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U.S. GEOLOGICAL SURVEY ENERGY RESOURCES PROGRAM NEWSLETTER  
WINTER 2008

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Thank you for subscribing to the USGS Energy Resources Program Newsletter. This quarterly newsletter provides the latest news, information, and products from the USGS Energy Resources Program. In addition to recent publications, we are continuing to expand the content available through our redesigned website. Previous newsletter issues have been archived (in PDF format) and may be downloaded at: <http://energy.usgs.gov/newsletter.html> .

WINTER 2008 ISSUE – CONTENTS:

**[Energy Spotlight]**

Energy Resources Program Science and the Energy Policy Act of 2005

**[Features]**

- Alaska Studies
- Circum-Arctic Resource Appraisal
- Coal Resources
- Geochemistry Research
- Human Health and Environment
- National Oil and Gas Assessment
- Organic Petrology

**[Other News]**

- Recent Publications
- Customer Satisfaction Survey Results: USGS Energy Resources Program Website
- Upcoming Events: Human Health Meeting

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ENERGY SPOTLIGHT:

Energy Resources Program Science and the Energy Policy Act of 2005

<http://energy.usgs.gov/energypolicyact2005>

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The Energy Policy Act of 2005 (P.L. 109-058) was passed by the United States Congress on July 29,

2005, and signed into law by President George W. Bush on August 8, 2005. This statute marks the first National Energy Plan in more than a decade and contains provisions encouraging energy efficiency and conservation, promoting alternative and renewable energy sources, reducing U.S. dependence on foreign sources of energy, and increasing domestic production. The Energy Policy Act of 2005 also calls for scientific research – specifically naming the USGS – on a number of energy resources to provide a foundation for sound decision making and policy development.

A number of provisions contained in the Energy Policy Act of 2005 are aligned with the mission and long-term goals of the ERP. The USGS Energy Resources Program (ERP) provides objective, scientifically robust information to advance the understanding of geologically based energy resources, to contribute to plans for a secure energy future, and to facilitate evaluation and responsible use of resources. The ERP has a clearly defined role, and its research portfolio is responsive to national priorities established through legislative directives, internal strategic planning, important and unanticipated global events, customer surveys and needs, and the guiding principles of objective and impartial science.

In response to the Energy Policy Act of 2005, the ERP has continued to support those research efforts that are already aligned with the provisions of the Act. In addition, the ERP has commenced new research activities and worked in collaboration with other Federal agencies to fulfill the responsibilities authorized in the Energy Policy Act of 2005. For more information and an update on the status of these activities, please visit the following website: <http://energy.usgs.gov/energypolicyact2005> .

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ALASKA STUDIES:  
<http://energy.usgs.gov/alaska/>  
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### Color Shaded-Relief and Surface-Classification Maps of the Fish Creek Area, Harrison Bay Quadrangle, Northern Alaska

The northeastern part of the National Petroleum Reserve in Alaska (NPRA) has become an area of active petroleum exploration during the past five years. Recent leasing and exploration drilling in the NPRA requires the U.S. Bureau of Land Management (BLM) to manage and monitor a variety of surface activities. Timely and accurate completion of these land-management tasks requires elevation, hydrologic, geologic, petroleum-activity, and cadastral data, all integrated in digital formats at a higher resolution than is currently available in non-digital (paper) formats.

To support these land-management tasks, a series of maps, prepared in cooperation with the BLM, was generated from remotely sensed data in an area of high petroleum-industry activity. The map series includes (1) a color shaded-relief map based on 5-m-resolution data (sheet 1), (2) a surface-classification map based on 30-m-resolution data (sheet 2), and (3) a 5-m-resolution

shaded relief-surface classification map that combines the shaded-relief and surface-classification data (sheet 3).

This map series and accompanying explanatory text may be accessed at the following website: <http://pubs.usgs.gov/sim/2007/2948/> .

