



International Federation of Surveyors
Fédération Internationale des Géomètres
Internationale Vereinigung der Vermessungsingenieure

Commission 5

Positioning and Measurement (2007-2010)

www.fig.net/figtree/commission5

Report on the 7th FIG Regional Conference Hanoi-Vietnam

INTRODUCTION

In this Commission 5 Report we will provide an overview of activities at the 7th FIG Regional Conference - Hanoi, Vietnam.

This event was held during the week 19 October 2009 at the National Conventional centre in Hanoi. It attracted over 450 delegates from 40 different countries. It consisted of 3 plenary sessions, over 40 technical sessions which comprised of almost 200 technical papers or presentations. Commission 5 were involved in facilitating 11 technical sessions.

The FIG regional conference was organised locally by the Vietnam Association of Geodesy, Cartography and Remote Sensing (VGCR). The Food and Agriculture Organisation of the United Nations (FAO) also convened regional meetings and forums at this symposium.

PRECIS OF TECHNICAL SESSIONS

Commission 5 facilitated the following technical sessions -

- TS 1C - Advances in GNSS Positioning and Applications I
- TS 2C - Reference Frames and Datums
- TS 3B - Global and Regional Observing Systems and Services

- TS 3E - Disaster Risk Management: Approaches and Consequences
- TS 4B - GNSS CORS Infrastructure and Standards
- TS 5B - GNSS CORS Networks Case Studies
- TS 6B - Panel Session - Asia Pacific Reference Frame
- TS 6D - Engineering Application of GNSS
- TS 6F - Mapping, Aerial Survey and Remote Sensing I
- TS 7B - Advances in GNSS Positioning and Applications II
- TS 7D - Mapping, Aerial Survey and Remote Sensing II

Generally the delegate attendance to these sessions was good as numbers ranged from 30 to over 100 participants per session. The overall paper and presentation standard was of high quality with speakers presentations addressing the major issues of their papers which were then further explored during the session question time.

To view the full technical papers and presentations please refer to the FIG web location - <http://www.fig.net/pub/vietnam/>

One of the objectives of Commission 5 at this regional conference was to support the Permanent Committee for GIS

Infrastructure Asia-Pacific (PCGIAP) initiative known as the Asia Pacific Reference Frame project or APREF.

In brief, according to Dr John Dawson APREF is a regional project that will address issues associated with the definition, realisation and maintenance of the Asia and the Pacific Reference Frame, focusing on both the horizontal and the vertical components.



Dr John Dawson

The broad objective of the Asia-Pacific Reference Frame (APREF) Project will be to create and maintain an accurate and densely realised geodetic framework, based on continuous observation and analysis of GNSS data that will support many geospatial applications across the region. APREF will be a voluntary, collegial, non-commercial endeavour, and will require wide participation from government agencies, research institutes and the private sector, although there will be no central funding source and each participating organisation will contribute their own resources.

In the short-term, the APREF will:

- Encourage the sharing of GNSS data from Continuously Operated Reference Stations (CORS) in the region; and

- Develop an authoritative source of coordinates and their respective velocities for geodetic stations in the Asia-Pacific region.

In the longer term, the APREF will:

- Develop the APREF Permanent Network, in close cooperation with IGS for the maintenance of the Asia-Pacific Reference Frame, as a contribution to the ITRF and as infrastructure to support other relevant projects;
- Establish a dense velocity field model in Asia and the Pacific for scientific applications and the long-term maintenance of the Asia-Pacific reference frame; and
- Organise regular symposia addressing activities carried out at national and regional level related with the global work and objectives of APREF.

Five of the eleven sessions were centred on this theme - namely TS2C, TS3B, TS4B, TS5B and TS6B.

With respect to these sessions participants were provided an overview of the type and status of geodetic infrastructure from various countries in the region. For example there were presentations from Thailand, Philippines, Indonesia, Australia, South Pacific, Singapore, Hong Kong and Malaysia.

