



editorial



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Monitoring Progress

In my April editorial I stated that an 11-hour outage of the GLONASS constellation was probably due to the uploading of a new ephemeris. I have since learned that since GLONASS satellites have inter-communication capability, only one station is necessary for uploading, and the reason for the outage was that one engineer made a mistake and uploaded the wrong software. Until they could find the problem and debug it—and it took them 11 hours to do so—they could not upload correct software to the satellites.

There is a current disagreement involving monitoring stations. Earlier this year, Russia asked for permission to install stations in the United States for monitoring GLONASS satellites to provide more accurate orbit and clock information. Initially, some surmised that the Russians were demanding to build upload stations on U.S. soil, to which America said no. In actuality, what they really need are monitoring stations, which can easily be provided by existing International GNSS Service (IGS) stations. The original “no”, however, prompted at least one Russian military general to threaten to shut down IGS monitoring stations in Russia, which would have done more harm to the international science community than any other group. One of the uses of the IGS stations is to determine tectonic plate movement, and for a country as large as Russia, the missing stations would create quite a hole in the global model.

Concerned that events were threatening to spin out of control, Javad Ashjaee met with RosCosmos, the Russian space agency, and learned that the general who threatened to close down the monitoring stations on Russian soil that contribute data to the IGS was immediately and roundly criticized by Russian scientists and surveyors. The general subsequently retracted his remarks.

I spoke with Javad who commented, “Looking back, part of my admiration for the GLONASS team is that they managed to pull GLONASS off amidst the country’s worst economic, social and political times. Compare their situation with both GPS, which had a huge budget and still ran over, and with Galileo which required several rich countries to put the budgets and technology together. GLONASS also offered this free and unrestricted service to the world without making any political gestures. There was no encryption of codes and no selective availability either.”

Javad is credited with the important role he played in getting the precise community to adopt GLONASS; RTK now works better because of it. Technology developers today have a vested interest in “cooperation” over sovereignty. Unfortunately, because political players will seek leverage in any form, ground stations have become an unlikely chip in the poker game that is modern global relations. As Javad said, “There is an abundance of opportunities to create hostility, and there are enough people to promote it. Situations like this are rare that we can grasp the opportunity to promote friendship.” ■

“We want GLONASS to provide precise information because we need centimeter-level accuracy.”