

NGS POLICY 01-1994



Bluebook Policy

National Geodetic Survey

Approved by the Executive Steering Committee

01 September 1994

This policy has been retired and is no longer in effect

**POLICY OF THE NATIONAL OCEAN SERVICE REGARDING THE
INCORPORATION OF GEODETIC DATA OF OTHER ORGANIZATIONS
INTO THE NATIONAL GEODETIC SURVEY DATA BASE**

The National Ocean Service (NOS), Coast and Geodetic Survey, National Geodetic Survey (NGS), has determined that the value to the National Spatial Reference System (NSRS) of geodetic observations obtained by other Federal, state, and local organizations compensates for the costs incurred by the Federal Government to provide quality assurance, archiving, and distribution functions for surveys contributing to the public good. Agencies submitting data must adhere to the following requirements. The final decision whether to accept data will be the responsibility of the Chief, NGS.

FORMAT

The survey data must be submitted in the automated formats specified in the Federal Geographic Data Committee (FGDC), Federal Geodetic Control subcommittee (FGCS), publication [Input Formats and Specifications of the National Geodetic Survey Data Base](#) (September 1994 [*updated*]), which describes the formats and procedures of submitting data for adjustment and assimilation into the NGS data base. Separate volumes of this publication refer to horizontal control data (volume I), vertical control data (volume II), and gravity control data (volume III). Guidelines for submitting three-dimensional Global Positioning System (GPS) relative positioning data are contained in annex L to volume I.

ACCURACY

Standards of accuracy are given in Standards and Specifications for Geodetic Control Networks (1984) and Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques (May 1988).

The survey data must be properly formatted as set forth by FGCS and meet the minimum accuracy requirements of:

- First-order horizontal accuracy standards for GPS or conventional horizontal surveys.
- Second-order, class II vertical accuracy standards for conventional geodetic leveling.
- Third-order gravity accuracy standards for gravity surveys.

In addition, these data standards and accuracies must be verified, using currently available NGS software, by the provider prior to submitting the survey project to NGS.

Please note: Effective September 1, 1995, survey project data must meet the above minimum accuracy standards to be accepted for inclusion in the NGS data base. Surveys that are of lower order than given above will be accepted only in exceptional cases

approved by the Chief, NGS.

MONUMENTATION

Monumentation must be uniquely identified and conform to minimum prescribed standards. Guidelines for control monuments are given in [NOAA Manual NOS NGS 1 \(1978\)](#), Coast and Geodetic Survey Special Publication 247 (1950), and in Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques, appendix H (May 1988). Monument descriptions must be submitted in the automated format specified in [Input Formats and Specifications of the National Geodetic Survey Data Base](#) (September 1994 [*updated*]).

FIELD RECORDS

Original field records (or acceptable copies) are requested with data submission. NGS will retain these records in cooperation with the National Archives and Records Administration. This is necessary in the event that questions arise concerning the surveys upon which the adjusted data are based. Where digital records are required, e.g., GPS projects, such records will be submitted to NGS in a format specified by NGS at the time of submission. If field records are not submitted with the data, NGS reserves the right to inspect these records upon request. If field records are not submitted on request, NGS reserves the right to not accept and/or not publish the data, and if published, a disclaimer may be attached to the published data.

PROJECT REPORT

A project report, including sketches, is required for geodetic control projects. It should be submitted with the data and adhere to the form outlined in annexes K and L (GPS) of Input Formats and Specifications of the National Geodetic Survey Data Base (September 1994 [*updated*]).

REVIEW

Reconnaissance reports describing proposed connections to the NSRS, along with the planned instrumentation and field procedures, must be submitted prior to beginning a project. This will enable NGS to comment on the proposed connections, using information available in the NGS data base concerning the accuracy and condition of these points, and to assure conformance with minimum accuracy standards and criteria. The project review could save the submitting agency the expense of placing data in computer-readable form that will fail accuracy or monumentation criteria. NGS work schedules and computer requirements can also be developed from this information. Upon receipt of the reconnaissance reports, NGS will respond within 10 working days.

[2005] Submit reconnaissance reports via the [Project Proposal website](#).

RETURNED SUBMISSIONS

With verbal concurrence of the submitting organization, a limited number of errors in the submitted data will be corrected by NGS. Beyond a reasonable limit of about 1 percent, the entire project will be returned to the sender.

SUBMITTED PROJECTS

Projects must be submitted such that the unit of field work will compute independently of other projects. They must be connected to points already in the NGS data base. All data pertaining to a project (observations, descriptions, adjustments, reports, etc.) must be simultaneously received by NGS. Due to a limited capability to review, analyze, and edit survey data before they are loaded into the NGS data base, data contributed for inclusion into the data base should be processed and adjusted by the provider, using currently available NGS software, prior to submittal to NGS.

COST

There is no cost to submitters for NGS quality review, archiving, and distribution functions for survey data submitted according to the requirements discussed above. When NGS is requested to provide on-site instruction with respect to data formatting and/or data processing, the requesting organization will be charged for travel and per diem costs. [1999] see also [addendum II](#) below.

