DataONE Public Website Usability Issues – Internal Report

Usability and Assessment Working Group

February 4, 2011

Executive Summary

The Usability and Assessment Working Group (U&A WG) conducted an internal evaluation of the DataONE public website (**www.dataone.org**). The purpose of the evaluation was to assess the usability of the website regarding the interface design, information content, and information organization. The website was reviewed by 1) a group of 4 experts in Elsevier User Centered Design Group, 2) one U&A WG member from U.S. Geological Survey (USGS), and 3) three U&A WG members from the University of Tennessee, Knoxville (UTK). Each person did an independent analysis and the results were then synthesized into a single report. The individual reports are provided in the Appendices.

The report describes the strong points of the site as well as problems in the site. Thus, the summary of findings is organized into two parts: the positive points of the site and the shortcomings of the site.

Positive Points of the Site:

- **Clean and simple design**: The page is simple and straightforward; the color choice is easy on the eye; easy to distinguish text and links on the page.
- **Easy to navigate back to homepage**: The site logo is a link to the homepage and stays on every page.
- **Simple error messages**: Error messages are generally clear and simple
- **Simple language and logically ordered information**: The language on this site is simple; the site is technical but logically worded; pages are logically displayed.
- **Standard page layout**: Most pages follow standard page layout convention (header, paragraph heading, paragraph, top-level menu position, etc.).

Shortcomings of the Site:

1. ***Missing functionalities***
   - **Missing Alt tags**: Not all images have alt tags.
   - **Missing "Log in" function in homepage**: The "log in" function should be a part of the main menu section at the homepage.
   - **Missing functionalities in "Log in" page**: No links are provided if the user wants to create a new account or needs to retrieve username or password. The error page provides a link to retrieve username or password only when an incorrect username or password is submitted. The error page provides a link reading, "Have you forgotten your password?"
   - **Missing breadcrumb trails**: No breadcrumb trails exist to show page location to help navigate back. Providing a meaningful breadcrumb trail assists with navigation and users' understanding of where they are in the site
   - **Missing "search" function in the site except homepage**: The search function is only available from the homepage. The "search" function should be a universal function on the top navigation bar.
   - **Missing "advanced search" function in "search" page**: The "advance search" option should be grouped with the search functionality and be universally available.

- **Missing "Help" function**: The site does not provide any assistance to help users navigate the site. Examples of "help" features include FAQs, sitemap, etc.
- **Missing functionalities about "training"**: There is no place to schedule or request a training session. There is also no contact information available.

2. ***Match between menus and pages***
   - **"DataONEpedia"**: DataONEpedia is different from the contents about tools and standards on this page. Putting DataONEpedia under "Learn" confuses users regarding what to expect to find and is inconsistent with the actual content in the page.
   - **"News and Events"**: The page is essentially news about the DataONE project. It is confusing if the "events" in "News & Events" has the same meaning in "Events Calendar" or "Training Events."

3. ***Positions of certain functionalities***
   - **"Search" function**: The search function should be part of top-level functions, placed in the standard position at the top right of the screen.
   - **"Contact us" function**: "Contact us" should be part of the top-level functions. The current position, at the bottom of each page, is easily ignored by users.
   - **"Log in" function**: "Log in" should be part of top-level functions and put on the top part of the screen.
   - **"Home" navigation tab**: The "Home" tab is usually placed on the left-most navigation menu based on standard convention. In addition, having both "Home" navigation tab and a "Home" hyperlink on each page is redundant.

4. ***Links***
   - **Color of previously visited links**: The hyperlinks do not change colors if the page is already visited. The user may forget that s/he has visited a particular page. S/He will only know it when s/he visits the page once again.
   - **External links**: Users should be warned that external links do not open in a new window, so the current page users are viewing will be replaced with the external linked page.

5. ***Texts***
   - **Heavy text sections**: Some sections of the site are text heavy and are not easy to read. Breaking text sections into chunks, using bullet points and hyperlinks would be helpful.

The Appendices below provide detailed reports from each individual who analyzed the website. Appendix D is the usability analysis of the search interface of DataONE pilot catalog by U&A WG members.

Appendix A: Usability Inspection by Elsevier User Centered Design Group



DataOne.org

Usability Inspection
Version 0.1

Liz Bradshaw
Kara Lock Van Roekel
Beate Specker
Kevin Rogers
Elsevier User Centered Design Group
Monday, January 17, 2011

Revision History

Revision	Date	Author(s)	Description of Changes
0.1	17/01/11	Liz Bradshaw	• Summary of usability review

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NOTE: There are 5 Bookmarks (Select Insert menu and then Bookmarks) on the title page. If you update these fields you can View the Header and Footer, right click on each element and select Update Field to update the fields in the Header and Footer to be the same as on the title page.

