

# Brasil12<sup>th</sup>Round

Oil & Gas Bidding Rounds

## Areas on Offer 12<sup>th</sup> Bidding Round

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Superintendent of Block Delimitation



# Agenda

- 1** Introduction
- 2** Current Scenario
- 3** ANP Technical Studies
- 4** Geological and Geophysical Plan
- 5** Selected Areas for the 12<sup>th</sup> Bidding Round
- 6** 12<sup>th</sup> Bidding Round Particularities
- 7** Final Remarks

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- 1** **Introduction**
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- 6** **12<sup>th</sup> Bidding Round Particularities**
- 7** **Final remarks**

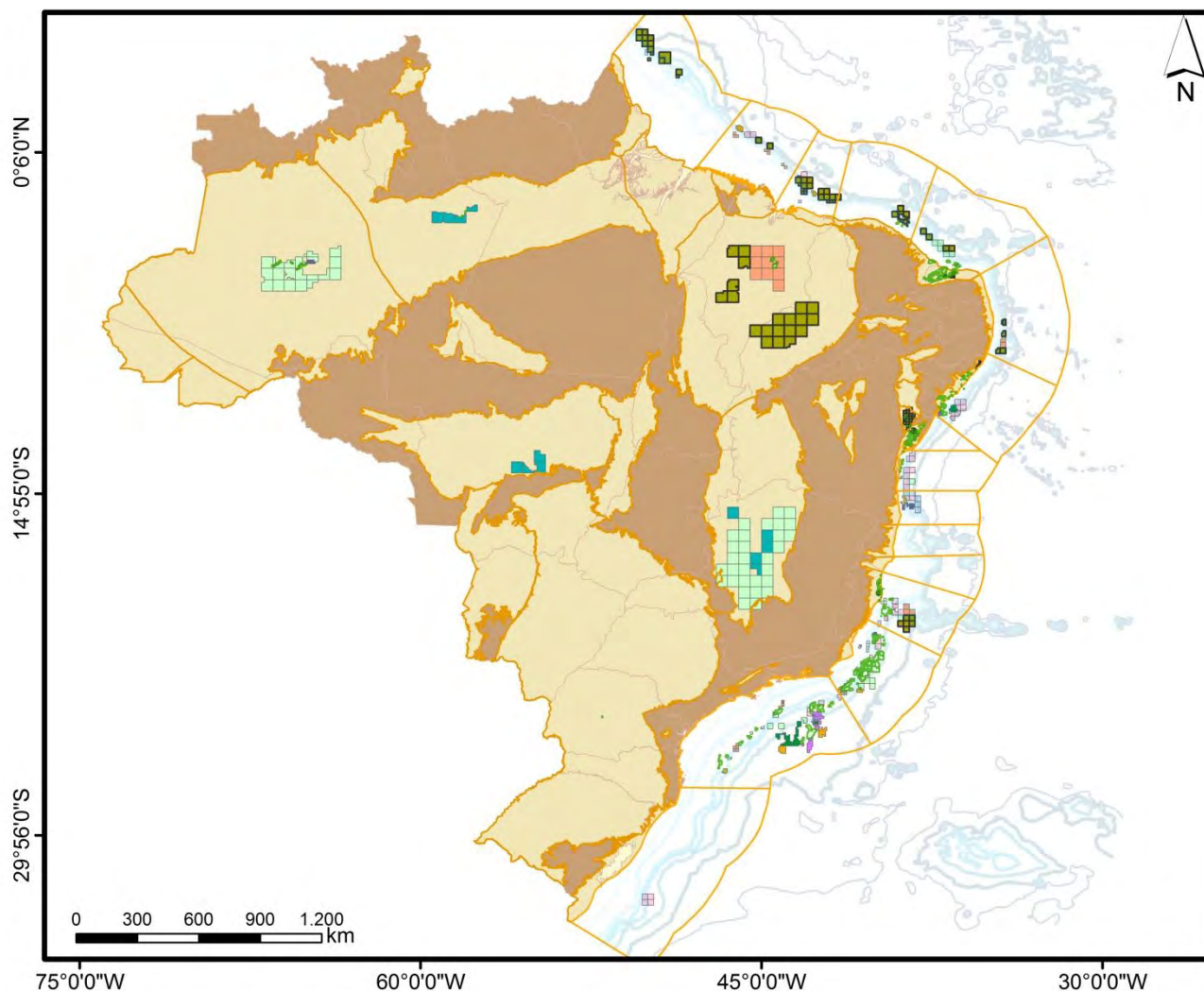
The National Council for Energy Policy (CNPE) authorized ANP to promote the 12th Bidding Round based on Directive nº 06/2013 with the following assumptions:

- ❖ *Bidding areas in frontier basins in order to attract investments to regions lacking in geological knowledge or with technological barriers to be overcome, allowing the emergence of new producing basins of conventional and unconventional natural gas and petroleum resources;*
- ❖ *Bidding areas in mature basins in order to provide continuity of exploration and production of natural gas from conventional and unconventional petroleum resources*

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# Current Scenario



***38 sedimentary basins,  
29 hold potential for  
petroleum exploration***

***7.5 million km<sup>2</sup>  
5.0 million km<sup>2</sup> onshore  
2.5 million km<sup>2</sup> offshore***

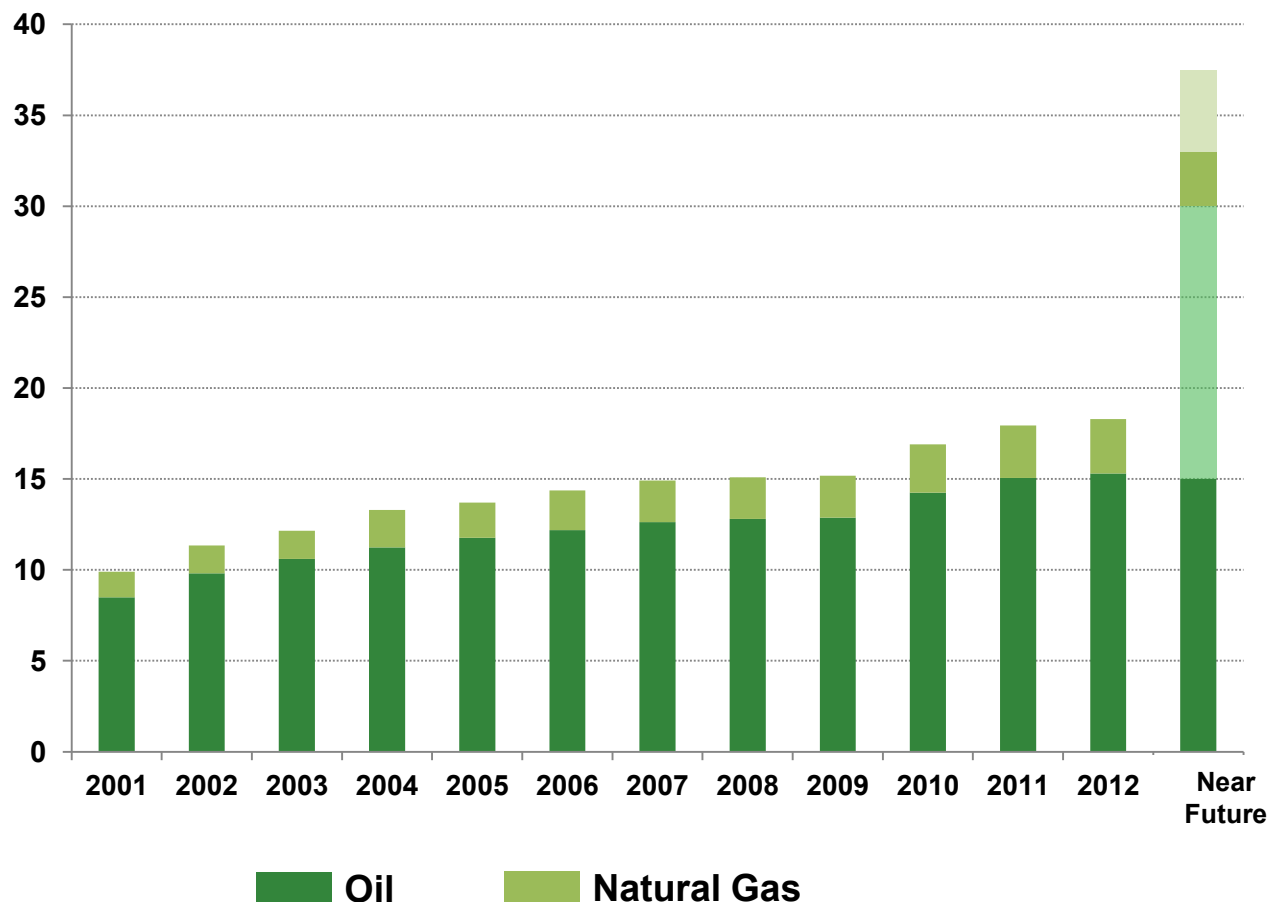
**Onerous assignment  
(Law n° 12.276/10):  
7 exploration blocks**

