

# Updated version of GAIM model goes operational

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An updated version of the Global Assimilation of Ionospheric Measurements (GAIM) model went operational at the Air Force Weather Agency (AFWA) on February 22, 2008. The operational GAIM program has been under development since 1999 by the U.S. Department of Defense and is managed by the Naval Research Laboratory's (NRL) Space Science Division. This new version of GAIM is capable of ingesting ultraviolet (UV) data sets from DMSP satellites.

GAIM uses a physics-based model as the basis for assimilating a diverse set of near real-time ionospheric measurements. The ionospheric specifications and forecasts that GAIM generates are in the form of three-dimensional electron density distributions from 90 km to geosynchronous altitudes (35,000 km). The first operational version of GAIM, which went operational at AFWA in December 2006, assimilated slant-TEC observations from GPS ground receiver sites, bottom-side electron density profiles from ionosondes, and in-situ electron density observations from the operational Defense Meteorological Satellite Program (DMSP).

The new operational version of GAIM can assimilate ultraviolet (UV) observations from DMSP sensors, including the Special Sensor Ultraviolet Limb Imager (SSULI), which has been developed by NRL's Space Science Division. Scientists at NRL's Space Science Division were instrumental in adding these additional assimilative capabilities to the new operational version of GAIM.

Source: Naval Research Laboratory

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