Report from NESC meeting on Thursday 16th April 2026

NESC held a meeting on 16th April on Microsoft Teams with **30** participants online.

SGSLR Development and Deployment Progress

The first deployment of the new NASA SGSLR system is planned for this year and **Evan Hoffman** presented on the design details, its capabilities and the current status. It will be located in Norway at Ny-Ålesund at a latitude of 79°. The building and dome are built and the gimbal and telescope assembly was installed in 2024. The telescope shows pointing and stability of only a few arcseconds and a 1mm invariant point. The receiver is a multi-pixelated detector that can provide pointing corrections. A new laser supplier called Bright Solutions has supplied a 300µJ, 300ps, 2kHz laser and is manufacturing a 3mJ, 50ps replacement. The laser and optical bench, the receiver, control systems and the timing racks are being tested at the SGSLR site in Greenbelt and the first satellite was tracked in November 2024. Simultaneous data was collected in collocation with the Greenbelt SLR site. Installation of all systems in Ny-Ålesund will be complete by July 2026 and testing completed by August. Operators will be trained to run the systems, but SGSLR is designed to be able to be operated remotely and will eventually be fully automated.

Latest Developments in Barometric Quality Control

Van Husson has been looking at some problems with barometric readings from stations, which include measurements not updating, jumps and drifts. An algorithm running at the NASA SLR Data Operations Center can identify frozen pressures and a second looks at peak-to-peak variation. Making comparisons of station pressures to the Vienna Mapping Function can reveal potential problems. These include single outlying points and periods when an offset is present. Time series of pressure difference were shown for all stations. It was suggested that these plots should be made available to stations, perhaps on the ILRS website. Kalvis Salmiņš has been looking in to historical data from the Riga station and has some concerns about the pressure values and so a comparison with the VMF values would be useful.

Status of the Borowiec SLR Station

A new PMT detector has been installed at the Borowiec SLR station in Poland and an update was provided by **Pawel Lejba.** The new detector is similar to the previous instrument with greater quantum efficiency and gain and a slightly slower rise time. A new filter wheel in front of the detector has also been installed and is controlled by a Raspberry Pi. The station has been successful in tracking a number of ILRS targets in the last few weeks and will now enter the quarantine process.

orbitNP.py 1.3

Matthew Wilkinson gave a presentation on the new release of the orbitNP.py program that processes SLR observations. Range residuals are formed by making along track and radial corrections to a reference orbit and these are filtered and then averaged to form normal points for comparison. New features of the 1.3 release include the inclusion of CDDIS as a source for CRD and CPF downloading. The software can now automatically attempt to download CRD data if it does not exist locally. A new clipping technique is included to provide elevation dependent clipping to account for the broadening of residuals from GNSS flat panel LRAs at low elevations. The new release can be downloaded from http://sgf.rgo.ac.uk/qualityc/orbitNP.html.

The presentation slides from the meeting will be available here
https://ilrs.gsfc.nasa.gov/network/newg/newg_activities.html

The date for the next NESC meeting was set as **Thursday 25th June at 1300 UTC**

If you missed the meeting and would like to catch up, please send me an email (matwi@nerc.ac.uk) and I can provide the recording.