

Try it yourself...

1. Find a [nearby GPS quality survey marker](#) via NGS
2. Collect 30 points of 5 positions each at 1 second logging rate
3. Differentially correct GPS data
4. Export to ArcGIS
5. Compare coordinates from the data sheet to your coordinates

[Testing result for Anchorage, AK station](#)

Courtesy of Datums Nut Joel Cusick, NPS

Take one Rover file, and compare different datum paths using the same data. This is not intended for accuracy, though i did occupy a NAD83 station (PID DH4689). PDF produced from arcgis 10.1 data frame, mixing NAD83 2011 and NAD83 CORS96 Epoch 2003) tagged data. Transformations in ArcGIS set to 0,0,0.

Blue is not equal to Black. This is expected and reflects the 7 years (2003-2010) of change (velocities). Very cool, I think.

Red, using the technique of creating your own replica of a CORS site, is from seeding the coordinates from the NAD83 L1 phase center for the station. They are less than 1 cm from Blue. **So if BLUE, coming from RINEX header is really NAD83 2011** (or even, very closely approximated), then holding the base file option is the simplest to do (no additional burden on the user) and best recourse to take today, if you want NAD83 2011 data. Still, values are not exactly matching in confirmation dialog and CORS site.

Finally, Yellow and Red should be very, very close to one another, yet they are not. In Red and Yellow, were overwriting the CORS provider coordinate with exact coordinates for L1 phase center from CORS, and Exporting properly as "NAD83 2011). Why this is not a near exact relationship is confounding to me.

This test and others Laura and I have done may raise more questions, and actually verify that current approach is working in some ways, but coordinates by base provider still don't match what CORS says is there, nor can I adequately explain why switching pathways in Trimble, turning on and off a datum transform is causing shifts.

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