



EPUSP

Escola Politécnica da Universidade de São Paulo



Absolute gravity measurements in South America

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QUITO - EQUADOR**

SUMMARY

- **Absolute Gravimeter A-10**
- **Absolute Gravity Network in São Paulo**
- **Absolute Gravity Network in Brazil**
- **Absolute Gravity Network in Argentina**
- **Absolute Gravity Network in Venezuela**
- **Future possibilities**
 - **In Brazil: Minas Gerais, Mato Grosso, Paraná**
 - **In S A: Ecuador, Colombia, Uruguay, Paraguay**
 - **In C A: Costa Rica**
- **Gravity densifications in South America**

COLLABORATORS

The activities related to the **absolute gravity measurements** were possible due to different people and organizations.

- ❖ IBGE: S.A. Costa, M. Nunes, C.A.C. Castro Jr , C.A.M. Almeida
- ❖ EPUSP: E.S. Fonseca Jr, F.G.V. Almeida, J.P. Cintra, G.N. Guimarães
- ❖ IGN e UNR: E. Lauria, D.D. Denett, J.A. Tulián, M.C. Pacino
- ❖ IGVSb: N. Cano, N.O. Guevara;

Due to the big efforts undertaken by different organizations in the last few years to improve the absolute gravity network coverage there are available...

68 Absolute gravity points in South America

The next activities will be undertaken in other countries with support of civil and military institutions.