**~ 2% of sedimentary areas  
Production sharing regime**

**Other areas (~ 98%)  
Concession contracts**

# Current Scenario

## Proven Reserves (Billion boe)



### Proven Reserves

Oil ~15.3 billion bbl  
Gas ~459.3 billion m<sup>3</sup>

### Production

Oil ~ 2.2 million bbl/d  
Gas ~ 70.7 million m<sup>3</sup>/d

### Importation/Exportation

Oil – 237.9 thousand bbl/d  
Gas – 35.8 million m<sup>3</sup>/d

39 national companies  
38 foreign companies

# Agenda

1

Introduction

2

Current Scenario

3

**ANP Technical Studies**

4

Geological and Geophysical Plan

5

Selected Areas for the 12<sup>th</sup> Bidding Round

6

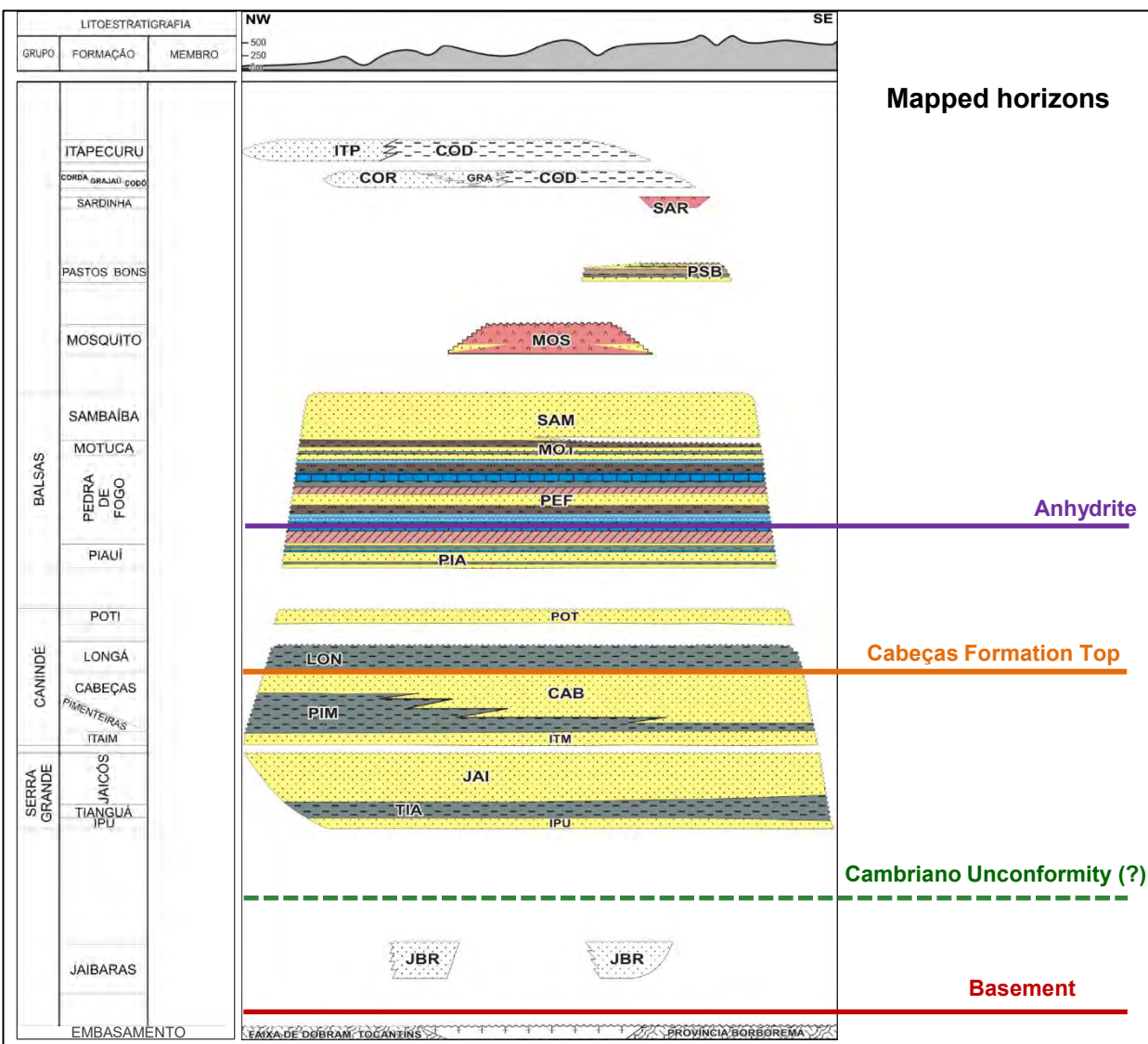
12<sup>th</sup> Bidding Round Particularities

7

Final Remarks

## Geological and geophysical analysis of the area

- **Performed by ANP technical staff;**
- **Based on available public data and recent speculative geophysical surveys;**
- **Methodology adopted by the oil industry worldwide;**
- **Several identified leads with preliminary expected volumes assessment.**



- ❖ **Regional Geology;**
- ❖ **Mapping of regional main stratigraphic horizons;**
- ❖ **Confection of isopach and structural maps;**
- ❖ **Structures delimitation;**
- ❖ **Direct Hydrocarbon Indicators(DHI);**
- ❖ **Log analysis;**
- ❖ **Petrophysical data analysis;**
- ❖ **Volume assessment.**

## Oil and natural gas resources studies

- **Indicate the minimum bonus based on the exploration potential of the areas;**
- **Indicate the exploration objective;**
- **Indicate the minimum exploration commitment.**

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**Art. 8º, Law nº 9.478/97**

**Wide sedimentary areas (~ 7.5 million km<sup>2</sup>)**

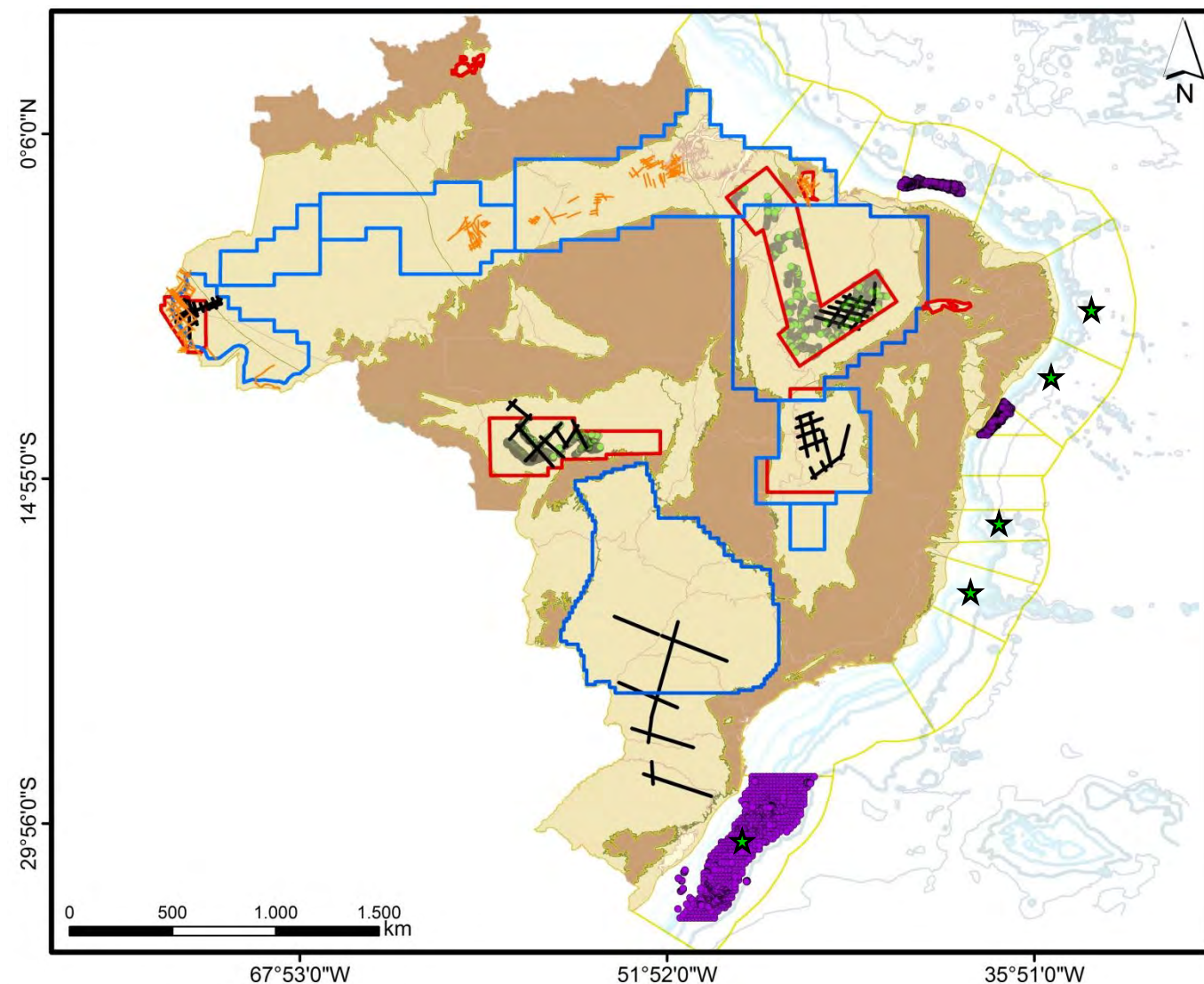
**need to increase the geological knowledge +  
petroleum potential**



**PPA – ANP**

- ***Investments and exploration efforts in new frontier basins;***
- ***“PPA” is planned for the period 2007-2014;***
- ***Total investments until 2014 is estimated at R\$ 1.2 billion;***
- ***“PPA” activities include seismic surveys, seismic processing and reprocessing of old seismic data (before 1998), magnetic and gravimetric surveys, megnetotelluric surveys, petroleum systems studies, geochemical surveys and drilling of stratigraphic wells;***
- ***The studies are defined based on the current geological knowledge of the basins that are included on the “PPA”.***

# ANP's "PPA" and the 12<sup>th</sup> Bidding Round



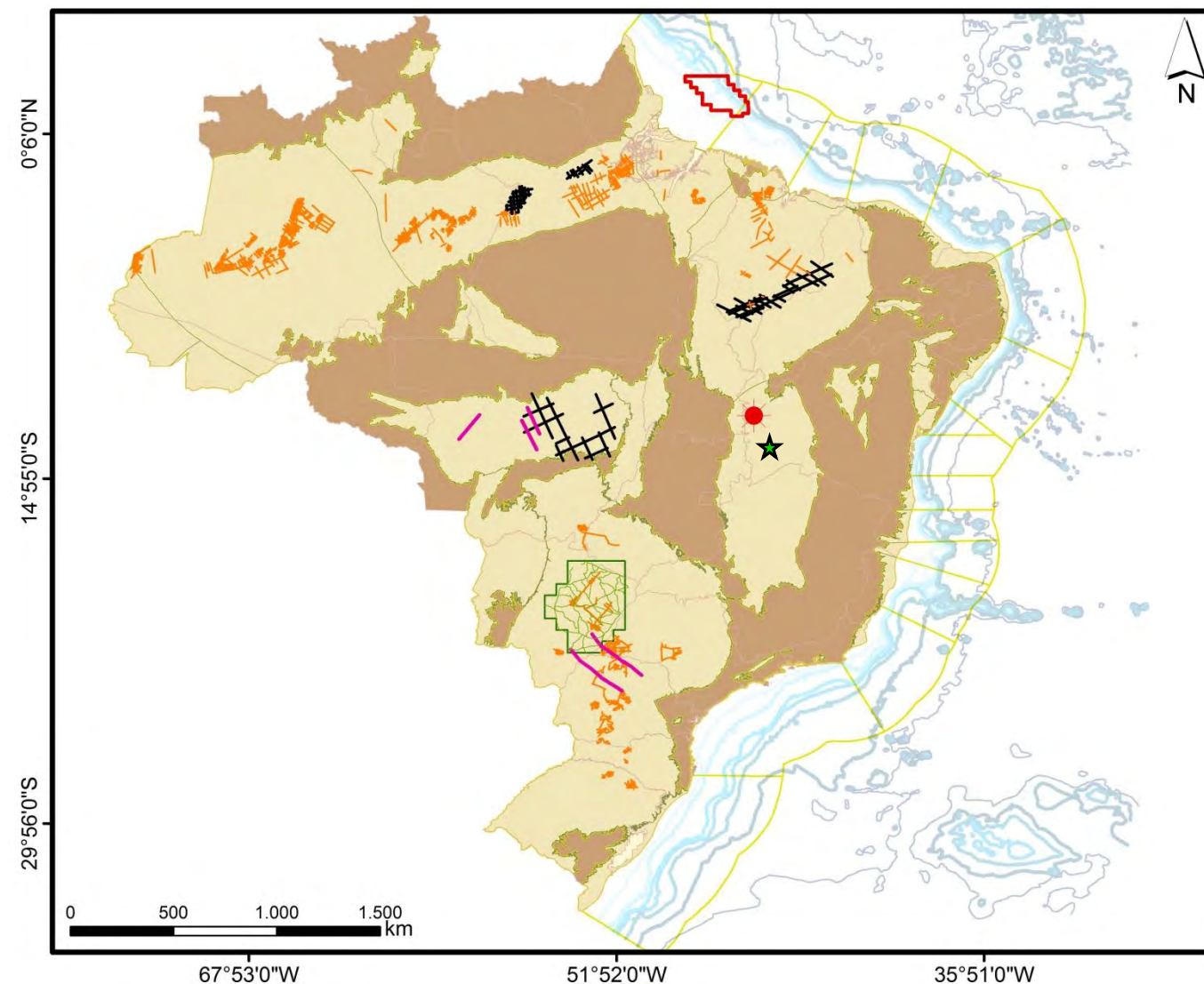
**23 Completed  
Projects**

**18 Investigated  
Basins**

**~ R\$ 600 million  
Invested**

- ★ Petroleum system study
- Collected Points - Petroquímico marítimo
- Processing of old seismic data
- Aerogravimetry and magnetic data
- Seismicity and geotectonics
- Collected Points - Geotectonics
- Seismicity and geotectonics

