



TECHNICAL VISIT TO DIRECTORATE OF GEOSPATIAL REFERENCE SYSTEM

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Act. Director of Geospatial Reference System
Geospatial Information Agency of Indonesia

**UN-GGCE International Workshop on the Integration of Terrestrial,
Maritime, Built and Cadastral Domains**

Bogor, 4 December 2024





OUTLINE

UN-GGCE International Workshop

JOINING LAND AND SEA

The Integration of Terrestrial, Maritime, Built, and Cadastral Domains

1. SRGI2013
2. Ina-CORS
3. Ina-Tides
4. INAGEOID
5. Geodetic Processing Center
6. SRGI Website
7. Service Performances



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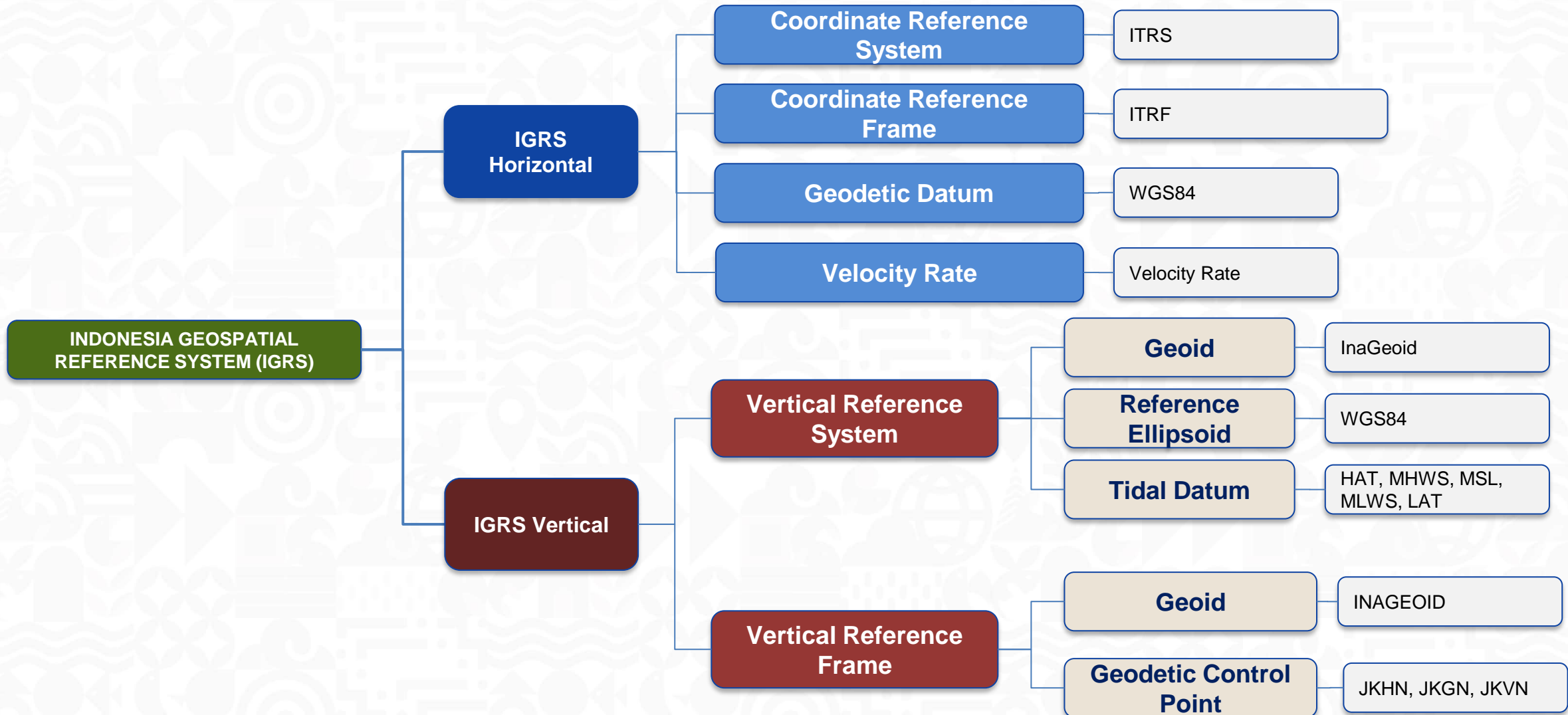
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SRGI2013