Absolute Gravimeter A-10

A contribution of IGC
(Instituto Geográfico e Cartográfico)
State of São Paulo



ESCOLA
POLITÉCNICA
DA USP

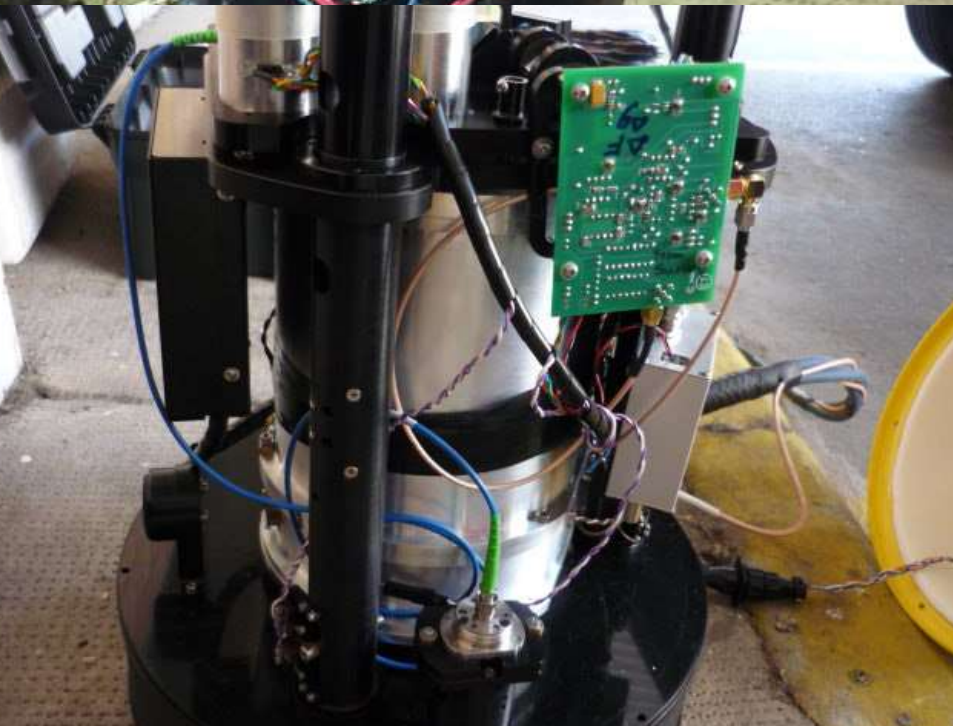


Absolute gravimeter Micro-g LaCoste A-10/32



Pilar in the Astronomical Observatory Valinhos – São Paulo

Absolute gravity – Interior of the laser system



Absolute gravity – Interior of the dropper system