# ANP's "PPA" and the 12<sup>th</sup> Bidding Round



**10 Ongoing  
Projects**

**10 Basins under  
study**

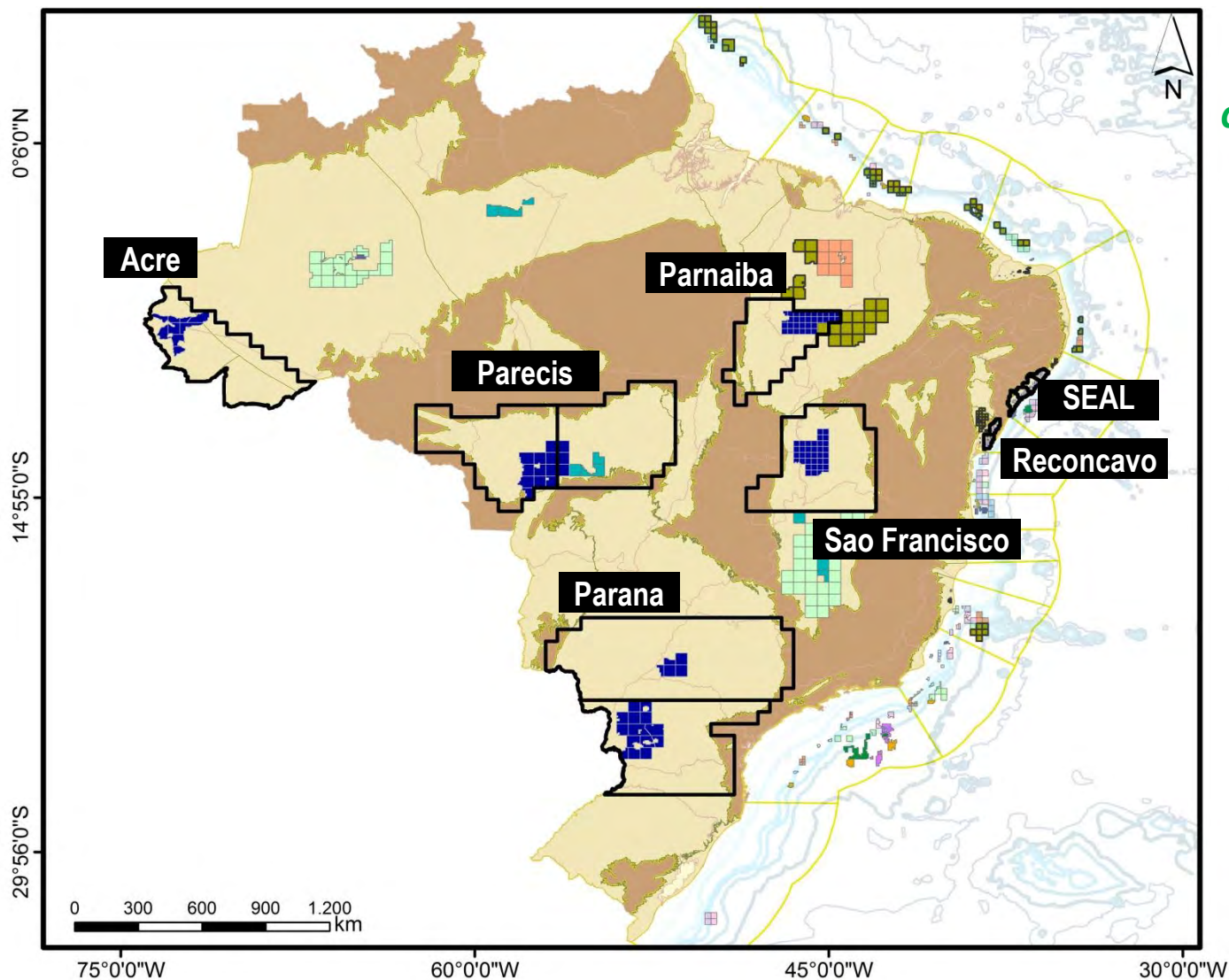
**Investments of  
R\$ 500 million**

- ★ Petroleum systems study
- ANP-ANPA-ANPA
- Processamento de dados sísmicos antigos
- 2D variational seismic 2D - vibroseis
- 2D variational geochemical marine
- 2D variational seismic
- 2D variational seismic

# Agenda

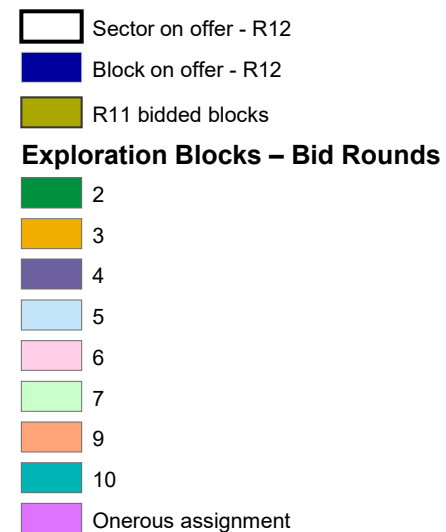
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# Selected Areas for the 12th Bidding Round

