



Australian Government
Geoscience Australia



United Nations GGIM (UN-GGIM)

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What is the UN-GGIM?

- United Nations Global Geospatial Information Initiative
- Inter-Governmental Mechanism spearheaded by the UN which seeks to guide the making of joint decisions and set directions on the production and use of geospatial information within national and global policy frameworks
- **Vision:** To make accurate, authoritative, reliable geospatial information readily available to support national, regional and global development

What is the UN-GGIM?



Global Geodetic Reference Frame



- An authoritative, reliable, high accuracy and global spatial referencing infrastructure
- Includes products, the infrastructure used to create it, and the data, analysis and product generation systems

Global Geodetic Reference Frame



- The GGRF includes a sparse global infrastructure of core



Yarragadee Geodetic Observatory, Western Australia



Global Geodetic Reference Frame



Challenges

- Reliant on the best-effort contributions of several hundred individual organisations
- Core observatories rely on aging infrastructure, especially the SLR and VLBI systems.

Global Geodetic Reference Frame

- Recognising its importance the UN General Assembly adopted resolution 69/266 in February 2015, entitled 'A Global Geodetic Reference Frame for Sustainable Development'

United Nations General Assembly



- Important opportunity for agencies with geodetic programs

Global Geodetic Reference Frame



General Assembly

Distr.: General
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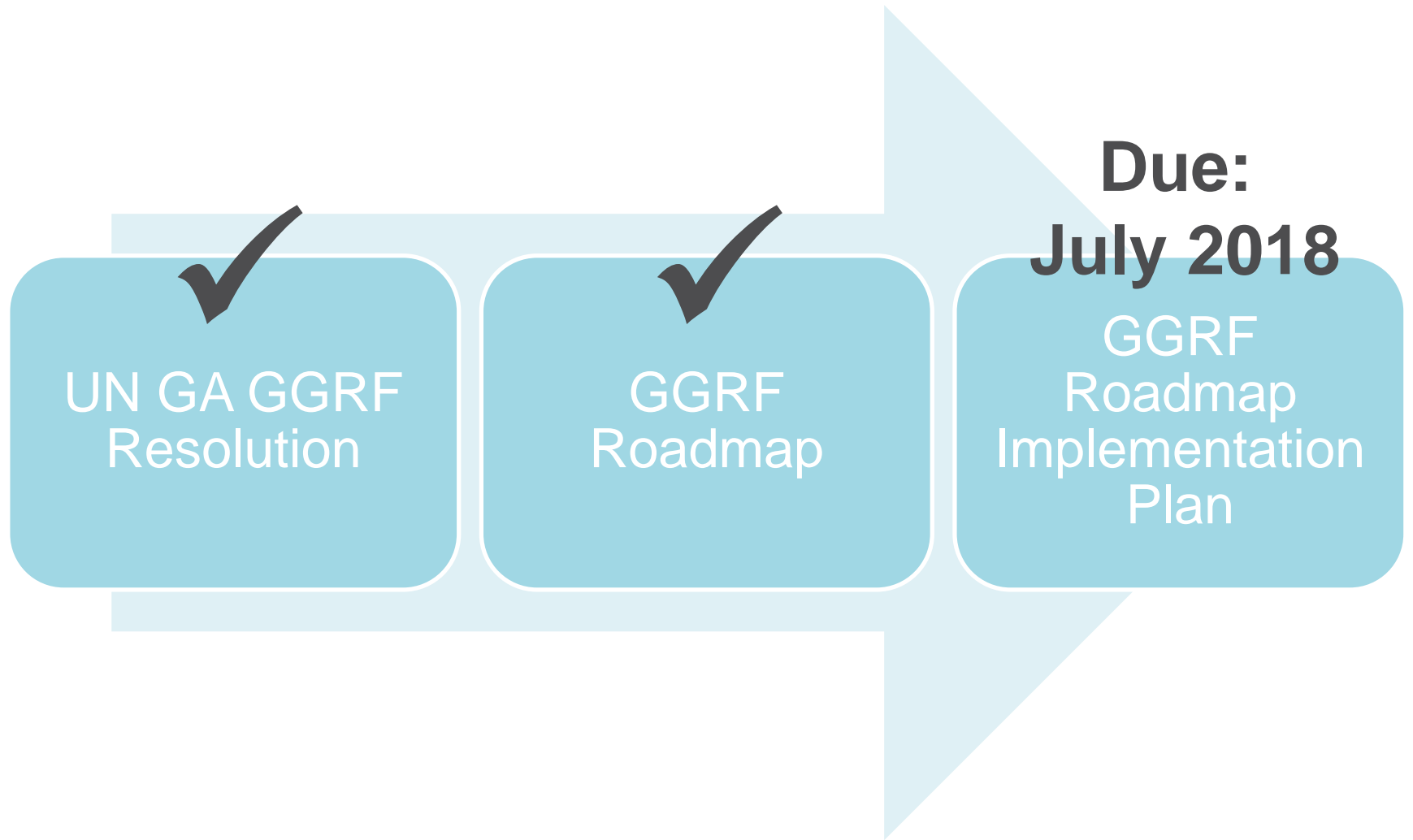
Recognizing further the extraordinary achievements made by national mapping and space agencies, geodetic commissions, research organizations and universities and other international organizations such as the International Federation of Surveyors, **building upon initiatives of the International Association of Geodesy**, representing the global geodetic community, in measuring and monitoring changes in the Earth's system on a best-effort basis, including the development of the now adopted International Terrestrial Reference Frame,

