

State Mapping Advisory Committee (SMAC)

DRAFT

Meeting Notes

9:00 AM; December 16, 2003

Location

**U.S. Bureau of Land Management, Nevada State Office
Main Conference Room, 1340 Financial Blvd.
Reno, Nevada**

For further information please contact Ron Hess
Nevada Bureau of Mines and Geology
(775)784-6691 Ext. 121 or Email: rhess@unr.edu

9:00 AM: OPENING REMARKS

Jon Price, Committee Chairman, welcomed attendees and presented a brief overview of the Nevada State Mapping Advisory Committee (SMAC).

The Governor of Nevada established the SMAC in 1983 to advise the U.S. Geological Survey (USGS) on state priorities for map products and to inform map users about the status of mapping programs and the availability of map products (<http://www.nbmgs.unr.edu/smac/smac.htm>). The Governor named the Director of the Nevada Bureau of Mines and Geology as the chair of SMAC. In the late 80's and early 90's SMAC developed and hosted the first several Nevada State GIS conferences and then spun them off into what is today the Nevada Geographic Information Society. Membership in SMAC and its subcommittees is open to anyone interested in mapping in Nevada.

OLD and NEW BUSINESS

Report from BLM on need for vegetation mapping, Mark O'Brien, BLM: (Moved from bottom of agenda by consensus)

The BLM has a requirement for current, accurate, detailed vegetation mapping of Nevada. Existing vegetation mapping in Nevada includes GAP data statewide and a mix of other small vegetation mapping projects scattered across Nevada. GAP data are of poor resolution and suffer from some data accuracy questions. Test projects have also been undertaken in the Pine Nut Range, an area East of Washoe Valley, and around the Carlin area using various LIDAR and hyperspectral mapping techniques. Some of the products developed from these projects include a one-foot digital elevation model (DEM), raw imagery, vegetation and land cover mapping.

BLM is currently using Sage-Stitch data for monitoring Sage Grouse habitat. This data set is not satisfactory for this use. The new GAP program, or Re-GAP as it is called, may have more map categories than the original GAP project, which had +/- 60 categories, but it may still suffer from accuracy problems, poor resolution, and a lack of resources for field checking results.

Art Ehrenberg indicated that the various vegetation data users in Nevada need to be sure that data are being collected in a common classification scheme so that all users can share the data. LaRue Smith suggested that the Re-GAP project classification system may provide a useful tool on which to base a standardized classification system. There were some comments suggesting that the GAP and possibly the Re-GAP project may not contain the vegetation information that some users are looking for.

Jon Price pointed out that Dave Miller with the USGS is involved in a 1:100,000 scale mapping project in the Mojave Desert, area which is looking at the linkages between geology and ecology. Most of the quads he is mapping are in California with the exception of the Mesquite Lake Quadrangle which is partly in Nevada. He is finding connections between geology and vegetation type in many areas.

Data from some vegetation mapping applications, such as LIDAR, have other uses such as flood plain mapping, elevation data (DEM), and geologic structure mapping. Users in these other fields should be contacted for support for some of these activities. FEMA has an active flood mapping program that is using LIDAR data in areas and may potentially be an additional source of support for a LIDAR project.

Eric Warmath stated that the Nevada Department of Transportation (NDOT) has available vegetation mapping along most major road corridors in Nevada. It was created by UNR several years ago as a contract project to NDOT. Mike Turner stated that new vegetation mapping along I-80, I-15, and U.S. Highway 93 will be available in the near future. This project was developed to assist in identifying the appropriate species for replanting of sites disturbed by road work.

Discussion about the need for a subcommittee to address the options for obtaining new and better vegetation coverage for Nevada and also to address a common classification system for such data was moved to the end of the agenda.

(By consensus the normal agenda was resumed)

Report on U.S. Geological Survey's National Mapping Discipline projects in Nevada, by Tom Sturm, USGS:

Jon Price reintroduced Tom Sturm, who once more is the USGS liaison for Nevada. Carol Ostergren, our former liaison, has been reassigned to some homeland security projects in California. Tom is happy to be back in Nevada and looks forward to working with all of us.

See Attachment 1, set of status maps of base map products for Nevada.

The Department of Interior's high priority mapping program should be returning this year. It was cancelled last year due to funding problems. The program will use the existing requirement list from last year. The current high priority for Nevada under that list is 10-meter DEM data. This data coverage is due to be completed state-wide during 2004.

