

SUPPORTING STATEMENT FOR PAPERWORK REDUCTION SUBMISSION
UNAVCO User Satisfaction Survey

A. JUSTIFICATION

1. CIRCUMSTANCES MAKING COLLECTION OF INFORMATION NECESSARY

On September 11, 1993, President Clinton issued Executive Order 12862, "Setting Customer Service Standards," which clearly defined his vision that the Federal agencies will put the public first. To accomplish this, President Clinton called for a "revolution within the Federal government to change the way it does business." He expected this process to require continual reform of government practices and operations to the end that, "when dealing with the Federal agencies, all people receive service that matches or exceeds the best service available in the private sector."

Section 1(b) of this E.O. requires agencies to "survey customers to determine the kind and quality of services they want and their level of satisfaction with existing services" and Section 1(a) requires agencies to "survey front-line employees on barriers to, and ideas for, matching the best in business." These Presidential requirements established an ongoing need for the National Science Foundation (NSF) to engage in an interactive process of collecting information and using it to improve program services and processes.

History of UNAVCO: UNAVCO was created in 1984 in response to the challenge of applying GPS to geosciences. At that time it was called the University NAVSTAR Consortium (UNAVCO). At its inception, UNAVCO was housed within the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado. In 1992, UNAVCO moved under the umbrella of the University Corporation for Atmospheric Research (UCAR). In 2001, UNAVCO, Inc. incorporated as an independent, non-profit, [501(c)(3)] corporation. For one and a half years, between April 2001 and September 2003, UCAR/UNAVCO and UNAVCO, Inc. both existed. In October 2003, funding for UCAR/UNAVCO ended and the staff and equipment of UCAR/UNAVCO moved to UNAVCO, Inc. The objective of this change was to provide the UNAVCO community with control over UNAVCO resources and activities with no additional cost to the community. UNAVCO, Inc. adopted the former acronym as its official name when it incorporated.

UNAVCO is a non-profit university-governed consortium that facilitates geoscience research and education using Geodesy. The UNAVCO academic and research community seeks to broaden human understanding of the changing Earth by integrating technologies, open geodetic observations, and research. UNAVCO is funded by the National Science Foundation (NSF) and The National Aeronautics and Space Administration (NASA) and supports research around the world.

As a university-governed consortium, UNAVCO is collectively tasked with advancing and supporting the science goals of the community. UNAVCO currently has over 100 US academic members, and supports over 65 organizations as associate members. Before incorporation in 2001, UNAVCO existed under different organizational umbrellas for nearly two decades as the University Navstar Consortium, then primarily serving geophysicists and geodesists who study tectonic deformation using high-precision GPS technology.

Since 2003, UNAVCO's scope has expanded significantly, with service to new science communities - including those who focus on the deformation of ice, the Earth's response to ground water, sea level, and other aspects of the hydrosphere, and renewed interest in imaging the structure of the atmosphere. UNAVCO has also expanded its support of new geodetic tools: advancing GPS towards mm-level global GPS geodesy and to streaming high rate observations; borehole strain meters and seismometers, expanded geodetic imaging using lidar for Airborne Laser Swath Mapping, InSAR (Interferometric Synthetic Aperture Radar), and Terrestrial Laser Scanning, web services and cyberinfrastructure. GPS is finding applications in a frequency range that used to be the sole provenance of seismology, as GPS measurements grow from one solution per day to one solution per second, with high precision.

As of October, 2013, UNAVCO operates the GAGE (Geodesy Advancing Geosciences and EarthScope) Facility, located in Boulder, Colorado with regional offices in San Clemente, California and Anchorage, Alaska. The Facility provides science support through community coordination, field engineering, data services, technology innovation, and instrument testing, acquisition, and deployment. It provides scientific support to global geodetic infrastructure that is developed and operated through international collaborations. EarthScope, a set of integrated geophysical observatories, supports investigation of the entire temporal spectrum of Earth deformation processes. In particular, the Plate Boundary Observatory (PBO) provides geodetic imaging of plate boundary deformation.

UNAVCO undertook an internal reorganization to refine its community support and advisory committees. Three UNAVCO programs focus on: (1) Geodetic Infrastructure; (2) Geodetic Data Services; and (3) Education and Community Engagement.

In 2016, NSF will conduct a limited review of UNAVCO by surveying its user community. Responses will be analyzed before making final recommendations. The survey aims to determine overall user satisfaction with various UNAVCO resources.

2. HOW, BY WHOM, AND PURPOSE FOR WHICH INFORMATION IS TO BE USED

The survey will request voluntary feedback from the greater UNAVCO community including educators, surveyors, and academics. Users will be identified via UNAVCO listservs,

professional society memberships, and other identifying sources. NSF anticipates deploying 500 surveys from these sources of which there will likely be about 250 responses. This estimate of respondents is based on past response rates for similar surveys. The data will be used to understand user satisfaction of UNAVCO resources.

