

A-16 Lead	Lead Agency	1) Programs Supported By This Data	2) Uses Of This Data	3) Do You Have A Current Charter/Plan For Collection?	4) Is Metadata Discoverable Through The NSDI Clearinghouse?
<b>A) Bathymetric Elevation</b>	US ACE	NOTE: Under A-16 Elevation is split into Bathymetric and Topographic. US ACE and NOAA are the leads for Bathymetric. To date no progress has been made on the standard and it is not clear how the standard will be developed.			
<b>B) Climate Data</b>	NOAA		The data and information holdings of NOAA's National Data Centers and National Geophysical Data Center are available to the public and the metadata holdings are being posted to the Clearinghouse.	Yes. Weather Records Center was granted under section 506© of the Federal Records Act of 1950 (Public Law 754, 81st Congress)	Yes, 100 percent.
<b>C) Cultural Resource Data</b>	NPS	National Historic Preservation Act, Section 106 & 110; Native American Graves Protection & Repatriation Act; NPS cultural resource programs and The Historic Preservation Fund program.	Cultural Resource data is critical to comply with Section 106 & 110 of the National Historic Preservation Act requiring that locations of cultural resources be identified for long term preservation and to avoid unnecessary damage during a Federal undertaking. (See response for more.)	Charter for Cultural Resources Work Group, under Subcommittee on Cultural and Demographic Data, was created in 1999 and is in need of an update. NPS will have a workshop in FY2004 to establish consistent data content standards and collection methods. Plans needed for creation of spatial standards for legacy data and metadata standards for all cultural resource data.	No. Cultural Resource data is not available through the NSDI Clearinghouse and metadata was not created for any cultural data theme. The WY State Historic Preservation Office, through an FGDC grant, has drafted metadata standards for western states.
<b>D) Earth Cover. (Multi-Resolution Land Characteristics (MRLC) Consortium)</b>	USGS	The MRLC Consortium includes agencies within DOI, USDA, EPA, NOAA, and NASA. All are users of satellite data and land cover derivatives.	4 datasets are available: Landsat-5 satellite data for the conterminous US; National Land Cover Dataset; Landsat-7 satellite data for the entire US and Puerto Rico; National Land Cover Database. Specific applications for this data are described at: <a href="http://landcover.usgs.gov">http://landcover.usgs.gov</a>	The MRLC Consortium was created by a MOU in 1994. Additional partners joined in 1996 and 1999. The current MRLC workplan was written in 2001 and is updated as needed.	National Land Cover Dataset 1992 and all associated metadata are available at: <a href="http://landcover.usgs.gov">http://landcover.usgs.gov</a>
<b>E) Geodetic Control</b>	NGS	BLM, EPA, FEMA, FAA, FCC, FHA, FRA, NASA, NIMA, NIST, NPS, NOAA Coast Survey, NOAA Forecast Systems Laboratory, USACE, Census, USCG, USDA, USGS, and US Naval Observatory	Geodetic control data used for spatial reference in positioning activities, particularly surveying, civil engineering, mapping and charting. Providing these data is the primary mission of NGS.	The Geodetic Control Theme exactly parallels the main concern of the Federal Geodetic Control Subcommittee (FGCS), which has a current charter dated September 12, 1995. This charter remains viable and is not in need of significant update.	The majority of NGS geodetic metadata are available through the NSDI Clearinghouse including: Geodetic Control, Electronic Distance Measurement Instrument Calibration Base Lines, GPS orbits, GPS Continuously Operating Reference Stations (CORS), Geoid Model and Vertical Deflections, and Gravity
<b>F) Geographic Names Information System (GNIS)</b>	USGS	GNIS supports all Federal products that use geographic names, such as: <i>The National Map</i> , The Single Edition Quad project; revision of USFS visitor maps; National Ocean Service charts; and NPS brochures, among others.	GNIS allows customers to access the official geographic name of features over the Internet. GNIS is a research tool used by Federal, State, county, local and commercial sector employees. GNIS has been used for emergency preparedness and search and rescue. GNIS supports <i>The National Map</i> .	GNIS had a plan for collection since its inception in 1973. Phase I of data compilation involved collection of all names appearing on the 1:24,000-scale maps. Phase Ia included collecting names from USFS maps and NOS charts. Phase II, involving collecting names named on State, local and historical maps and text, but not named on Federal maps, has been done by contract and is nearly complete for all but 4 States.	Yes, 100 percent.

