



editorial



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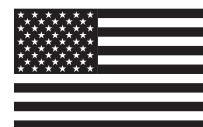
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GLONASS Has a Hiccup

On the evening of April Fool's Day, as I was writing this editorial, I received an urgent phone call from the folks at JAVAD GNSS. They had been receiving reports that the GLONASS satellite constellation was off the air. Sure enough, when I went to the Russian Federal Space Agency 24 hour GLONASS status monitoring page: <http://glonass-iac.ru/en/GLONASS/dayMonitoringNew.html>, I could be seen that most of the 24 satellites were experiencing a severe problem, and had an odd label of Illegal Ephemeris.

The first impact of the outage was on the ease with which GNSS receivers can be used, causing RTK initialization times to increase. The good news is that the GPS constellation continues to function just as it has for decades. But because of the way some firmware works, simply turning GLONASS off on some receivers didn't help, and initialization was impossible.

Neil Vancans of Altus Positioning confirmed the report and said, "Our experience at the moment indicates GLONASS is not functioning correctly and we are advising users to use GPS only." He added, "This issue affects all receiver types."

One problem GLONASS has had is a lack of ground stations for uploading ephemerides and detecting problems. This is being rectified, most recently with an agreement with Nicaragua to place a ground station in that country, but absent widely, globally-dispersed ground stations such as GPS has, the GLONASS satts have to wait as much as 12 hours to orbit back over the existing ground stations in Russia. As it turns out, an engineer simply uploaded an incorrect ephemeris and as soon as it was noticed, they started rectifying the situation by uploading the correct one. The system had a problem for approximately 11 hours.

This is not exactly a new problem. Back in 2000, at CGSIC, the Australians, who were heavily using GPS in aviation, complained loudly about a problem with one of the GPS satellites where the satellite kept broadcasting a bad signal for more than two hours. After being informed by the Air Force that GPS was (and still is) a use at your own risk system, we learned that the AF was in the process of adding DMA ground tracking sites to its network, thereby eliminating any "holes" in the global coverage. Now, each GPS satellite is in contact with at least one ground station at all times. Were something like what happened to GLONASS to happen to GPS, the AF would be able to rectify the problem quickly and at the very least, set the signal to unhealthy almost immediately. As was the case with this event, however, users were simply unable to use their gear as usual, and had no idea why.

The 3D World

The Smithsonian event I write about on page 16 was the first time I've been surrounded by museum folks. I'm sure that "outsiders" find our survey conferences equally strange, but these folks are as passionate about their careers and we surveyors are about ours.

Michael Raphael, the CEO of Direct Dimensions in Baltimore, took part in a panel discussion about future possibilities, and used his time to remind the group that although many museums are non-profit, they still need to keep in mind the business aspects of the 3D industry.

Herb Maschner, the director of the Idaho State University Center for Archaeology, and the Idaho Museum of Natural History, discussed the Arctic project they have undertaken, but strongly reminded the group of where their funding comes from, primarily tax dollars.

Again, 3D ain't no big thang to us surveyors, but we need to figure out where we fit in to this brave new world. ■