3. USE OF AUTOMATION

The survey will be administered via email using an NSF contractor SurveyGizmo account. UNAVCO users will receive an email with a link to the survey. Participation in the survey is voluntary.

4. EFFORTS TO IDENTIFY DUPLICATION

Not applicable.

5. SMALL BUSINESS CONSIDERATIONS

Not applicable.

6. CONSEQUENCES OF LESS FREQUENT COLLECTION

Not applicable.

7. SPECIAL CIRCUMSTANCES FOR COLLECTION

Not applicable.

8. FEDERAL REGISTER NOTICE.

The agency's notices, as required by 5 CFR 1320.8(d), were published in the *Federal Register* on February 25, 2014, at 79 FR 10574 and May 30, 2014 at 79 FR 31145 and no comments were received.

9. OUTSIDE CONSULTATION

NSF estimates that this survey will take respondents an average of 30 minutes. This estimate is based upon the length of the survey and the time required to complete surveys of similar length in the past. Additionally, the estimate is based on the expectation that most of the UNAVCO users will be familiar with the language of the survey and the nature of the questions.

10. GIFTS OR REMUNERATION

Not applicable.

11. CONFIDENTIALITY PROVIDED TO RESPONDENTS

Yes, there will be a notification at the start of the survey: Individual answers will not be made public and information will only be shared in aggregate form.

12. QUESTIONS OF A SENSITIVE NATURE

No questions of a sensitive nature will be asked.

13. ESTIMATE OF BURDEN

Each respondent will submit one survey response. NSF estimates that the survey will take respondents an average of 30 minutes to complete as explained in Section 9. NSF anticipates the number of responses to the survey will be approximately 250 respondents. This is based on the percentage of respondents from past surveys of a similar nature. The total hourly burden for the UNAVCO users is estimated to be 125 hours (250 respondents x 30 minutes / 60 minutes.)

ANNUALIZED COST TO RESPONDENTS

Most of the respondents will be researchers with a mix of students, professional surveyors, and other users. Of the 250 expected respondents, NSF anticipates 100 will be researchers, 50 will be graduate students, and 50 will be other professionals such as educators at the high school or community college level, developers, precision agriculturalists, etc. The average salaries for these various target groups is shown in the table below. Annual salaries were used to calculate an hourly rate based on 1,920 annual hours of work. The hourly salary was multiplied by the estimated survey burden (in hours) to determine the cost to respondents.

Cost to Respondents

	Researcher	Professional surveyors	Graduate students	Other professionals
Average salary	\$59,909	\$71,142	\$27,735	\$39,947
Hourly salary based on 1,920 annual hours (40	\$36.40	\$29.29	\$14.49	\$29.29

hours per week for 48 hours)				
Estimate of survey burden	50 hours	25 hours	25 hours	25 hours
Cost to Respondents	\$1,820	\$732.25	\$362.25	\$732.25
Total				\$3,647

In total, the burden cost to the survey respondent population is estimated to be about \$3,647.

14. CAPITAL/STARTUP COSTS

Not applicable.

15. ANNUALIZED COST TO THE FEDERAL GOVERNMENT

NSF estimates the time involved in distributing the survey, collecting responses, and analyzing the responses will amount to 40 hours. The approximate hourly rate for the NSF contractors including overhead is approximately \$175. The total cost to the federal government is \$7,000.

16. CHANGES IN BURDEN

Not applicable.

17. PUBLICATION OF COLLECTION

Not applicable.

18. SEEKING APPROVAL TO NOT DISPLAY OMB EXPIRATION DATE

Not applicable.

19. EXCEPTION(S) TO THE CERTIFICATION STATEMENT (19) ON OMB 83-I

There are no exceptions.

B. STATISTICAL METHODS

B.1. Universe and Sampling Procedures

Most respondents will be researchers with a mix of students and professional surveyors. The survey will be sent to UNAVCO users on the UNAVCO listervs and who have used UNAVCO resources requiring an email address. Additionally, the survey will be sent to professional surveyors who are members of select professionally societies.

B.2. Survey Methodology

The survey will be administered via SurveyGizmo, a web-based survey platform.

B.3. Methods to Maximize Response

NSF aims to maximize feedback from prospective respondents. Questions have been vetted internally within NSF using survey methodologists.

B.4. Testing of Procedures

The time estimated to complete the survey is based on the length of the survey and the time required to complete surveys of a similar in the past.

B.5. Contacts for Statistical Aspects of Data Collection

Sharon Williams, Research Staff Member, is the point-of-contact for data collection and analysis.

Attachments