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<b>G) Governmental Units</b>	Census	Governmental units data is needed for the Censuses and surveys conducted by the Census Bureau. This data also supports any data collection or tabulation activities by the Federal government based upon governmental units.	By establishing a consistent way to collect and interchange governmental unit boundary data and facilitate their maintenance, analysis, and comparison, this theme supports the majority of Federal, State, local, academic and private-vendor geographical statistical programs.	The Census Bureau has collected and maintained boundary information for over 50 years, and the collection plans are under continuous review and improvement. Census uses State, local, and tribal information when updating boundaries.	Until recently, Census forwarded its metadata to the USGS for maintenance on their Clearinghouse node. Census Bureau metadata is now available on the US Census Bureau node, accessible through the NSDI Clearinghouse.
<b>H) International Boundaries</b>	State	Department of State mandate as USG boundary authority.	Provides standardized boundary information to geospatial, legal and policy staff in an easy-to-use format.	No. We are focusing our effort on African and crisis region boundaries.	We are not at this stage yet.
<b>I) Marine Boundaries</b>	NOAA	NOAA, Census, MMS, FWS, NPS, BLM, FCC, Navy, NIMA, State, and EPA	Marine boundary digital data are used for enforcement, ocean governance, fisheries management, and marine transportation.	The Office of Coast Survey, in partnership with the ad hoc Committee on the US Baseline and MMS have started work to create and distribute legal, digital maritime limits and a national baseline for the coastal US.	Yes. Metadata is available for the limits around the NW Hawaiian Islands (posted March 2003). Metadata for the Hawaiian Islands will be available at the beginning of FY04.
<b>J) National Digital Elevation Geospatial Data (NDEP)</b>	USGS	All programs that have a geographic and/or spatial context are supported by elevation data.	Elevation data constitute a key base layer. Elevation data are used to rectify the two dimensional geospatial data to ensure and accurate 2 dimensional presentation.	USGS has developed a multi-tiered strategy for coordination of elevation activities. USGS will expand on partnership-based collection of data and integration of these data. NDEP's charter is current and includes the cooperative collection of data acquisition plans for all member agencies to maximize the value of investments.	USGS has made metadata available through the NSDI Clearinghouse. NDEP plans to make it's information available through the Clearinghouse and is participating in the redesign of the clearinghouse services to enable support for the requirements of the GOS Activity.
<b>K) National Digital Orthophoto Program (NDOP)</b>	USGS	The National Map (USGS), National Aerial Photography Program (USGS), National Resources Inventory (NRCS), National Soil Surveys (NRCS); USDA Crop Compliance Program, National Agricultural Imagery Program (FSA), National Forest Mapping Program, National Land Management Program (BLM), Flood Mapping Program (FEMA), Homeland Security Infrastructure Program (NIMA)	Digital Orthophoto Quads (DOQs) are used to maintain the 1:24,000-scale maps through digital revision products. DOQs are an essential GIS data layer used to automate and support geographic applications.	NDOP was chartered in 1993; Charter was revised and updated in 2000. NDOP Project Coordination Subcommittee implements annual plans for imagery acquisition and orthoimagery production based on Federal funding levels and State partnerships. A MOU between USGS, NIMA, and the FGDC encourages partnerships with local sources of orthoimagery.	Yes, at the NSDI Clearinghouse node and through the USGS Clearinghouse node ( <a href="http://mapping.usgs.gov/nsdi/">http://mapping.usgs.gov/nsdi/</a> )
<b>L) Ocean Depth (Bathymetry) Data</b>	NOAA	NOAA/NOS Office of Coast Survey Nautical Charting Program	Provides bathymetric data for a variety of users beyond traditional nautical charting including coastal zone management, geological process analysis, and fisheries habitat characterization.	A National Survey Plan was developed in 2000 and is currently under revision to update requirements.	Yes, 100 percent.

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<b>M) Public Health</b>	HHS	Supports: Agency for Toxic Substances and Disease Registry; GIS; Centers for Disease Control (CDC); Immunization Registries; National Electronic Disease Surveillance System; Health Alert Network; the Environmental Health Tracking Network	Data use promotes further development of geographic government (E-Gov) and the NSDI.	The Department does not have a special charter for the collection of geospatial data.	A Task Order discussed in the agency report will result in a new HHS portal.