Detail of the air pump

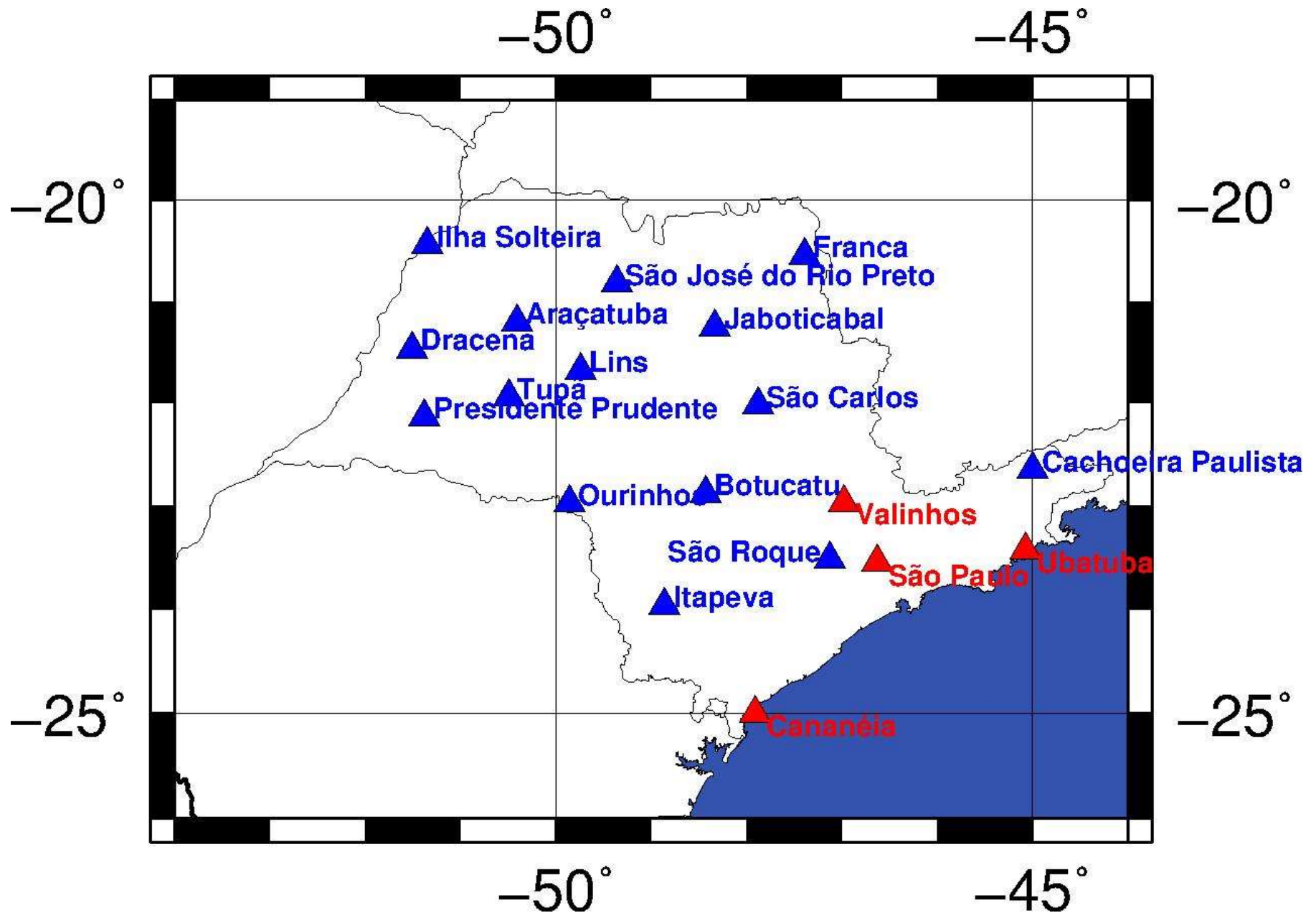


Absolute gravity – Vehicle used



ABSOLUTE GRAVITY MEASUREMENTS

Absolute Gravity Network in São Paulo – 19 points



Absolute Gravity Network in Brazil – 12 points



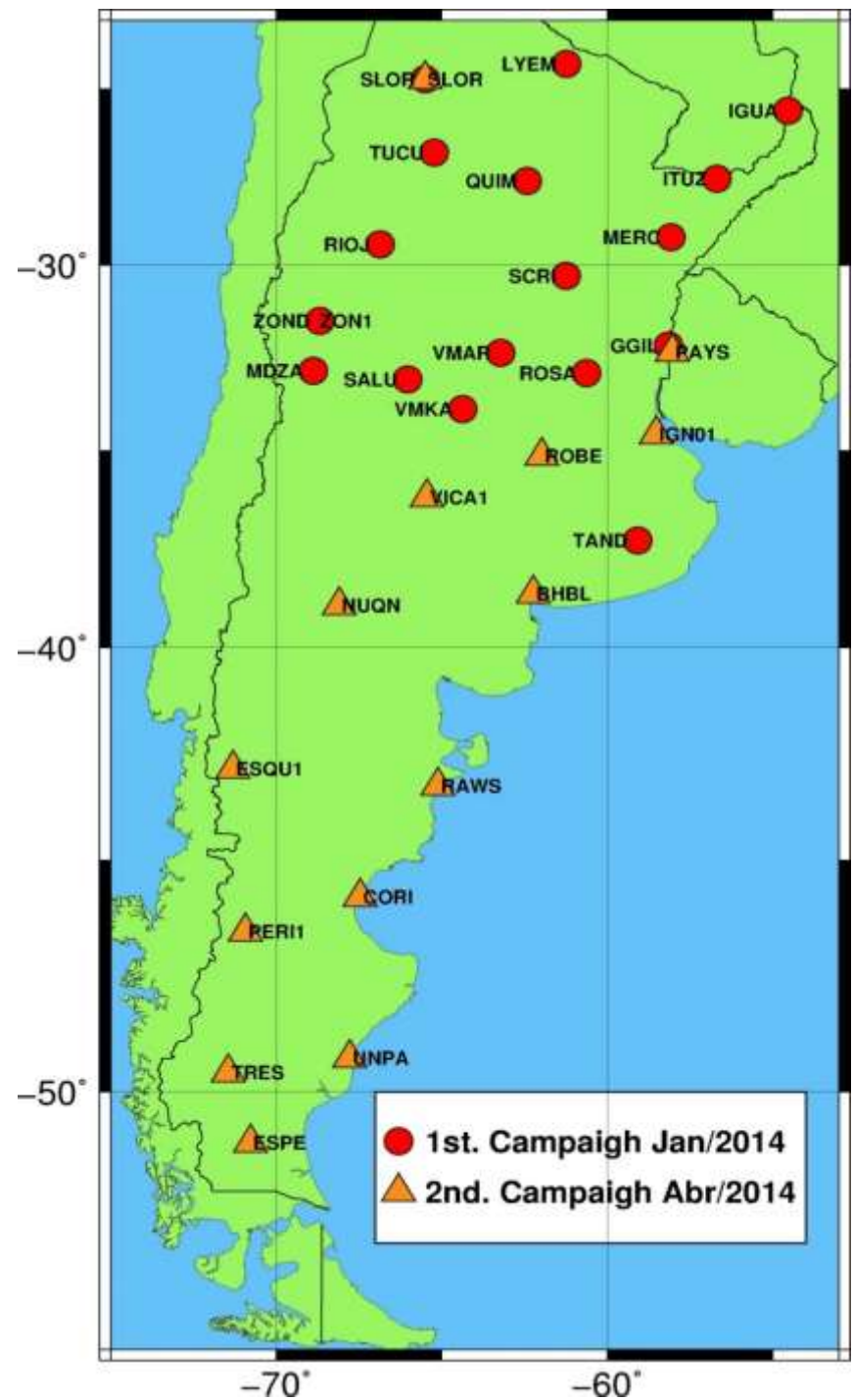
Absolute Gravity Network in Argentina

IGN
(Instituto Geográfico
Nacional)

2 campaigns:

North (17 points)

South (15 points)