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CIRCUM-ARCTIC RESOURCE APPRAISAL:

<http://energy.usgs.gov/arctic/>

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Assessment of Undiscovered Petroleum Resources of the Laptev Sea Shelf Province, Russian Federation:

As part of the Circum-Arctic Oil and Gas Resource Appraisal (CARA), the USGS recently completed an assessment of potential undiscovered, technically recoverable (assuming the absence of sea ice) crude oil, natural gas, and natural gas liquids resources in the Laptev Sea Shelf Province of the Russian Federation. As with other areas assessed in the CARA, this area shares important characteristics with many Arctic basins, including sparse data, significant petroleum-resource potential, geologic uncertainty, and technical barriers that impede exploration and development. Using a geology-based methodology (<http://energy.cr.usgs.gov/oilgas/noga/methodology.html>), the USGS estimates the mean volume of undiscovered, conventional petroleum resources in the province to be approximately 3,069 million barrels of crude oil, 32,252 billion cubic feet of natural gas, and 861 million barrels of natural gas liquids. More information and a USGS Fact Sheet of the assessment results are available from: <http://energy.usgs.gov/arctic/> .

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COAL RESOURCES:

<http://energy.usgs.gov/coal.html>

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National Coal Resources Data System (NCRDS) and State Cooperative Projects:

The NCRDS and State Cooperatives project support a publicly available database of coal knowledge spanning the entire United States. State geologists collect, evaluate, and correlate drill hole, mine, and outcrop data that are stored in the USGS NCRDS stratigraphic database. State-level partnering for fundamental research on coal resources and data compilation on energy resource-bearing strata improves the ability of Federal, State and local planners to make informed policy decisions in the areas of energy development, energy utilization, and land use. The information developed by the States through these cooperative studies supports numerous coal resource investigations, both at USGS and the State agencies. The USGS ERP Coal

Availability/Recoverability Studies, Economic and Environmental Evaluations of Extractable Coal Resources, and several of the National Coal Resource Assessment projects would not have been possible were it not for the digital databases already in place through previous State cooperative projects.

The USGS currently maintains cooperative agreements with 26 State geological agencies located in the 23 coal-producing States. In November 2007, the USGS and State cooperators convened a workshop in Lexington, Kentucky, to review the status of projects and discuss ideas for database development and improvements to enhance data access and delivery. The USGS ERP has developed a new web page to highlight these cooperative research activities:

[http://energy.er.usgs.gov/coal\\_quality/state\\_coops.html](http://energy.er.usgs.gov/coal_quality/state_coops.html) .

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GEOCHEMISTRY RESEARCH:

<http://energy.er.usgs.gov/gg/research/>

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Characterization of Petroleum Residue in the Entrada Sandstone, Colorado National Monument:

As part of the 2002 USGS petroleum resource assessment of the Uinta-Piceance Province, Colorado and Utah, some 170 oil samples, oil stains, and oil seeps were geochemically analyzed and organized into genetic types. Recognized oil types include Minturn, Phosphoria, Grassy Trail Creek, Mancos, Mesaverde, and Green River. Subsequent to this research, the USGS learned of the existence and general locality of petroleum residue in the Middle Jurassic Entrada Sandstone in the Colorado National Monument (CNM). Because the analysis of such non-commercial petroleum deposits can yield valuable regional resource-trend information, samples of the reported CNM petroleum residue were collected, characterized and compared with identified oil types in the Uinta-Piceance Province. The assistance of the National Park Service for providing logistical support and access in the CNM is gratefully acknowledged.

The petroleum residue samples have been extremely altered by biodegradation and water washing; consequently, geochemical analyses are difficult to interpret. The least degraded sample most closely resembles the Phosphoria oil type, but some of the analytical data correlate with the Mancos oil type. It is possible that the CNM residue is a mixture of both types, similar to oil in the Upper Jurassic Morrison Formation in Rangely field. The Open-File Report for this study is available from: <http://pubs.usgs.gov/of/2007/1360/> .

For more information on the USGS petroleum resource assessment of the Uinta-Piceance Province, please visit: <http://pubs.usgs.gov/dds/dds-069/dds-069-b/> .

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HUMAN HEALTH AND ENVIRONMENT:

<http://energy.usgs.gov/healthenviron.html>

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Investigating Atmospheric Mercury with the USGS Mobile Mercury Laboratory:

Atmospheric mercury is thought to be an important source of mercury present in fish, resulting in numerous local, tribal, statewide, and province-wide fish consumption advisories in the United States and Canada. To understand how mercury occurs in the atmosphere and its potential to be transferred from the atmosphere to the biosphere, the USGS has been investigating sources and forms of atmospheric mercury, particularly in locations where elevated amounts of mercury deposited from precipitation are found.