<b>N) Shoreline Mapping Program</b>	NOAA	NOAA's Nautical Charting Program and in the near future USGS Topographic Map Series.	Shoreline data is one of the critical elements on NOAA's nautical chart (navigation safety) and equally important, establishes our nations maritime boundaries for Private/State, State/Federal, Submerged Lands Act, Territorial Sea, EEZ etc.	NOAA has adopted the use of Architecture and Engineering (Quality Based Selection) contracting for most of its shoreline mapping requirements. The plan was started in 2001 and will be updated approximately 2005.	Yes. NGS has a general vector shoreline record for metadata in the NSDI Clearinghouse node. All vector shoreline, served through the NOAA Shoreline Data Explorer has FGDC compliant metadata. (see response for more)
<b>O) Transportation Inland Waterway (Marine Transportation)</b>	USACE	33 CFR - Navigation and Navigable Waters	Customers - Hydrographic survey and geospatial channel condition data provides accurate and up-to-date information for navigation planning, data also supports waterway charts for safety of navigation. Agency - Survey and channel condition data enables construction and operational activities to maintain minimum channel depth and width, and decision support for flood control and environmental analysis.	Data collection guided by Engineer Regulation 1130-2-520, Dredging and Navigation Operations and Maintenance; and Engineer Manual 1110-2-1003, Hydrographic Surveying. The Engineer Manual is to be updated with further guidance on production and publication of electronic chart data for navigation safety.	Metadata is available on <a href="http://www.usace.army.mil/who.html#Organized">http://www.usace.army.mil/who.html#Organized</a>
<b>P) WaterShed Boundaries</b>	USGS	The National Watershed Boundary Dataset is coordinated under the Subcommittee for Spatial Water Data, which coordinates water data among all levels of government and the private sector. Partnerships are with USGS/ NRCS, EPA, and NOAA	Watershed boundaries are used by many agencies to derive streamflow characteristics, flood forecasts, TMDL's and other hydrologic models. Additionally many Federal, State, and local agencies use this dataset for planning, resource and basin assessment.	The current charter was put in place in 1996. Under the current charter there are 3-4 meetings each year including co-sponsoring a water resources symposium.	Datasets are still in development. When complete the metadata will be served through the NRCS Lighthouse node to the NSDI.
<b>Q) Wetlands -- National Wetlands Inventory Project (NWI)</b>	FWS	NWI data supports resource management Federal programs related to floodplain planning; watershed management; wetland restoration and permitting; endangered species conservation and more	Data are used by FWS biologists in consultation with States, tribes and citizens in stewardship of NWR lands and waters to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of people.	Yes. FWS's 2002 Strategic Plan for the NWI, titled <i>National Wetlands Inventory: A Strategy for the 21st Century</i> , was approved by DOI and provided to OMB for informational purposes. The plan is being implemented. (see response for more)	Yes. Of the 27,651 quadrangle maps of digital wetlands data available over the Internet, 99% has metadata discoverable through the NSDI Clearinghouse.

A-16 Lead	5) Status Of This Theme's Standards	6) FY 2002/2003 Activities	7) Data Sharing Policy	8) Lessons Learned
<b>A) Bathymetric Elevation</b>				
<b>B) Climate Data</b>	Climate data is in full compliance with all appropriate international and national standards; in addition all climate related metadata are in compliance with appropriate FGDC metadata standards.	Strategic Plan for the Climate Change Science Program completed June 2003; International Earth Observation Summit hosted by U.S. July 31, 2003; FY03 plan for President Bush's Climate Change Research Initiative was developed and implemented in July 2003; NOAA Report to Congress, <i>NOAA Environmental Data: Foundation for Earth Observations and Data Management System</i> (see report for websites)	Collaborative partnerships are sought nationally and internationally. The Climate Change Science Program Office deals with Federal partnerships. (see response for websites of Regional Climate Centers and State Climate Offices)	No.
<b>C) Cultural Resource Data</b>	No standards established at this time. Draft content standards for cultural resources will be reviewed by the Cultural Resources Work Group for possible revision and consideration as a proposed FGDC standard.	An updated list of tasks for the Cultural Resources work group has been created; A workshop to discuss the creation of data content and collection standards has been scheduled for early FY2004	No formal policy in place for data sharing but under 36 CFR 60 authority is granted to withhold the disclosure of locational information for properties listed on the National Register if it could cause harm to the historic property. Many Tribal Historic Preservation Offices as well as Federal agencies have similar policies in place. NPS has a data clearinghouse where cultural resource data, when standardized, can be viewed ( <a href="http://www.nps.gov/gis">http://www.nps.gov/gis</a> )	20 separate NPS cultural resource data sets (maintaining different standards) must be tied together and presented to the public as a coherent cultural resource dataset
<b>D) Earth Cover. (Multi-Resolution Land Characteristics (MRLC) Consortium)</b>	National Land Cover Dataset uses the Anderson Land Cover Classification standard, and applicable data and process standards. Without an accepted earth cover standard, NLCD uses a state-of-the-practice database structure allowing users to produce derivation land cover classifications on demand.	95% of Landsat-7 data have been acquired and are available online. 8 of 66 mapping zones have been completed.	All datasets are available to public access.	Not at this time.