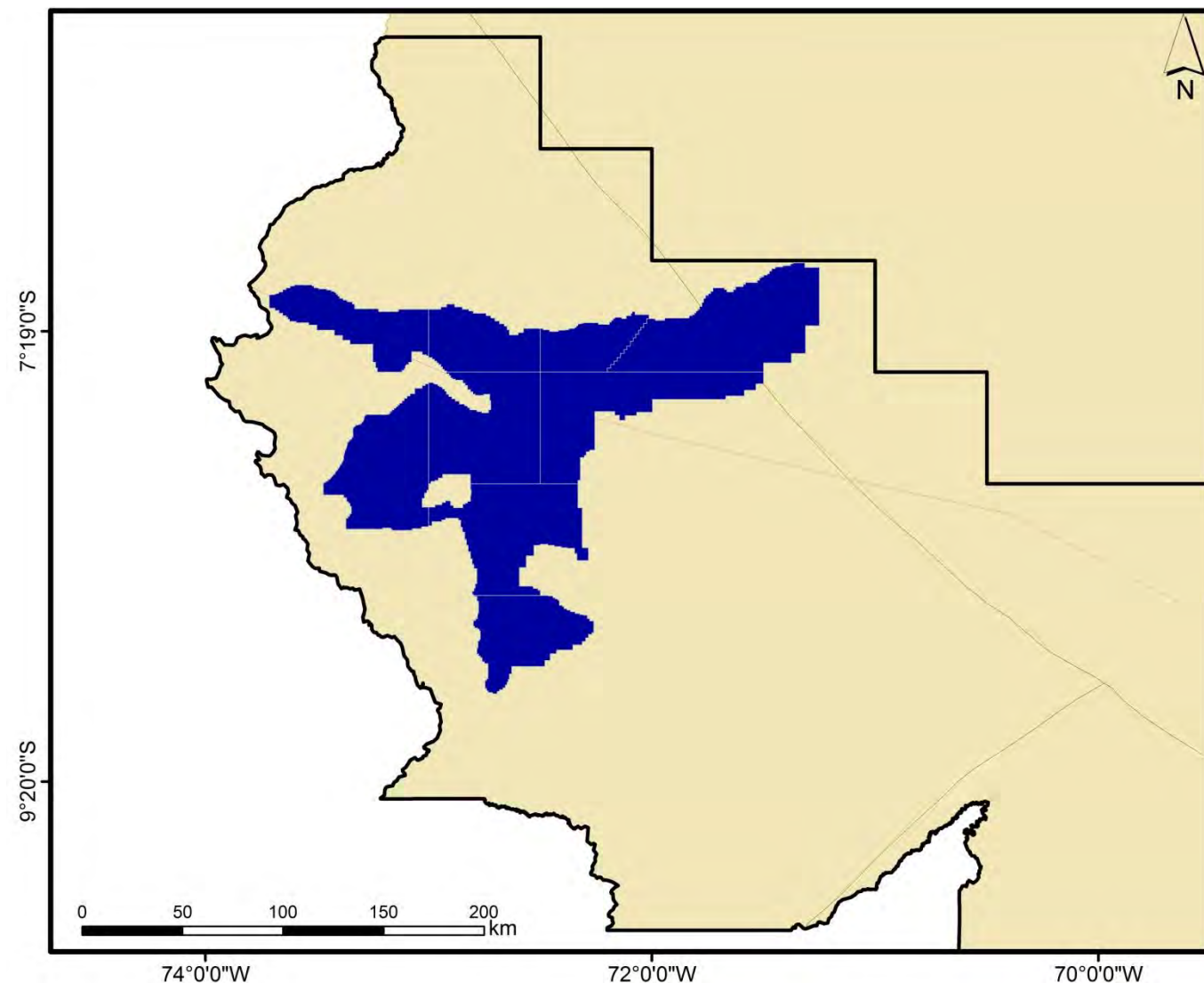


**240 exploration blocks  
distributed in 13 sectors  
and 7 sedimentary  
basins**

**Total area (proposed)  
~ 164,000 km<sup>2</sup>**



# Acre Basin

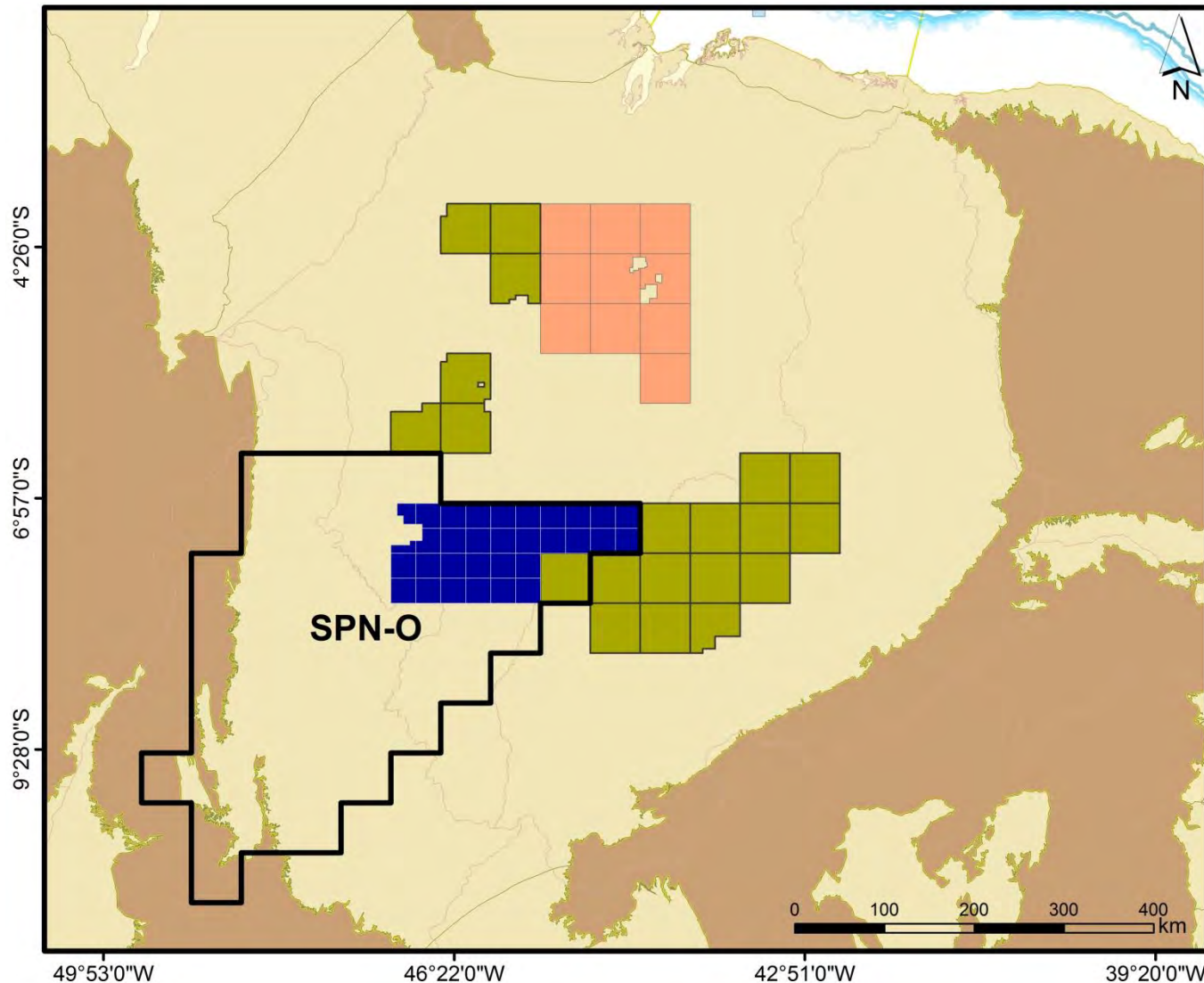


**9 Exploration Blocks  
on Offer**

**Total Area:  
19,719 km<sup>2</sup>**

**Corralated with Ucayali  
and Maranon basins  
(Peru). These basins  
are oil and natural gas  
producers.**

# Parnaíba Basin

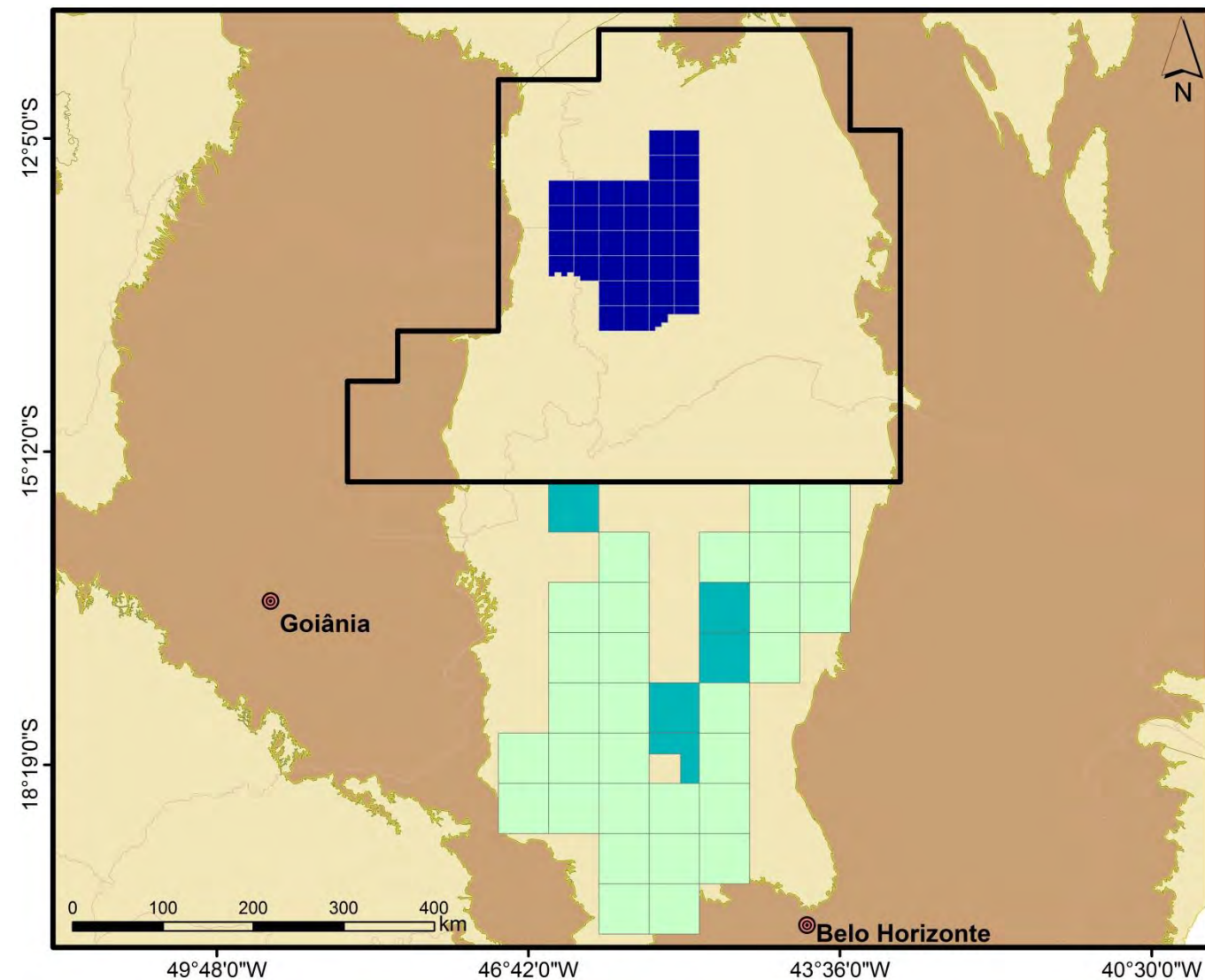


**32 Exploration Blocks  
on Offer**

**Total Area:  
~23,500 km<sup>2</sup>**

**Expectation of natural  
gas accumulations  
suchlike the recent  
discoveries in the  
Gavioes cluster**

# Sao Francisco Basin



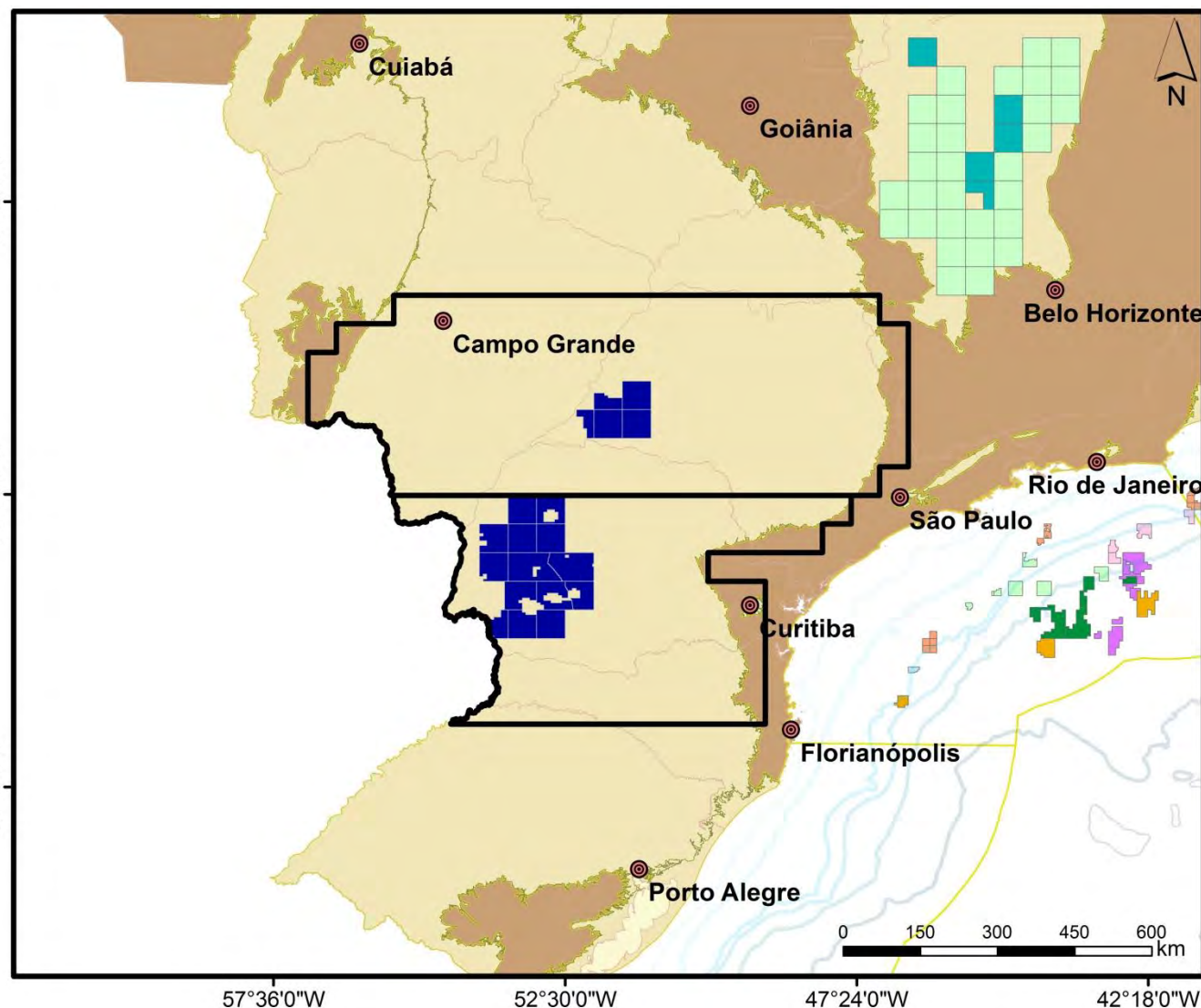
**36 Exploration Blocks  
on Offer**

**Total Area:  
~26,000 km<sup>2</sup>**

**Expectation of natural  
gas accumulations in  
structural traps in  
several stratigraphic  
layers (Paranoa and  
Bambui groups)**

