Activity Report of UN-GGIM-AP WG1-Geodetic Reference Frame

Kumamoto, Japan, October, 2017

“Positioning geospatial information to address global challenges”
UN-GGIM-AP Working Group 1

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Mr. Graeme Blick, New Zealand
UN-GGIM-AP Working Group 1 - Focus

UN-GGIM Geodesy

Regional Reference Frame (APREF, APRGP)

Regional Height System Unification

Regional Capacity Building

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UN-GGIM GGRF Working Group to Subcommittee on Geodesy

• August 2016: the UN-GGIM Committee of Experts decided to transition the **Global Geodetic Reference Frame (GGRF)** Working Group into a permanent UN-GGIM Subcommittee on Geodesy

• The Subcommittee membership will include:
  – 40 voting members nominated by the regional UN-GGIM Executives, ensuring geographically distributed membership
  – Associate Members (non-voting) including IAG, FIG and other Member States not included in the 40 above
  – Observers (non-voting)
UN-GGIM Sub-Committee on Geodesy

- Asia-Pacific members: **Australia, China, Fiji, Islamic Republic of Iran, Japan, Kyrgyzstan, Malaysia, New Zealand, Philippines, and the Republic of Korea**

- While these 10 counties are the official members, all other Asia Pacific Member States are invited and encouraged to participate in committee activities as associate members

- Inaugural meeting of the UN-GGIM Subcommittee on Geodesy will be held in Mexico City, November 2017
VISION
An accurate, sustainable and accessible Global Geodetic Reference Frame to support science and society

Geodetic Infrastructure

Sustainable and Enhanced GGRF

Policies, Standards and Conventions

Education, Training and Capacity building

Appropriate Governance

Outreach and Communication

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UN-GGIM | United Nations Initiative on Global Geospatial Information Management
Global Geodetic Reference Frame

Data sharing, Policy, Standards and Conventions

• Geodetic data sharing is inconsistent
• Communications, commercial, security, and legal impediments
• A sparseness of infrastructure, technical expertise, and coordination
Governance

- Current governance mechanisms loosely coordinate the maintenance and development of the GGRF including the IAG and its technique services
- Some bilateral agreements exist between space agencies and national mapping organisations, but there is no comprehensive internationally binding governance for the GGRF
- No guarantee of availability and continuity in the long term
GGRF Roadmap Implementation Plan

• Aim: actions to achieve the recommendations in the Roadmap
• Five focus groups
  – Infrastructure
  – Data Sharing, Policies, Standards and Procedures
  – Education, Training and Capacity Building
  – Communications and Outreach
  – Governance
• Draft content by November 2017
• Unified plan by early 2018
• Final plan due by July 2018
Asia Pacific Reference Frame (APREF)

• 620 stations
• 28 countries
• Data are routinely processed by four Analysis Centres and made available publically
• Analysis aligned the IGS14 reference frame, the IGS realization of ITRF2014
• Preparations are also underway to reprocess the APREF data archive using the IGS14 reference frame.
Asia Pacific Reference Frame (APREF)
Asia Pacific Regional Geodetic Project (APRGP)

- Annual GNSS campaign starting in 1997
- APRGP 2016: 18 to 24 September 2016
- APRGP 2016 were collected from eight member countries, including Bangladesh, Hong Kong (China), Japan, Malaysia, Philippines, Singapore, Sri Lanka and Vietnam
- Analysis report has been finalized and distributed

- APRGP 2017: 17 to 23 September 2017
Report on the Analysis of the Asia Pacific Regional Geodetic Project (APRGP) GPS Campaign 2016

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Asia Pacific Regional Geodetic Project 2016

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Regional Height System Determination

- Australia working on a report covering South Pacific Islands (ellipsoidal, msl)
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Capacity Building Workshops

• A joint UN-GGIM-AP, FIG and JUPEM forum on Geospatial and GNSS CORS Infrastructure, October 2016, Kuala Lumpur, Malaysia

• Pacific Geospatial and Surveying Council (PGSC)

• Technical seminar of the UN-GGIM-AP, FIG, IAG, Japan Federation of Surveyors, International Committee for GNSS (IGC), Geospatial Information Authority of Japan (GSI) on geodetic reference frame, July, 2017, Kobe, Japan
Capacity Building Workshops

• A joint workshop of the GSI, FIG and UN-GGIM-AP entitled “Regional Challenges, Benefits and Opportunities of Exchanging Geodetic Data” Kumamoto, Japan
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