To facilitate these studies, a mobile mercury lab has been designed and equipped with instruments not available at most atmospheric deposition monitoring sites. The USGS mobile mercury lab can measure the amounts and proportions of elemental mercury, particulate mercury, and reactive gaseous mercury in the atmosphere. To complement these analyses, the mobile mercury lab, while making continuous meteorological measurements, also measures important atmospheric components such as sulfur dioxide, ozone, nitrogen oxides, and the mass of fine particulate matter. The USGS mobile mercury lab has been deployed to several sites in order to improve understanding of the pattern of mercury wet deposition.

More information about the USGS mobile mercury laboratory and related studies is available in the USGS Fact Sheet, <http://pubs.usgs.gov/fs/2007/3071/> , and from the following website: [http://energy.er.usgs.gov/health\\_environment/mercury/](http://energy.er.usgs.gov/health_environment/mercury/) .

Produced Waters – Applied Geochemistry Special Issue:

The scientific journal Applied Geochemistry recently published (October 2007) a special issue entitled, “Environmental issues related to oil and gas exploration and production.” The special issue was edited by USGS scientists Yousif K. Kharaka and James K. Otton, and included papers written by USGS authors. Several of these papers highlighted the latest research findings from multidisciplinary studies of the environmental effects of past and present exploration and production operations at and near the Osage–Skiatook Petroleum Environmental Research (OSPER) sites, located in northeastern Oklahoma. Environmental effects studied include salt scarring, soil salinization, and ground- and surface-water contamination caused by produced water and hydrocarbons leaking from brine channels and pits.

For more information and related publications of USGS research activities at the OSPER sites, please visit: [http://toxics.usgs.gov/sites/ph20\\_page.html](http://toxics.usgs.gov/sites/ph20_page.html) .

For additional information on USGS produced waters research, please visit: [http://energy.cr.usgs.gov/health\\_environment/produced\\_waters/](http://energy.cr.usgs.gov/health_environment/produced_waters/) .

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NATIONAL OIL AND GAS ASSESSMENT:

<http://energy.cr.usgs.gov/oilgas/noga/>

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2007 National Oil and Gas Assessment (NOGA) Update Now Available:

The USGS NOGA project conducts research to improve the understanding of the formation, accumulation, quality, distribution and endowment of U.S. oil and gas resources onshore and underlying State waters. Download updated summary tables (in Microsoft Excel) and summary maps (in Adobe PDF format) of the latest resource assessment results from the USGS NOGA Assessment Updates, available at: <http://energy.cr.usgs.gov/oilgas/noga/> .

Vitrinite Reflectance Data for the Bighorn Basin, North-Central Wyoming and South-Central Montana:

The Bighorn Basin is a large structural and sedimentary basin that encompasses about 10,400 square miles in north-central Wyoming and south-central Montana. Important conventional oil and gas resources have been discovered and produced from reservoirs in this basin. In addition, a potential unconventional basin-centered gas accumulation may be present in Cretaceous reservoirs. This report presents new research and vitrinite reflectance data leading to a better understanding and characterization of the thermal maturation and burial history of potential source rocks. Eighty-nine samples of Cretaceous and Tertiary strata were collected and analyzed—15 samples were from outcrops and 74 samples were from well cuttings. The sample description and analytical results are available in the following Open-File Report: <http://pubs.usgs.gov/of/2007/1246/> .

Assessment of Undiscovered Oil and Gas Resources in Tertiary Strata of the Gulf Coast:

The USGS recently completed an assessment of the undiscovered, technically recoverable oil and gas resources in Tertiary strata and coalbed methane resources in Cretaceous-Tertiary strata of the onshore areas and State waters of the Gulf Coast. A large portion of the undiscovered gas resource is considered to be in conventional accumulations trapped in sedimentary strata ranging in age from Paleocene to Pliocene-Pleistocene.

The USGS estimated mean resource volumes at:

113.7 trillion cubic feet of gas (TCFG) [F95 = 27.2 TCFG; F5 = 234.2 TCFG],  
690 million barrels of oil (MMBO) [F95 = 169 MMBO; F5 = 1,458 MMBO], and,  
3.7 billion barrels of natural gas liquids (BBNGL) [F95 = 0.8 BBNGL; F5 = 8.1 BBNGL].  
The assessment Fact Sheet may be downloaded from <http://pubs.usgs.gov/fs/2007/3066/> .