UN-GGCE International Workshop

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The Integration of Terrestrial, Maritime, Built, and Cadastral Domains



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Ina-CORS

- Indonesian CORS (Ina-CORS) managed by Indonesian Geospatial Information Agency (BIG) formerly BAKOSURTANAL
- as geodetic control points where continuous and fixed geodetic observations are conducted





Current status

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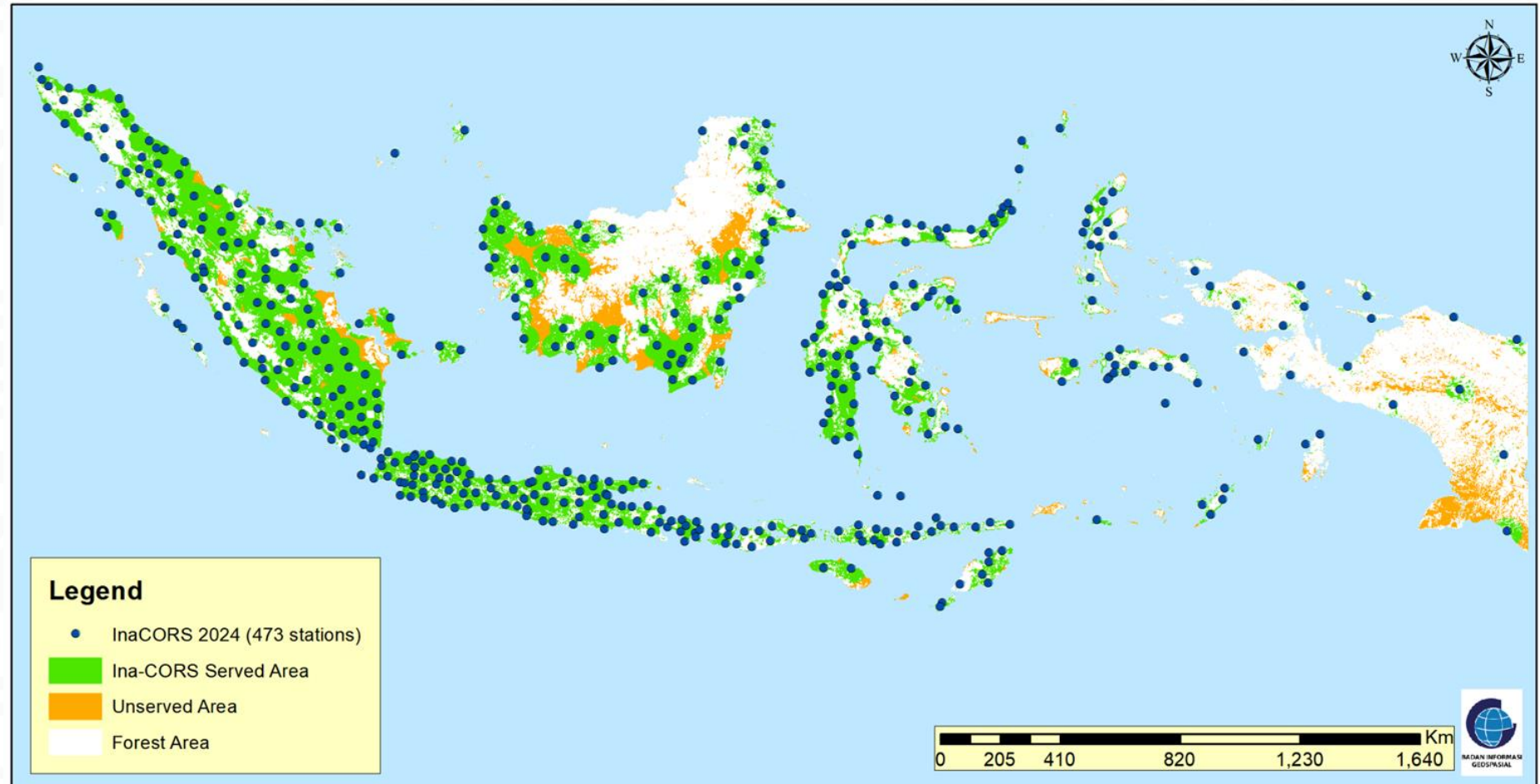
JOINING LAND AND SEA

