IGS Infrastructure Status

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- 20 years of IGS Infrastructure ...
- Reference Frame station progress
- Current Challenges
- Infrastructure moving forward
- Conclusions
400+ stations
40+ receiver types
100+ organizations
~99 antenna+radome types
60+ stations in long term outage
• Infrastructure encompasses all the underpinnings that make the IGS ... stations, data formats, data centers, etc.

• We have come a long way in 20 years ... big increase of reference stations ... the most important stations of all
• The position for the ITRF stations enable the orbits to disseminate the ITRF worldwide. Having enough stable stations is critical...

AC Station usage

ITRF available weekly station position sln

http://webigs.ign.fr/en/tfcc/
What we face

**IGS Station Network**
Need strong management from NC with IC, AC, MGEX, etc help.

**IGS projects/experiments**
Need dedicated networks to be accepted to IGS network.

**IGS “Ntwk of Ntwks”**
NC/IC need to identify more regional bodies with good active stations to underpin all IGS efforts; SIRGAS, EUREF, AFREF,
**Challenges**

- **GLONASS ephemerides** “time of applicability” problem; April, 2014

- Due to heterogeneity and depth of IGS network no effect on products but several receivers stopped tracking GLO or showed problems...

Effect of GLONASS outage on GNSS receivers, Berglund et al, poster, session PS08
NGA upgraded equipment to unknown ITT receivers/antennas, we have identified the equipment into rcvr_ant.tab, added calibration from NGS to ANTEX but data has ½ phase cycle ambiguity, and most stations moved the antennas, NGA data continues to be out.
**Uncalibrated radomes** are a significant problem at co-located sites, where their ITRF08 tie discrepancies reached 99 mm!!

Global processing solutions could not determine most radome effects (2/30), short baseline processing may be tried.
• **IGS Site Log Manager Tool** to manage the station configurations ...


**IGS CB Site Log Manager Tool**, Maggert et al, *poster session PS08*
• **NavBits** to store the navigation bits for open loop GNSS signal processing from many IGS stations ...

**Providing NBS for LEO occultation processing**, Romero et al, poster session PS08
Thank You!

Please contact the IC with questions and concerns through one of its members or me:

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Also contact the NC at: cb@igs.org

Infrastructure Splinter Mtg – Room 101
(Lees-Kubota Lecture Hall - Wed 16:00 – 17:30)