More information on USGS Gulf Coast petroleum resources research is available from: [http://energy.er.usgs.gov/regional\\_studies/gulf\\_coast/gulf\\_coast\\_assessment.html](http://energy.er.usgs.gov/regional_studies/gulf_coast/gulf_coast_assessment.html) .

**!!NEW CD-ROM!!**

Geologic Assessment of Undiscovered Oil and Gas Resources of the Eastern Great Basin Province, Nevada, Utah, Idaho, and Arizona – USGS Province 19, DDS-69-L:

The USGS conducted, in 2004, an assessment of the undiscovered oil and gas potential of the Eastern Great Basin Province (EGB). This resource assessment utilized the total petroleum system (TPS)-based approach that included mapping of the potential source rocks and known petroleum accumulations, determining the timing of petroleum generation and modeling the timing and pathways of migration and accumulation. A fact sheet summarizing the assessment results is available from: <http://pubs.usgs.gov/fs/2005/3053/> .

Recently, the USGS released a companion CD-ROM report providing additional supporting data about the TPS framework, including burial history modeling results and tabular data that underpin the assessment. The CD-ROM report is available online and may be accessed via the following URL: <http://pubs.usgs.gov/dds/dds-069/dds-069-1/> .

For hard copy CD-ROM requests, please send an email to: [eteamdisks@usgs.gov](mailto:eteamdisks@usgs.gov) .

**!!NEW CD-ROM!!**

Petroleum Systems and Assessment of Undiscovered Oil and Gas in the Denver Basin Province, Colorado, Kansas, Nebraska, South Dakota, and Wyoming– USGS Province 39, DDS-69-P:  
Note: this CD-ROM report is not yet available online.

The USGS, in 2002, conducted an assessment of the undiscovered, technically recoverable oil and gas resources of the Denver Basin Province that have the potential to be added to reserves in the next 30 years. Both conventional accumulations and continuous-type accumulations, including coal-bed gas, low-permeability gas, and fractured shales, were assessed. A USGS Fact Sheet summarizing the results of this assessment is available at: <http://pubs.usgs.gov/fs/fs-002-03/> .

Recently, the USGS released a companion CD-ROM report providing additional supporting data about the TPS framework for this assessment, including core porosity, permeability, and vitrinite reflectance data from 141 Denver Basin core holes. The report also includes an overview chapter of coal geology, coal production, and coalbed methane potential in selected areas of the Denver Basin, Colorado, and the potential effects of historical coal mining on development and land-use planning.

For hard copy CD-ROM requests, please send an email to: [eteamdisks@usgs.gov](mailto:eteamdisks@usgs.gov) .

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ORGANIC PETROLOGY:

[http://energy.er.usgs.gov/coal\\_studies/organic\\_petrology/](http://energy.er.usgs.gov/coal_studies/organic_petrology/)

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Thermal Maturity of Pennsylvanian Coals and Coaly Shales, Eastern Shelf and Fort Worth Basin, Texas:

The USGS and the Texas Bureau of Economic Geology have an ongoing collaborative research study to characterize the organic composition and thermal maturity of Upper Paleozoic coal-bearing strata from the Eastern Shelf of the Midland Basin and from the Fort Worth Basin, north-central Texas. Data derived from this research will improve the understanding of the coalbed methane resource potential of the region. Continuous (nonconventional) resources such as coalbed methane are expected to satisfy an increasingly greater component of U.S. and world natural gas demand in the coming decades. This report presents thermal maturity data for shallow (<2,000 ft; <610 m) coal and coaly shale cuttings, core, and outcrop samples from the Middle-Upper Pennsylvanian Strawn, Canyon, and Cisco Groups from the Eastern Shelf of the Midland Basin. Data for Lower Pennsylvanian Atoka Group strata from deeper wells (5,400 ft; 1,645 m) in the western part of the Fort Worth Basin also are included. This USGS Open-File Report may be downloaded from the following website: <http://pubs.usgs.gov/of/2007/1312/> .

Coal Rank and Stratigraphy of Pennsylvanian Coal and Coaly Shale Samples:

Vitrinite reflectance measurements were made to determine the rank of selected subsurface coal and coaly shale samples from Young County, north-central Texas. This research, conducted by the Bureau of Economic Geology at The University of Texas at Austin as part of the USGS ERP State Cooperatives Project, is part of a larger investigation of the coalbed methane resource potential of Pennsylvanian coals in north-central Texas. This USGS Open-File Report may be downloaded from the following website: <http://pubs.usgs.gov/of/2007/1313/> .