**unconventional  
reservoirs (tight gas)**

# Parana Basin



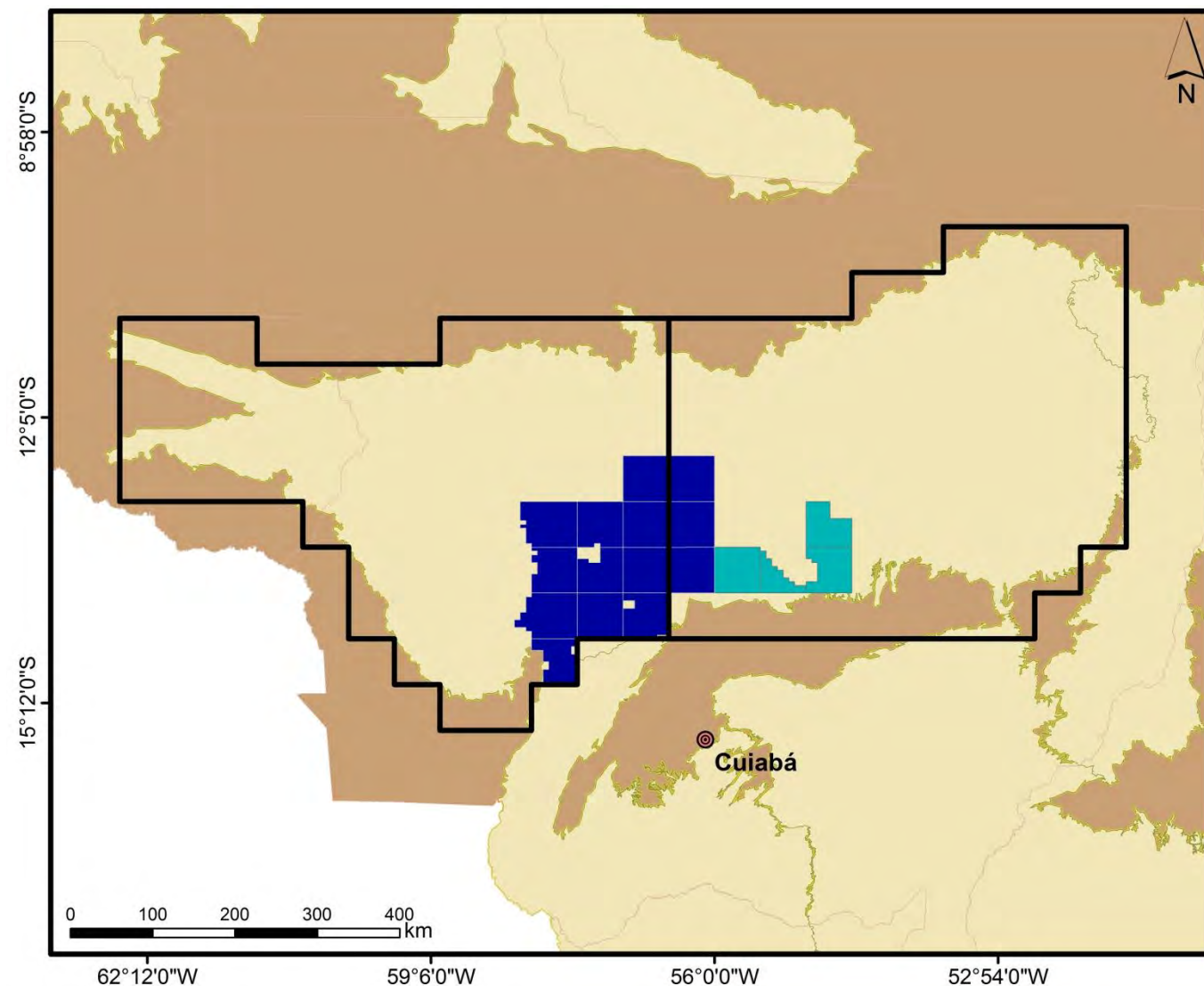
**19 Exploration Blocks  
on Offer**

**Total Area:  
~ 49,370 km<sup>2</sup>**

**Expectation of natural  
gas accumulations in  
structural traps  
suchlike the Barra  
Bonita gas field**

**Gavioes cluster  
(Parnaíba basin)**

# Parecis Basin

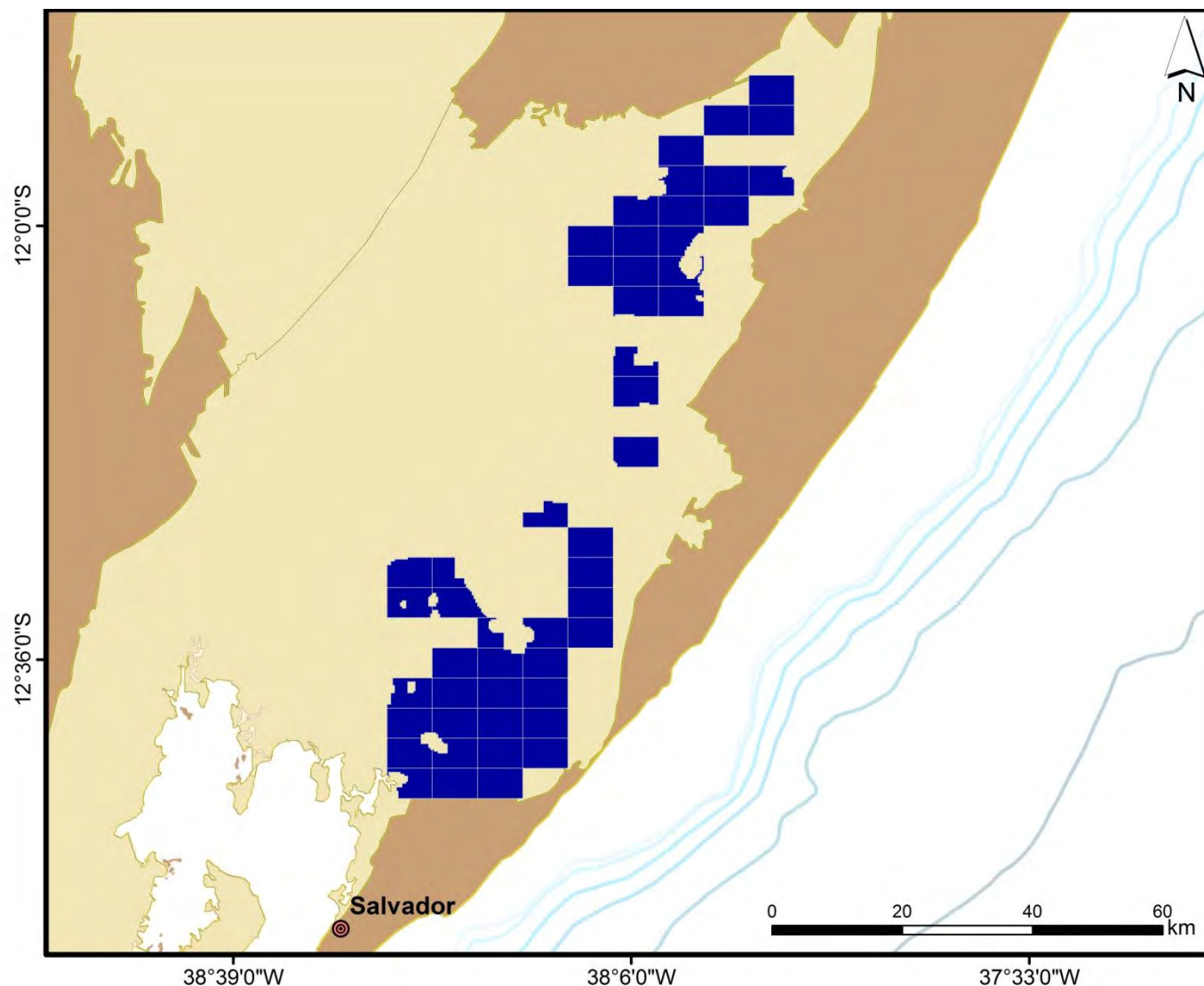


**14 Exploration Blocks  
on Offer**

**Total Area:  
~41,000 km<sup>2</sup>**

**Expectation of natural  
gas accumulation in  
regional structural traps  
in several stratigraphic  
layers (Raizama  
Formation, Araras  
Group, Puga Formation)**