<b>E) Geodetic Control</b>	Geodetic Data Content Standard is now in development; Geospatial Positioning Accuracy Standards, Part 1 and 2 are endorsed; Spatial Data Transfer Standard (SDTS) Part 6: Point Profile; Metadata Profile for Shoreline Data was endorsed.	Developed draft Geodetic Data Content Standard under public review in August 2003	NGS has an internal policy set November 30, 1994 and revised February 13, 2002 for making public geodetic control point information held by NGS. (see response for more detail)	Need to define the scope of geodetic control and get consensus among the broader, land surveying community as to the definition or scope of "geodetic control" theme.
<b>F) Geographic Names Information System (GNIS)</b>	As part of the <i>National Map</i> they are developing standards concerning names data content, attributes, models, presentation, metadata, catalog parameter population and more.	Although only 4 States need to be completed for Phase II, funds were not available for the contract (for the first time in 20 years). In FY02 the GNIS database redesign was completed and locational data was converted to geospatial format. A new public GNIS web application has been designed and is in development that will include geographic query and display capabilities. They are also coordinating with the FGDC to develop an OGC-compliant web gazetteer service in GNIS.	Yes, there is a formal policy in place, however GNIS is falling behind due to current financial resources. GNIS is continuing to pursue collaborative Federal and State partnerships to support data access through the existing network of BGN agencies. GNIS is actively seeking partnerships within <i>The National Map</i> .	Not at this time.

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<b>G) Governmental Units</b>	The Governmental Unit Data Content Standard has been informally available for review and comment since June 2002, and has undergone two formal public review and comment cycles and was sent to ANSI/INCITS L1 for review and comment on September 30, 2003.	The draft Governmental Unit Boundary Data Content Standard has been presented at both the NACo and ESRI Conferences. It was also presented at the Subcommittee on Cultural and Demographic meeting in June 2002. Most recently work on the standard focused on harmonization efforts with other GOS standards.	Governmental Units, including metadata are included as components in the vast collection of data products available to the public that are produced by the Census Bureau. Boundary data is part of its TIGER/Line file data and boundary data will also be made available through USGS' <i>The National Map</i> and through the GOS portal.	None.
<b>H) International Boundaries</b>	322 international land boundaries, 400+ maritime boundaries and limits; none are fully complete	Undertook data collection for African, Iraq, Afghanistan boundaries. Level of detailed collection varies.	Together with NIMA, State Department makes their digital line files available to Government and non-Government users, but the attribute data is presently not accessible.	None.
<b>I) Marine Boundaries</b>	The Working Group is collaborating with the Cadastral Subcommittee to incorporate a marine boundary component into the Cadastral Data Standard.	Oct 2002-90% of the NW Hawaiian Island charts were brought to the US Baseline Committee for approval. March 2003-The first set of maritime boundaries and metadata for NWHI were published on the Internet. April 2003-100% of the NW Hawaiian Islands are approved. July 2003-70% of the Hawaiian Island charts brought to US Baseline Committee for approval. (see response for more)	NOAA provides public access via the Intranet and electronic, paper, and raster nautical chart products. (see response for more)	Not at this time.
<b>J) National Digital Elevation Geospatial Data (NDEP)</b>	USGS has had Standards & Specifications in place for 20 years for Digital Elevation Models. USGS has also implemented a Framework model for elevation data. NDEP is developing guidelines regarding data content, process information, and reference appropriate endorsed standards,	In FY02 & 03 USGS implemented Internet access to Framework Elevation Data. 46% of CONUS is available for multi-resolution integration.	Yes, USGS has a formal policy in place for placing it's holdings in the public domain although there are financial limitations to this commitment. USGS is pursuing collaborative Federal, State, and local partnerships to expand these services to provide maximum benefit to the broadest community.	Lack of a multi-agency enterprise business model for data collection, integration, archive and access hamper the USGS's ability to fulfill A-16 elevation duties. Funding strategies needed to leverage dollars.
