

# ON THE NEW NATIONAL GEODETIC DATUM 2000 IN KOREA

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**Key words:** Primary Precise Geodetic Network (PPGN), New Korea Geodetic Datum, ITRF97, GRS80.

## ABSTRACT

The first nationwide geodetic network in the Korean peninsula was established in 1910-1915 by the Bureau of Land Survey, the Government-General of Korea in cooperation with the Japanese Military Land Survey. The major network of the old triangulation consisted of thirteen baselines, primary and secondary networks, and were connected to the Tokyo Datum with the triangulation through Tsushima Islands. After the World War II, the network over the Korean straight (Tsushima straight) was resurveyed in 1954 by US Army Map Service Far East in cooperation with Geographical Survey Institute of Japan, in order to strengthen the connection between Korea and Japan. To keep consistency with the old coordinates system, the PPGN was adjusted in the way that its official coordinates are same as the old ones. Unfortunately, original records of the old survey are lost during the Korean war, and we only have a set of coordinates of triangulation points now. The establishment of Primary Precise Geodetic Network (PPGN) was carried out in 1975-1994 by National Geography Institute of Korea. The PPGN consists of 1155 points including 175 (~15 %) old first- and second-order triangulation points (normal points) not damaged by the war, and its mean side-length is about 11 km. The coordinates of PPGN derived in 1995 have been held fixed since. During the 1980's and 1990's the increased use of satellite based geodetic measuring systems – such as the GPS – began to impact on the utility of the national geodetic datum in Korea. Under this impact, new geocentric datum, New Korea Geodetic Datum 2000 (NKGD2000), designed and built during 1998, is realized through ITRF97 and used the GRS80 ellipsoid. A description of the new datum, its design, and implementation will be described.

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