# Reconcavo Basin



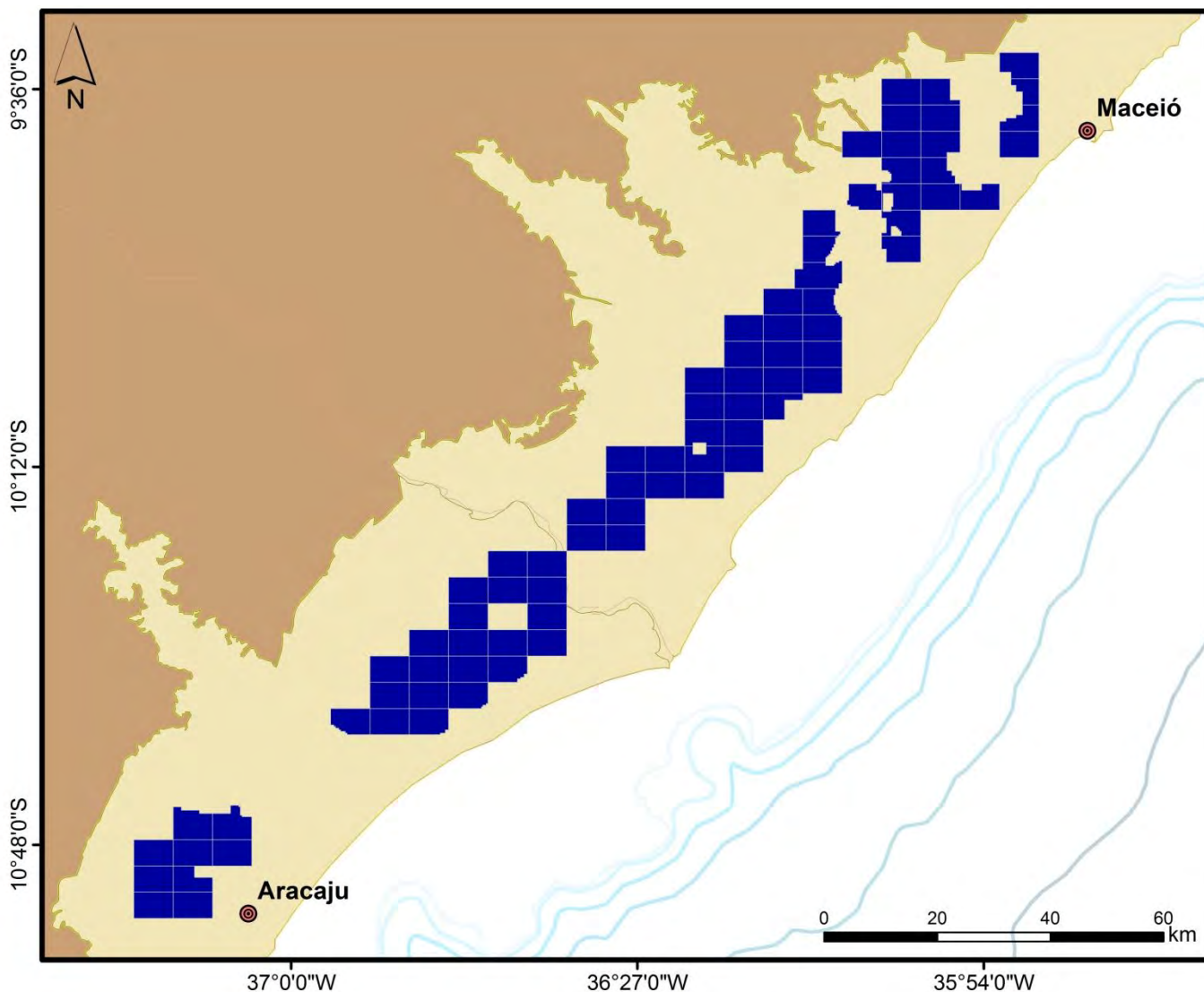
**50 Exploration Blocks  
on Offer**

**Total Area:  
~1,500 km<sup>2</sup>**

**Expectation of oil  
accumulation in  
structural and  
stratigraphic traps**

**Expectation of oil  
accumulations in  
unconventional  
reservoirs**

# Sergipe-Alagoas Basin



**80 Exploration Blocks  
on Offer**

**Total Area:  
~2,400 km<sup>2</sup>**

**Expectation of natural  
gas accumulations in  
structural and combined  
traps, including several  
plays**

**Expectation of  
unconventional  
reservoirs**

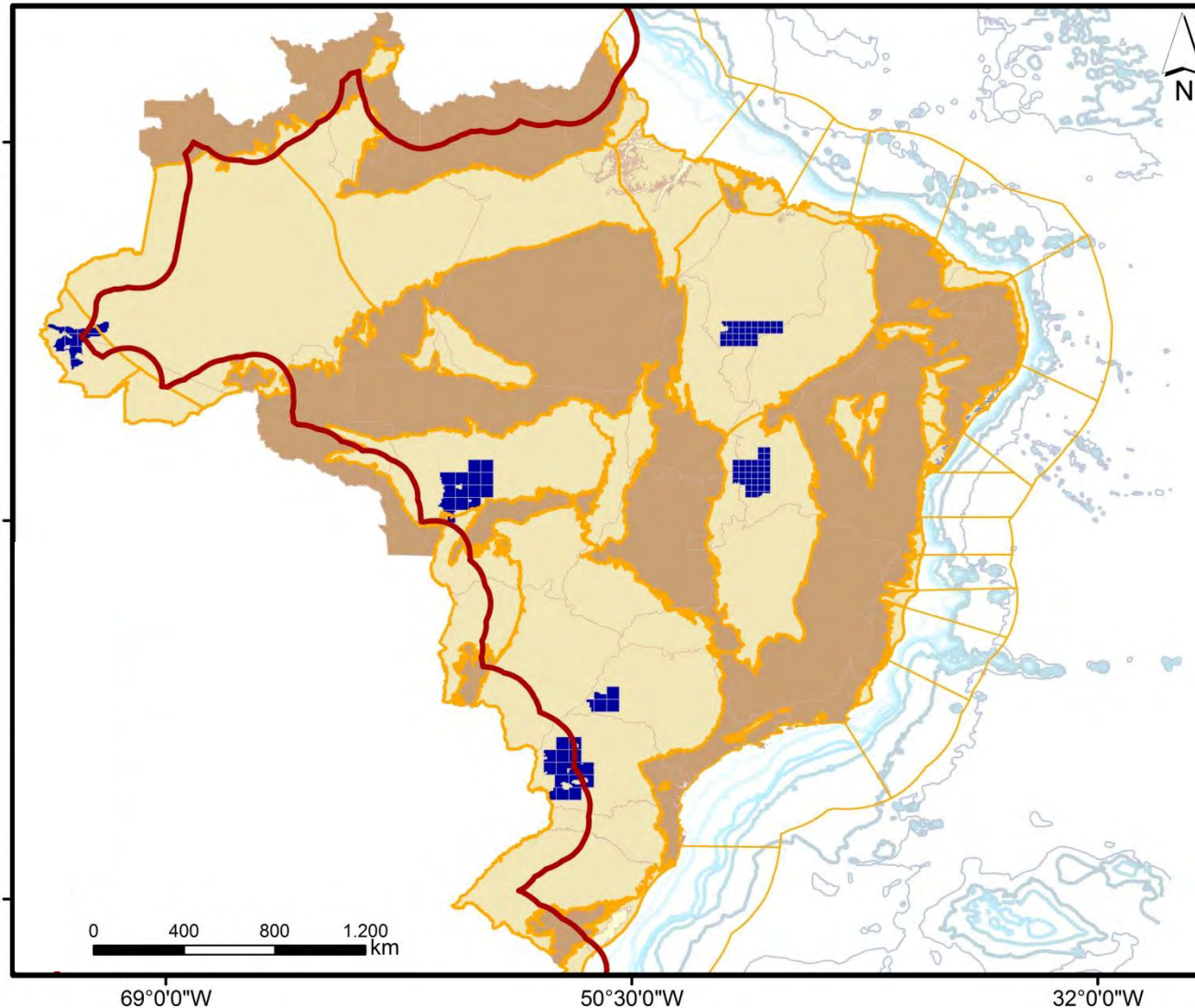
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## Unconventional Resources Exploration

- **Predicted in CNPE directive nº 06/2013**
- **Specific contractual clauses concerning unconventional resources exploration.**

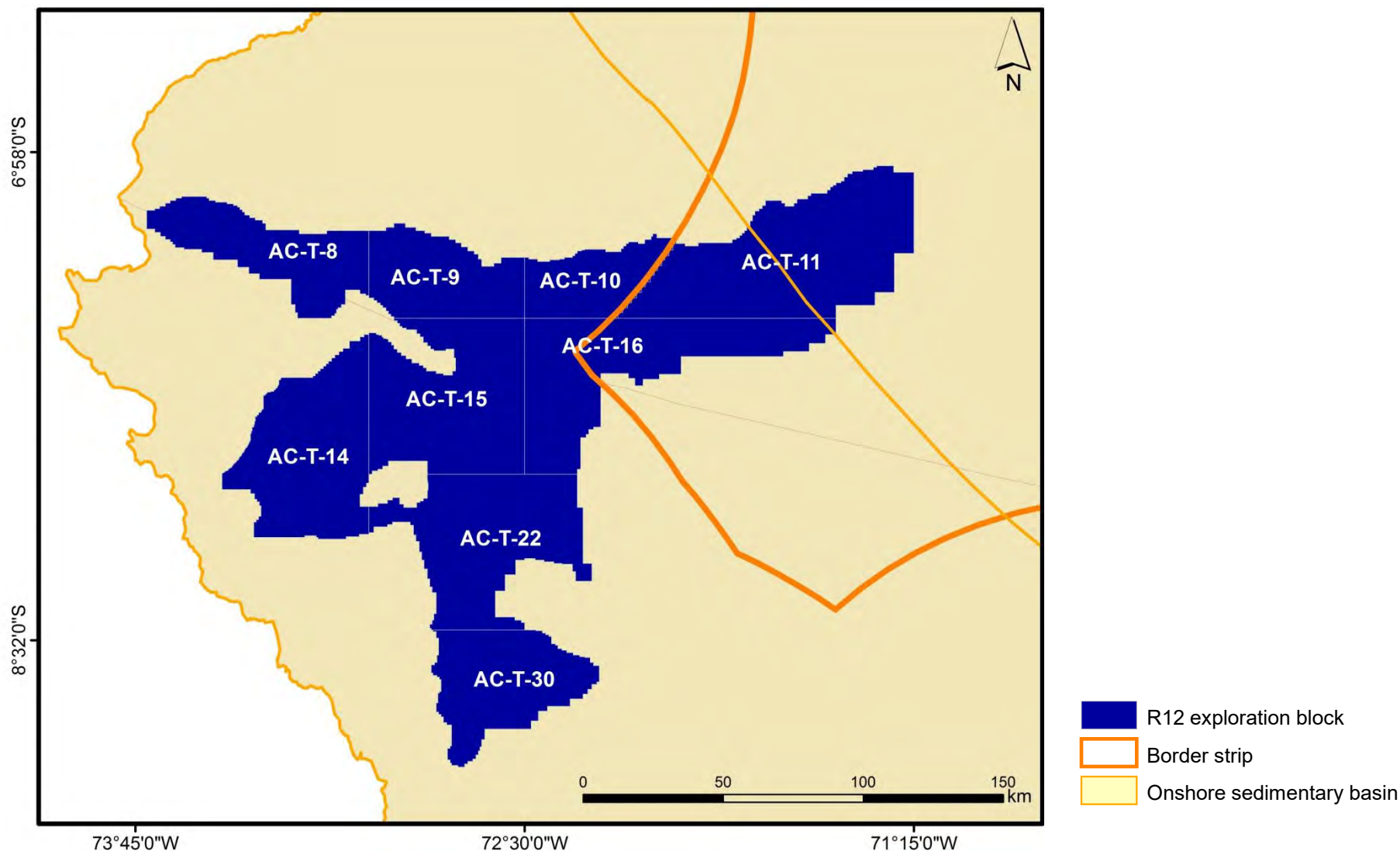
# Exploration Blocks in the Brazilian Border Strip



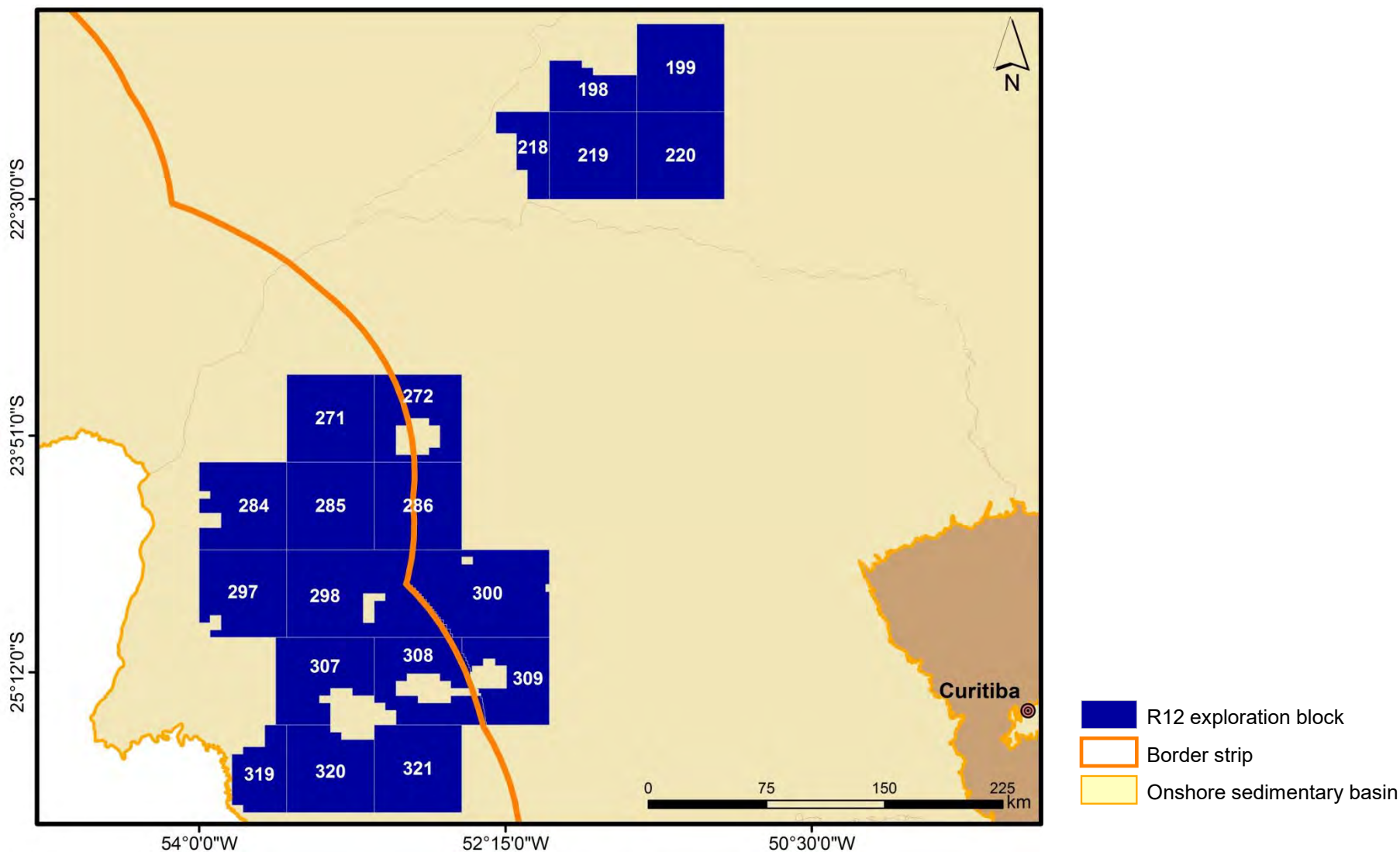
***Defined by law n<sup>o</sup>  
6.634/1979.  
150 km border strip,  
along brazilian  
onshore borders, with  
specific rules for E&P  
activities***