Absolute Gravity Network in Argentina

IGN
(Instituto Geográfico Nacional)

3rd campaign:

16 points
(9 reobservations)



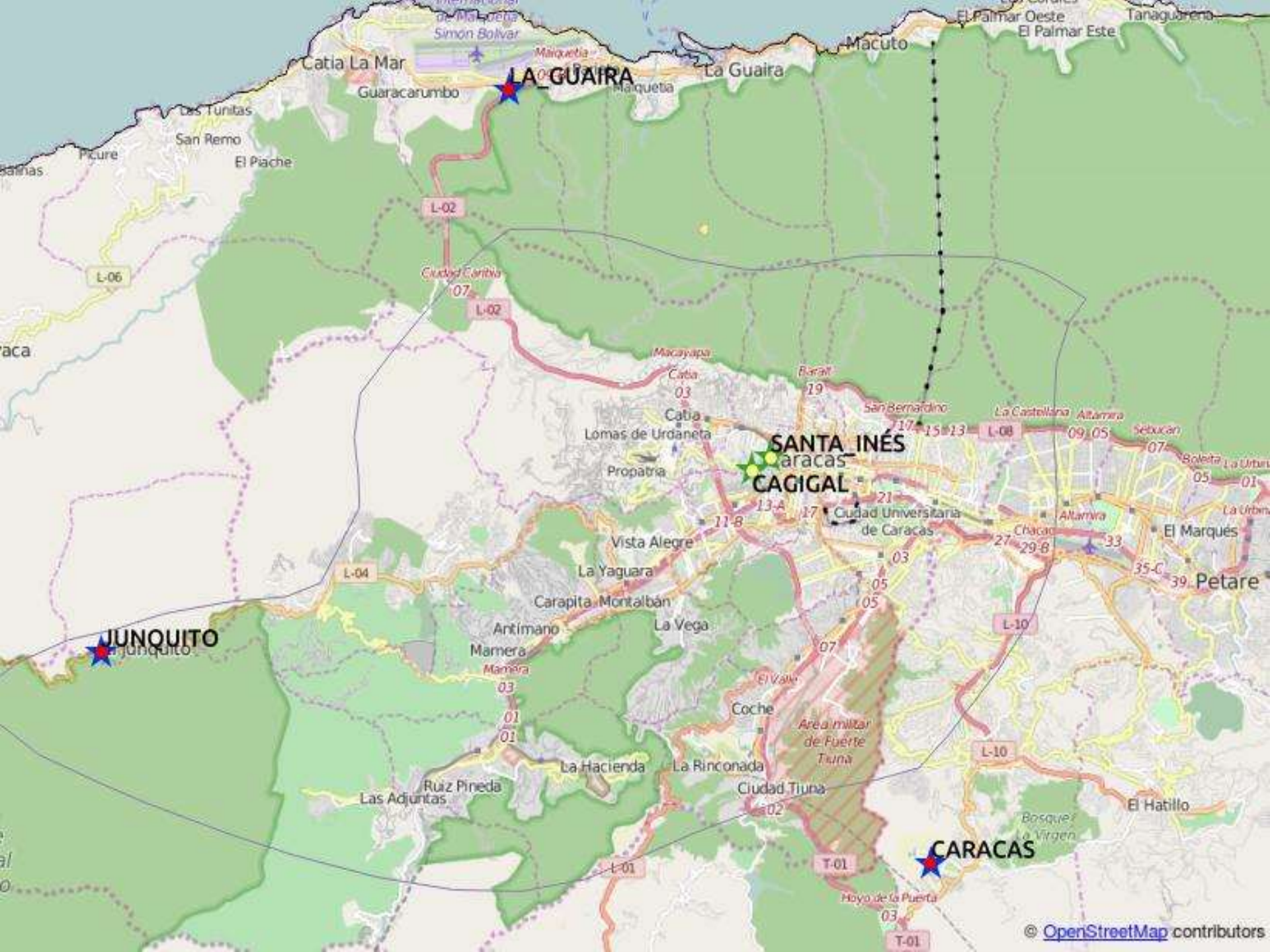


IGN (Instituto Geográfico Nacional) Vehicles and field work team



Absolute Gravity Network in Venezuela – 13 points





LA GUAIRA

SANTA INÉS
Caracas
CAGIGAL

JUNQUITO

CARACAS

IGVSB (Instituto Geográfico Venezuelano Simon Bolivar)

