The Re-Analysis of the IGS Tropospheric Product

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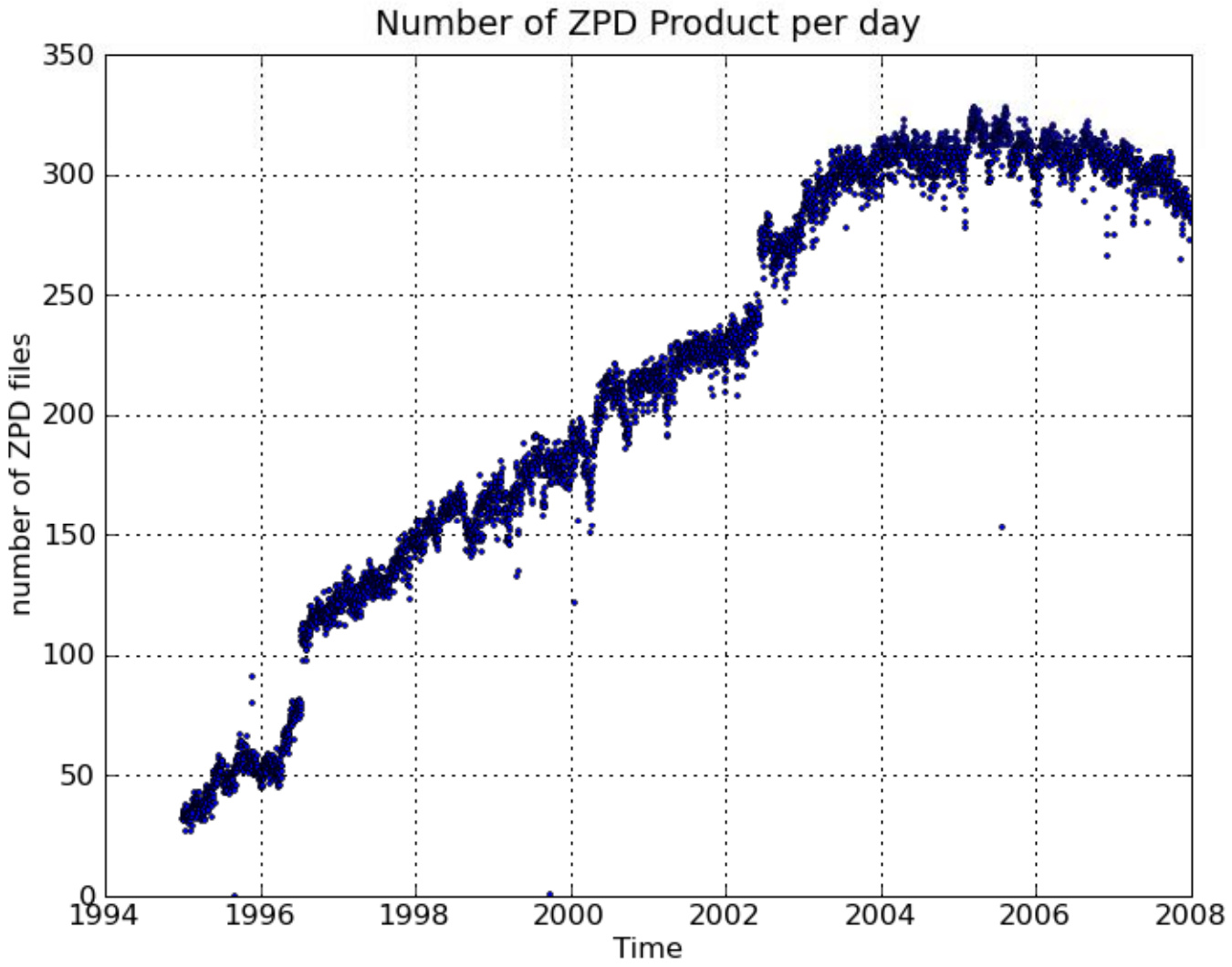
Point Positioning Approach for Re-Analyzed Trop Product