The Integration of Terrestrial, Maritime, Built, and Cadastral Domains

By the end of 2024, we have successfully reached up to 88% of urban areas in Indonesia

Over the next five years, we plan to add 50 more stations, expanding our coverage to encompass 98% of the region

This coverage is determined by the range of RTK station observations with an accuracy of less than 15 cm for at least 1-hour measurement, which is 50 km



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INA-CORS INSTRUMENTS

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Antenna dan radome



Monumen *Drilled Braced*



Polar Iron



Concrete

Ina-CORS Monumentation



Meteorology
Sensor



Solar Cell

**OUTDOOR
COMPONENT**

Data Line Surge Protector

Main Power

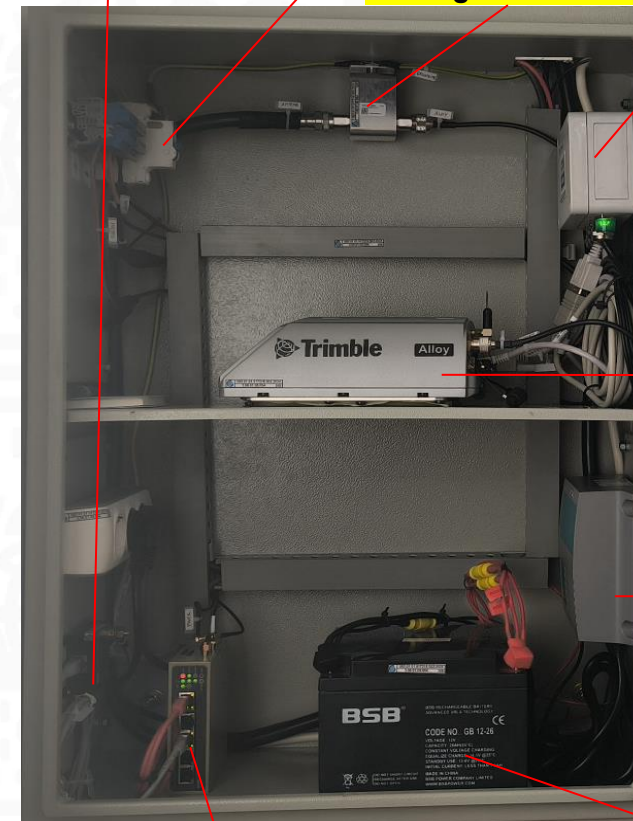
Surge Protector

Meteorology Receiver

**INDOOR
COMPONENT**

GNSS Receiver

Automatic Battery Charger



Telecommunications Modem

Battery



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NOTE: Some TG's has
2 Pressure sensors and
1 Radar sensor or 1
Pressure sensor and 2
Radar sensors

Modem

Data Logger

Float Gauge

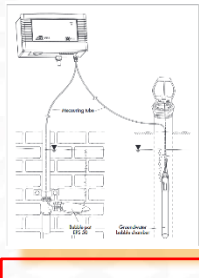
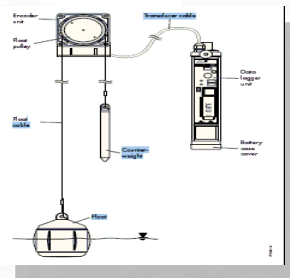
Pressure Gauge

Radar Gauge

BIG-Tide Gauge System:

- Sensor 1 : Pressure Gauge
- Sensor 2 : Float Gauge
- Sensor 3 : Radar Gauge

Solar Charger
Controller



Bubble

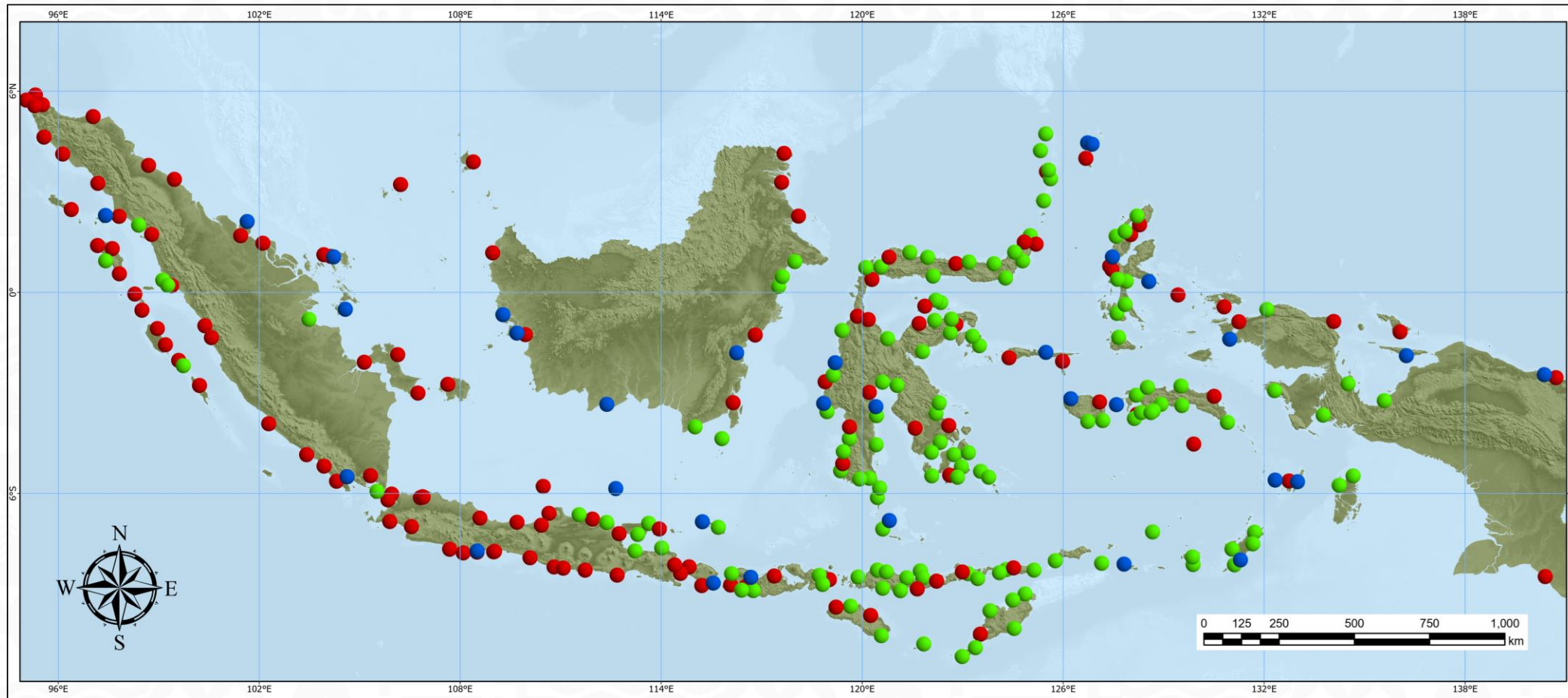
Pressure





INA-TIDES NETWORKS

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290 TGs

Legenda

● < 5 years

● > 5 years

● Developed in 2024



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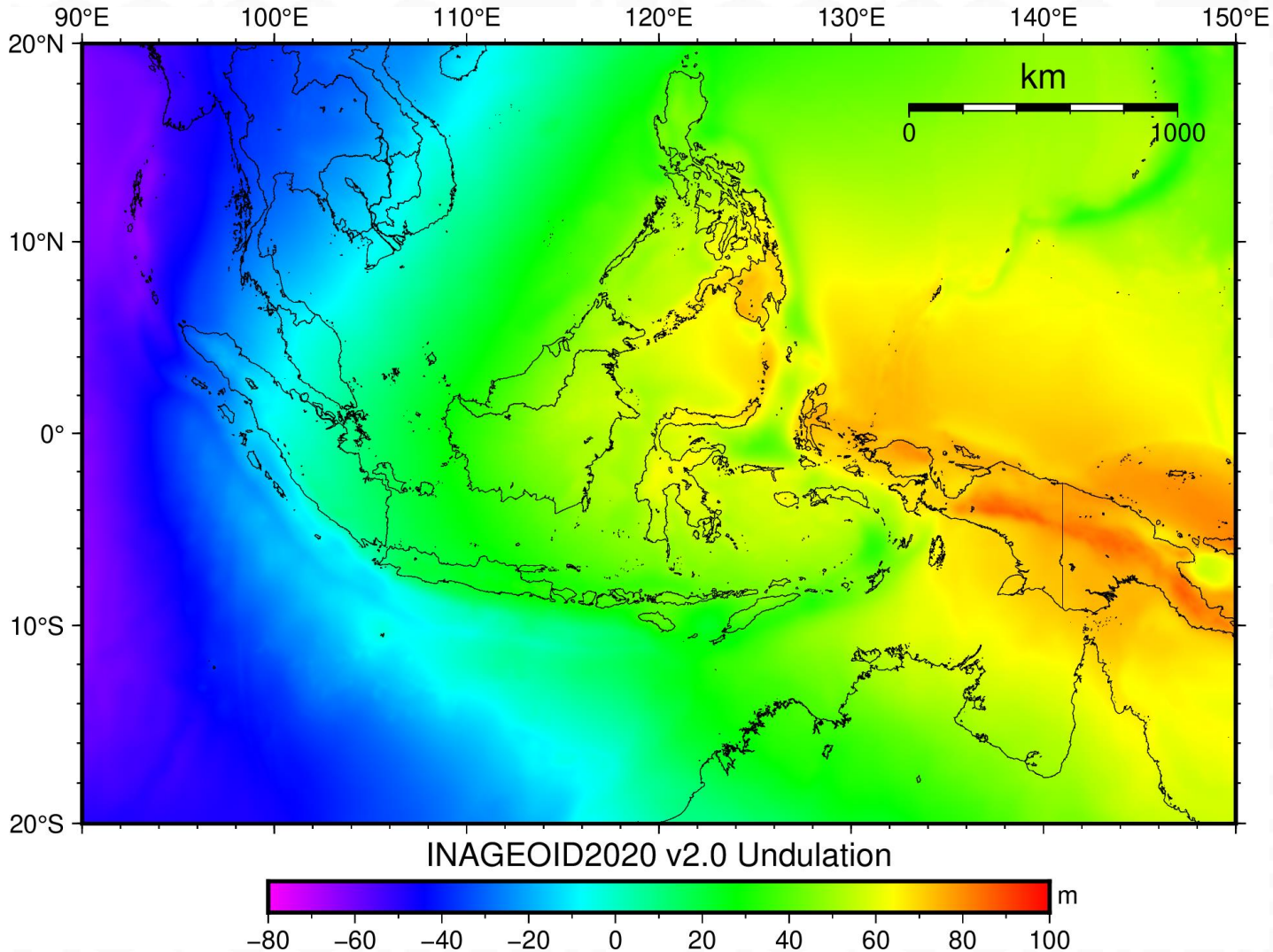
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INAGEOID

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INAGEOID2020 v2.0 is the latest gravimetric geoid model for Indonesia, released in 2022. This model updates its predecessor, INAGEOID2020 v1, with improved accuracy achieved through the incorporation of additional gravity data from various locations across Indonesia.

The gravity data used to build INAGEOID2020 v2.0 consists of a combination of:

- Terrestrial gravity data
- Airborne gravity data
- Satellite gravity data



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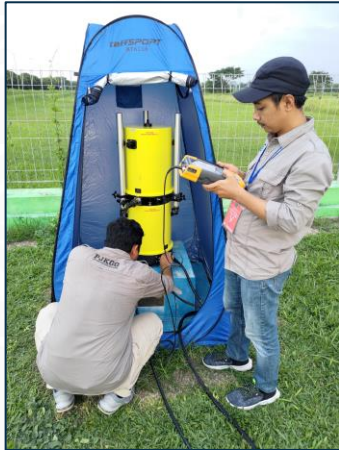


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INAGEOID INSTRUMENTS

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ABSOLUTE GRAVITY SURVEY



AIRBORNE GRAVITY SURVEY



TERRESTRIAL GRAVITY SURVEY



Kamis, 19 September 2024 16:52:57
4,6049S 119,9769E
190° S
Lalebata
Kecamatan Lamuru
Kabupaten Bone
Sulawesi Selatan
N1