Vehicles and field work team

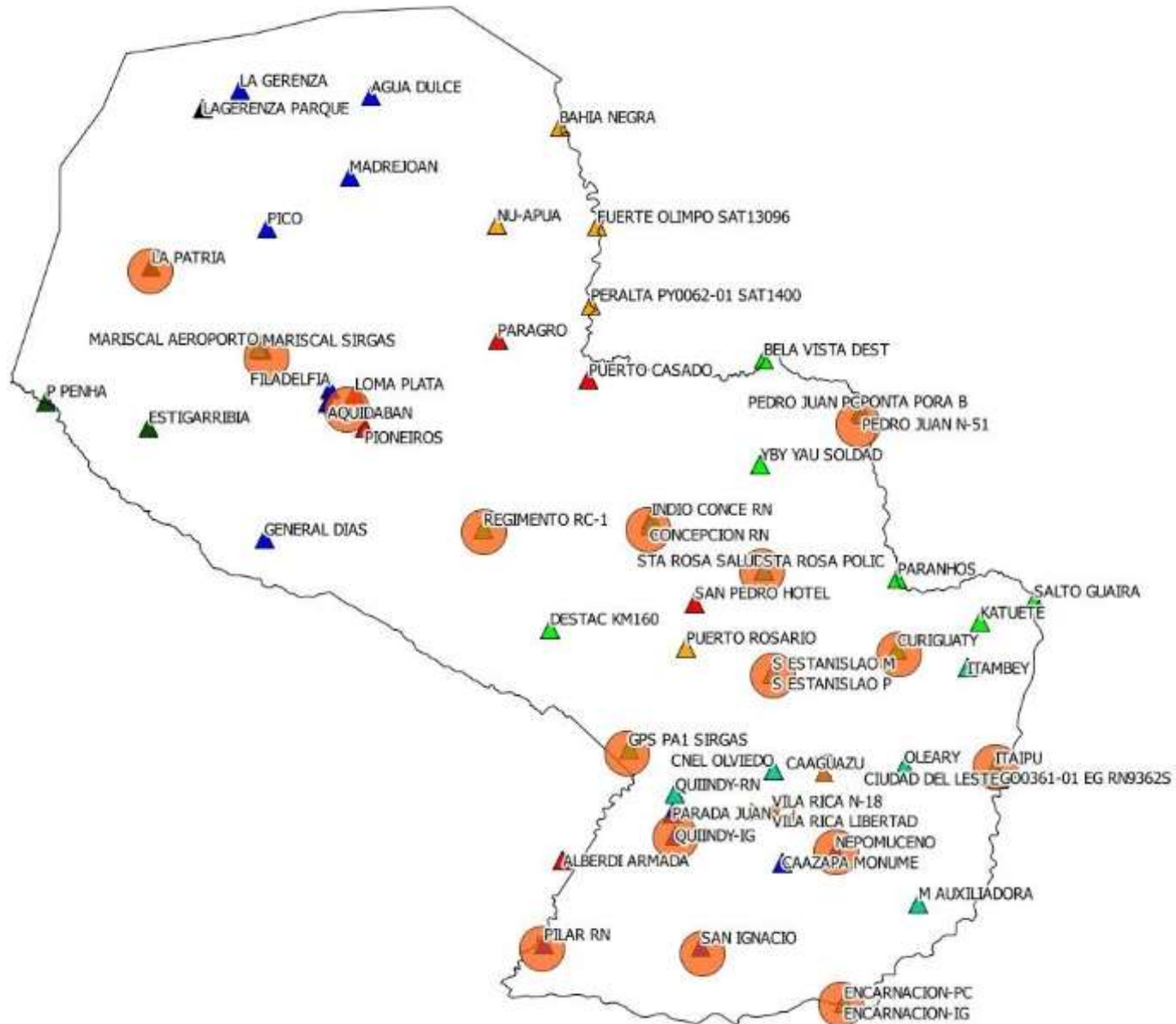


FUTURE ABSOLUTE GRAVITY MEASUREMENTS

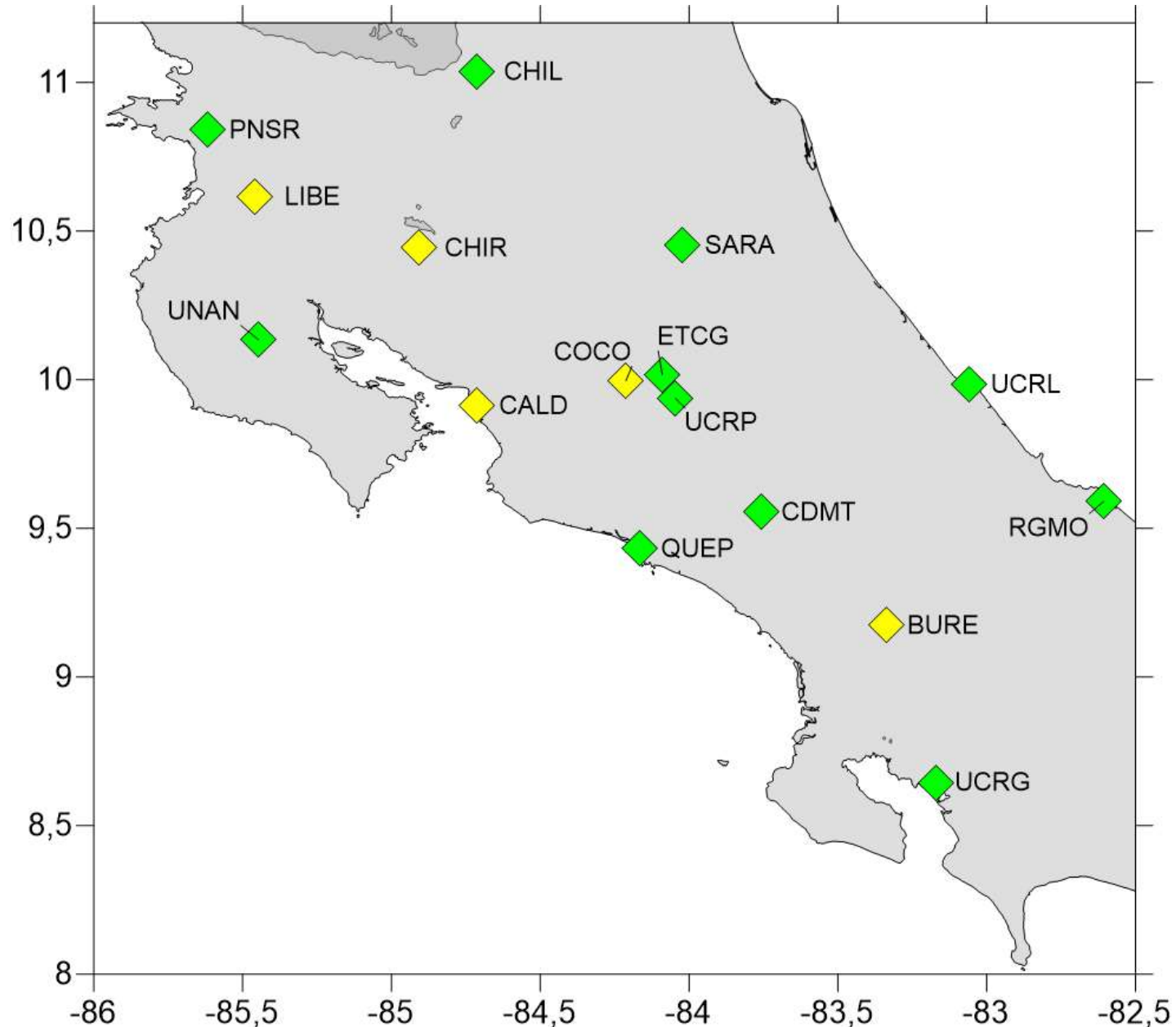
