



Reflection on past year, towards IISGEO

Students | World-Class Space Geodesy and Earth Observation Facility | Tertiary
Institution Training Hub | Scientific Excellence

*Working towards the establishment of a new Space Geodesy
Observatory for South Africa*

International Institute for Space Geodesy and Earth Observation (IISGEO)

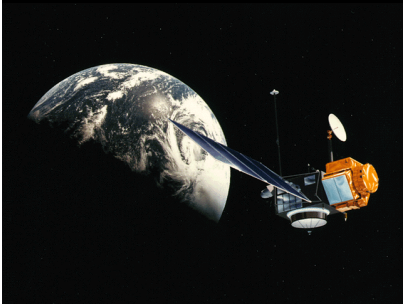
3rd Space Geodesy Workshop
Matjiesfontein,
16-19 March 2008

Ludwig Combrinck, HartRAO



The Main Achievements

Five Key Focus Areas



- ***Project visibility***
 - Interaction with NRF during HartRAO Feb 2009 audit review
 - Feedback meeting March 2009, acting NRF President Albert van Jaarsveld “Matjiesfontein project should be normal day to day NRF business”
 - Web site IISGEO.org up and running
 - Conductors wagon can be used for science education/comms hub (to be discussed at workshop)
- ***Funding***
 - Start-up funding from NRF STAF (R2 M and Inkaba yeAfrica R0.74 M)
- ***Instrumentation***
 - OCA telescope shipped October 2008, parked at Donkerhoek
 - GNSS installations, gravimeter, MET unit
- ***Partners and collaborators***
 - Univ of Pretoria, UNISA, NLC & NRE (CSIR), OCA (France), NASA (USA), Univ of Beira Interior (Portugal), TUT, CGS, DLR (Germany), GFZ (Germany)
- ***Students***
 - Currently 2 PhD, 1 MSc, 1 MTech, some new ones registering, but need more

GNSS/Tide gauge network

Improvement in station distribution



- Antarctica SANAE IV + TerraSarX radar reflectors, Matjiesfontein
- Pending upgrade to Marion due to BGAN new Satellite
- Tsumeb, Namibia in collaboration with HMO 2009

One metre telescope

Satellite/Lunar Laser Ranger for Southern Hemisphere



- Transfer to South Africa completed
- Transfer and initial refurbishment/development funded
- Telescope shipped October 2008
- Stored at CGS, Donkerhoek

Arrival at Donkerhoek



Very heavy telescope

- HartRAO cherry picker



Too heavy.....



Sorted out by Stoffel



And parked in store



Meaningful Capacity Development

Strengthening local capacity through project based education



Create core of researchers and technologists through tertiary education

University of Pretoria:

- 2nd and 3rd year Space Geodesy will be incorporated into GIS/Physical Geography courses 2009 (Joel, PhD student/junior lecturer)
- Christina (PhD) and Marisa (MSc) registered 2009
- Col Frankie van Niekerk (DGI) writing up protocol (MSc, GNSS)
- Leon Croukamp to write up protocol (Moon geotech, map/GIS in Moon reference frame)
- Some teaching by myself latter part of year

University of South Africa:

- 4th year Microwave engineering, Digital communications, Digital control systems, 3rd and 4th year Industrial Projects
- One MTech project completion 2009 (Sean Jordaan)

Tshwane University of Technology (TUT):

- Leslie Nickola registering as DTech student S/LLR encoders and drive dev.

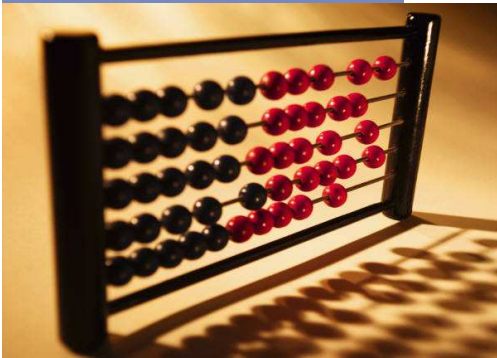
University of Stellenbosch

- Roelf Botha (PhD) completion 2009



Continued site evaluation

Due dilligence



- Counting advantages and disadvantages of ***Matjiesfontein*** as the preferred site
- MSc project (Marisa Nickola) on astronomical seeing conditions commence 2009
- GNNS (Dec 2008), MET unit (Feb 2009), GFZ La Cost Romberg gravimeter July 2009, site for vault determined by CGS/NRE (Leon/Stoffel)
- Horizon profiles Feb 2009 for DORIS proposal

What's next?

More work/rough seas



How should we proceed from here?

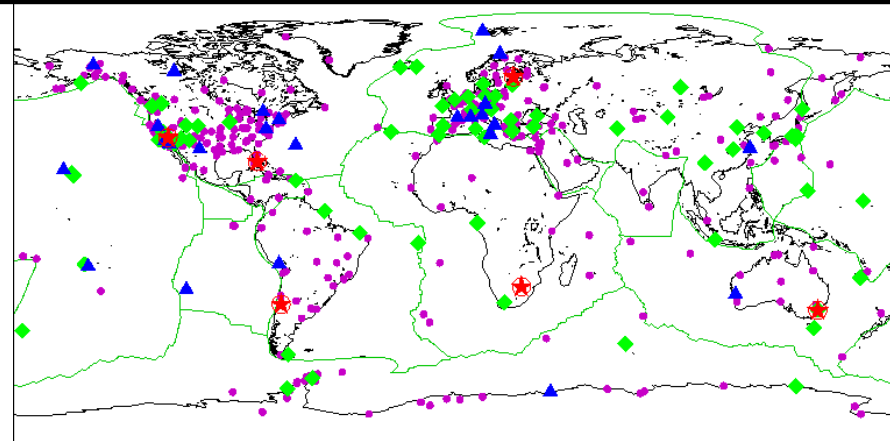
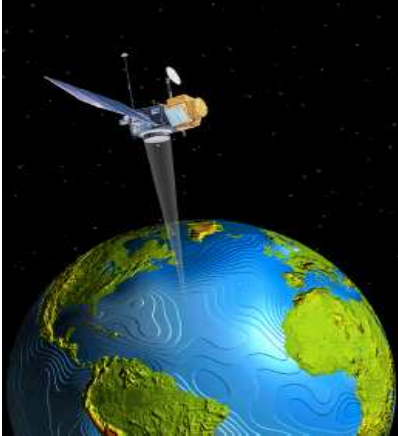
- *Phase II of Inkaba yeAfrica proposal handed to DST before 30 November 2007...we were asked to duck*
- *R 7 million per year for 3 years IyA funds*
- *IISGEO is a subproject within IyA*
- *What will we get?*
- *Explore all avenues, e.g. bilaterals, science chairs etc.*
- *We have to complete formal tie with Matjiesfontein/NRF via MOU (to be discussed at this workshop)*

Next 12 months



- Do more fast biking
- Website needs work
- Formal proposal with HMO and partners to NRF president
- Find post-graduate students
- Funding applications
- Increase partner base
- Initial refurbishment/development on S/LLR to commence (move to TUT?)
- SADC GNSS network expansion
- AFREF analysis/data centre

You can be part of IISGEO.....



• 1 Collocated techniques > 70
◆ 2
▲ 3 25
★ 4 6

Thank You!