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RECENT PUBLICATIONS:

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**Assessment of Groundwater Input and Water Quality Changes Impacting Natural Vegetation in the Loxahatchee River and Floodplain Ecosystem, Florida**

U.S. Geological Survey Open-File Report 2007-1304

<http://pubs.usgs.gov/of/2007/1304/>

**Energy and Minerals for America's Future**

U.S. Geological Survey Fact Sheet 2007-3109

<http://pubs.usgs.gov/fs/2007/3109/>



**Evaluation of Potash Grade with Gamma-Ray Logs**

U.S. Geological Survey Open-File Report 2007-1292

<http://pubs.usgs.gov/of/2007/1292/>

**Organic Geochemistry of Sediments in Nearshore Areas of the Mississippi and Atchafalaya Rivers: I. General Organic Characterization**

U.S. Geological Survey Open-File Report 2007-1180

<http://pubs.usgs.gov/of/2007/1180/>

**A Program for Partitioning Shifted Truncated Lognormal Distributions into Size-Class Bins**

U.S. Geological Survey Open-File Report 2007-1260

<http://pubs.usgs.gov/of/2007/1260/>

**Sulfur Contamination in the Florida Everglades: Initial Examination of Mitigation Strategies**

U.S. Geological Survey Open-File Report 2007-1374

<http://sflwww.er.usgs.gov/publications/ofr/2007-1374/>

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**CUSTOMER SATISFACTION SURVEY RESULTS – USGS ENERGY RESOURCES PROGRAM WEBSITE:**

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In July 2006, the ERP launched a revised, integrated website to improve delivery of information and web services to customers. The USGS subsequently conducted a customer satisfaction survey to elicit feedback on the revised website.

Persons contacted for this survey were pooled from several sources, including:

- ERP newsletter subscribers who, during sign-up (<http://energy.usgs.gov/newsletter.html>), indicated their willingness to participate in such an activity,
- Persons who had expressed, at scientific and technical meetings, an interest in ERP research,
- Persons who had requested a CD-ROM publication from the ERP, and,
- USGS scientists and other employees who are affiliated with ERP research activities.

Respondents were asked to rate their satisfaction with respect to various aspects of the ERP website as well as their overall satisfaction with the website. Respondents were also asked to provide information about what portions of the website they use, how they use the website information, what decisions are affected by the information, and recommendations for improving the website.

If you did not take the survey, but have feedback that you would like to share, please provide comments on the interactive survey on our web site (<http://energy.usgs.gov/survey.html>).

*Results Summary:*

The survey began on May 30, 2007, and data collection ended on July 6, 2007. The following table summarizes the number of persons contacted per each stratum and the corresponding response rate:

Source	Sent	Responded	Response Rate
Newsletter	156	51	33%
Meetings	47	15	33%
CD-ROM	49	30	64%
ERP	47	26	58%

In general, customer satisfaction levels with the ERP website are high (fig.1). Total satisfaction levels (the sum of “very satisfied” and “satisfied” responses) exceed 70% for all aspects of the website across all strata sampled. Most respondents are also satisfied or very satisfied with the aspects of the three individual web rooms sampled (National Oil and Gas Assessment, World Petroleum Assessment, and Coal).