Absolute Gravity Network in Ecuador - Predicted



Absolute Gravity Network in Paraguay - Predicted



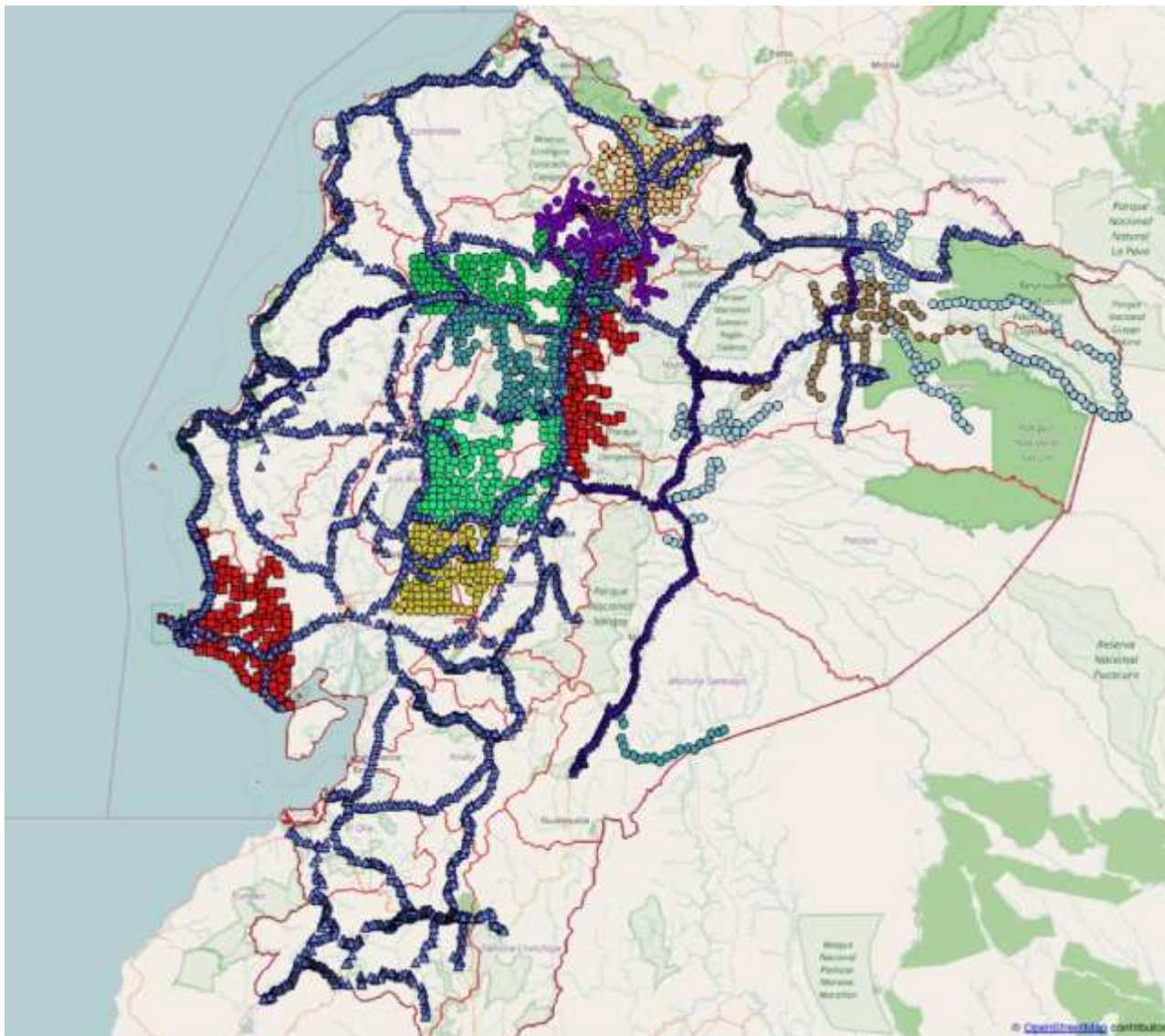
Absolute Gravity Network in Costa Rica - Predicted