- ❖ ***At least 51% of the  
company bank stock  
shall belong to  
Brazilians;***
- ❖ ***The staff shall  
comprise at 2/3 of  
Brazilians;***
- ❖ ***The administration or  
manegement shall be  
performed by a  
majority of Brazilians.***

# Exploration Blocks in the Brazilian Border Strip



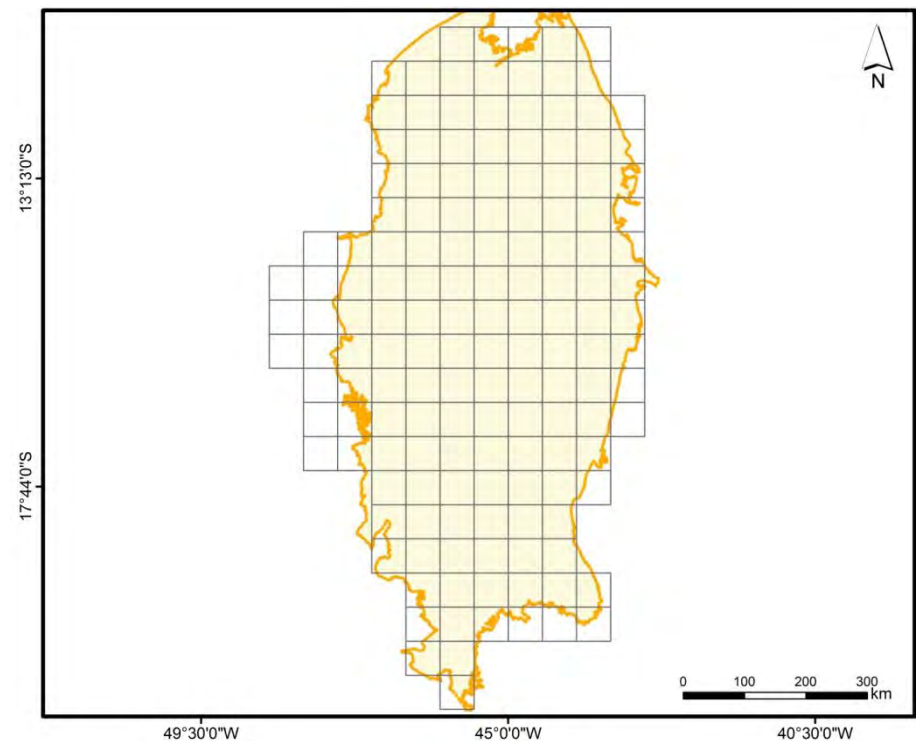
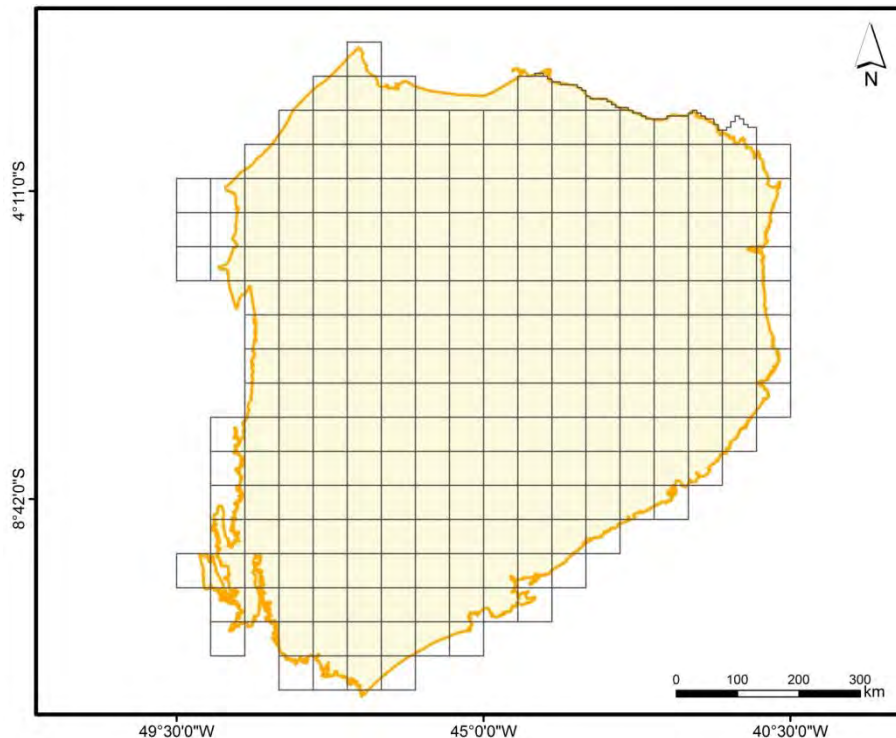
# Exploration Blocks in the Brazilian Border Strip



# Resizing of exploration blocks

## Parnaíba and São Francisco Basins

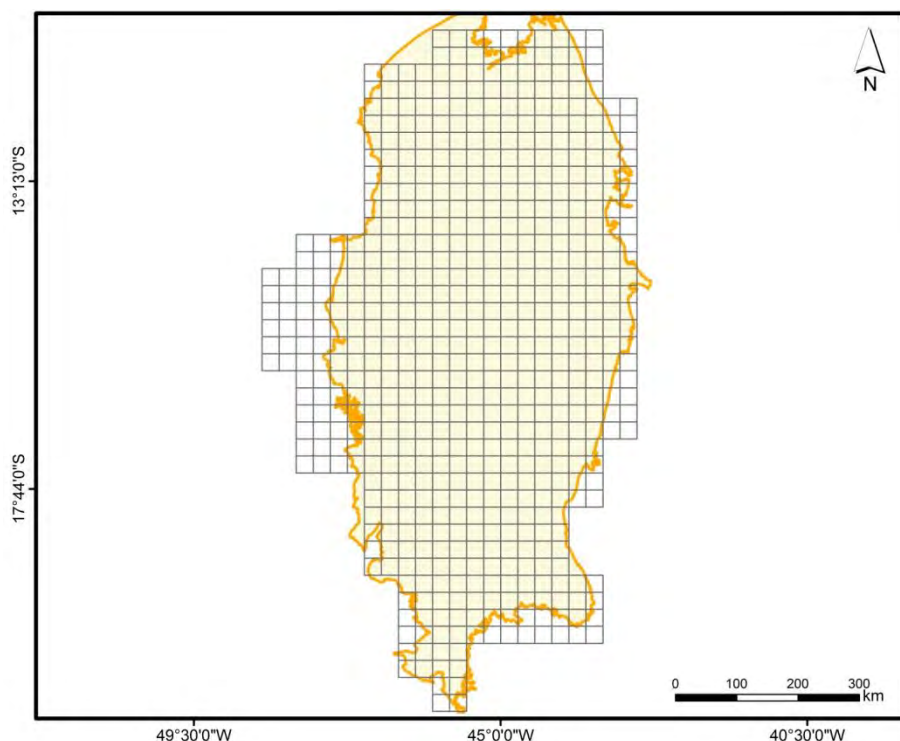
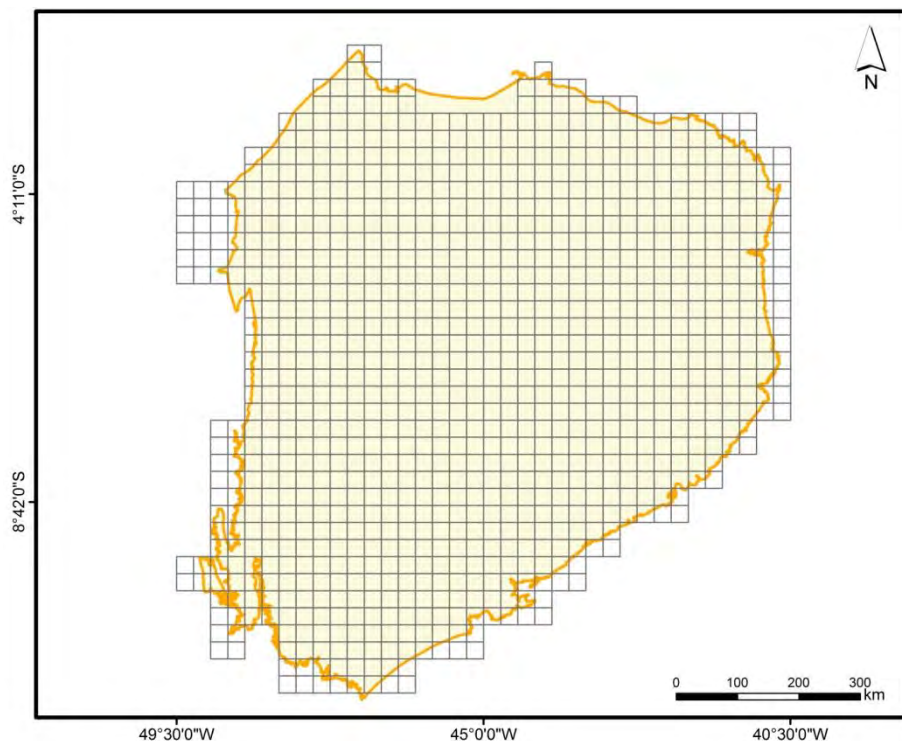
originally the size of the blocks was 30' x 30' (in geographic coordinates)  
total total area of each block ~3,000 km<sup>2</sup>



