

IGS ACC Report: IGS Associate Member Meeting

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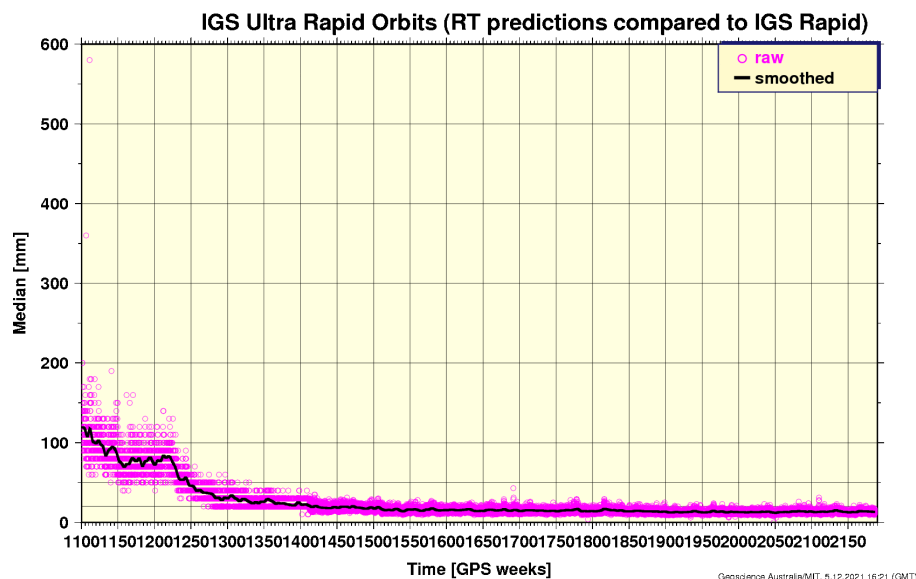
Australian Government
Geoscience Australia



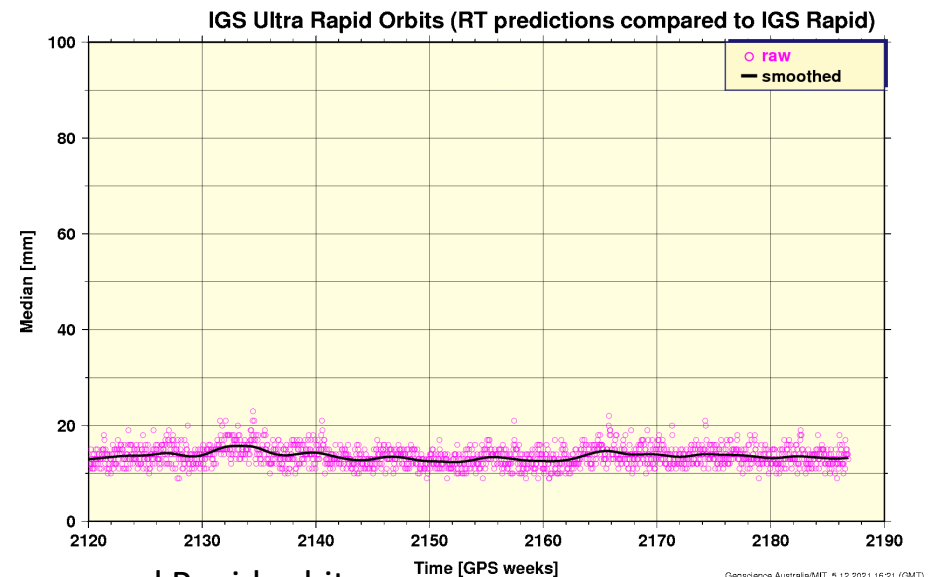
Massachusetts
Institute of
Technology

Product Quality and Reliability

- 2020: Products delivered with quality and expected latency:
- GPS Ultra-rapids: 4-times per day, latency 3-9 hr, 24-hr prediction
- WRMS of 24-hr prediction <40 mm; median <30 mm.