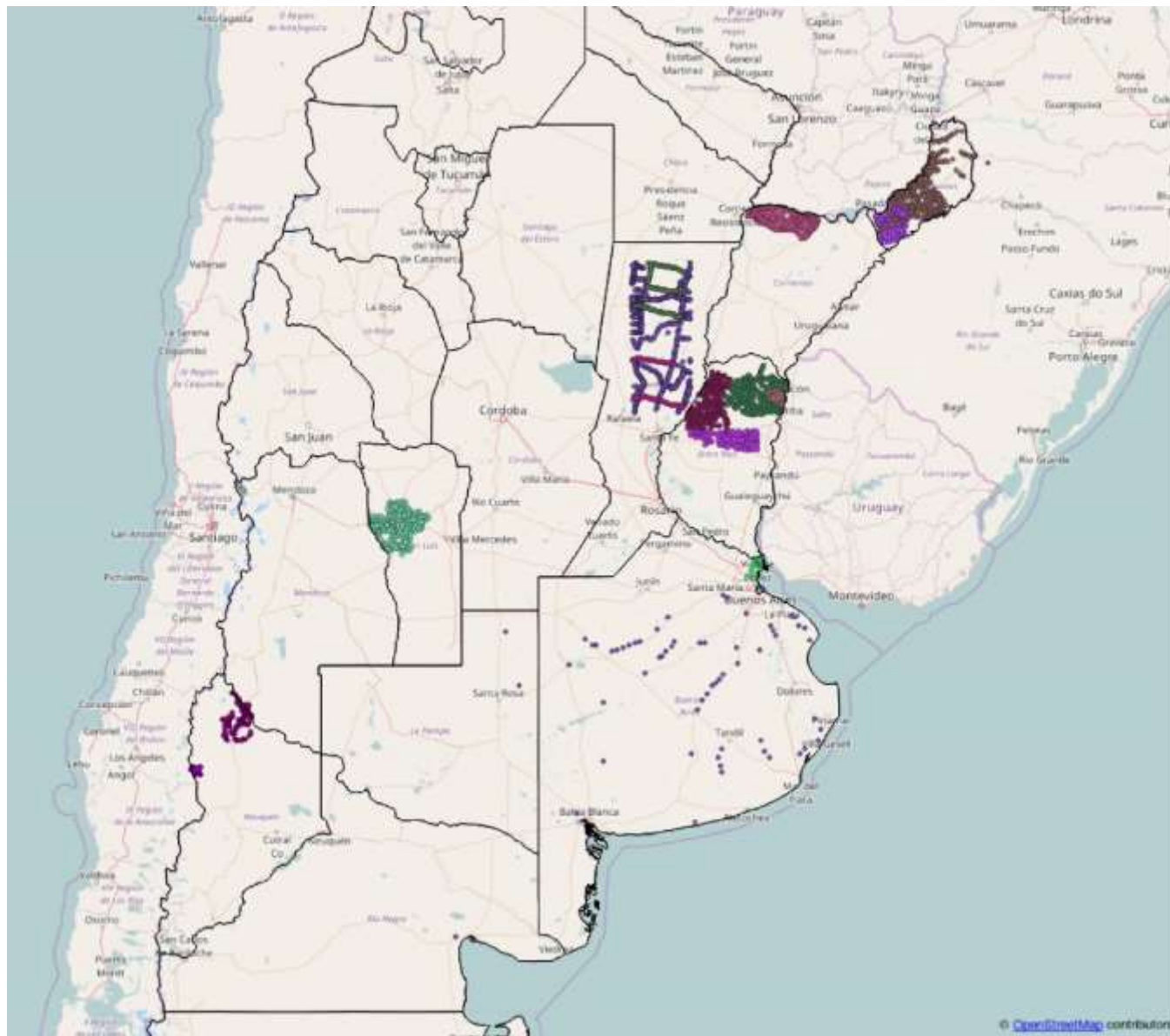
Densification efforts

Last few years of surveys

Densification Gravity Surveys in Ecuador



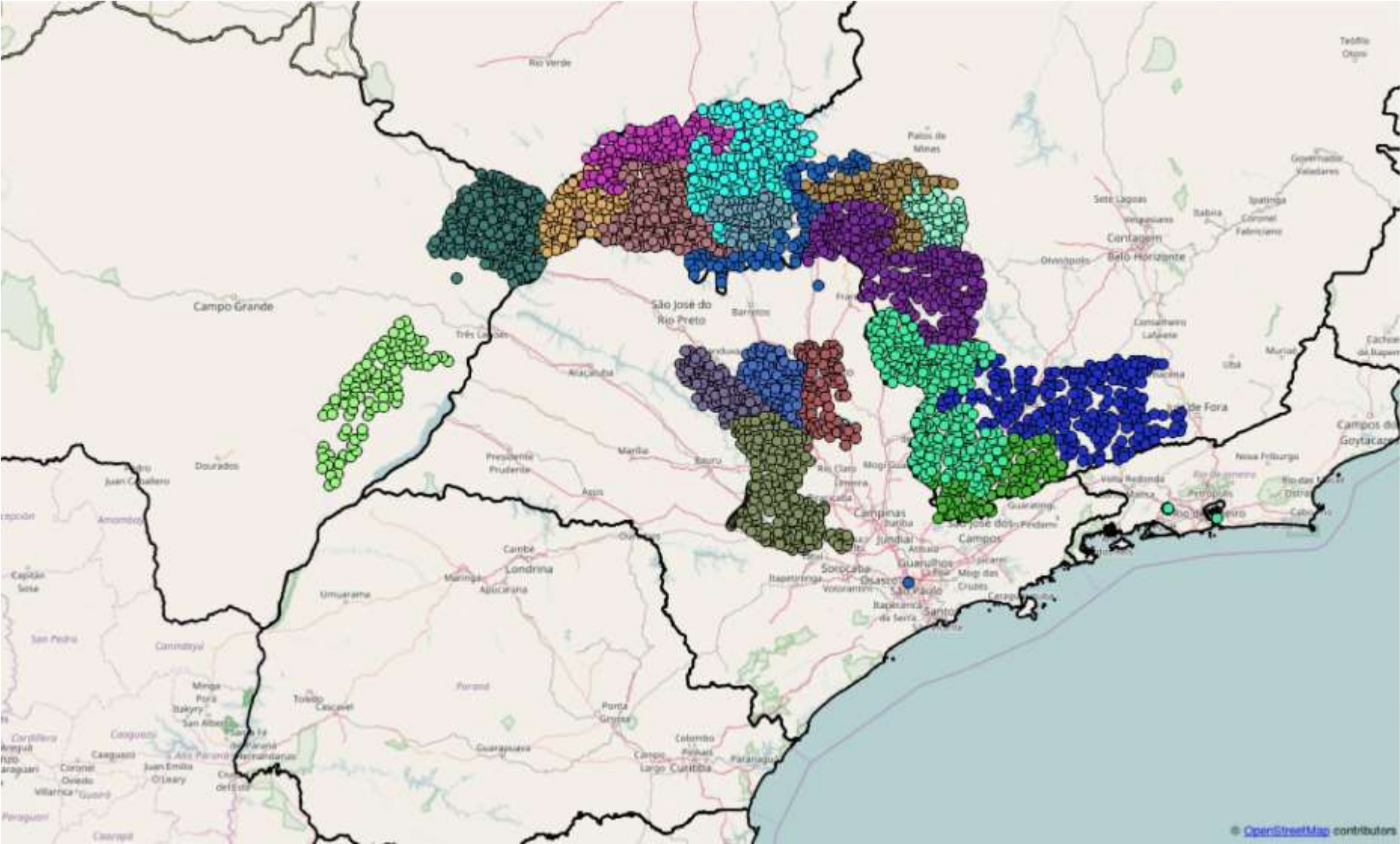
Densification Gravity Surveys in Argentina

