

FIG Pacific Small Island Developing States Symposium

Policies and Practices for Responsible Governance



Fiji 18–20 September 2013

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Reference Frame in Practice Workshop 1A

Status of Geodetic Infrastructure in KIRIBATI

Mr Romano Reo

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BACKGROUND

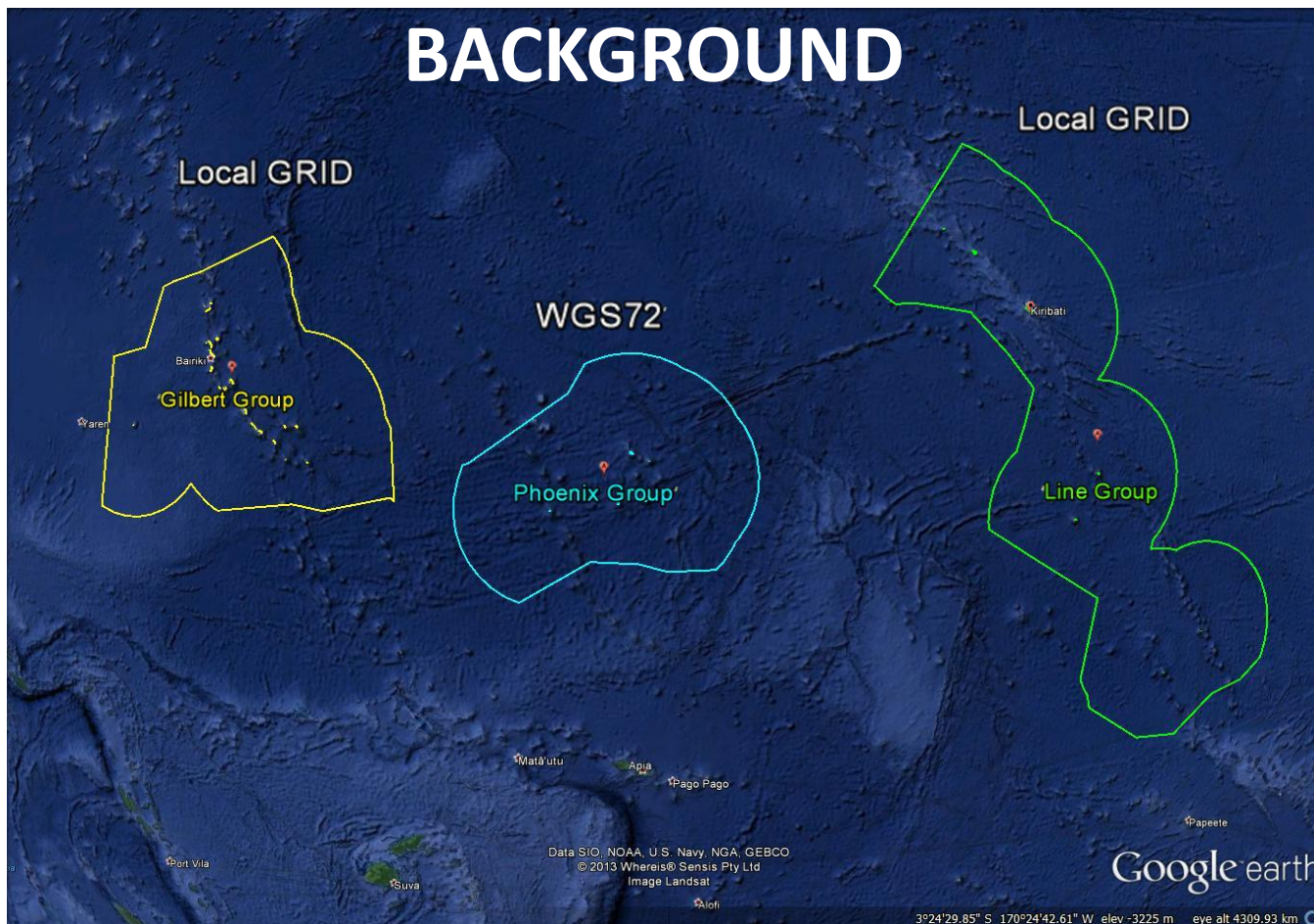


FIG Commission 5 Position and Measurement

United Nations Global Geospatial Information Management – Asia Pacific



BACKGROUND

Horizontal Control:

- ❖ 1967 – 1973 DOS carried out control survey - Gilbert
- ❖ 1984 – 1985 Operation ANON surveyed all Kiribati
- ❖ 1998 Tarawa Mapping project
- ❖ Late 2002 CGPS established now GNSS Station (2011)
- ❖ Lately various GNSS surveys on selected islands (Maritime Boundary Project)

Vertical Control:

- ❖ 1974 – 1988 3 tide gauges established on Tarawa by University of Hawaii
- ❖ 1993 SEAFRAME by Sea level project (TGZ)
- ❖ 1998 Tarawa mapping



Tide Gauge Station



GNSS Station





Surveying Capacity

Personnel Resources

- ❖ 3 Qualified Surveyors
- ❖ 1 qualified survey technician
- ❖ 4 experienced survey technician

Hardware & Software Resources

- Topcon Total Station 700 series
- Trimble R8 GNSS – Maritime Project
- Automatic & Digital Levels
- CivilCAD7
- MapInfo



IMPORTANCE OF GEODETIC FRAMEWORK

- ❖ Linked all Kiribati mapping information in KLIS
- ❖ Assisting ongoing projects with Heights & Positioning
- ❖ Integrate spatial data with existing mapping information
- ❖ Maritime Boundary Delimitation Project



ISSUES FACED IN GEODETIC DEVELOPMENTS

- ❖ Lack technical expertise
- ❖ Lack necessary hardware & software
- ❖ Unregulated surveying practices
- ❖ Geographical localities of islands
- ❖ Funding

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RECOMMENDED SOLUTIONS

- ❖ Set up Regional Survey school
- ❖ Set up regional Surveying Institute
- ❖ Regulate surveying practices
- ❖ Upgrade hardware & software
- ❖ Develop and strengthen partnership with regional and international organisation e.g. SOPAC, GA, LINZ, FIG etc.



WAY FORWARD

- ❖ Whole of Kiribati on ONE INTERNATIONAL REFERENCE SYSTEM
- ❖ Expand CGNSS Facility to Kiritimati Island etc
- ❖ Set up more Tide Gauges around Kiribati Group of Islands
- ❖ Join the Global GNSS campaign (APRGP)

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THANK YOU.