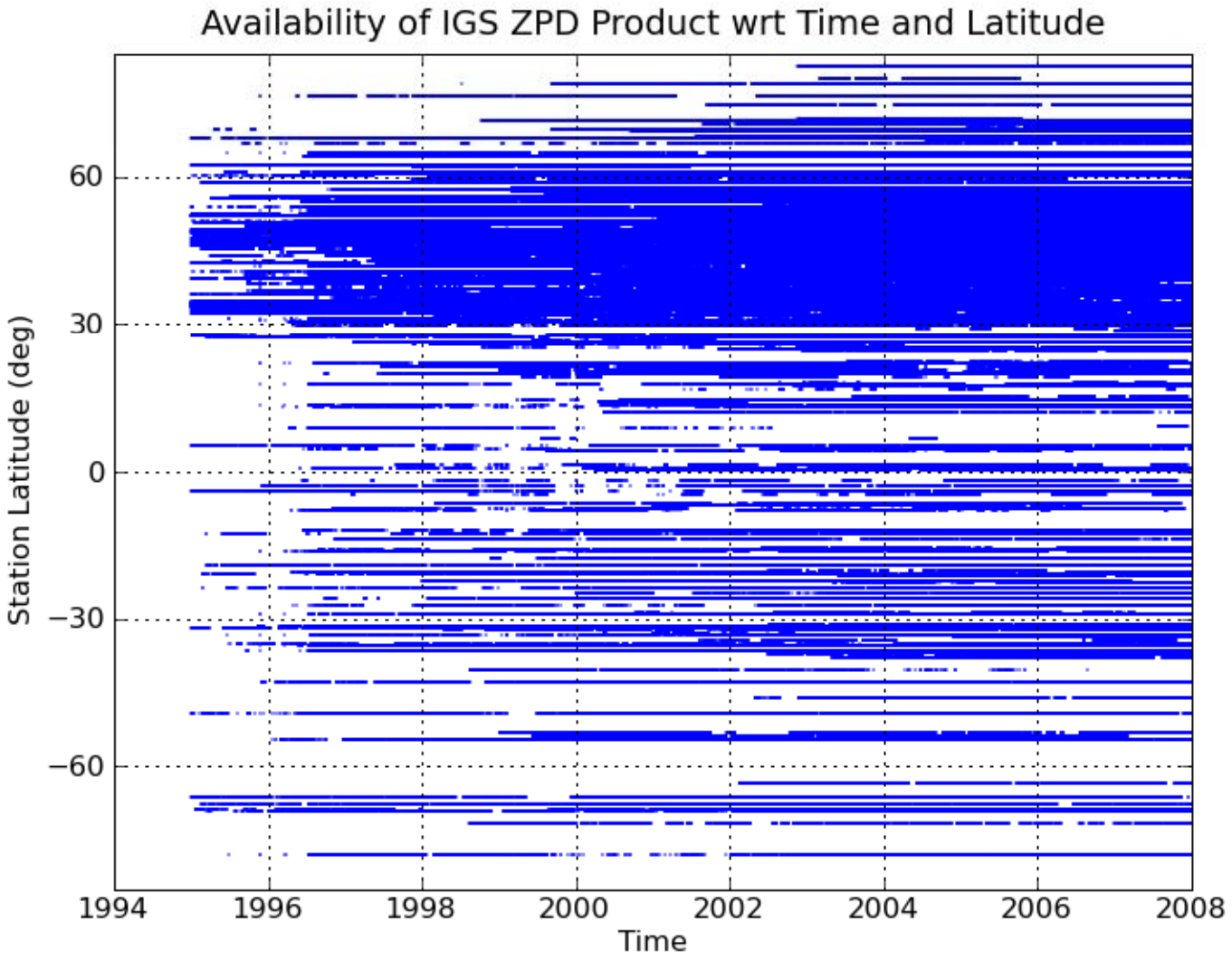
- Fixed orbits and clocks: **IGS ~~Final~~ Re-Analyzed Combined**
- Earth orientation: **IGS ~~Final~~ Re-Analyzed Combined**
- Transmit antenna phase center map: **IGS Standards**
- Receiver antenna phase center map: **IGS Standards**
- Elevation angle cutoff: **7 degrees**
- Mapping function (hydrostatic and wet): **~~Niell~~ GMF**
- A priori delay (m): **hyd =** $1.013*2.27*e^{-0.116*ht}$ **wet =** 0.1
- Data arc: **24 hours**
- Data rate : **5 minutes**
- Estimated parameters: **clock** (white noise), **site position**, **wet zenith delay** (3 cm/hour random walk), **delay gradients** (0.3 cm/hour random walk), **phase biases** (white noise)

