

**WAAS Technical Report**  
**William J. Hughes Technical Center**  
**Pomona, New Jersey**  
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***DR#133: Ionospheric Grid Points (IGPs) values set not monitored in North East service area caused 12 min LPV200 outage in Canada On 9/28/16***

***GPS Week/Day: Week 1916 Day 3 (9/28/16)***

**Discussion:**

WAAS LPV200 service outage in Northeastern Canada occurred between 4:18 and 4:30 GMT and also affected the WAAS reference station (WRS) at Iqaluit. The area affected during the outage is shown in figure 1.

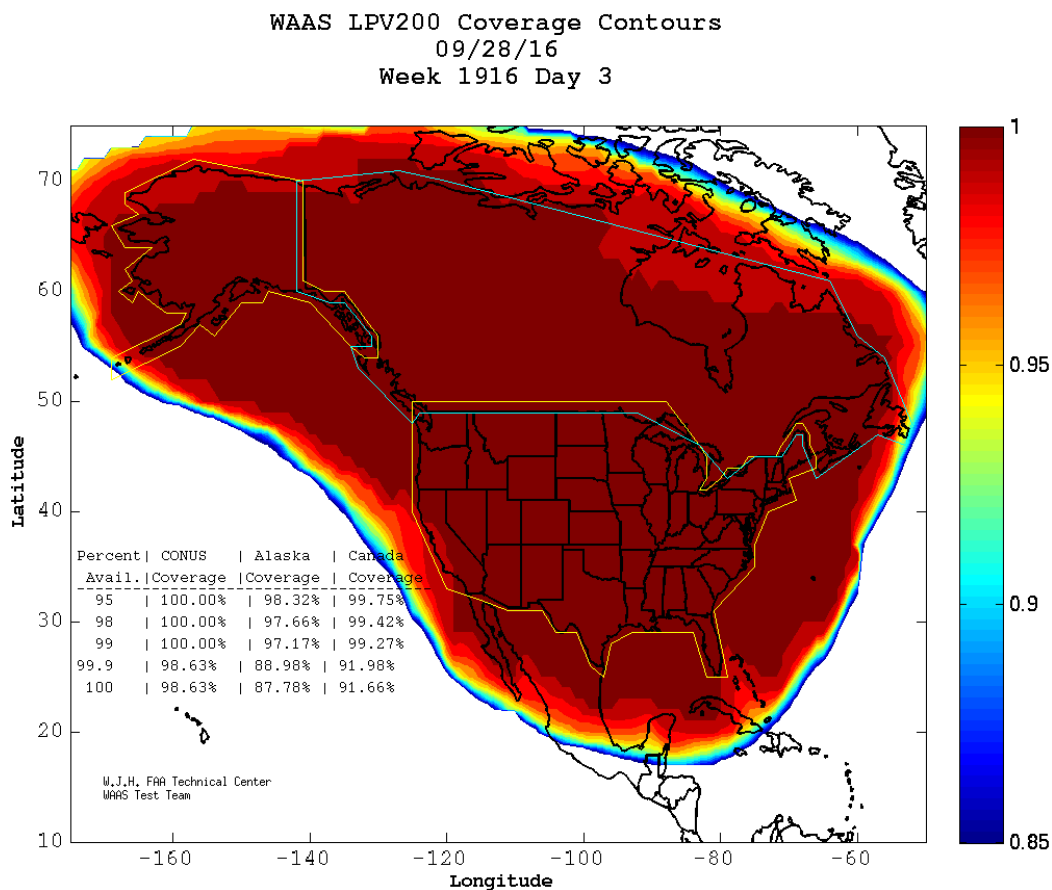


Figure 1 WAAS LPV200 Coverage 9/28/16

The service outage was caused when several IGP's at 70 and 75 degree latitude were set to Not-Monitored state as shown in figure 2 (cyan circles).