Global Geodetic Reference Frame

Key Objectives

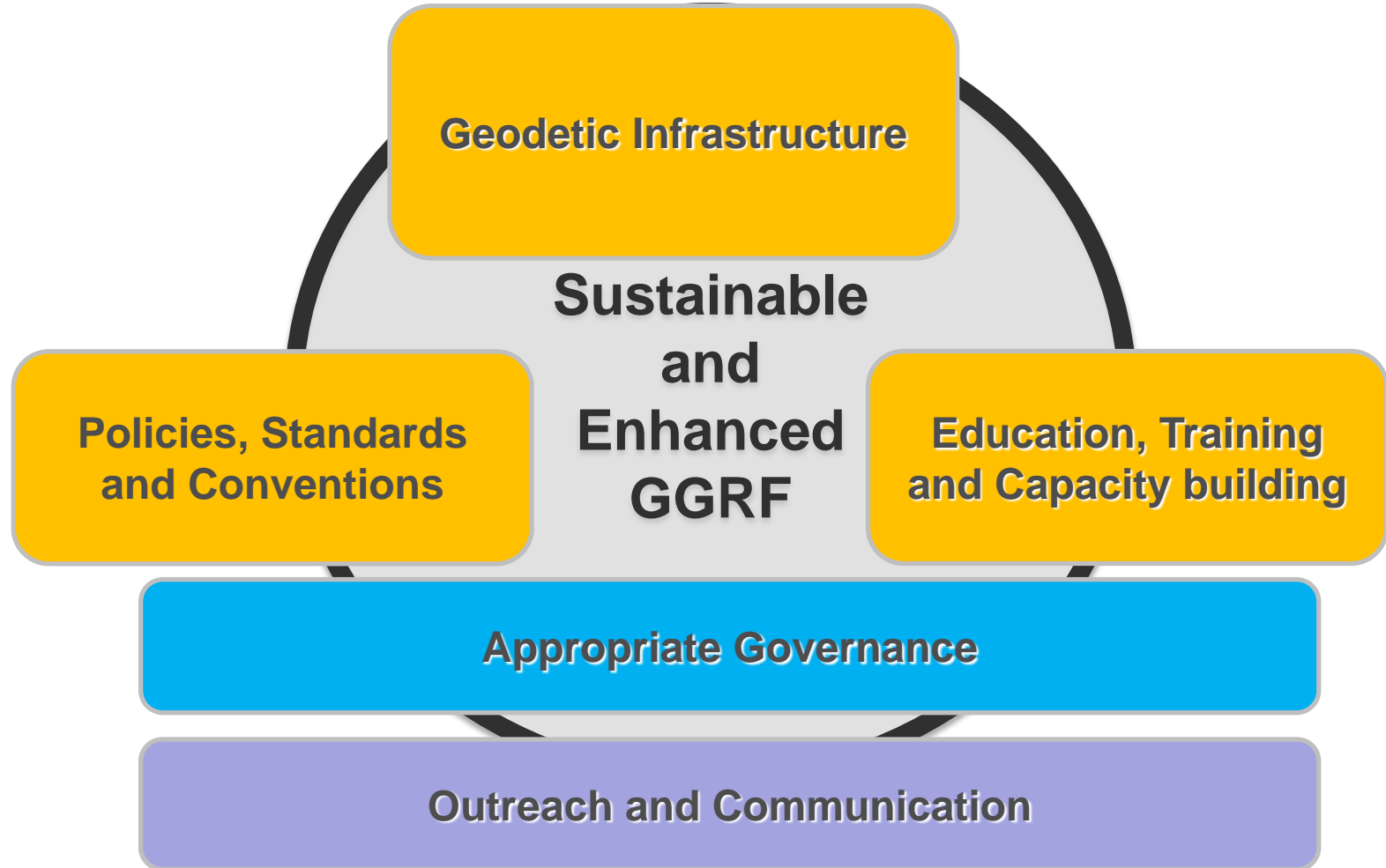
- Develop a global geodetic **roadmap** for the GGRF
- Global cooperation in providing technical assistance in geodesy for those countries in need to ensure the development, sustainability and advancement of a GGRF
- Implement open geodetic data sharing
- Improve and maintain national geodetic infrastructure
- Enhanced multilateral cooperation that addresses infrastructure gaps and duplications globally
- Improved Outreach to make the GGRF more visible and understandable to society