Scope of Re-Analysis: 1995 – 2007

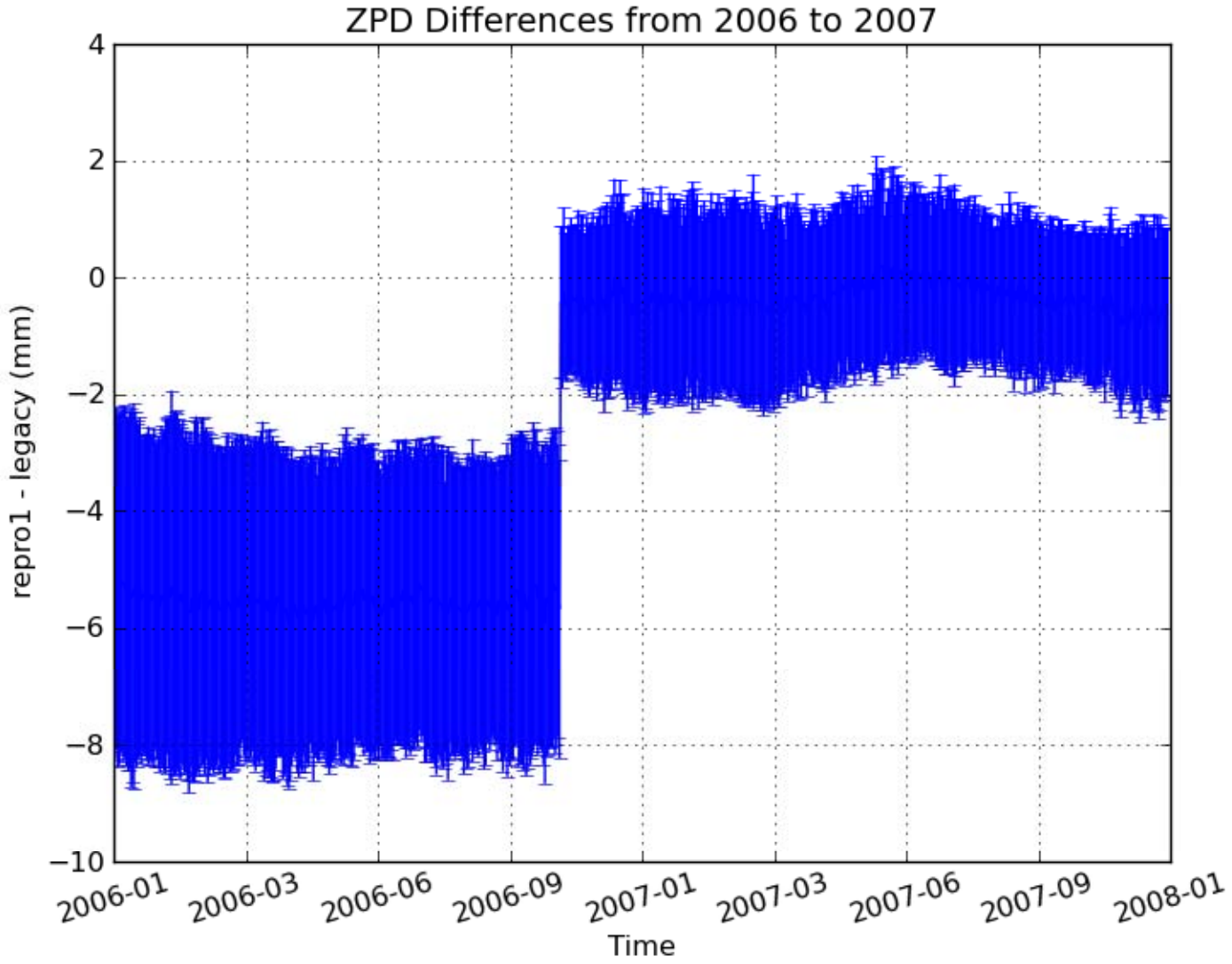
Number of Site Available



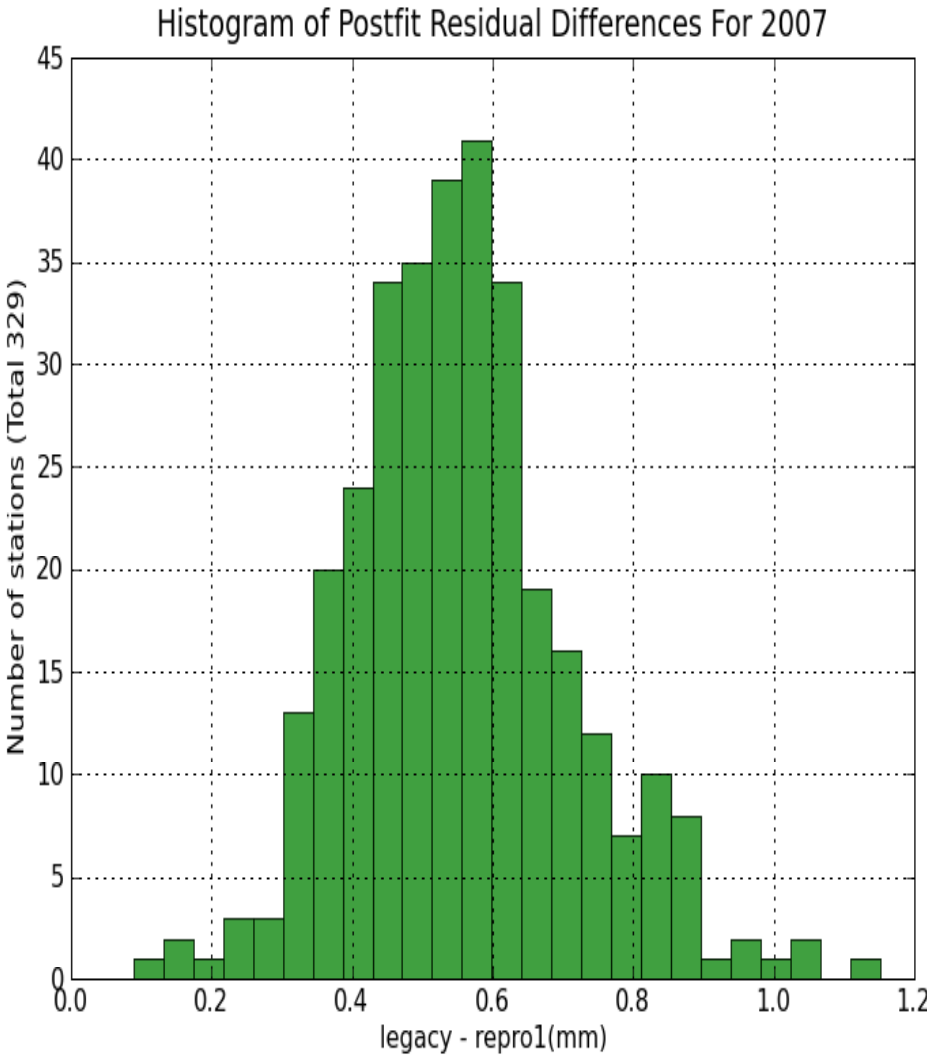