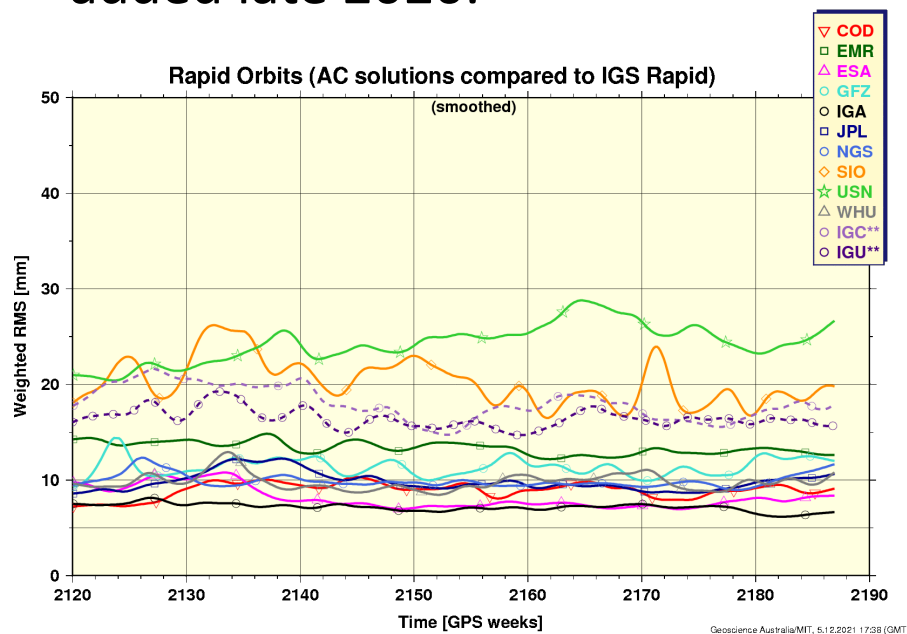


Ultra-rapid observed compared Rapid orbit



Product Quality and Reliability: GPS Rapid

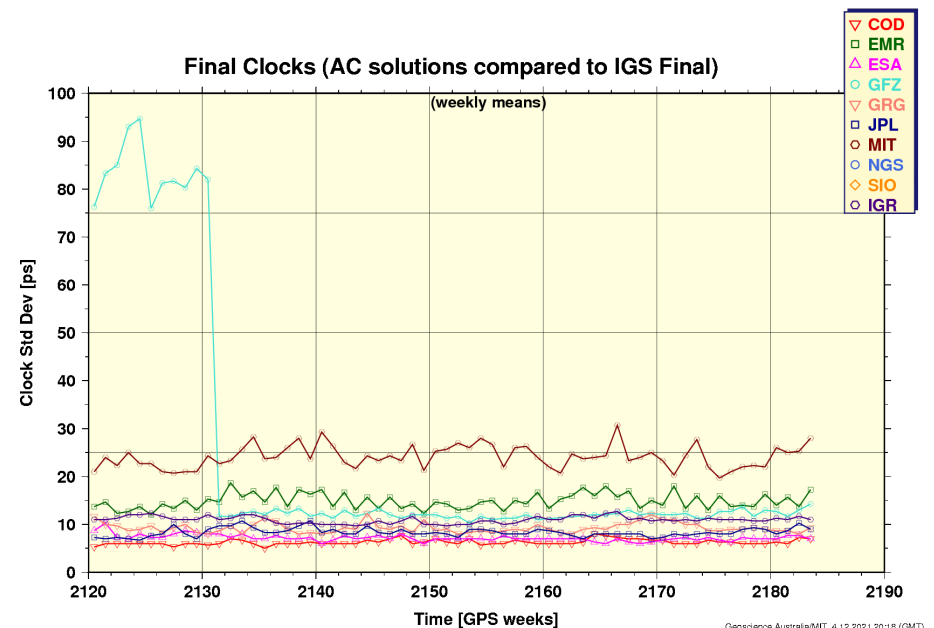
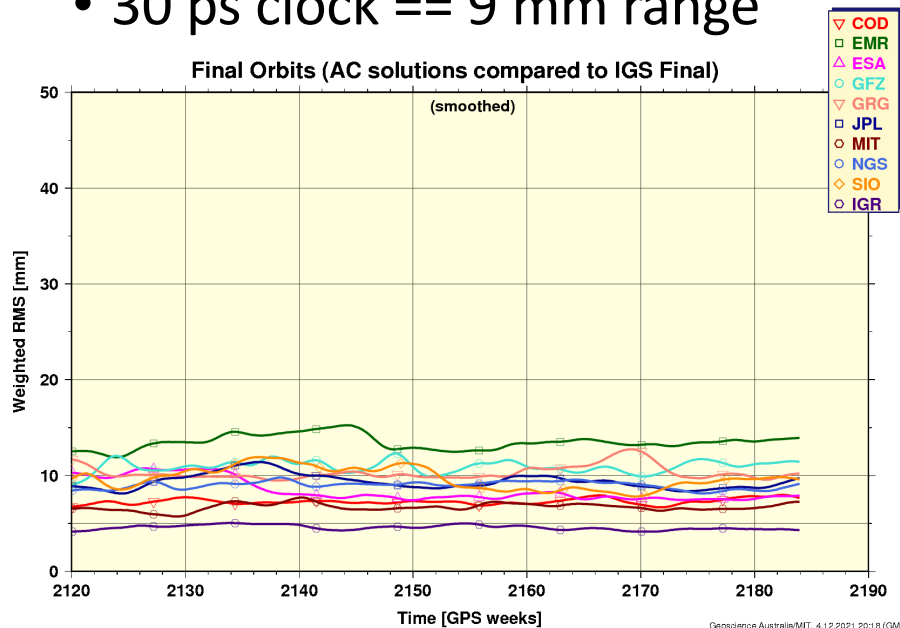
- GPS Rapid: 17-41 hr latency, once-per-day. 9 centers with Wuhan added late 2020.



IGA - IGS ultra-rapid adjusted part
IGU - IGS ultra-rapid predicted part
IGC - IGS real-time

Product Quality and Reliability: GPS final

- GPS Finals: 12-18 day latency; no constrained stations (no net rotation frame); 2nd order ionosphere, Meteorological models for atmospheric delay modeling. Products for highest quality GPS processing.
- 30 ps clock == 9 mm range