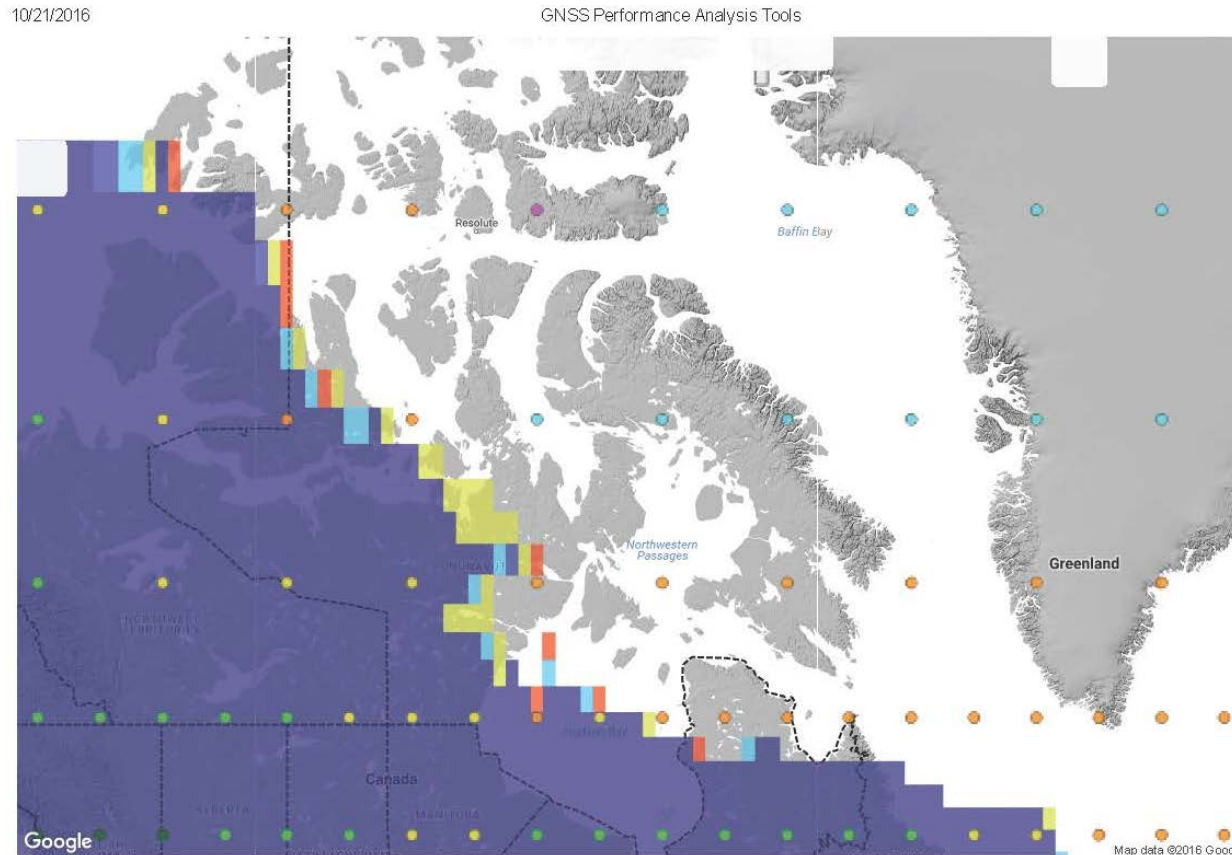


Figure 2 WAAS IGP GIVE state at 14:18 GMT in Canada

Data analysis of all three receiver threads at Iqaluit was completed and there was no loss of network data, in addition, no ionospheric activity in the region was observed. Receiver measurements of L1 & L2 observables from the WRS were valid for all satellites in view.

The WAAS performance monitor reported at the time IGP's were set to Not-Monitored state that the Iqaluit WRS experience sub-frame reasonability warning and YFB PID Down fault which removed Iqaluit WRS from the WAAS correction processing. This caused the IGP's in the region to increase their GIVE values or to be set the IGP's GIVE to Not-Monitored state until the WRS was again included in the correction process.

**Conclusion:**

WAAS LPV200 service in northeastern Canada on 9/28/16 was lost at 4:18 for 12 minutes due to IGP's in the region being set to Not-Monitored. The IGP's GIVES were increased when the Iqaluit WRS was removed from WAAS correction processing after a fault was detected at the WRS.