Site Distribution

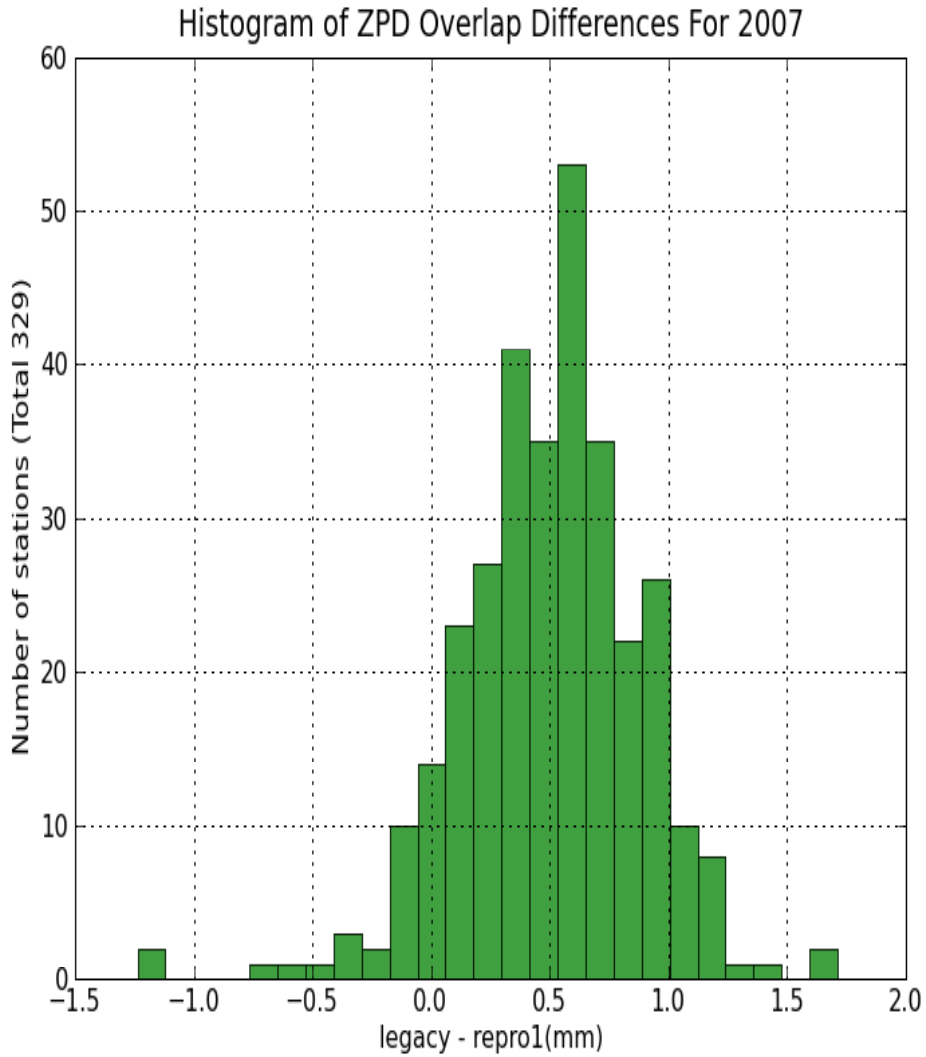


Key Benefits: Temporal Consistency and Improved Quality

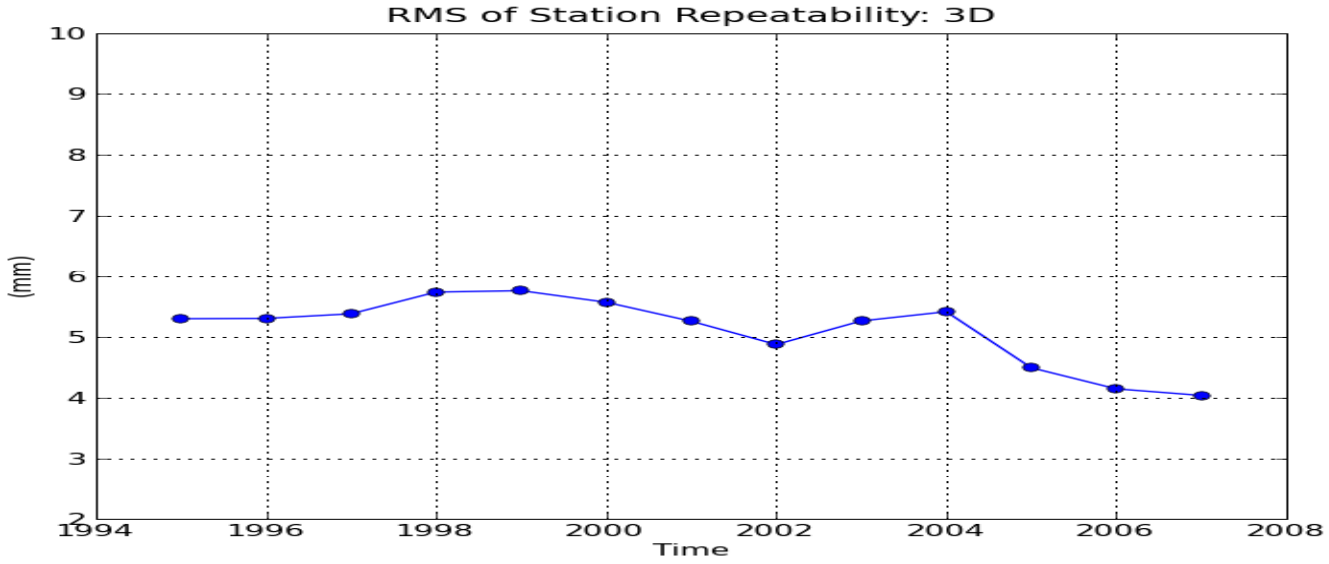


