Portions of "README" File - NADCON 2.10

NADCON
Version 2.10

PROGRAM DESCRIPTION

NADCON transforms latitude and longitude coordinate values between the North American Datum of 1927 (NAD 27) and the North American Datum of 1983 (NAD 83). NADCON is the federal standard for NAD 27 to NAD 83 datum transformations (as was articulated in the Federal Register, Volume 55, Number 155 dated August 10, 1990). NADCON also transforms data originally expressed in old island datums, that exist in Alaska, Hawaii, Puerto Rico and Virgin Islands into data referenced to NAD 83. However all datums, including these, are referred to within the program as NAD 27. NADCON automatically chooses the proper transformation; the user does not need to know the specific name of the old island datum.

NADCON conversions between datums are approximate values based on models of real data. NADCON should be used only when data does not exist in the data base (NGSIDB) for one of the datums required.

The accuracy of the transformations should be viewed with some caution. At the 67 percent confidence level, this method introduces approximately 0.15m uncertainty within the conterminous United States, 0.50 meter uncertainty within Alaska, 0.20 meter uncertainty within Hawaii, and 0.05 meter uncertainty within Puerto Rico and the Virgin Islands. In areas of sparse geodetic data coverage NADCON may yield less accurate results, but seldom in access of 1.0 meter. Transformations between NAD 83 and States/Regions with High Accuracy Reference Networks (HARNS) introduce approximately 0.05 meter uncertainty. Transformations between old datums (NAD 27, Old Hawaiian, Puerto Rico etc.) and HARN could combine uncertainties (i.e. NAD 27 to HARN equals 0.15m + 0.05m = 0.20m). In near offshore regions, results will be less accurate but seldom in access of 5.0 meters. Farther offshore NAD 27 was undefined. Therefore, the NADCON computed transformations are extrapolations and no accuracy can be stated.

NADCON cannot improve the accuracy of data. Stations that are originally third-order will not become first-order stations. NADCON is merely a tool for transforming coordinate values between datums.

Remember, this program is based exclusively upon data within the official National Geodetic Reference System (NGRS). Data originating from stations not part of this official reference may not be compatible. Be sure that the data to be transformed is actually referenced to the NGRS.

While NADCON will print out latitudes and longitudes to 0.00001 seconds of arc, the results in the fourth or fifth place may change depending on the platform used. However, all results will be limited to, and within, the accuracy stated above. This is true even though additional precision may be implied by the results. This additional precision is included for internal computation. Users should not infer that the accuracy is better than it really is.

Comments, questions, and concerns can be addressed to:

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