

New generation of NRCan's Final GNSS orbit and clock products: overview and validation

Thalia Nikolaidou (NRCan), M. Ali Goudarzi (NRCan), Brian Donahue (NRCan), Eric Maia (NRCan), Reza Ghoddousi-Fard (NRCan), Omid Kamali (NRCan) and Yves Mireault (NRCan)

Abstract. GNSS Precise Orbit Determination (POD) has a key role in geodetic and earth sciences. Natural Resources Canada (NRCan) has historically been contributing high quality POD products: satellite orbits and clocks to the International GNSS Service contributing to their Final products. However, a modernization of the processing strategy, including the software in use, was necessary to accommodate multi constellation POD among other updates. The previously used software for the Rapid and Ultra-Rapid products (Bernese version 5.2) and for the Final products (GIPSY-OASIS II version 6.4.1) have been replaced by GipsyX, which features combined estimation of geodetic and geophysical parameters using Kalman filter. This work presents NRCan's Final products' processing strategy and validates the new products against the IGS combined products as well as other ACs'. These results pave the way for the official transition to NRCan's new generation products.