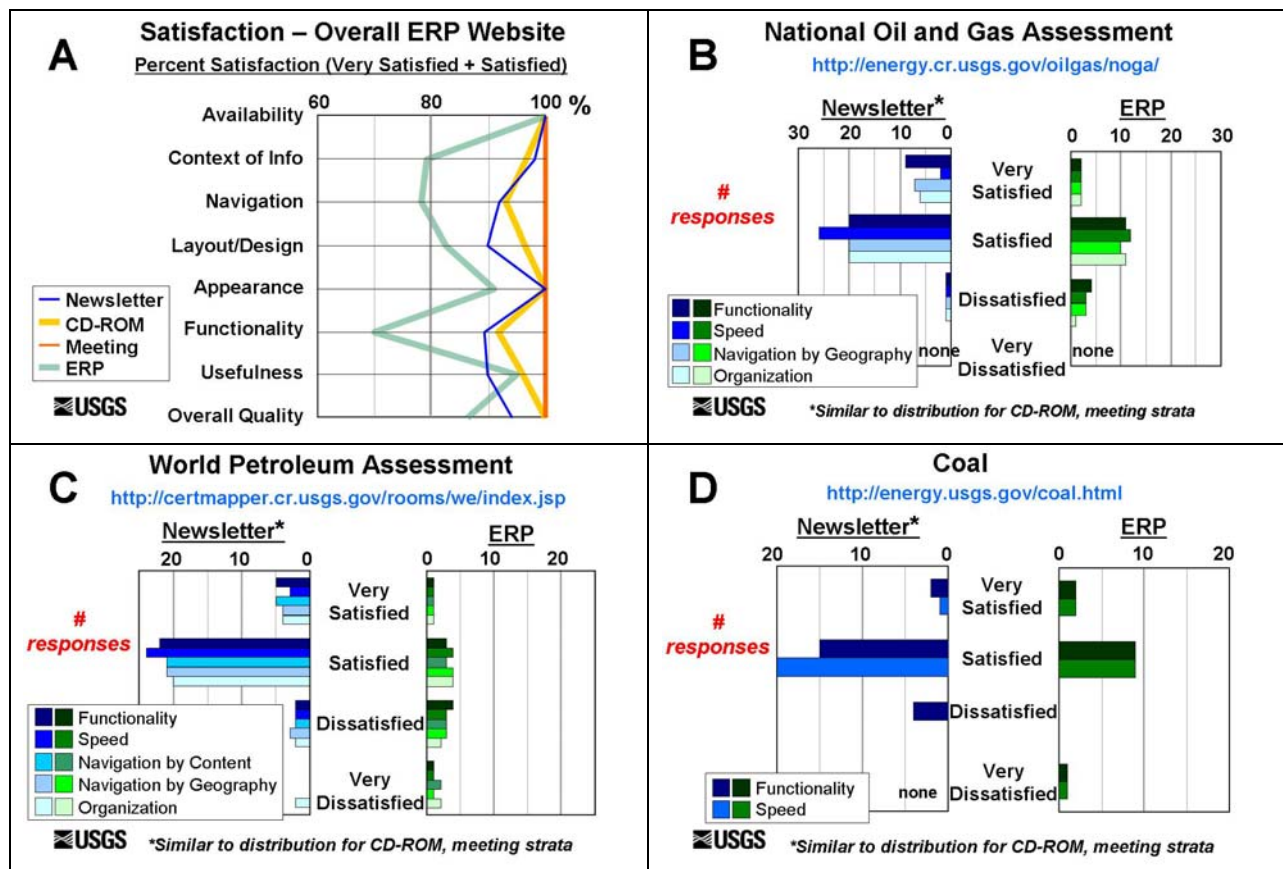


Figure 1. (A) customer satisfaction results for several aspects of the overall ERP website, and for individual web rooms; (B) National Oil and Gas Assessment (<http://energy.cr.usgs.gov/oilgas/noga/>); (C) World Petroleum Assessment (<http://certmapper.cr.usgs.gov/rooms/we/index.jsp>); and, (D) coal resource and assessment studies (<http://energy.usgs.gov/coal.html>).

Results from Newsletter Group Respondents:

The primary affiliation of newsletter group respondents included (in decreasing order): commercial/private industry, federal government, academia/education, nongovernmental organizations, and others.

In general, customer satisfaction levels with the ERP website are high: 94% of respondents from the newsletter group indicated they are “very satisfied” or “satisfied” with the overall quality of the website.

Customer satisfaction levels are also high for the individual web rooms (Coal, National Oil and Gas Assessment, World Petroleum Assessment) targeted in the survey. The satisfaction (either ‘very satisfied’ or ‘satisfied’) levels of newsletter respondents with respect to the functionality, speed, navigation, and organization of these three rooms range from 81 to 100% of responses. Respondents also indicated that the level of detail included in the information available through these three rooms is ‘just right’ (57-71% of responses).