Hydrography: 100k hydrography from the National Hydrography Data Set (NHD) has been available for several years. The U.S. Forest Service has defined requirements in the Humboldt-Toiyabe National Forest for 7.5 minute hydrography. This will become part of the National Hydro data set. The BLM, through their Denver National office, will also fund some hydro capture in Nevada. The Humboldt basin is shown on the attached graphic as not scheduled but has been an area of interest to SMAC for several years. The areas that are shown as scheduled or completed are areas of U.S. Forest Service interest.

Prioritization of hydrographic areas could utilize additional input from SMAC members in regards to agency requirements for Nevada.

Jon Price placed **as an action item on the next agenda** to have a separate presentation for those interested in Hydro and other potential map products that could be generated under the DOI program. If the next meeting is held in conjunction with the state GIS conference, a working group should try to have an advance presentation pertaining to DOI requirements for hydro and other layers as might be discussed. The purpose of the presentation would be to inform potential participants at the next SMAC meeting about the issues surrounding the DOI mapping request. Tom Sturm agreed to do this presentation. **An action item for the next SMAC meeting will be the development of an updated hydro priority list.**

LaRue Smith suggested contacting the NRCS and Bureau of Reclamation to make sure there was no duplication with their efforts.

USGS hydro does not include basin delineations. It does include a unique stream identifier based on the EPA reach code that contains the ID number of the sub-basin as part of the code.

Once-over coverage of digital orthophoto quads (DOQ) was completed last year. Cooperators on the program included BLM, NDOT, Southern Nevada Water Authority, and others.

Sean Harwood spoke in regards to 1:24,000 scale U.S. Forest Service map updates that will be generated from existing or newly contracted DOQs. New DOQs over Forest Service areas where existing photography is out of date will be generated from non-National Aerial Photography Program (NAPP) photography. All roads visible on the DOQs will be plotted onto the updated map coverage.

The NAPP is fading away due to a lack of funding support. The NAPP, flies 1:40,000 scale black and white photography, which has been used to create first-time DOQ coverage of Nevada. There was a lot of interest shown by various committee members to explore ways of making a NAPP-like mission occur again in Nevada and, if possible, on a 5-year recurring cycle. Conventional photography still costs less than digital airborne imagery. NRCS is moving forward with an aerial photography program similar to NAPP and that may be used to replace NAPP. The U.S. Forest Service is contracting for certain photography programs in areas where existing photography is out of date. It was thought that, with these resources and the possibility of using DOI high priority mapping resources, some type of aerial photography program on a recurring basis over Nevada should be possible.

A possible source of State dollars for NAPP funding may be available from the State Division of Forestry Fire Protection section.

Homeland Security: Nevada has three urban areas as part of the 133 urban area Homeland Security list. USGS has been expending resources to acquire various types of digital data and high resolution imagery over these urban areas. Preferred DOQ resolution is 1 foot or 0.3 meter. In Nevada, Clark County and the USGS have formed a partnership for the public distribution of their 2004 aerial photography and DOQ data which will be acquired this Spring. In partnership with NDOT, DOQs will be provided over the Carson City area based on 2003 photography. USGS will purchase from Washoe County their May 2002 imagery data in natural color at 0.2 meter resolution. All the above data sets will be made available to the public as part of the National Map and distributed by EROS data center. Nevada's three urban areas will have complete coverage before the urban areas of many other states will have completed coverage.

The National Imagery and Mapping Agency (NIMA) is looking at a two-year recurring update cycle but may not be able to afford it. In areas where data can be acquired by sharing with existing users and producers, such as the Las Vegas area, the two-year repeat cycle may be obtainable.

Art Ehrenberg questioned whether any agency was archiving their out-of-date collections of image data. The answer was not clear. Jon Price pointed out that Stanford University was undertaking a program, for data back up and storage purposes, where they would store various large data sets from around the country as a backup in case an agency or region had a massive loss or disaster. **Jon Price will report back to this committee at the next meeting with more information about this program.**

National Map (<http://Nationalmap.usgs.gov>): Currently the USGS has \$4.5 million budgeted in the FY 2004 for development of the National Map. They are going to move away from pilot projects and focus on developing collaborative partnerships. These partnerships will allow for development of data and for agreements to link to existing sites that hold various data sets.

The National Map is being developed to be a distributed network of Web mapping services that will utilize Open GIS Consortium, Inc. (OGC) compliant tools and be connected through a USGS-developed viewer.

The National Map will concentrate on providing eight themes of data: orthoimagery, boundaries (city, county, and federal agency boundaries), hydrography (National Hydrography Database - NHD), structures (building outline or footprints), elevation (National Elevation Database - NED), land cover (National Land Cover Database - NLCD), transportation, and geographic names (Geographic Names Information System - GNIS).

