Think Global – Act Local

Nicholas Brown
Director of National Geodesy, Geoscience Australia
Co-Chair UN-GGIM Subcommittee on Geodesy
Fiji Geospatial Reference System Roadmap

- Establish Project Governance
- Consult with stakeholders
- Write Technical Development plan
- GDF2025
- Geocentric Datum of Fiji 2025
- FHD2025
- Fiji Height Datum 2025
- Communicate
- Transformation parameters / grids

The Pacific Geospatial and Surveying Council Strategy 2017-2027

Positioning Pacific Island Countries and Territories for the Future
Global Geodetic Reference Frame

+ data
+ analysis
+ people
The geodesy supply chain

Source

Production

Transmission

Access

Application

GEODETiC INFRASTRUCTuRE

IAG SERVICES

INTERNET

SATELLiTES

LOCATION ENABLED

UN-GGIM
The Power of Where
Global Geodetic Reference Frame

Social

Environmental

Geodesy

Economic
Our lifestyle is improved by geodesy
Safer, more resilient communities need geodesy.

Source: NASA
Sea level rises and rises

Earthquake: 29 September 2009
- ~5 cm change in height of tide gauge
- This is sea level rise
- Note the change in vertical land motion after the earthquake
Our dependence on geodesy is growing ... fast

Cumulative Revenue 2019-2029 by segment

Total: € 2,525 bln
- Consumer Solutions 38.3%
- Road 55.0%
- Other 6.7%

Total: € 170 bln
- Geomatics 2.4%
- Agriculture 1.4%
- Drones 0.7%
- Rail 0.3%
- Emergency Response 0.1%
- Manned Aviation 0.5%
- Spacecraft 0.3%
- Critical Infrastructures 0.5%
- Maritime 0.6%

Source: GSA Market Report 2019
Economic benefits from investment in geodesy

• The loss of GPS service would average a $1 billion per-day impact to the United States alone.

• The economic impact to the UK from a loss of GNSS is $USD 6.7b every 5 days across ten application domains: Road, Rail, Aviation, Maritime, Food, Emergency and Justice Services, Surveying, Location-Based Services (LBS), Other Infrastructure, and Other Applications.
Recognising the importance of geodesy, UN General Assembly adopted in 2015 the resolution ‘A Global Geodetic Reference Frame for Sustainable Development’.

The role of the Subcommittee on Geodesy is to implement the resolution, that is, take steps to sustain the Global Geodetic Reference Frame.
Addressing the issues

Subcommittee on Geodesy
Version: 29 July 2021  E/C.20/2021/7/Add.2

Position Paper on Sustaining the Global Geodetic Reference Frame
A plan to help achieve the long-term accuracy and accessibility of the Global Geodetic Reference Frame

Strategy and Action Plan to sustain all the elements of the geodesy value chain

Subcommittee on Geodesy
Version: 29 July 2021  E/C.20/2021/7/Add.3

Concept Paper on Establishing a Global Geodetic Centre of Excellence

Dedicated people focussed on improving collaboration and coordination amongst the global geodetic community