4°46'23"S 119°58'59"E
90° E
Kecamatan Libureng, Kabupaten Bone 92766
12 Sep 2024 08.03.07
SNC9

INAGEOID VALIDATION SURVEY



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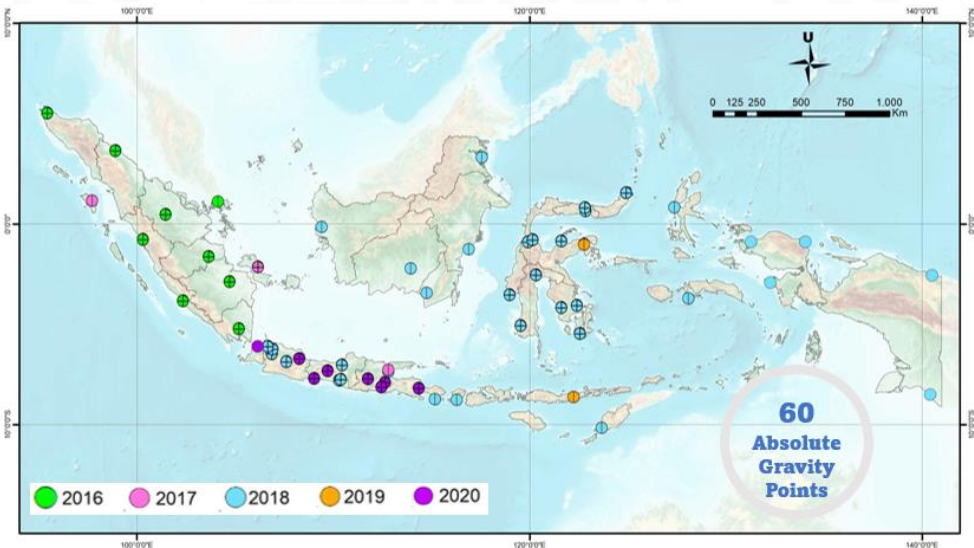
DISTRIBUTION OF GRAVITY DATA IN INDONESIA

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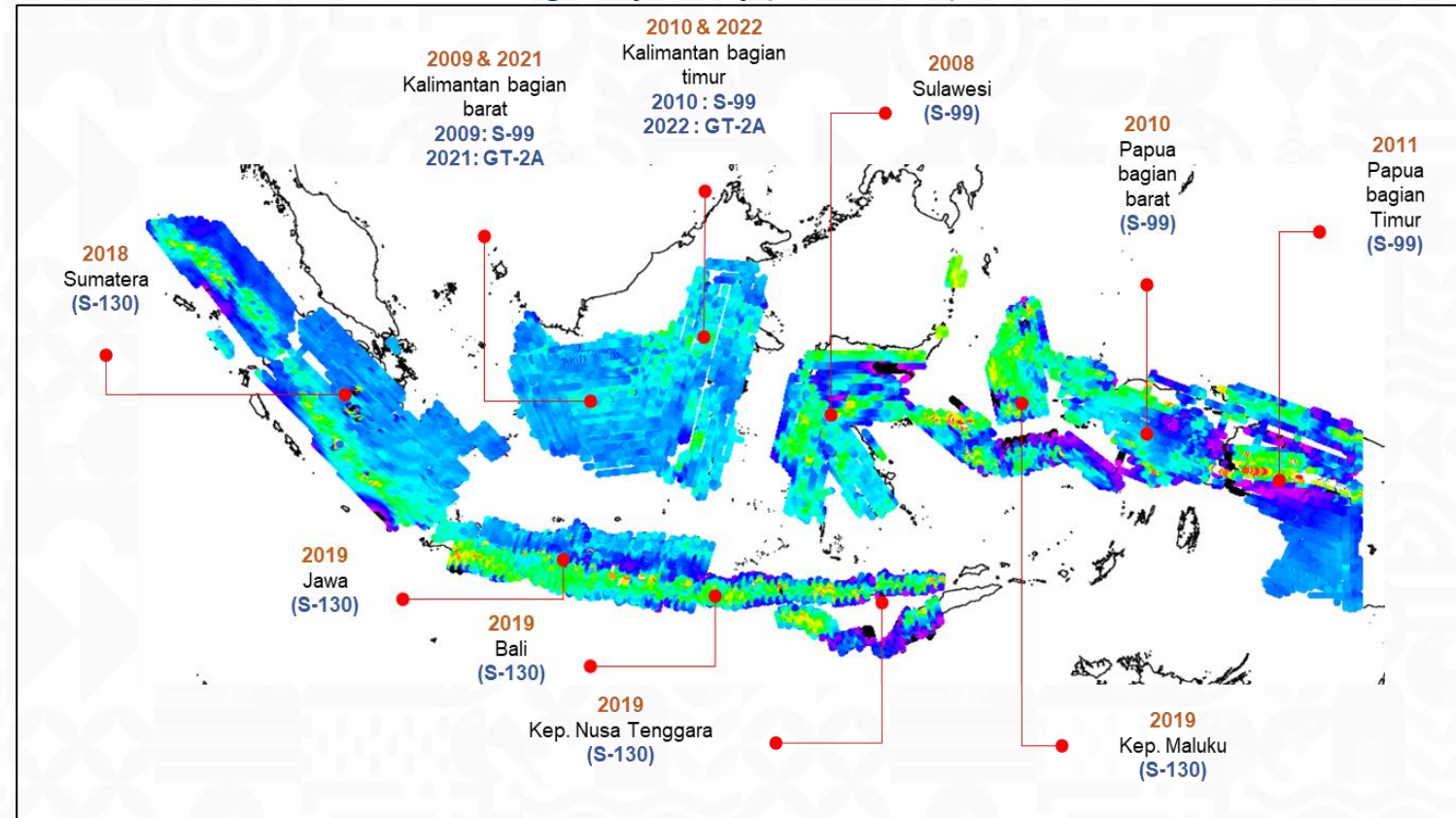
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Absolute Gravity Benchmark Distribution