Currently the National Map outline does not include cadastral data but may, in the near future, include some cadastral information made available by the BLM.

Jon Price enquired if cell phone towers will be included under structures? Tom Sturm replied that tower location information is hard to obtain from the companies that operate the towers and he is unsure whether that information will be included on a regular basis.

It was suggested that Tom Lo contact the State Office of Homeland Security (Jerry Bissell) to make arrangements for an informational presentation of activities and digital data requirements for Homeland Security to be presented at the next SMAC meeting. Tom Lo agreed to check with Jerry Bissell.

New 10-meter DEM data are being used to upgrade deficiencies in older 30-meter DEMs. Both 10- and 30-meter DEM data are being provided through the National Elevation Data (NED) program on the web.

Jon Price announced that Susan Tingley, chair of the Nevada State Board on Geographic Names has agreed to a request from the USGS to volunteer her time to assist in updating the Geographic Names Information System (GNIS) data for Nevada. Susan is retiring at the end of 2003 and will remain on the NBMG staff in emeritus status.

The National Land Cover Database (NLCD), derived primarily from Landsat data, will be used to provide the land cover data for the National Map.

***** Action Item *** Introduction and discussion of a proposed memorandum of understanding (MOU) between the U.S. Geological Survey and the Nevada State Mapping Advisory Committee.**

The purpose of this MOU is to improve coordination and cooperation between the Department of the Interior, U.S. Geological Survey (USGS) and the State of Nevada in the development of essential map data themes and the National Map. The Nevada State Mapping Advisory Committee will provide the organizational framework for this effort.

Discussion of possible goals and projects under the MOU for Federal Fiscal Year 2004 included transportation data acquisition with NDOT, hydrography data acquisition, vegetation mapping requirements, and boundary data acquisition.

A motion by Mike Turner (NDOT) for SMAC to approve and endorse the MOU as presented, seconded by Del Fortner (BLM), passed unanimously.

Please see Attachment 2 for complete text of MOU.

Jon Price suggested that Tom Sturm present an overview of the MOU at the next Nevada Hazards Mitigation Planning Committee meeting to be held in Las Vegas on February 12, 2004.

Ron Hess suggested that a hydrography working group of interested SMAC members be allowed to assist in developing a prioritization list of hydro data requirements for input to the DOI program, if input is required before the next SMAC meeting. This suggestion was approved by committee consensus.

Open discussion and comments.

Doug Potts handed out an index map showing the BLM planned update schedule, by 100k quadrangle area, for the Nevada Geographic Coordinate Data Base (GCDB) program. Links to the Web site for the Nevada GCDB can be found at <http://www.nv.blm.gov>.

Holly Smith from the Division of State Lands has scanned the Nevada State land plats, they will be made available on the Web in the near future.

LaRue Smith report on the problems that the current Landsat Satellite (7) is having. There is a significant chance the Landsat program may be shut down completely. This would cause a gap in a program that has 31+ years of continuous global data acquisition. A follow-on satellite may not be launched until 2009 or later (possibly never). This would be a severe loss to many Landsat data users, both local and Federal, and there is no satisfactory or equivalent replacement in sight. LaRue suggested that any letters of support be sent to Ray Burns, who is in charge of the Landsat continuity program, and that such support would be beneficial. General consensus of the committee was that this is a valuable public program and should be continued, and replacement of the existing satellite should be expedited.

Eric Warmath reported that NDOT is moving forward with the merging of DOQ quarter quads into whole quads and then merging the full quads into blocks of 16 maps each. Both products are then MrSID compressed and will be made available on the Keck Web site (<http://keck.library.unr.edu>).

This led to a discussion about the new licensing requirements for the MrSID compression software. It appears changes in licensing and cost increases are leading many state agencies to not renew their license. The new GEO_JPEG2 compression format was discussed as a potential replacement for the MrSID format.

It was agreed that Mike Turner, Eric Warmath, Mark O'Brien, and LaRue Smith would look into the issue of file compression software and licensing costs and report back at the next SMAC meeting with a recommendation as to which product may be more appropriate for State, Local, and Federal agencies to use. **This will be an action item at the next SMAC meeting.**

Linda Newman reported that she was initiating a project to scan the out-of-print 15' map series for Nevada and that they will be made available via the Web at <http://keck.library.unr.edu> . She also presented an outline of other historical maps that are currently located at the above Web site.

Ron Hess reported that the Nevada Bureau of Mines and Geology has donated approximately 480 ASTER satellite scenes, in digital HDF format, of Nevada to the Keck Web site; they should be available on-line sometime over the next 3-4 months.

