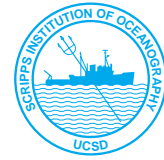




California Spatial Reference Center

Scripps Institution of Oceanography
IGPP, 9500 Gilman Drive
La Jolla, CA 92093-0225
Ph: (858) 534-8031 (Susie Pike, Coordinator)
Fax: (858) 534-9873
Email: csrc@csrc.ucsd.edu



Dr. Frank Webb
Group Supervisor
Satellite Geodesy and Geodynamics Systems Group
Jet Propulsion Laboratory
4800 Oak Grove Drive
MS 238-625
Pasadena, CA 91109-8099

Dear Frank,

The California Spatial Reference Center is pleased to support the collaborative REASoN proposal to NASA from JPL, SIO and USGS.

The SCIGN project is the key element in maintaining a four-dimensional reference frame in southern California for a growing number of GPS users from local and state government agencies, the public, and the private sector. SCIGN provides 250 active geodetic control stations (CORS) with openly accessible data through its archive at no cost to the user. SCIGN has also been very cooperative in upgrading its stations to high-rate, low latency operations, most notably the now operational Orange County Real Time GPS Network (OCR TN). The OCR TN provides essential real-time data that provides tangible economic and public safety benefits. This model is also being applied to other parts of southern California (Los Angeles, Riverside and San Diego Counties), as well as to the San Francisco Bay Area.

Your project will ensure that SCIGN continues to be funded, but will also provide a modern IT infrastructure that will benefit the CSRC and its constituents directly, as well as whole new suite of data products that will be useful to our community in terms of productivity and public safety. We expect that your project will be closely coordinated with the CSRC's development of its data portal (see <http://csrc.ucsd.edu>) to improve our distribution of spatial data and metadata to a growing user community.

Best Regards,

A handwritten signature in black ink that reads 'Gregory A. Helmer'.

Gregory A. Helmer, PLS
Chairman, California Spatial Reference Center

Participating Organizations: • American Congress on Surveying and Mapping (ACSM) • American Society of Photogrammetry and Remote Sensing (ASPRS) • Basin and Range GEodetic Network (BARGEN) • Bay Area Regional Deformation (BARD) • Bureau of Land Management (BLM) • California Coastal Commission (CCC) • California Department of Water Resources (DWR) • California Land Surveyors Association (CLSA) • California State University Fresno • CalTrans • City of Vacaville • Civil Engineers and Land Surveyors of California (CELSOC) • County Engineers Association • ESRI • Geographical Information Systems Consultants • League of California Surveying Associations • Metropolitan Water District of Southern California (MWD) • National Geodetic Survey (NGS) • Office of Management and Budget • Orange County Surveyor's Office • Riverside County Flood Control and Water Conservation District • Robert Bein, William Frost & Associates • San Francisco Bay Conservation and Development Commission (BCDC) • Southern California Integrated GPS Network (SCIGN) • Stoddard and Associates • University of California, San Diego (UCSD) • U.S. Corps of Engineers • U.S. Geological Survey (USGS) • Urban and Regional Information Systems Association (URISA) •

CALIFORNIA INSTITUTE OF TECHNOLOGY

SEISMOLOGICAL LABORATORY 252-21
Pasadena, California 91125

Monday, November 18, 2002

Dr. Frank Webb
JPL,
Oak Grove Drive,
Pasadena, CA 91109

Dear Frank:

The California Integrated Seismic Network (CISN) includes federal, state, and academic institutions engaged in real-time earthquake monitoring in California. The CISN represents California as a designated region of the Advanced National Seismic System (ANSS), a US Geological Survey program. The core partners in CISN are the California Institute of Technology (Caltech), U S Geological Survey (USGS), California Geological Survey (CGS), UC Berkeley (UCB) and the California Office of Emergency Services (OES). The mission of the CISN is to operate a system for uniform earthquake monitoring and to deliver near real-time standardized information products following both small and large earthquakes.

We support the proposal from JPL and USGS entitled: "GPS Data Products for Solid Earth Science". Adding real-time capabilities to the Southern California Integrated GPS Network (SCIGN) will be very beneficial to earthquake monitoring in southern California. For instance, new products such as coseismic strain maps and displacement maps will be an important future tool for emergency response agencies and major lifeline operators.

We are pleased to work with SCIGN to facilitate the distribution of these new products. The CISN provides emergency managers with the CISN DISPLAY application that allows them to monitor earthquake activity in California near real-time. We are pleased to include links in the CISN DISPLAY that will allow emergency managers to access SCIGN products, such as maps of the crustal deformation field following a major earthquake.

