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NSRS Modernization News

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An update on OPUS and GDX in the modernized NSRS

In preparation for the pending release of the various components of the modernized NSRS (2024 through 2025), we have prioritized the following recently-made decisions for which users should prepare:

For OPUS-Static (OPUS-S):

1) OPUS-S will accept and use multi-GNSS data, relying on NGS's new M-PAGES program.
2) OPUS coordinates at the observation epoch will be computed using a least-squares adjustment within M-PAGES as part of *simultaneously* processing all GNSS data, replacing a simple averaging adjustment performed upon *sequentially* processed GPS data. OPUS coordinates at the latest reference epoch (currently 2020.00) will then be *approximated* by applying the intra-frame deformation model 2022 (IFDM2022) to the OPUS coordinates at the observation epoch.
3) Results will be provided in ITRF2020, N/P/C/MATRF2022, NAPGD2022, SPCS2022, UTM and USNG. No other frames or datums will be supported.
4) All OPUS coordinates will be labeled in a manner to reflect that NGS does not support stand-alone occupations as a way to set geodetic control in the NSRS. Users who need to set geodetic control should use OPUS-Projects rather than OPUS-S.
5) RINEX (v 2.10 or later) will be the only supported upload format. No proprietary formats will be supported.

For OPUS-Shared solutions from OPUS-S:

Blueprint Part 3 proposed replacing the OPUS-Shared solution database with a "shareable URL" to allow users to easily share their OPUS solutions with others. However, this decision has been reversed, and a shareable URL will not be provided.

For OPUS-Projects:

1) OPUS-Projects will accept multi-GNSS RINEX data files, but only the GPS constellation will be used in the first release.
2) Each session will be processed separately using PAGES to yield vectors. These vectors can then be projected to two different epochs: a representative epoch for all observations, and the latest reference epoch (currently 2020.00), using internal software called SPROCCET.
3) OPUS-Projects will allow the user to perform two different least-squares adjustments, one at each of the two epochs listed above. For the representative epoch, results will be provided in ITRF2020 and NAPGD2022. For the latest reference epoch, results will be provided in ITRF2020, N/P/C/MATRF2022, NAPGD2022, SPCS2022, UTM and USNG.
4) RINEX (v 2.10 or later) and GVX will be the only supported data formats.

For GDX Format:

Release of the GDX format has been put on hold until after the release of the modernized NSRS.