

FIG WORKING WEEK 2019

22-26 April, Hanoi, Vietnam

Presented by the FIG Working Week 2019,
April 22-26, 2019 in Hanoi, Vietnam

"Geospatial Information for a Smarter Life
and Environmental Resilience"



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Work and Plan of UN-GGIM-AP Working Group on Geodetic Reference Frame

Basara Miyahara

(Chari UN-GGIM-AP WG1: Geodetic Reference Frame)

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Outline

- UN-GGIM-AP
- Working Group on Geodetic Reference Frame
 - UN-GGIM Geodesy
 - Regional Reference Frame
 - > APREF (Asia Pacific Reference Frame)
 - > APGRP (Asia Pacific Regional Geodetic Project)
 - Regional Height System Unification
 - Regional Capacity Building

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UN-GGIM-AP

Vital Role in

(Relevant to geospatial information management)

- Resolves regional issues
- Facilitate regional capacity building
- Promote globally the unique needs and interests of the region
- Contribute to the discussions in UN-GGIM

WGs

- WG1: Geodetic Reference Frame
- WG2: Cadastre and Land Management
- TBD

UN-GGIM (at the Global level)



UN-GGIM-AP

Technical and substantive activities at the regional level

Organize WGs

Take Actions/Projects

Capacity Building

Regional Issues

Check Activities



Activity Report to UN-GGIM

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UN-GGIM-AP WG1 (Geodetic Reference Frame)

Chair

Mr. Basara Miyahara, Japan

Vice Chairs

Dr. John Dawson, Australia

Dr. Yamin Dang, China

Mr. Lt Gen Girish Kumar, India

Mr. Yi Sang Oh, Republic of Korea

Dr. Mohd Yunus Bin Mohd Yusoff, Malaysia

Mrs. Dalkhaa Munkhtsetseg, Mongolia

Mr. Graeme Blick, New Zealand

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UN-GGIM Geodesy

**Regional
Reference Frame
(APREF, APRGP)**



**Regional Height
System Unification**

**Regional
Capacity Building**

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UN Sub-committee 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 includes:
- 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)

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UN 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 countries are the official members, all other Asia Pacific Member States are invited and encouraged to participate in committee activities as associate members or observers.

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UN Sub-committee on Geodesy

- The 1st inaugural meeting of the Subcommittee on Geodesy was held in Mexico City, November 2017
- The 2nd meeting was held in Deqing, China, November 2018 in conjunction with UNWGIC 2018.



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Asia Pacific Reference Frame (APREF)

- Regional geodetic reference frame
- Realized by continuous GNSS observation of over 600 stations
- 28 countries
- Densify ITRF and improve access to ITRF
- Data are routinely processed by three Analysis Centres and station coordinates made available publically
- Analysis aligned the IGS14 reference frame, the IGS realization of ITRF2014
- A report on all APREF results is under preparation by Australia (Dr. Guorong Hu & Dr. John Dawson)

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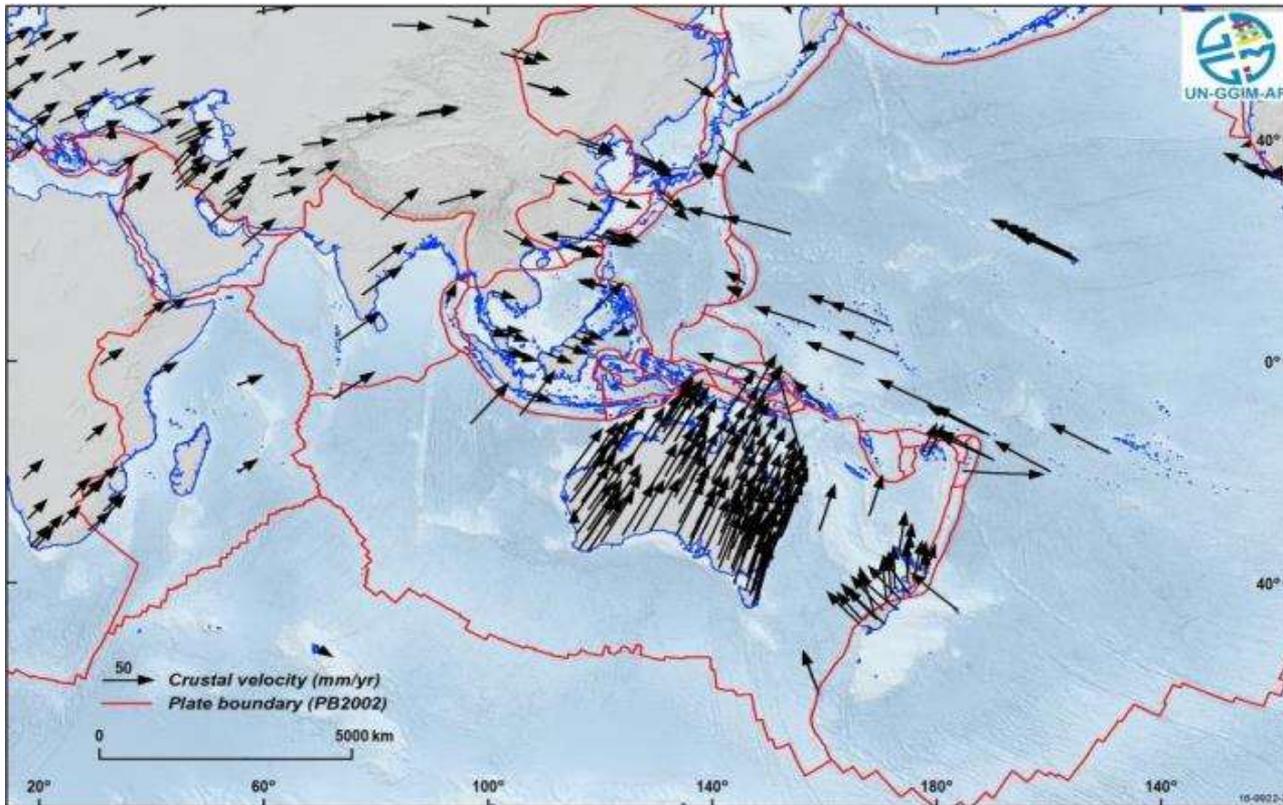
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Asia Pacific Reference Frame (APREF)