PUBLICATIONS

All the publications referenced in this statement are available [2005] free of charge on the web site: www.ngs.noaa.gov.

Telephone (301) 713-3242 Fax (301) 713-4172

March 1997

ADDENDUM I.**SUBMISSION OF HORIZONTAL CONTROL SURVEYS TO THE NATIONAL GEODETIC SURVEY**

ANNOUNCEMENT: Effective June 1, 1997, the National Geodetic Survey (NGS) will only accept horizontal control projects (GPS or conventional terrestrial observations) that have been adjusted to the National Spatial Reference System (NSRS) with the available NGS [network adjustment software ADJUST](#). This is in accordance with the September 1994, "Policy of the National Ocean Service regarding the incorporation of geodetic data of other organizations into the National Geodetic Survey Data Base." This policy statement is

published as part of the "Input Formats and Specifications of the National Geodetic Survey Data Base," also referred to as the "Blue Book." The ADJUST package, which includes a least squares network adjustment program and data checking programs, is available from the NGS World Wide Web Home Page at <http://www.ngs.noaa.gov> or by calling the NGS Information Services Branch, telephone (301) 713-3242.

All projects to be submitted for inclusion in NSRS must also be reviewed by NGS for appropriate NSRS connections and observing and computational specifications. Reviews are performed within 10 working days of receipt of the proper information by the NGS State Geodetic Advisor (where available), or the NGS Project Development Branch, telephone (301) 713-3194. Surveys that do not conform to these requirements will be returned to the submitter for reprocessing.

Approved by the NGS Executive Steering Committee, March 26, 1997.

March 1999**ADDENDUM II.**

Organizations also have the option of sending representatives for training at the offices of the National Geodetic Survey in Silver Spring, Maryland. This instruction may cover content of the Blue Book, creation of b-files and g-files, vector processing with NGS software, or adjustment processing, or a combination of the above. Depending on the content and the number of attendees, the workshop can be offered as a 3-to-4-day course, with two NGS instructors, or as a 1-day tutorial with one instructor and one or two students.

For more information on the on-site instruction, contact [Renee Shields](#)

March 2005**ADDENDUM III.**

NGS has scheduled a simultaneous readjustment of all the GPS data included in the NGS data base beginning in June, 2005. To be guaranteed inclusion in this National Readjustment, projects must be submitted in conformance with the above formats by June 1, 2005.

NGS has also established a new policy regarding projects submitted for database loading after June 1, 2005. All projects submitted after this cutoff date for guaranteed inclusion in the National Readjustment must include ties to CORS stations. This will allow NGS to publish network accuracies for the stations in the future despite their non-participation in the National Readjustment. The CORS ties (i.e. including CORS data in the reduction processing) must be to National, Cooperative, and/or California CGPS (continuous GPS)

CORS published by NGS.

March 2008**ADDENDUM IV.**

Beginning June 15th, 2008, NGS will only accept projects which have been adjusted to the current realization* of the NAD 83 in the survey area.

With the latest readjustment conducted by NGS, inconsistencies between the existing statewide HARN adjustments and the nationwide CORS -- as well as between states -- have been resolved (at the ~70,000 passive monuments that took part in the adjustment) to an accuracy level consistent with the crustal motion models used in the readjustment. All projects submitted for inclusion in the NGS IDB will be reviewed by NGS for completeness within a reasonable time of receiving all necessary information.

* NAD 83 (NSRS2007) or NAD 83 (CORS96) for US, Alaska, Puerto Rico and the Virgin Islands

NAD 83 (93) for Hawaii and Guam

NAD 83 (02) for Pacific-American Samoa and the Northern Marianas

December 10, 2010**ADDENDUM V.**

Beginning January 1, 2011 the National Geodetic Survey (NGS) will cease accepting data, all orders and classes, from triangulation and traverse geodetic surveys as they are described in the Federal Geodetic Control Committee September 1984 "Standards and Specifications for Geodetic Control Networks" for inclusion into the NGS Integrated Data Base (NGSIDB).

FOR FURTHER INFORMATION CONTACT: Requests for additional information should be directed to Mr. Mark Eckl, Observation and Analysis Division Chief, National Geodetic Survey (N/NGS4), 1315 East-West Highway, Silver Spring, MD, 20910; Phone: (301) 713-3176 x 117; Email: [Mark Eckl](#)

SUPPLEMENTARY INFORMATION: The National Geodetic Survey has not received a traditional (triangulation/trilateration) survey for purely horizontal work in over two years. All horizontal surveys relevant to the mission of NGS performed by individuals external to NGS are now performed with GPS. The maintenance and upkeep of computer software and hardware dedicated to traditional horizontal surveys requires use of

resources that are limited and could be used more appropriately elsewhere.

January 2011

ADDENDUM VI.

Beginning March 15, 2011, NGS will only accept GPS projects which have been adjusted using the latest geoid model. Upon publication of new realizations of a geoid model NGS will allow a two month window before rejecting projects using an older model.

Please refer to the following URL to determine which model to use in your project area:

<http://www.ngs.noaa.gov/GEOID/>

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