Global Geodetic Reference Frame



VISION

An accurate, sustainable and accessible Global Geodetic Reference Frame to support science and society



UN-GGIM Structure and Activities

UN-GGIM

Global body

UN-GGIM Asia Pacific

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UN-GGIM Europe

5 Regional Comm.

UN-GGIM-AP WG 4

Cadastre and Land Management

UN-GGIM-AP WG 3

Regional SDI

UN-GGIM-AP WG 2

Disaster Risk Management

UN-GGIM-AP WG 1

Geodesy

Regional ITRF densification (APREF, APRGP)

Regional Height System Unification

Regional Geodetic Capacity Building

UN-GGIM Asia Pacific

- Asia Pacific Reference Frame (APREF)
- Continuous GNSS observations and analysis of the Asia Pacific sites
- Contributes to a better understanding of regional tectonic
- Contributes to national datums and spatial data infrastructures

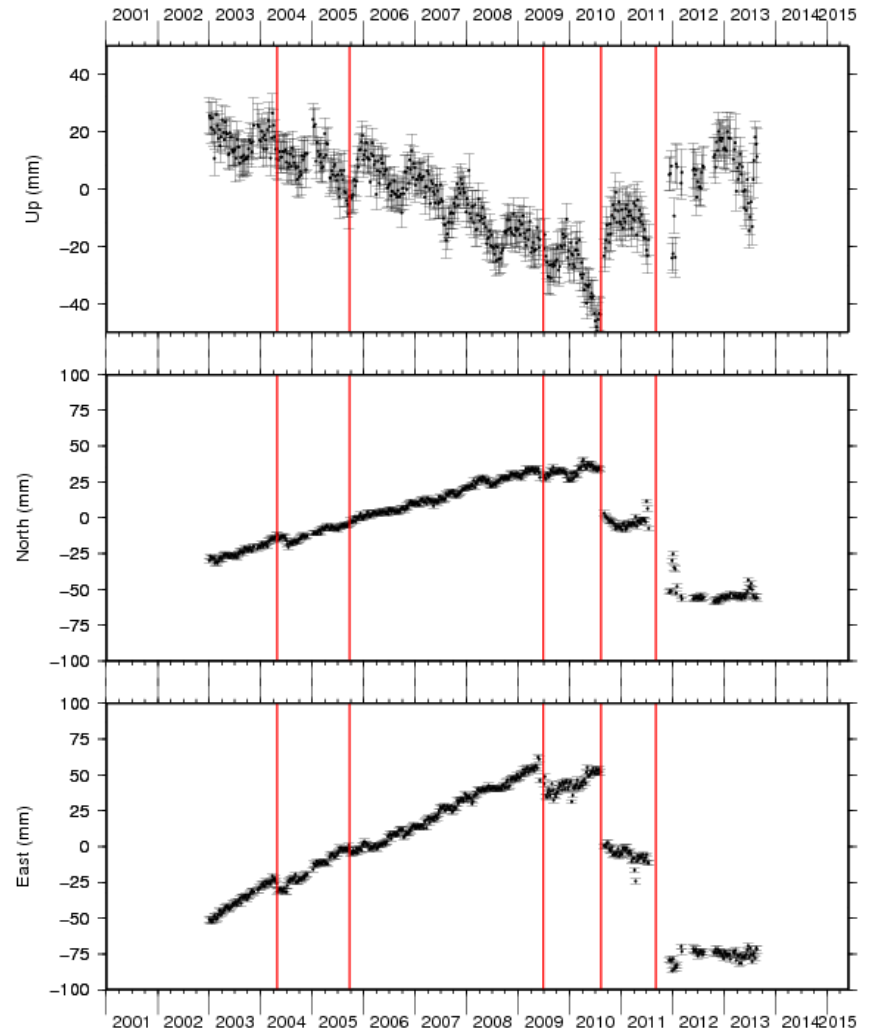


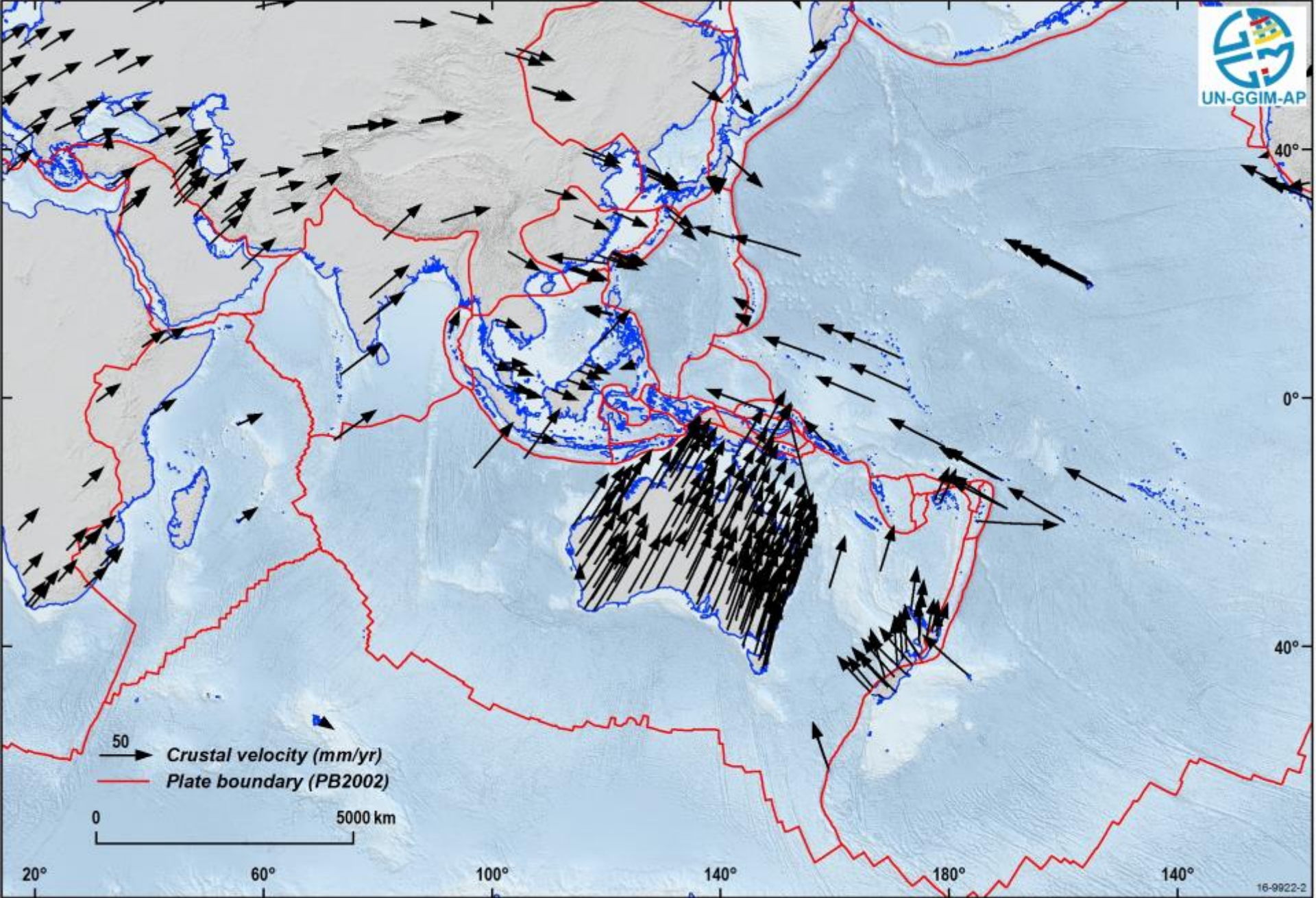
APREF

Data from 28 countries

- 16 national agencies participating
- 4 Local Analysis Centres
 - 3 Australian + 1 Chinese (Institute of Geodesy and Geophysics, Chinese Academy of Sciences)
- ~ 420 Asia Pacific CORS stations data now available
- ~ 610 stations routinely analysed

Vanuatu Coordinate Time Series





Final Remarks

- Work on the GGRF Roadmap Implementation Plan is ongoing
- UN-GGIM Subcommittee on Geodesy established to provide stability and longer-term planning
- UN-GGIM-AP WG1 very willing to support initiatives opportunities for Asia Pacific VLBI