<b>K) National Digital Orthophoto Program (NDOP)</b>	<u><a href="http://rockyweb.cr.usgs.gov/nmpstds/doqstds.html">Standards for Digital Orthophotos</a></u> is available online at ( <a href="http://rockyweb.cr.usgs.gov/nmpstds/doqstds.html">http://rockyweb.cr.usgs.gov/nmpstds/doqstds.html</a> ) as is the FGDC adopted <u><a href="#">Content Standard for Digital Orthoimagery</a></u>	First-time coverage of DOQs (1 m. resolution) over the conterminous U.S. is 99% completed. Partnerships with State high resolution orthoimagery programs (less than 1 m. resolution) have begun. Partnerships with cities have begun for production of high resolution orthoimagery coverage.	NDOP produces only public domain orthoimagery data. The USGS acts as the default agency to archive and serve tiled orthoimagery data to cooperative partners and the public. Collaborative Federal, State, and local partnerships are being sought to support public access and web mapping services to national seamless distributed orthoimagery databases.	USGS needs to plan and implement the model for orthoimagery archives and public access that satisfies the requirements of the National map and Geospatial One Stop. Collaborative strategies must be put in place to fund hosting and maintenance of these large multi-terabyte datasets.
<b>L) Ocean Depth (Bathymetry) Data</b>	Work continued on the Geospatial Data Accuracy Standards, Part 5 - Accuracy Standards for Hydrographic Surveys and Nautical Charts as well as coordination with the FGDC Elevation Subcommittee.	Geospatial Data Accuracy Standards, Part 5 - Accuracy Standards for Hydrographic Surveys and Nautical Charts was approved by the FGDC Coordination Group on August 5, 2003.	All NOAA bathymetric data has full and open access through our data distribution center at the National Geophysical Data Center in Boulder, CO.	NOAA's prototype "V-Datum" needs to be expanded to the entire U.S. coastline to simultaneously analyze depth data and elevation (see response)

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<b>M) Public Health</b>	N/A	The Steering Committee and the HHS Data Council agreed to issue a Task Order to develop a geospatial Meta Directory in a format that conforms to the FGDC Content Standards for Digital Geospatial Metadata (CSDGM), version 2.0, 1998, accessible as XML and HTML documents in a Web accessible directory.	The HHS Information Quality Guidelines reflect HHS's long tradition and policy of providing and promoting access to the research and statistical data that it funds. Data development within HHS has 2 overarching goals: attention to information quality, and commitment to making data supported with HHS funds available to the public. See response for more.	No.
<b>N) Shoreline Mapping Program</b>	All vector shoreline data on the NOAA Shoreline Data Explorer has met NOAA CSC or NGS quality control processes and is in ESRI shapefile format as requested by their primary customers.	All available historical shoreline projects QC'd by NOAA CSC have been processed and loaded. 11 contemporary shoreline projects have been made available this year (see response for more detail)	Yes. NGS has an internal policy set Nov. 30, 1994 and revised Feb. 13, 2002 for making public geodetic control point information held by NGS> NGS is also able to manage the creation, modification, storage, display and distribution of all of its shoreline data under present funding allocations (see response for more).	No.
<b>O) Transportation Inland Waterway (Marine Transportation)</b>	The Engineer Manual specifies data collection and processing in detail.	1/2 of all USACE coastal districts serve vector data files with various formats, content and scale. Approximately 3,200 mi of inland waterways have been charted in international S-57 format and are available at www.tec.army.mil/echarts.	Engineer Regulation 110-1-8156 specifies agency policy for geospatial data dissemination. Further guidance on electronic navigation chart (ENC) data compilation is under development. Financial resources have been allocated for ten years; collaborative federal partnerships sought to accelerate development and coordinate dissemination.	Coordination for common definition and lead responsibility is needed for certain inland waterway features, such as shoreline and river mile markers.
<b>P) WaterShed Boundaries</b>	Subcommittee for Spatial Water Data has the revision to the "Federal Guidelines for Delineation of Hydrologic Unit Boundaries" in review.	USGS/WRD chairs the Subcommittee for Spatial Water Data. The Chair, USGS, EPA, and NRCS principals have conducted multi-state workshops to develop a process for across state agreement in the watershed boundaries developed by the States. In Nov '02 a draft watershed delineation standard was placed into ANSI formal review process.	No policy for data sharing. The Subcommittee charter states that the subcommittee is to "facilitate the exchange of information and the transfer of data".	A subcommittee is preferable to one agency leading the development of guidelines.
<b>Q) Wetlands -- National Wetlands Inventory Project (NWI)</b>	FWS developed and uses the <i>Classification of Wetlands and Deepwater Habitats of the United States</i> . This classification system has been in use since 1979 and was approved by the FGDC in 1996.	Progress includes: Complete and post on Internet updated wetland maps for 9 states; digitize and provide online 12.3 million acres of final wetland maps; Complete a cumulative total of 42% of the U.S. with online digital wetland maps (see response for more)	FWS has an operational policy of full and open access to its digital wetlands and riparian data. The NWI Center in St. Petersburg, FL, coordinates the production of wetland maps and digital data, provides national consistency of map products, and serves digital wetlands data over the Internet to fulfill this policy.	No.