To compliment these papers there were invited presentations and papers by -

- Professor Chris Rizos (Vice President of IAG) on the Global, Regional, National geodesy and infrastructure ;
- Steve Fisher (IGS) on the products / services provided by the IGS ; and IGS reference station guidelines ;
- Dr John Dawson (Geoscience Australia) on the various PCGIAP working groups and their related projects ;



Prof. Chris Rizos

- FIG Commission officers - Mikael Lilje, Dr Volker Schwieger, Rob Sarib and David Martin on a range of GNSS CORS topics which included standards, calibration of GNSS devices, GNSS CORS products / services, ITRF and general reference frame issues ;
- David Chang (Department of Survey and Mapping Malaysia (JUPEM)) on the relevance of reference frames for the region and industry;



David Chang

- FIG Vice President Matt Higgins on the relevance of positioning infrastructure on land administration.
- Ms Sharafat Gadimova (UN Space Applications - UNOOSA) on the International Committee on GNSS - A System of Systems.



Sharafat Gadimova

All of the above and relevant case studies provided excellent background for a panel discussion on the APREF project (TS6B). Dr John Dawson facilitated such discussions and proposed the following key milestones that should be considered in the development of APREF -

1. Prepare a call for "participation" that will:
 - Identify those organisations in our region who can routinely (continuously) contribute some, or all, of their GNSS CORS data;
 - Identify those organisations in our region who can act as a regional GNSS CORS data centre; and
 - Identify those organisations that can routinely process some, or all, of this GNSS data, providing continuous station coordinate and velocity estimates.
2. Formation of the a steering committee and creation of an organisational structure of APREF
3. Attend PCGIAP meetings to discuss and progress APREF
4. Aim for a first APREF product release, FIG Congress - Sydney, April 2010.

These proposals generated robust and open discussion amongst the delegates as the following points were raised -



Simon Kwok



Victor Khoo

- The development of a website for APREF
- What discussions and resolutions will there be at the PCGIAP meeting in Bangkok?
- What level of co-operation is required?
- What is the goal of APREF?
- How ambitious should APREF be?
- Benefits of APREF need to be promoted and articulated
- What are the scientific and land administration advantages of APREF at the global, regional and national level?
- Need to investigate the experiences and lessons learnt from the development of EUREF, AFREF and SIRGAS
- Need to provide support to countries to justify involvement in APREF
- What are the mechanics of data transfer / streaming?
- Need to address the issues and concerns associated with data security, sharing and integrity
- Consider the role of 'private' networks and GNSS manufacturers.

The outcome and action resulting from the discussion was for Dr John Dawson to prepare a formal proposal and report on the above and then circulate to the attending participants.



Cecep Subarya

FIG Commission 5 wishes to thank all delegates who actively participated in the APREF and other technical sessions.

STEERING COMMITTEE

The Commission 5 Steering Committee convened several meetings at the National Conference Centre and these were held during the luncheon breaks of the technical program. Minutes from these meetings can be found on the FIG Commission 5 web site.

Also Prof. Rudolf Staiger (FIG Commission 5 Chair) and Mikael Lilje (Incoming chair FIG Commission 5) attended ACCO. Refer

to Steering Committee Minutes for Commission 5 issues discussed at ACCO.

SOCIAL ACTIVITIES

There were three formal social activities in the conference program -

- 1. Welcome Reception at the National Conference Centre



- 2. Vietnamese Evening and Foundation Dinner at the Baoson Paradise Theme Park



- 3. Farwell Dinner at the Daewoo Hotel.



The cuisine and entertainment at all three functions were excellent and all Commission 5 members enjoyed themselves once again.

CONCLUSION

In concluding Commission 5 were very pleased with the Hanoi regional conference and sincerely thank the hosts for a great event.

Also special thanks must be given to the Commission 5 team for work and efforts for making the technical program a success.

See you all in Sydney, April 2010.

Rudolf Staiger

Images of Hanoi and Ha Long Bay
 Courtesy of Commission 5











COMING FIG COMMISSION 5 EVENTS

2nd International Conference on Machine Control & Guidance.

Co-sponsored by FIG Commission 5 and 6.
9-11 March, Bonn, Germany
Web site: www.mcg.uni-bonn.de

XXIV FIG International Congress and XXXIII General Assembly Facing the Challenges - Building the Capacity



11-16 April, Sydney, Australia