Other Findings:

- 32% of newsletter respondents said they learned about the ERP website from a search engine
- the most popular uses for ERP information and web services include:
  - analysis (49%)
  - exploration/extraction (49%)
  - research and development (39%)
  - education (37%)

*(Note: a respondent could select multiple uses)*

- 20% of newsletter respondents visit the ERP website more frequently than once per month
- 52% of newsletter respondents use the Interactive Mapping Services available via the website
- the most popular data download formats are:
  - For tabular data, Adobe Acrobat (74%) and Microsoft Excel (54%) files
  - For GIS data, ESRI shapefiles (56%)
- approximately 20% of newsletter group respondents had accessed one or more of the following databases:
  - Organic geochemistry database (<http://energy.cr.usgs.gov/prov/og/>)
  - National Coal Resource Data System  
([http://energy.er.usgs.gov/coal\\_quality/coal\\_databases.html](http://energy.er.usgs.gov/coal_quality/coal_databases.html))
  - Produced Waters (<http://energy.cr.usgs.gov/prov/prodwat/>)
  - Seismic Databases (NERSL) (<http://nerslweb.cr.usgs.gov/>)

Comments from Survey Respondents for Improving the ERP Website:

- “I really appreciate the service the USGS provides...most of the products should be available online for free to facilitate research and education.”
- “I have found it somewhat difficult to find USGS publications by searching on the website.”
- “I find your info sheets, CD very helpful & popular with the public and staff.”
- “Keep the information more current.”
- “Keeping it up-to-date and organizing all the map services into one layer rather than drilling down for each province.”
- “I am satisfied with data and papers I find at USGS. I am compiling data on nap acids, origin of crude oil etc so its a useful site, keep up the good work out there.”
- “[ ] was very helpful in answering my questions. In general I think you have a great website. Continue to add data, publication, links to all public information geology...”
- “Include more results on novel research work being if any behind the assessment.”
- “Access to charts with the associated data for download. checkout the BP world energy annual report.”
- “The information is very dated. I was looking for something a little more recent.”
- “The survey is way too long and annoying. I typed in a browser, found what I wanted and requested it. I’m a geologist.”

Next Steps – Addressing Customer Feedback:

Again, the ERP thanks the respondents for taking the time to complete the customer satisfaction survey. The responses and comments provide feedback that is essential for evaluating customer satisfaction, identifying areas for improvement, and shaping future directions of the ERP websites. Among the most commonly cited areas for improvement from the newsletter respondents are:

- the need for improved navigation and web page layout (to avoid having to ‘drill down’ through several pages to find specific information),
- improved search capabilities, especially for energy resource publications, and
- the need for more timely/updated information on the website.

We are currently in the process of designing and implementing several measures to improve the ERP website in response to this feedback. For example, we are redesigning the template for our web pages to provide better and easier navigation, improve the page layout, and facilitate greater accessibility to ERP information, products, and web services. We are also undertaking steps to provide enhanced search capabilities through our website, including an improved keyword search feature. In addition to these, we are continually striving to expand the content available via the ERP website and provide timely updates to existing content. As one example, we have recently posted the 2007 updates to the National Oil and Gas Assessment:

<http://energy.cr.usgs.gov/oilgas/noga/>. From this website, one can access links to updated

summary tables (in Microsoft Excel) and summary maps (in Adobe PDF format) that incorporate the latest resource assessment information.

As we continue to refine our website, if you have any further comments, suggestions for improvements or ideas for content, please feel free to provide feedback via the interactive survey on our website (<http://energy.usgs.gov/survey.html>).

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UPCOMING EVENTS:

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Human Health Meeting:

The Geological Society of America and USGS present GeoHealth I: Building Bridges across the Geological and Health Sciences. Join us in Reston next March for GSA's first special meeting devoted solely to interdisciplinary research and applications taking place at the nexus of the geosciences and health sciences. The meeting objective is to connect the dots between the geological sciences and the health sciences, in order to improve communication across disciplines and better inform policy and decision makers on the complex human-health problems potentially associated with environmental exposures to natural and anthropogenic contaminants and pathogens. Through a series of lectures, case studies, and breakout sessions, geoscientists and health scientists will interact to share their perspectives on airborne and soilborne contaminants, and on drinking water contaminants and pathogens. Strategic planning will help identify and shape the research agenda on emerging and future needs in the geohealth arena. This meeting will be held March 4-6, 2008, at the USGS Headquarters in Reston, VA.

For more details, including information about registration and the scientific program, please visit: <http://www.geosociety.org/meetings/08geoHealthI/>.