Resumed vegetation mapping discussion. The chairman acknowledged the need for a more detailed look at the issues surrounding data acquisition for vegetation mapping in Nevada and established a vegetation subcommittee to address the following issues:

Classification standards currently in use and additional standards that might be required;

Coordination among various agencies in the acquisition of vegetation data;

Data sharing;

Other issues the committee may determine to be pertinent to vegetation mapping in Nevada.

The subcommittee should **report back to the SMAC at the next regularly scheduled meeting.**

Mark O'Brien will serve as chairman of the vegetation subcommittee.

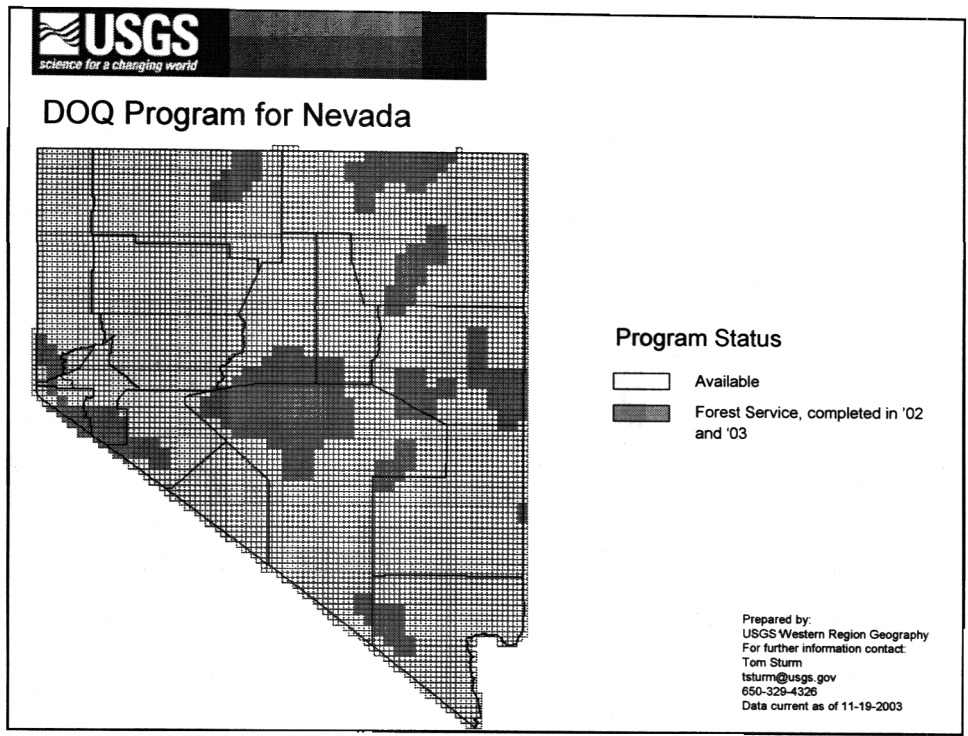
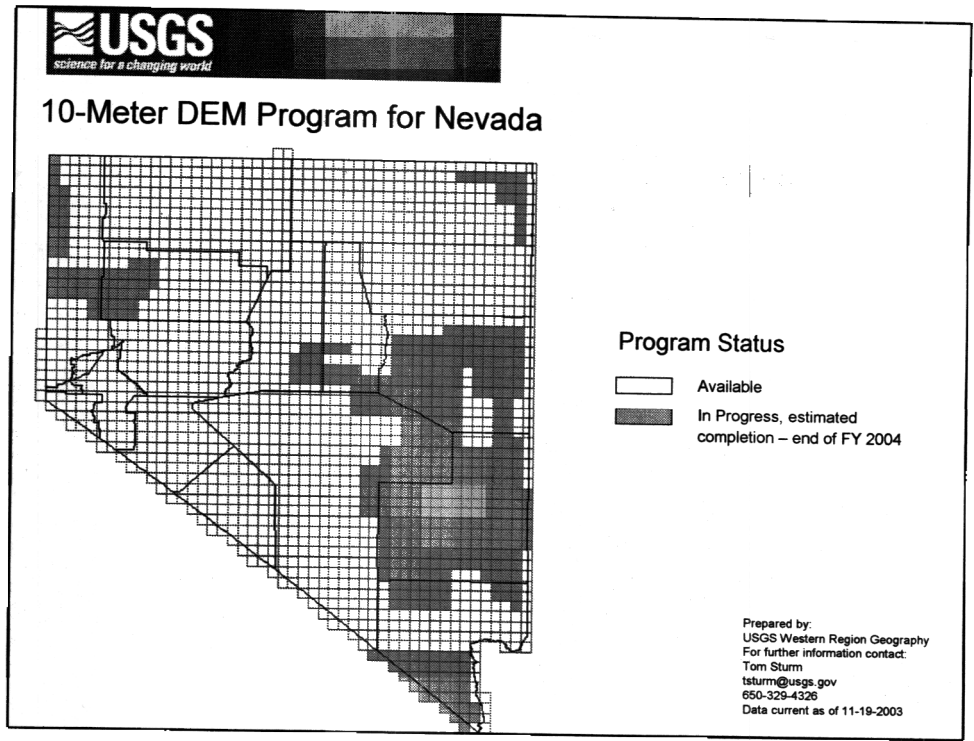
12:00 NOON: ADJOURNMENT of MEETING

