Policy: For "interim" state-wide/area-wide NAD 83 readjustments

The policy is to evaluate each state/region immediately following the FBN reobservations and readjust only that component of any station (horizontal position or ellipsoid height) that changes by more than 5 cm. This may result in a significant number of ellipsoid height changes, but a minimal number of horizontal position changes. All readjustments will be done in consultation with interested state agencies that are providing NGS with significant cooperative network support. In addition, any new FBN or CBN stations determined in the FBN reobservations will be adjusted to be consistent with the current HARN in that state [e.g., new CBN stations in Oregon will be adjusted to NAD 83 (1991)].

Due to active tectonic conditions, California must be considered seperately from other states/regions. The California FBN reobservations will result in an immediate readjustment to be labeled with a new NAD 83-epoch date.

Policy: For a "nation-wide" NAD 83 readjustment

Upon completion of the reobservations in the 48 contiguous states and the District of Columbia, a comprehensive readjustment of NAD 83 will be completed in cooperation with the Geodetic Survey Division of Canada (GSDC). Areas outside the contiguous United States (e.g., Alaska, American Samoa, Guam, Hawaii, Puerto Rico, Virgin Islands, etc.) will be included, as resources permit their reobservations. The readjustment will use only the CORS/FBN/CBN/ANA and "Blue Booked" UDN GPS data. The adjustment will be constrained only to CORS. This implies that the horizontal coordinates and ellipsoid heights of ALL non-CORS stations WILL change regardless of the statistical significance (e.g., 0.00001 seconds in latitude or longitude/0.001 meter in height). It is anticipated that the changes in the NAD 83 coordinates at FBN/CBN/ANA/UDN stations should be small (1-4 cm). The adjustment framework will be the International Terrestrial Reference Frame (ITRF) coordinates of the CORS network, at an epoch accepted by both NGS and GSDC transformed to NAD 83 by a 7-parameter solution adopted by both agencies. A complete set of ITRF coordinates will be generated and published along with the updated NAD 83 values.

Details of the structure of the adjustment are currently being developed. Subsequently, all stations will be labeled NAD 83 (NSRS). NAD 83 (NSRS) will be consistent with the plans of GSDC to label the Canadian Base Network (CBN), which is equivalent to our FBN, as NAD 83 (CSRS).

Other Aspects Currently under Development

NGS will compute a scientific adjustment of the combined FBN/CBN GPS vector data set collected through July 1998 on both NAD 83 and ITRF. This adjustment will be used as a reference solution for analysis of FBN reobservation surveys and for evalution of older GPS data sets. NGS will publish the ITRF values resulting from the scientific adjustment, but will not publish NAD 83 coordinates except as described by "Policy for interim state-wide/area-wide NAD 83."

Following the completion of the readjustment, a national transformation model will be developed. NGS may consider a solution that is different than the current NADCON format (e.g., a 7-parameter transformation). Publication of transformed NAD 83 (NSRS) coordinates for older stations determined by "classical" non-GPS survey methods are still being considered. A final decision will be made after having additional discussions with spatial data users.