Geophysical Research Abstracts
Vol. 16, EGU2014-3140-1, 2014
EGU General Assembly 2014

The Global Space Geodesy Network: Activities Underway

Michael R. Pearlman (1), Alexander Ipatov (2), James Long (3), Chopo Ma (3), Stephen Merkowitz (3), Ruth Neilan (4), Carey Noll (3), Erricos Pavlis (5), Victor Shargorodsky (6), David Stowers (4), and Scott Wetzel (7)

(1) Harvard-Smithsonian Center for Astrophysics, Cambridge, United States (mpearlman@cfa.harvard.edu), (2) Institute of Applied Astronomy, Russian Academy of Sciences, St. Petersburg, Russia (ipatov@quasar.ipa.nw.ru), (3) NASA Goddard Space Flight Center, Greenbelt MD, United States (james.l.long@nasa.gov, chopo.ma@nasa.gov, Stephen.M.Merkowitz@nasa.gov, carey.noll@nasa.gov), (4) Jet Propulsion Laboratory/Caltech, Pasadena CA, United States (ruth.e.neilan@jpl.nasa.gov, david.a.stowers@jpl.nasa.gov), (5) University of Maryland, Baltimore MD, United States (epavlis@umbc.edu), (6) OJC"RPC"PSI", Moscow, Russia (niipp@niipp-moskva.ru), (7) Honeywell Technical Solutions, Inc, Lanham MD, United States (scott.wetzel@honeywell.com)

Several initiatives are underway that should make substantial improvement over the next decade to the international space geodesy network as the international community works toward the GGOS 2020 goal of 32 globally distributed Core Sites with co-located VLBI, SLR, GNSS and DORIS. The Russian Space Agency and the Russian Academy of Sciences are moving forward with an implementation of six additional SLR systems and a number of GNSS receivers to sites outside Russia to expand GNSS tracking and support GGOS. The NASA Space Geodesy program has completed its prototype development phase and is now embarking on an implementation phase that is planning for deployment of 6 – 10 core sites in key geographic locations to support the global network. Additional sites are in the process of implementation in Europe and Asia. Site evaluation studies are in progress, looking at some new potential sites and there are ongoing discussions for partnership arrangements with interested agencies for new sites in South America and Africa. Work continues on the site layout design to avoid RF interference issues among co-located instruments and with external communications and media system. The placement of new and upgraded sites is guided by appropriate Observing System Simulation Experiments (OSSEs) conducted under the support of the interested international agencies. The results will help optimize the global distribution of core geodetic observatories and they will lead to the improvement of the data products from the future network. During this effort it is also recognized that co-located sites with less than the full core complement will continue to play an important and critical role in filling out the global network and strengthening the connection among the techniques. This talk will give an update on the current state of expansion of the global network and the projection for the network configuration that we forecast over the next 10 years.