Further, we can assist with creating awareness in the emergency response community for these new products. The outreach component of CISN and the Earthquake Research Affiliates Program at Caltech, hold regular user workshops to keep emergency managers informed about new technologies. We are pleased to include presentations about SCIGN products as part of our workshop agendas.

Sincerely,



Egill Hauksson,

Chair CISN Program Management Group
Senior Research Associate, Caltech

UNAVCO, Inc

17 November 2002

Frank Webb
Jet Propulsion Laboratory
Mail Code 238-600
4800 Oak Grove Drive
Pasadena, CA 91109

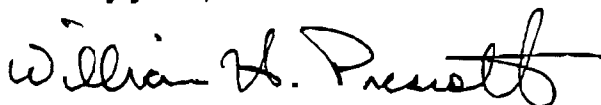
fhw@jpl.nasa.gov
818-354-4670, FAX 818-393-4965

Dear Frank:

I am eager to see progress towards the goals outlined in your proposal "GPS Data Products for Solid Earth Science." The ability to generate and disseminate geodetic time series, deformation velocity fields, strain rate maps, fault models, near-real-time earthquake response information, surveying support and reference systems, and information for other applications is critical to our ability to utilize the data from continuous GPS networks. These abilities will become even more important with the advent of the Earth Scope/Plate Boundary Observatory (PBO) which will provide several times the quantity of data that currently is obtained from SCIGN and the Southern California Seismic Network.

This proposal will result in tools and techniques which will be useful both to SCIGN now, and to EarthScope/PBO in the future, and I strongly support the proposal.

Sincerely yours,



William Prescott, President
UNAVCO, Inc.

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U. S. Geological Survey

525 South Wilson Avenue
Pasadena, CA 91106-3212
Phone: (626)583-7810
FAX: (626)583-7827

November 19, 2002

Dr. Frank Webb
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, CA 91109

Dear Dr. Webb,

The U.S. Geological Survey Earthquake Hazards Team supports the proposal "GPS Data Products for Solid Earth Science Research and Applications" submitted to NASA by the Jet Propulsion Laboratory (JPL), and, pending selection by NASA, is committed to performing the work described in it. This proposal describes work to produce and distribute high-level geodetic data products from the Southern California Integrated GPS Network (SCIGN). We support the proposed continued collaboration between USGS and JPL on the 250-station SCIGN array. The proposed data products, which include coseismic and postseismic displacement, strain, and tilt fields, support USGS's mission to provide timely, high quality scientific results after earthquakes and communicate them to emergency response agencies, the media, and the public. The proposal's emphasis on automated Web services will enhance our ability to communicate scientific information to a wide audience. We look forward to continued collaboration between JPL and USGS.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Lucile M. Jones", written in a cursive style.

Dr. Lucile M. Jones
Seismologist
Scientist-in-charge, Pasadena Field Office
U.S. Geological Survey
(626)583-7817
jones@usgs.gov

**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Date: November 14, 2002
To: Dr. Frank Webb, Jet Propulsion Laboratory
From: Michael A. Duffy, Geodetic Engineer, MWD of Southern California
Subject: GPS Data Products for Solid Earth Science Research and Applications

As you know, the Metropolitan Water District of Southern California has had a long standing working relationship with the Southern California Integrated GPS Network (SCIGN) over the past eight years that has benefited both organizations. The installations of 19 Continuous Operating Reference Stations (CORS) on Metropolitan property have helped us reduce our surveying overhead costs, especially in the area of deformation monitoring and control surveys. The unique vertical sensitivity of our water delivery systems demands us to continue pursuing all available means to identify deformations and strains in our tectonically active service area.

In the area of emergency response, Metropolitan has had an ongoing dialogue with the USGS through our Emergency Response Center concerning GPS data products that could be provided to us following an disaster, be it natural or man-made. SCIGN's ability to produce and deliver products such as: geodetic time series, deformation velocity fields, strain rate maps, fault models, near real-time earthquake response information and aquifer recharge modeling, have valuable uses within our organization.

Our company is very interested and supportive of SCIGN expanding both the utility and availability of GPS and higher-level data products. We are also interested in pursuing ways to protect the availability of these SCIGN products against interruption in emergency situations. With this type of partnership Metropolitan could guarantee our customers a faster resumption of normal service after an earthquake or other major event.

A handwritten signature in black ink that reads "Michael A. Duffy". The signature is fluid and cursive, with the first letters of each word being capitalized and prominent.

Michael A. Duffy, PLS
Field Survey & Geometronics Team