Free-air anomaly distribution from airborne gravity survey (2008 - 2023)



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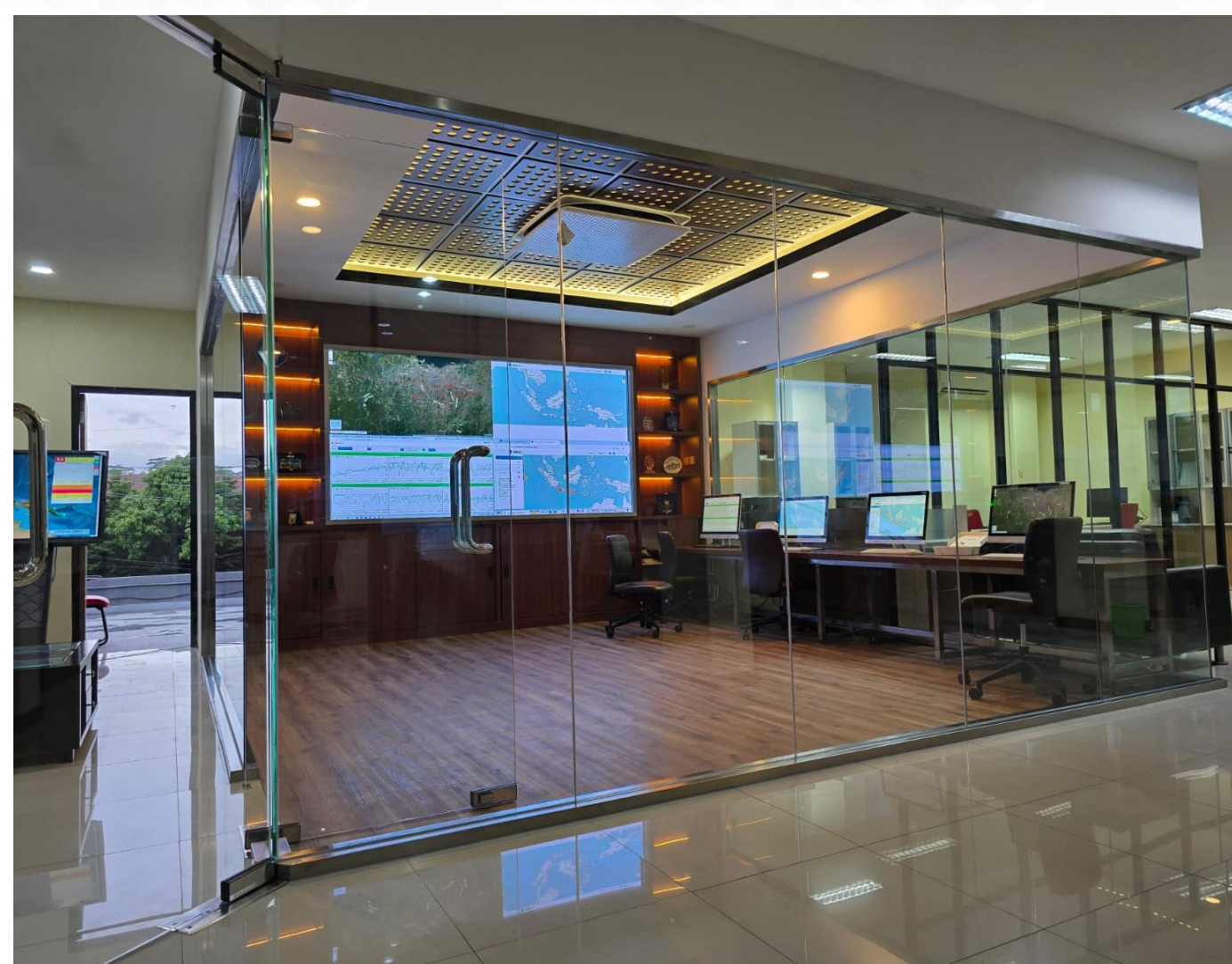
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GEODETIC PROCESSING CENTRE