# Resizing of exploration blocks

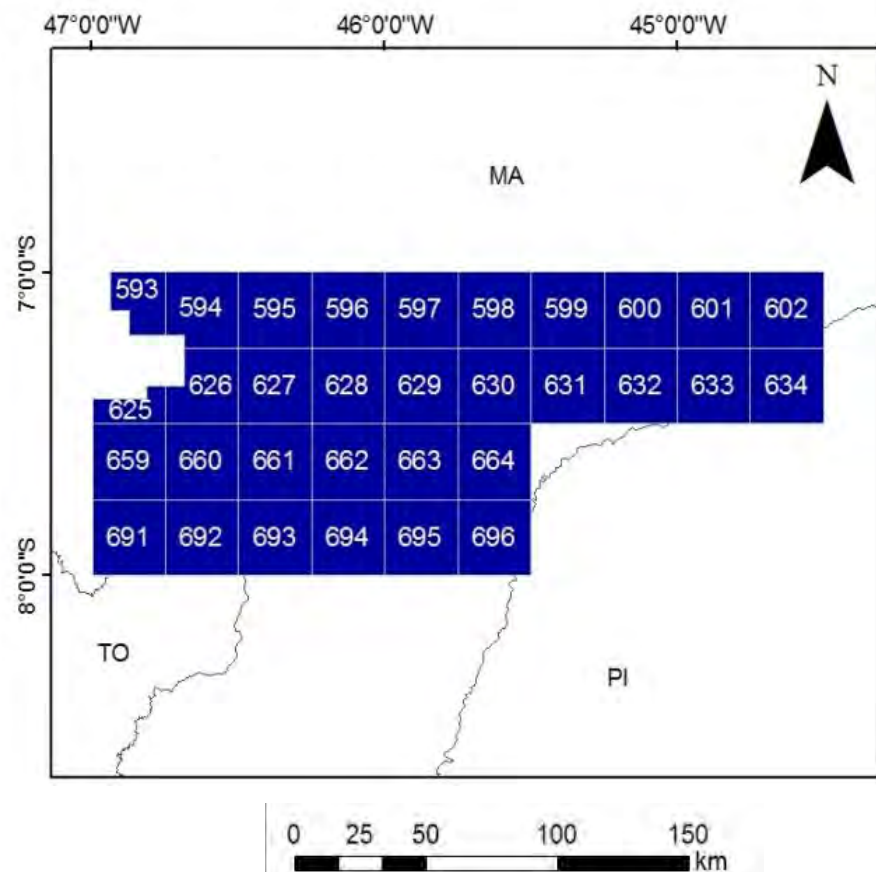
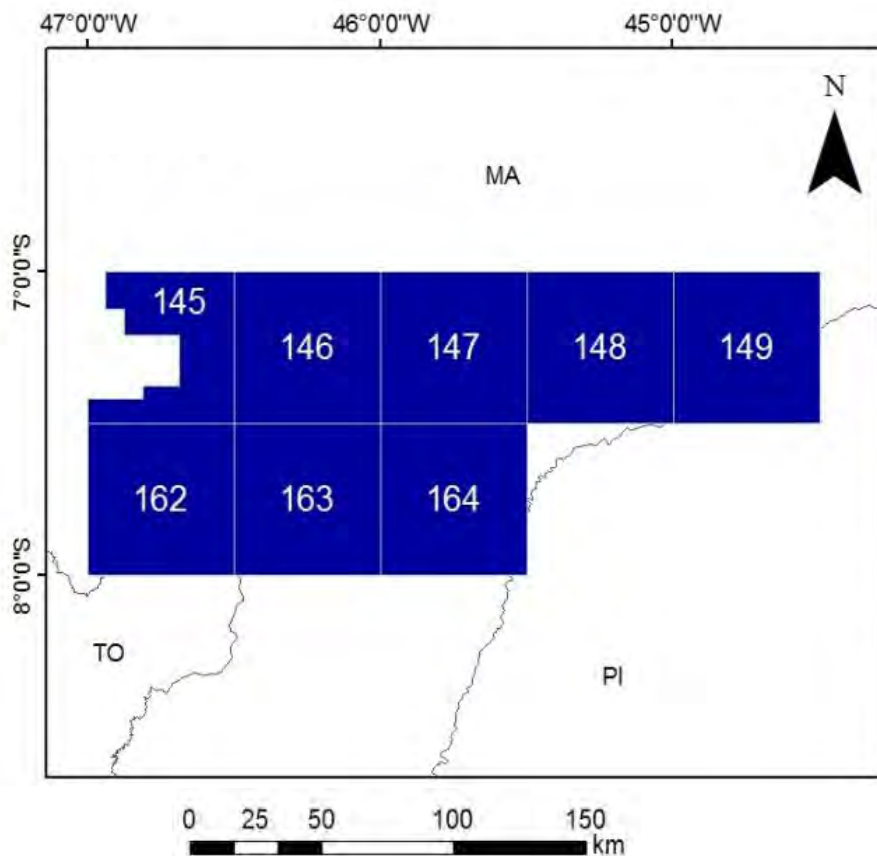
## Parnaíba and São Francisco Basins

**New configuration – size of the blocks: 15' x 15' (in geographic coordinates)  
total area of each block ~756 km<sup>2</sup>**

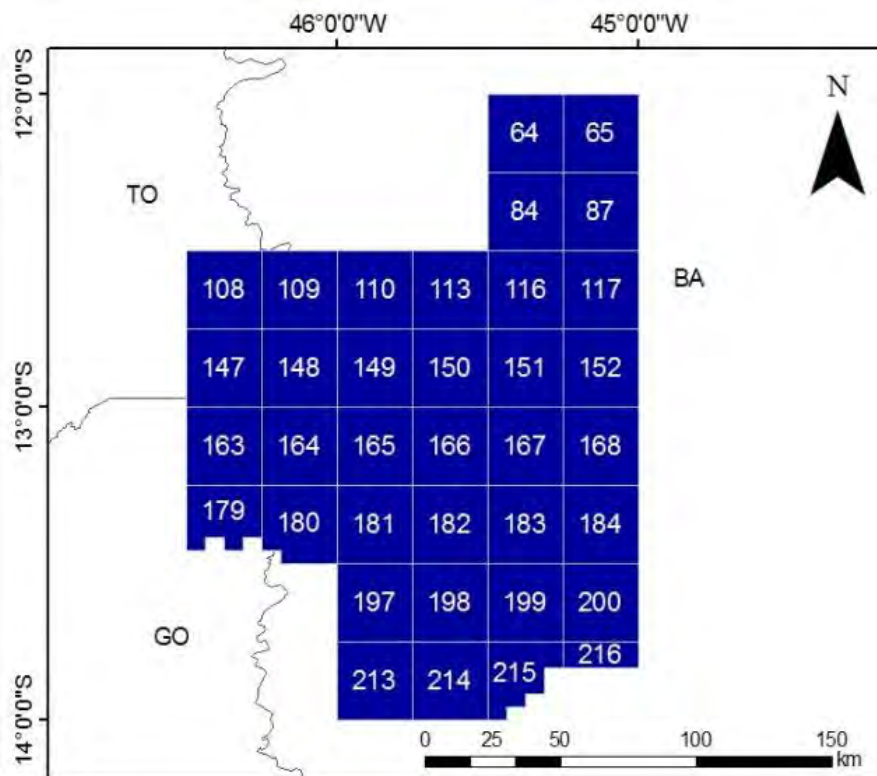
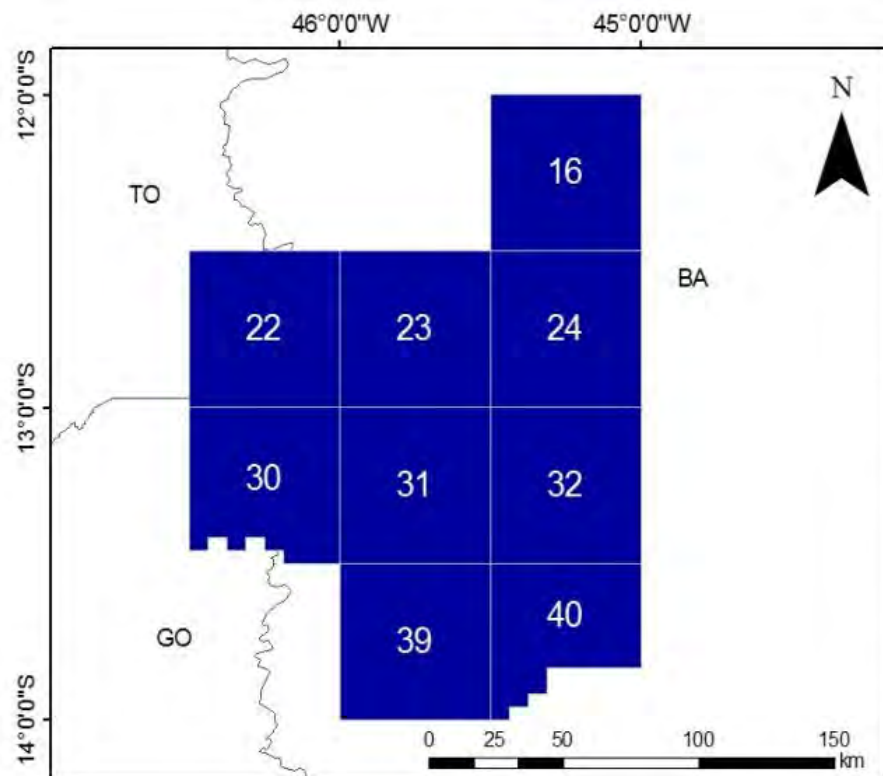


# Resizing of exploration blocks

## Parnaíba Basin



## Sao Francisco Basin



- ❖ ***Aiming the increase of the available data in the onshore brazilian sedimentary basins, ANP included as a contractual rule the drilling of stratigraphic wells with specific stratigraphic objectives (the tight gas sands in São Francisco basin and the source rock in the other basins);***
- ❖ ***The first well in the exploration phase must reach the stated stratigraphic objective;***
- ❖ ***The companies must acquire well logs, rock sampling and specific analysis, as detailed in the tender protocol;***
- ❖ ***If the a company bid up to 4 (four) concession areas (blocks) in a same sector, the obligation to reach the stratigraphic objective is restricted to only one of the areas.***

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- **For the 12<sup>th</sup> Bidding Round 240 exploration blocks are on offer, distributed in 7 sedimentary basins, with total area of ~ 163,000 km<sup>2</sup>;**
- **The 12<sup>th</sup> Bidding Round areas in new frontier basins were selected a 100% based on ANP studies;**
- **The areas on offer comprises exploration opportunities in new frontier basins gas prone including conventional and unconventional reservoirs;**
- **Unconventional resources are a possibility particularly in Reconcavo, Sergipe-Alagoas and São Francisco basins;**
- **Opportunities in mature basins.**



**anp**  
National Agency  
of Petroleum,  
Natural Gas and Biofuels

**Brasil**  
**12<sup>th</sup> Round**  
Oil & Gas Bidding Rounds

## National Agency of Petroleum, Natural Gas and Biofuels

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