If you have questions please contact Ron Hess, Executive Secretary, Nevada State Mapping Advisory Committee at (775) 784-6691 x 121 or Email rhess@unr.edu.

State Mapping Advisory Committee Meeting Attendees

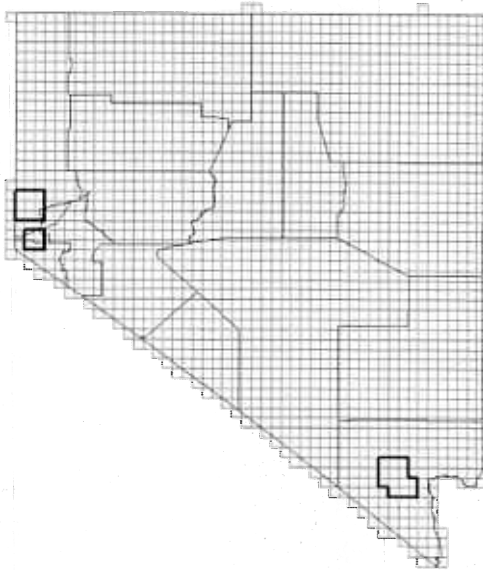
Jon Price	Nevada Bureau of Mines and Geology
Ron Hess	Nevada Bureau of Mines and Geology
Mark O'Brien	Bureau of Land Management
Tom Strum	U.S. Geologic Survey, NMD
Mike Turner	Nevada Department of Transportation
Eric Warmath	Nevada Department of Transportation
Linda Newman	University of Nevada, Reno, DeLaMare Library
Art Ehrenberg	Southern Nevada Water Authority
Sean Harwood	U.S. Forest Service
Thomas Lo	Washoe County
Rose Medina	U.S. Geologic Survey, WRD
Susan Buto	U.S. Geologic Survey, WRD
Gary Russell	U.S. Geologic Survey, WRD
LaRue Smith	U.S. Geologic Survey, WRD
Matt Dillon	Nevada Division of Water Resources
Holly Smith	Nevada Division of State Lands
Doug Potts	Bureau of Land Management
Jan Gould	City of Reno
Del Fortner	Bureau of Land Management

Attachment 1





Urban Area Activities in Nevada



High Res. Orthophotography

Carson City: Partnership with NDOT

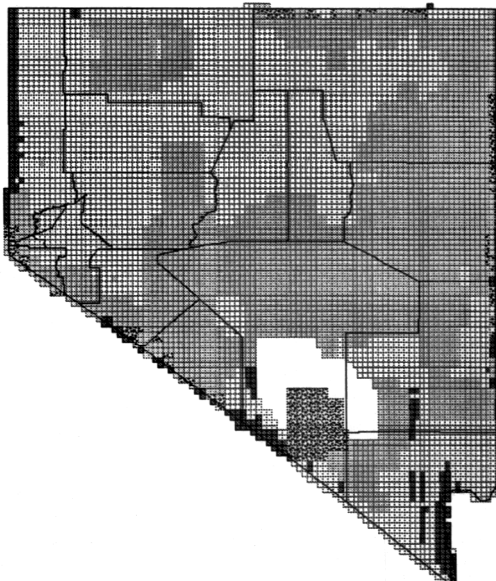
Las Vegas: Partnership with Clark County

Reno: Partnership with Washoe County





Prepared by:
USGS Western Region Geography
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Tom Sturm
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650-329-4326
Data current as of 11-19-2003