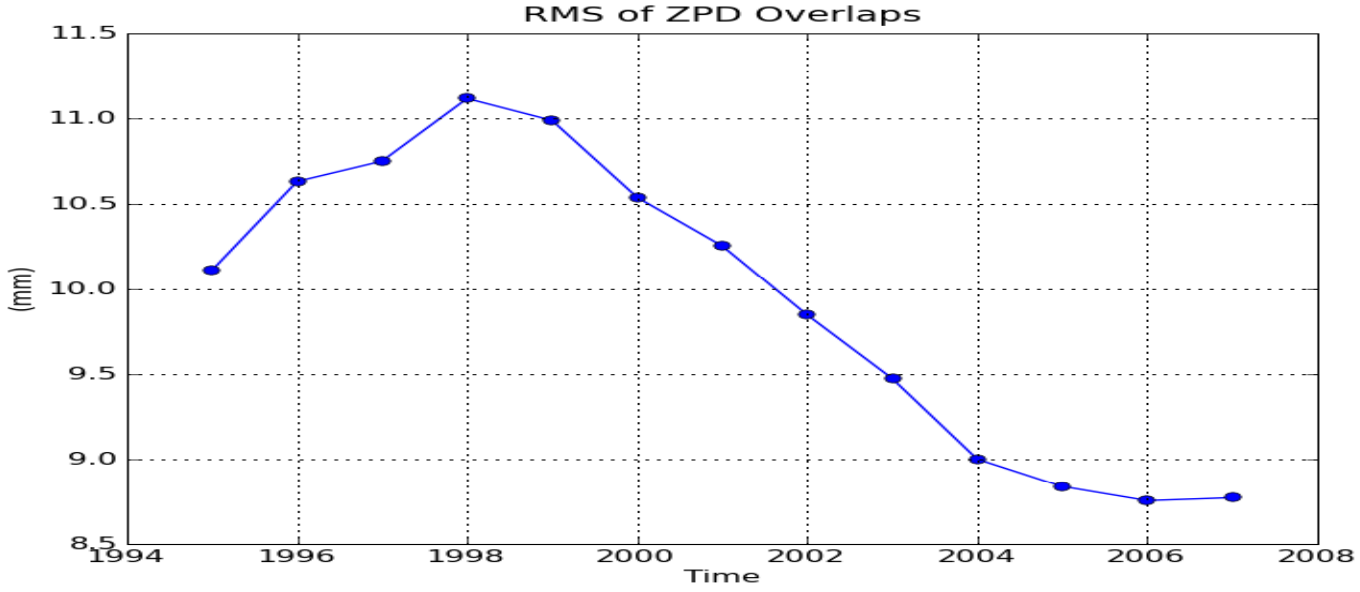
Re-Analysis Quality Improvement Metrics (eg, for 2007)





Quality Metrics





ISSUES

- **Solution will be posted to CDDIS shortly**
  - **Should they replace old solutions?**
- **AC inter-comparison not carried out due to lack of contributions**