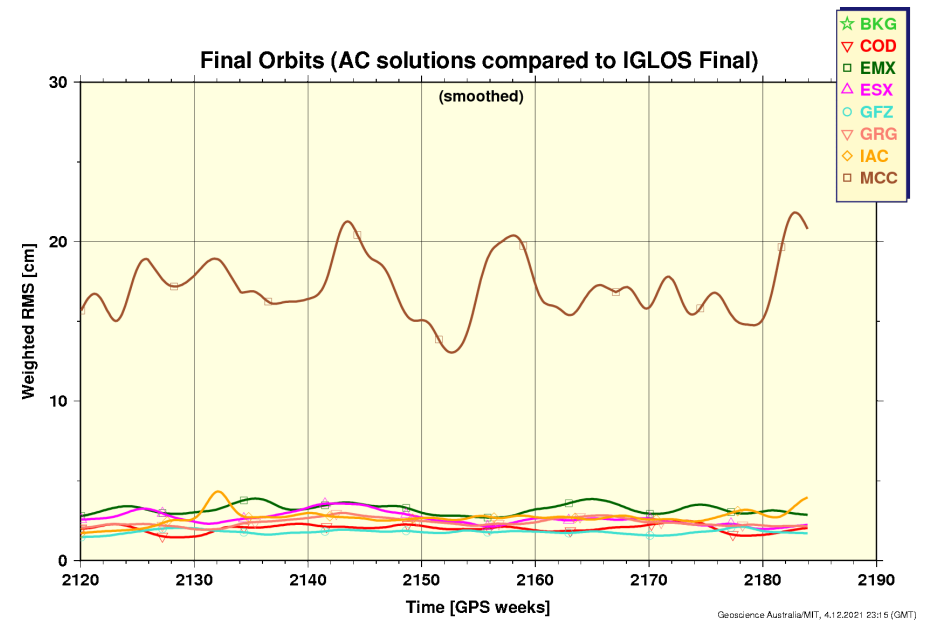
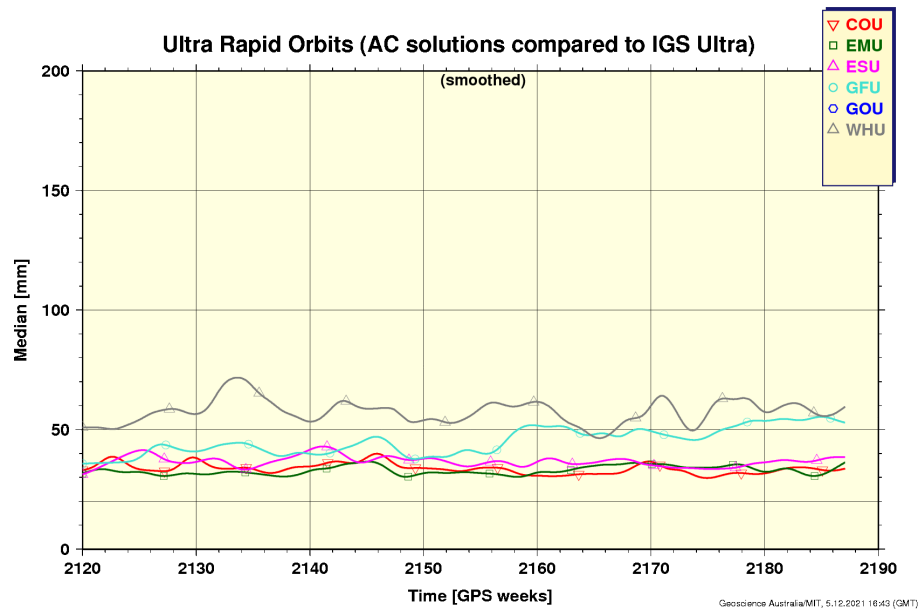