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Asia Pacific Regional Geodetic Project (APRGP)

- Annual GNSS campaign starting in 1997
- Densify ITRF and improve access to ITRF
- Data are analyzed by Geoscience Australia
- Analysis report is distributed each year
- APRGP 2016 were collected from eight member countries, including **Bangladesh, Hong Kong (China), Japan, Malaysia, Philippines, Singapore, Sri Lanka and Vietnam**
- APRGP2018: 16 to 22 September 2018
- APGRP2019: TBD

Call for participation will be from UN-GGIM-AP Secretariat

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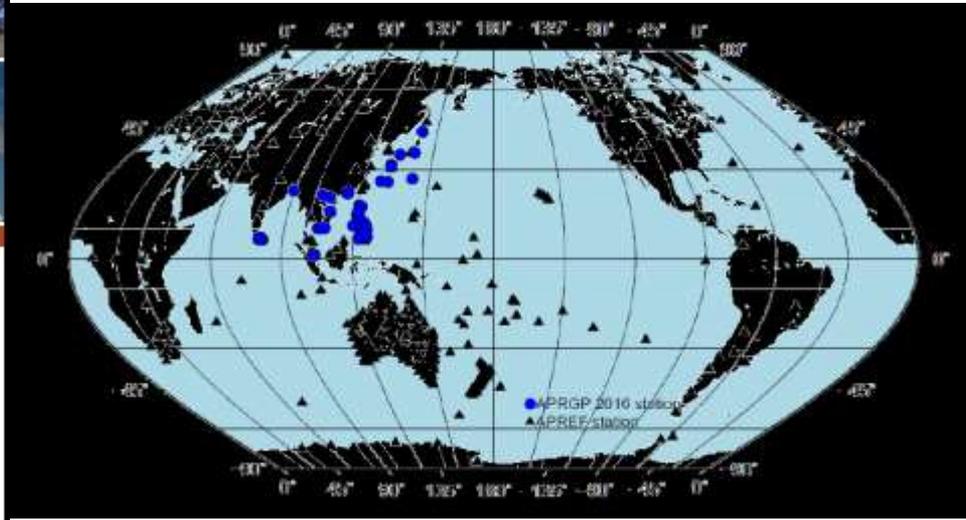


Asia Pacific Regional Geodetic Project 2016



Record 2017/17 | eCat 101401

Report on the Analysis of the Asia Pacific Regional Geodetic Project (APRGP) GPS Campaign 2016



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Regional Height System Unification (APRHSU)

- Questionnaires on current height system of each member countries
- Analyze the answers to understand current situation
- Planning next actions based on analysis
 - Ex. Evaluate difference in height system among AP countries
 - Compute averaged height reference surface among AP countries
- Further capacity building for vertical reference frame

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Capacity Building Workshops

- Hosting and participating in geodetic capacity building workshops in AP in conjunction with FIG, IAG and other organizations
- 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

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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 in 2017



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Capacity Building Workshops Plan

- Special sessions on "Developing Capacity for Geodetic Infrastructure and Systems" at FIG WW 2019
- ✓ **TS06I 25 April, 11:00–12:30 249bc ("SOUTH ROOM")**
- ✓ **TS07I 25 April, 14:00–15:30 249bc ("SOUTH ROOM")**



- Workshop at UN-GGIM-AP 7th Plenary at Canberra Nov 2019

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Summary

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