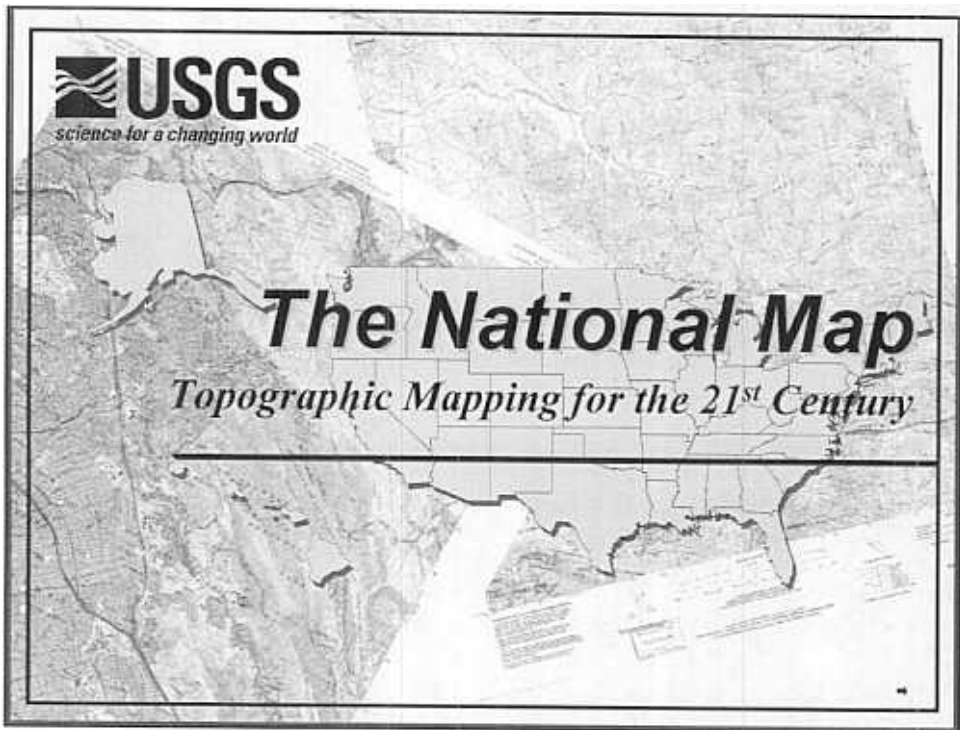
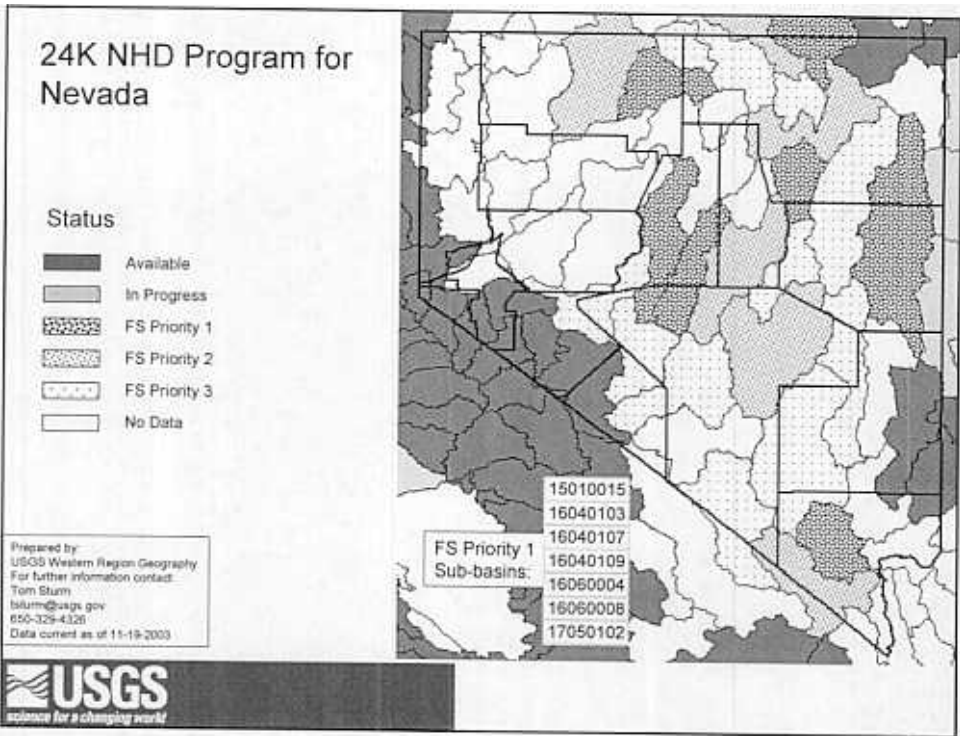
DOQ Program for Nevada



