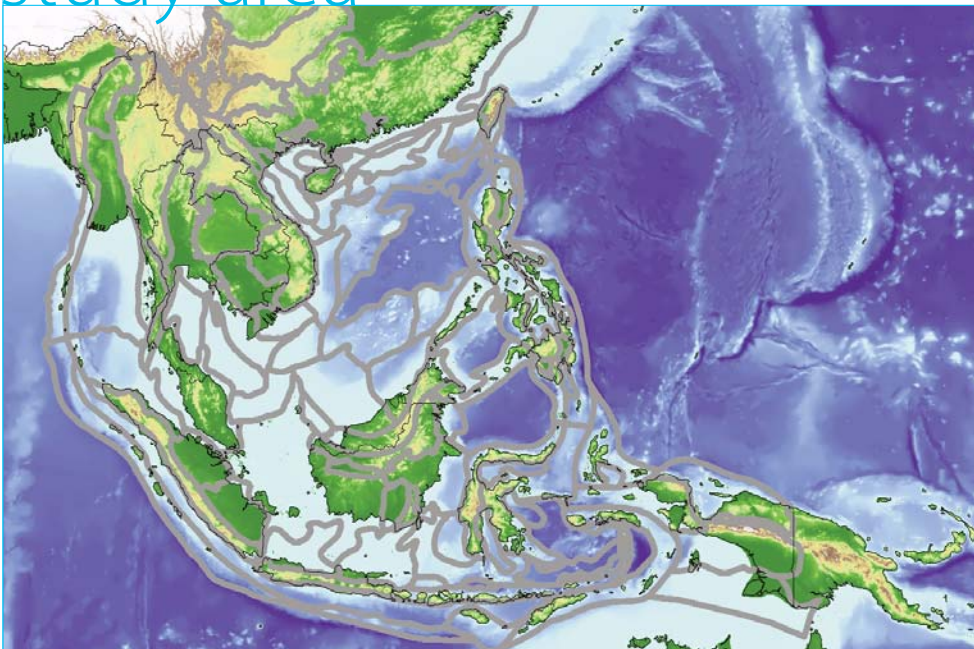
Some key issues addressed in the study include:

- Redefinition of the major structural and tectonic elements
- Plate boundary definition and crustal characterisation
- Basin definition and geometry
- Modern day tectonophysiographic terrains and depositional systems: better understanding the link between tectonics and landscape

Main datasets utilised:

- GETECH's best available gravity and magnetic data
- Satellite gravity data
- At least six 2D gravity and magnetic profile models
- Landsat imagery
- SRTM3 & SRTM30 topography
- Published observations and interpretations
- Modern earthquake observations
- Published seismic
- Geological maps

study area



deliverables

The study is delivered as:

A4 report and user manual (hardcopy and PDF format)
Structure and tectonics map of Southern Asia (hard copy and PDF format)
GIS project (ArcGIS 9.x)
Other digital images and animations

the report

Executive Summary and Introduction
Data Utilised
Methodologies
Geophysical Interpretation
Including at least six gravity and magnetic profiles for key transects
Structure and Tectonics
Plate Modelling
GIS Contents and Legend
Comprehensive Bibliography

the structure and tectonics map of southern asia

1:5,000,000 scale map of the modern day

the GIS project

Images of satellite gravity and Landsat data
Modern day structural and tectonic elements
Tectonic plate definitions
Horst and graben outlines
Basin geometry and definition
Crustal type and extent
Basement geology
Elevation and bathymetry
Ocean age
Tectonophysiographic terrains
Depositional systems

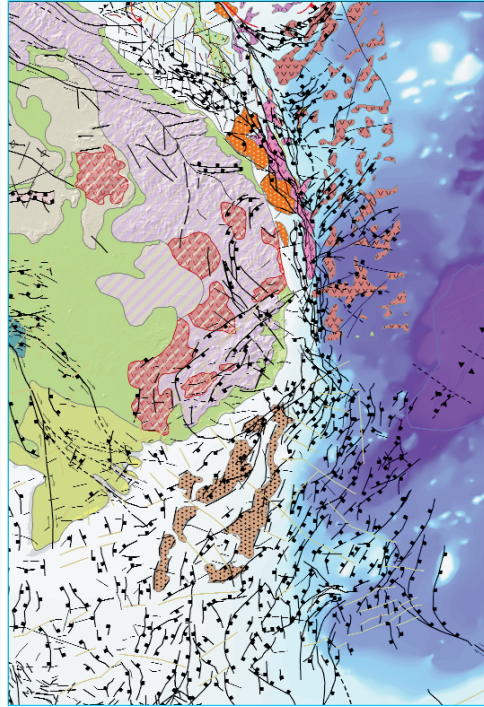
Plate modelling outputs

An ArcGIS project illustrating the plate positions for each stratigraphic stage from the Cretaceous to the present day (32 stages) and for each epoch from the Permian to the Cretaceous (9 epochs)

other digital images and animations

Images of plate positions for each stratigraphic stage covered by plate modelling, 41 in all (PDF format)
Plate kinematics animation (MOV format)
Plate tectonic model file (MDB format)

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other products

petroleum systems studies in indochina

GETECH has performed a number of studies which build on our gravity and magnetic data to constrain the structural and tectonic controls on landscape evolution and the effects on the petroleum systems of Thailand and the Gulf of Thailand Basins, Onshore Thailand, Offshore East Vietnam, Southern Indochina and Offshore Southeastern China.

structure and tectonics programme

Please contact us for details of areas covered by this programme.

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 dataset to the study.



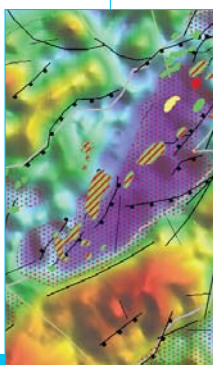
Multi-disciplinary teams of technical experts



Including the world's largest gravity and magnetic library



A global portfolio of focussed exploration reports



GETECH

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