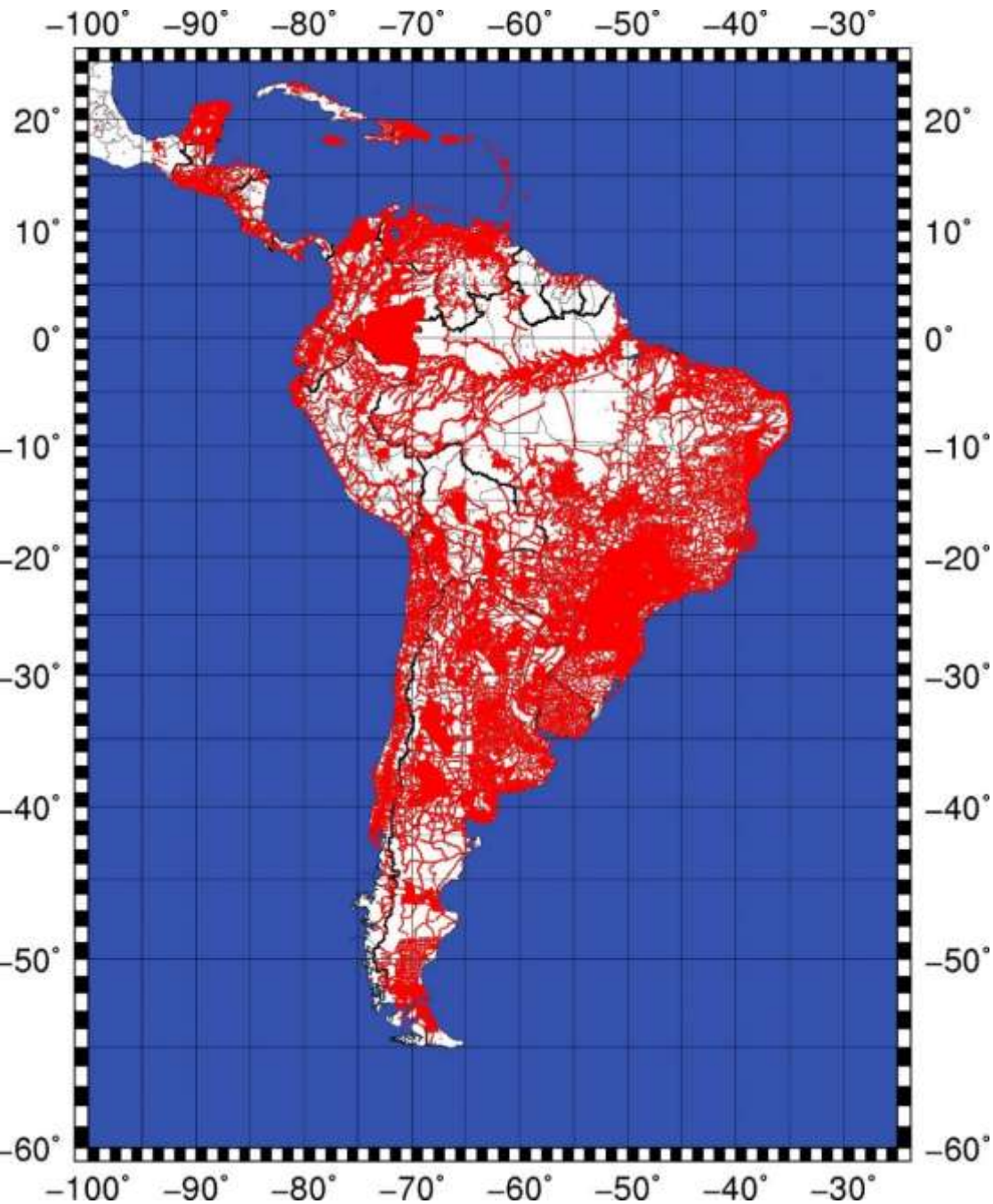


Densification Gravity Surveys in Venezuela



Densification Gravity Surveys in Brazil



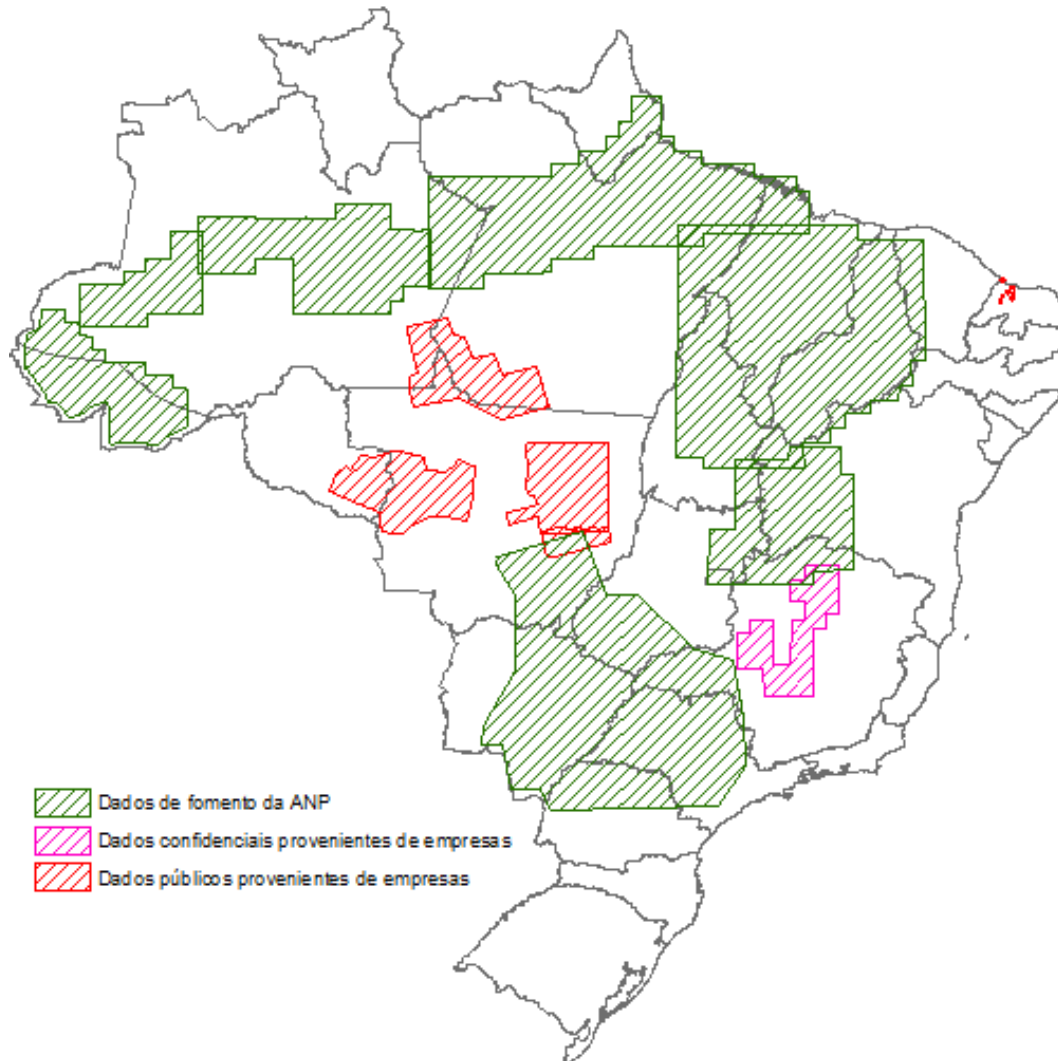


**Densification Gravity
Network in
South/Central
America**

Total of 951.928 points

AIRBORNE GRAVIMETRY

There are areas with airborne surveys available at ANP. These data are under processing at the moment in order to contribute to the geoid model.



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MUCHAS GRACIAS