12/6/21

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GLONASS Products

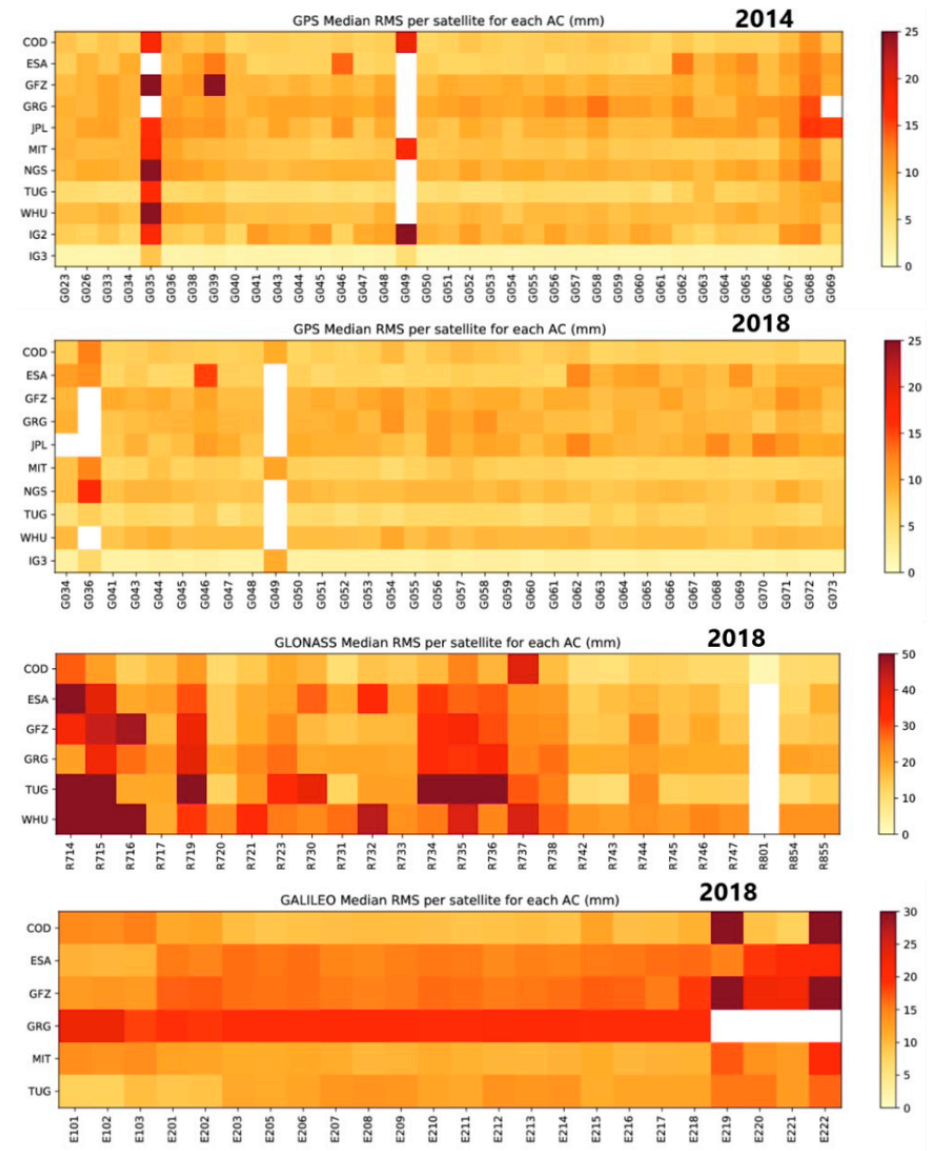
- Ultra-rapid and final products



Units for finals are centimeters

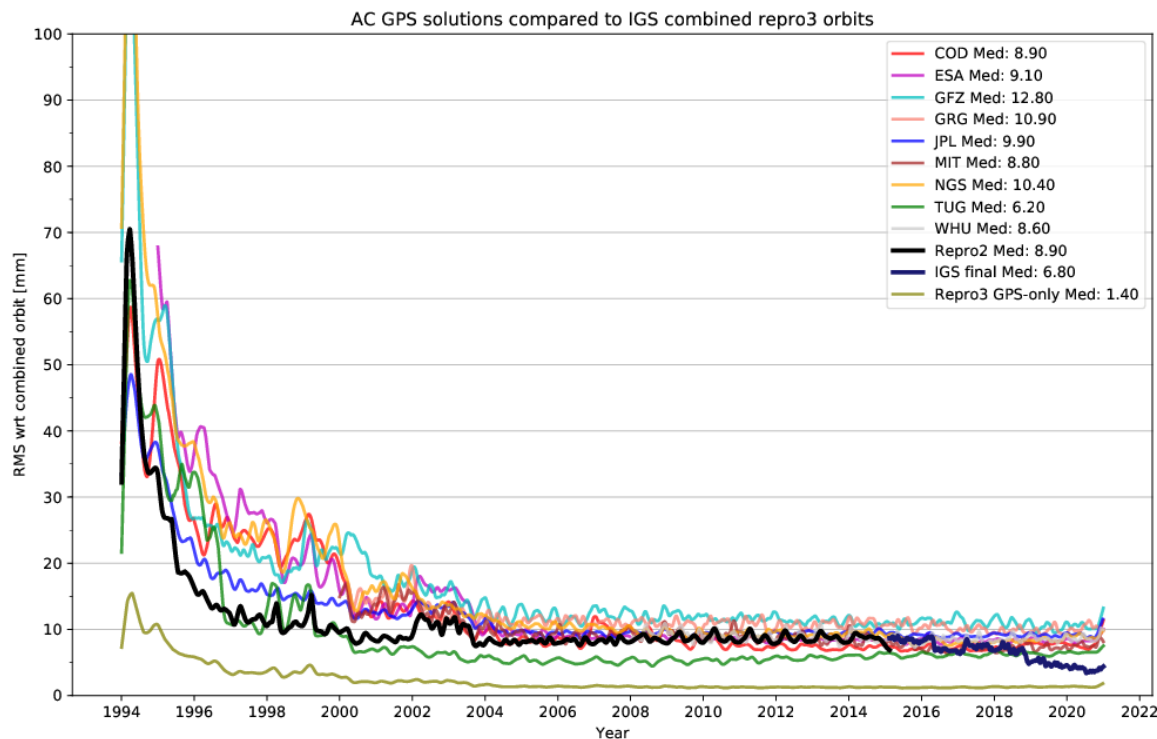
Repro3: Preliminary orbit comparisons

- Initial results from ACC annual report
- GALILEO and GLONASS orbits comparing at the 10-30 mm level in 2018.



Multi-GNSS combination software

IGS Repro3 orbits - GPS



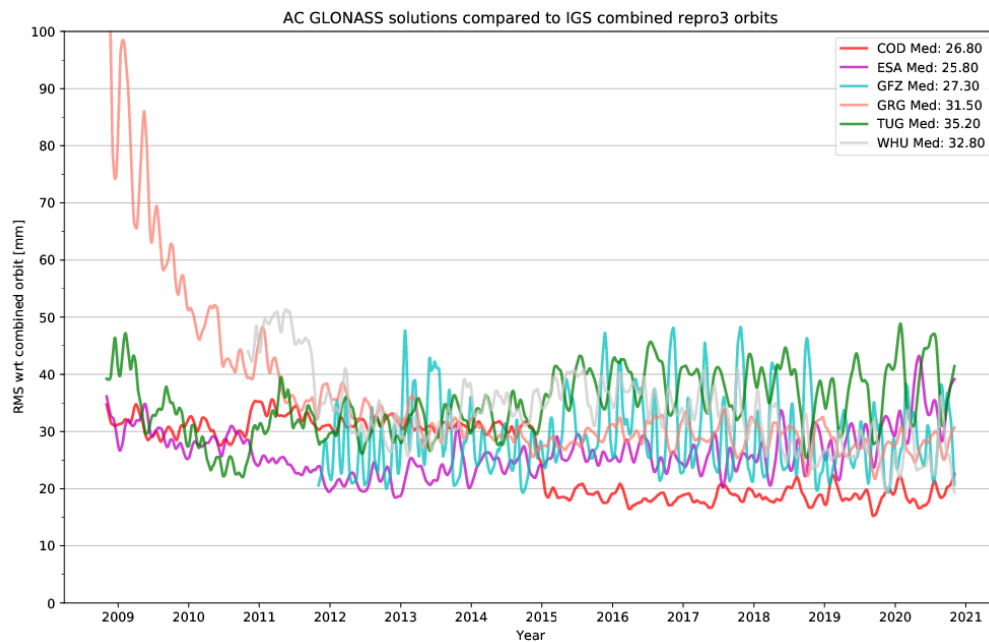
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- New orbit combination software developed based on the same robust algorithm of the current software, but allowing for multi-GNSS combinations and based on a satellite-specific weighting approach
- The multi-GNSS combination software used to process the Repro3 orbits 1994-2020
- Clock combinations currently underway by Wuhan University (PPP-AR WG) and full set of orbit/clock products expected to be released early to mid-2022
- Plan to integrate orbit and clock combinations for operational products in 2022

Multi-GNSS combination software

IGS Repro3 orbits - GLONASS



IGS Repro3 orbits - GALILEO