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CAPABILITIES:

1. Ina-CORS Processing
2. Ina-Tides Processing
3. INAGEOID Processing



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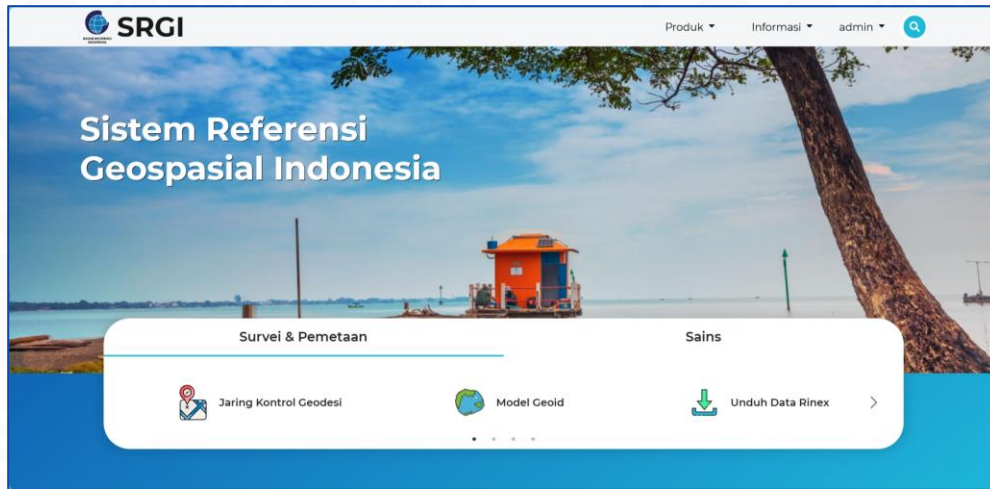


SRGI WEBSITE

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srgi.big.go.id

BM
Description

RINEX CORS

RTK
CORS

Online Post
Processing GNSS

RT Waveform
Displacement

GNSS Time
Series

Coordinate
Trans. & Conv.

Deformati
on Model

Tides Data

Tides Harmonic
Constant

Tidal
Datum

Tides Model

Tides
Predictions

Gravity
Anomaly Data

Geoid
Model



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SERVICES PERFORMANCES (2023-NOW)

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SRGI User

13.560



RINEX
Download

1.730.131

DOY



Online Post
Proc. GNSS

83.368

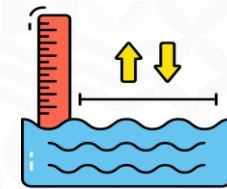
processing



RTK

1.420.733

hits



Tides Data

214

requests



INAGEOID

7.708

access



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THANK YOU



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