DOQ Photo Vintage

-  1994 - 1995
-  1999 - 2000
-  1997 - 1998
-  1989 - 1993

Prepared by:
USGS Western Region Geography
For further information contact:
Tom Sturm
tsturm@usgs.gov
650-329-4326
Data current as of 11-19-2003



The National Map: Characteristics

- Partnership based
- Distributed network of web mapping services
- OGC compliant tools
- Connected through a viewer developed by USGS
- Best available – focus on public domain
- Eight themes of information:

Orthoimagery	Boundaries
Hydrography	Structures
Elevation	Land Cover
Transportation	Geographic names
- See at Nationalmap.usgs.gov

The National Map: Status

- Move away from pilots
- Develop sustainable partnerships
- Focus mostly on urban areas and state-based activities

DOI High Priority Program: Status

- Program hiatus in FY 2003
- \$4.5M program for FY 2004 – focus on existing requirements
- Need to begin FY 2005 planning effort – NHD?

Attachment 2

**Memorandum Of Understanding
Between the
U.S. Geological Survey
And the
Nevada State Mapping Advisory Committee
For
Coordination and Cooperation
Pertaining to
The Development of
Framework Data Themes
And the Implementation of
*The National Map***

I. PURPOSE

The purpose of this Memorandum of Understanding (MOU) is to improve coordination and cooperation between the Department of the Interior, U.S. Geological Survey (USGS) and the State of Nevada in the development of essential map data themes and *The National Map*. The Nevada State Mapping Advisory Committee (NV SMAC) will provide the organizational framework for this effort.

II. BACKGROUND

USGS - Through partnerships with federal, state, and local governments and the private sector, the USGS is committed to providing the Nation with access to best available geospatial and remotely sensed data and information to help informed decision making by resource managers and the public. This synthesis of information, products, and capabilities, *The National Map*, will be a seamless, continuously maintained set of geographic base information that will serve as a foundation for integrating, sharing, and using other data easily and consistently. This MOU supports the mission of the USGS through collaborative efforts to establish partnerships necessary for the development, maintenance, dissemination, and use of *The National Map*.

State of Nevada – The Governor of Nevada established the State Mapping Advisory Committee in 1983 to advise the U.S. Geological Survey on state priorities for map products and to inform map users about the status of mapping programs and the availability of map products. The Federal Geographic Data Committee (FGDC), on November 6, 2000, formally recognized the NV SMAC as the Nevada Regional Cooperating Group in support of the National Spatial Data Infrastructure (NSDI) program.

Nevada needs to ensure that critical data themes of *The National Map*, like Orthoimagery, Elevation, Boundaries, Transportation, and Hydrography, are completed at appropriate levels of accuracy and resolution, and mechanisms are developed to ensure that these data layers are maintained and accessible.

Together the USGS and the other agencies that participate in the NV State Mapping Advisory Committee (NV SMAC) will focus on areas of mutual interest to make the development and maintenance process succeed.

III. AUTHORITIES

This MOU is entered into by the USGS and the NV SMAC under Public Law 99-591 that bestows permanent authority to the USGS to “prosecute projects in cooperation with other agencies, Federal, State, and private” (43 U.S.C. 36c). When applicable, any further cooperative agreements entered into between USGS and State of Nevada will be pursuant to the Federal Grant and Cooperative Agreement Act of 1977, as amended (31 U.S.C. 6305).

IV. SCOPE

This MOU serves as an umbrella agreement that sets forth the general terms and conditions for cooperation and coordination in activities involving *The National Map*. The activities covered by this MOU will be of mutual interest and benefit within, but not limited to, the following areas:

- Data Development
- Data Maintenance
- Database Development
- Data Dissemination and Distribution
- Exchange of Geospatial and Remotely Sensed Information
- Feature Serving and Generalization
- Outreach and Education
- Research and Applications
- Data Content and Standards Development
- Web Mapping Services and Applications
- Workshops, Training, and Technology Transfer

V. RESPONSIBILITIES

The specific relationships and responsibilities of the Parties with regard to the cooperative activities under this umbrella MOU shall be defined in separate agreements, which shall become annexes to this MOU, in accordance with section VI. Participants in the NV SMAC and USGS will continue to maintain open communication and coordination to facilitate a cooperative working environment to support current agency missions as

they relate to *The National Map*. The partner and USGS will provide leadership and program oversight for the cooperative activities conducted under this MOU and subsequent supporting agreements.

VI. IMPLEMENTATION

The NV SMAC participants will develop implementation goals and requirements and form ad-hoc groups as needed to work on these activities.

Specific activities to be conducted under this MOU and the method of their implementation will be determined on a case-by-case basis by USGS and the participants in the NV SMAC, in consideration of the merit, existing commitments, projected schedules, available funding and personnel resources, and other relevant factors.

As appropriate, implementation of specific activities under this MOU will be outlined in separate agreements, such as Joint Funding, Innovative Partnerships, Workshare, or Data Sharing Agreements, which will be coordinated through mutual agreement between the Parties and independently authorized by appropriate statutory or other authority. As appropriate, the agreements implementing specific activities shall be annexed to this MOU. Each agreement shall describe the project or activity agreed upon in regard to its objectives, scope, responsibilities of the Parties, project schedule, deliverables, and funding.

VII. FINANCIAL ARRANGEMENTS

This MOU defines the general terms upon which the USGS and the participants in the NV SMAC will cooperate. Performance under the terms of this MOU is subject to the availability of appropriated funds and personnel resources through each Party's respective funding procedures. This MOU is neither a fiscal nor a funds obligation document and, as such, does not constitute a financial commitment on the part of either Party. Any endeavor or transfer of anything of value involving reimbursement or contribution of funds between USGS and the participants in the NV SMAC will be handled in accordance with applicable laws, regulations, and procedures including those for Government procurement and printing. Any such endeavors will be outlined in separate agreements, including work plans or statements of work, which shall be made in writing and shall be independently authorized by appropriate statutory authority. This MOU does not provide such authority. Specifically, this MOU does not establish authority for noncompetitive award of any contract or other agreement. Any contract or agreement for training or other services must fully comply with all applicable requirements for competition.

VIII. PUBLICATIONS AND RELEASE OF INFORMATION

When deemed appropriate, the activities conducted, or scientific data developed, under this MOU will be documented and made available to the general scientific community through publication in appropriate journals or other established channels as soon as practicable and consistent with good scientific practice. Publications documenting cooperative efforts may be prepared by either Party, or jointly, provided that both Parties have an opportunity to review manuscripts prior to publication. In the event such reports or publications are copyrighted, each Party shall have a royalty-free right under the copyright to reproduce, distribute, and use such copyrighted work for their own purposes.

Releases of general information to the public may be made by the appropriate Party with respect to its own portion of the project/cooperation as desired. The Parties will seek to consult with each other prior to any such releases that reference the other Party's participation, consistent with the Parties' respective laws and policies.

The Parties agree that sharing credit is mutually beneficial, and will assure that appropriate citation and attribution, including the use of official agency visual identifiers, is given for work performed under this MOU. Specific uses of a Party's logo or seal, however, will require advance approval by that Party.

IX. PARTICIPATION IN SIMILAR ACTIVITIES

This MOU in no way restricts any of the Parties from participating separately in similar activities with other public or private agencies, organizations, and individuals, including other activities between USGS and the State of Nevada.

X. EFFECTIVE DATE, REVIEW, MODIFICATION, AND TERMINATION

This MOU shall take effect upon the date of the last signature and shall remain in effect for a period of five (5) years. This MOU may be reviewed annually or at the request of either party. This MOU may be modified at any time upon joint approval. This MOU may be terminated at any time by mutual written agreement of the Parties, or by either Party upon 90 days written notice to the other Party.

XI. POINTS OF CONTACT

The following individuals will be the points of contact for this MOU:

USGS

Name: Thomas A. Sturm
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Menlo Park, CA 94025
Telephone: 650-329-4326
Fax: 650-329-4722
E-mail: tsturm@usgs.gov

State Mapping Advisory Committee

Name: Jonathan G. Price
Title: Chair, State Mapping Advisory Committee, and
State Geologist and Director
Organization: Nevada Bureau of Mines and Geology
Address: University of Nevada, Reno/MS 178
Reno, Nevada 89557-0088
Telephone: 775-784-6691 extension 126
Fax: 775-784-1709
E-mail: jprice@unr.edu

Name: Ronald Hess
Title: Executive Secretary, State Mapping Advisory Committee, and
GIS Supervisor
Organization: Nevada Bureau of Mines and Geology
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Reno, Nevada 89557-0088
Telephone: 775-784-6691 extension 121
Fax: 775-784-1709
E-mail: rhess@unr.edu

XII. APPROVALS

Signature Date

Leonard J. Gaydos
Associate Regional Geographer
Western Region Geography
National Mapping Discipline, USGS

Signature Date

Jonathan G. Price
Chair, State Mapping Advisory Committee
State Geologist and Director
Nevada Bureau of Mines and Geology