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Introduction

A Usability Inspection of the **www.Dataone.org** site was conducted using the Heuristic Evaluation technique. In this technique human-computer interaction experts review the product looking for potential usability problems. Each expert does an independent analysis and the results are then combined into a single report that includes problem descriptions and severity ratings. To learn more about the Heuristic Evaluation technique visit http://www.useit.com/papers/heuristic/.

The **www.Dataone.org** website was reviewed by four members of the Elsevier User-Centered Design team: Liz Bradshaw, Kara Lock Van Roekel, Beate Specker, and Kevin Rogers.

Because we do not have a sufficient understanding of the audience for this site (e.g. what are the users tasks when coming to this site, what content is specifically of interest to them, etc.) this review is limited to general usability issues.

Each of us spent about 1-2 hours on reviewing the site. This means that we could not examine all parts of the site equally. Quite a significant number of findings were independently found by 2 or 3 of the 3 reviewers. Other findings were found by 1 reviewer, mainly because each of us did detailed inspections of different parts of the site.

Summary of Findings

The strong points of the site include:

- **Clean and simple design:** The page design is very simple and straightforward, displays consistently in a number of different browsers, and resizes gracefully. The color palette used is restful and easy on the eye. There is good contrast between the text on the site and the background colors.
- **Accessible forms:** The forms on the site show good accessibility, functionality, error messaging, and usability.
- **Link titles:** Descriptive links are supplements with descriptive title tags for key navigational elements.

However, the site's overall interaction has some fundamental shortcomings, including:

- **Missing pages and functionality:** There seems to be no way to create an account or reset a forgotten password. This is the most critical problem that was found on the site.
- **Navigation assistance:** Sub-section navigation could be made available in a format beyond the navigation bar drop-downs. A comprehensive breadcrumb trail in the different site sections would also aid in navigation, along with back navigation. There are some unconventional placing of key navigation items: home, and contact us. The search features could also be handled in a more simple and consistent way to avoid confusion.
- **Alt tags:** Make sure that all images have appropriate alt tags.

- **Text Links:** All text links should be descriptive of their destination and the use of "more" links should be avoided. In addition, text links that are links to documents (PDF, Word doc, Excel file, etc) should be clearly identified as such.
- **Page layout and presentation:** The home page has some unexpected content changes, which could be presented to the user in a more usable way. Long and unstructured text blocks on the content pages make browsing difficult, fixed width text forces vertical scrolling. Pale text and links color are difficult to read

More details of the above findings, and others, are given in the subsequent sections.

Detailed Findings

Usability problems as well as positive comments were grouped into several major categories or heuristics.

In this report, the usability problems are rated High, Medium, or Low:
- **+**: Positive comments are indicated by a '+' symbol.
- **H**: High means that the problem has the most impact to users and should be a high priority to fix.
- **M**: Medium
- **L**: Low, means that the problem is a lower impact to users, and should be fixed if possible.

Consistency

How internally consistent is site in terms of layout, wording, navigation, etc? How consistent is site with accepted web standards for similar sites?

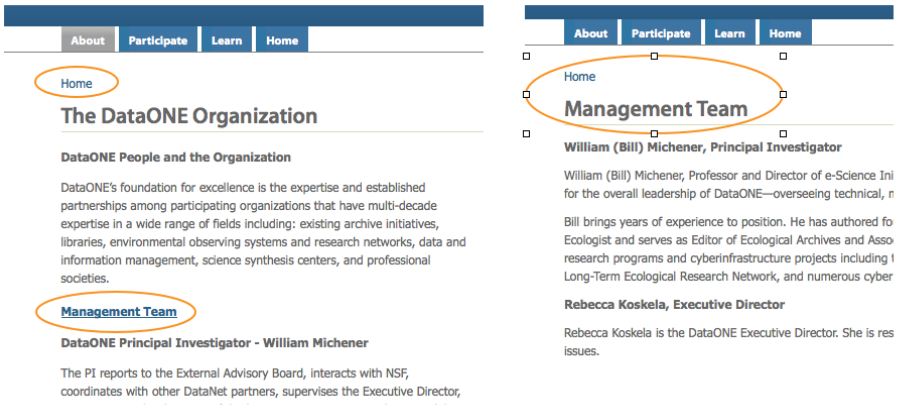
Description	Severity
Pages re-size gracefully when the browser size is changed	+
Top menu navigation bar is hindered by Title tags, e.g. when hovering over "About" to activate menu, the title tag for "about" obscures the menu option below. This is the case for all of the menu options.	H
Breadcrumb trails are not displayed consistently e.g. There is a title/breadcrumb navigation of 'Home' and on its own, it looks odd.	H
The rotating images on the site home page – many of which include text – do not have alt tags	M
Not all in-page images is other parts of the site have alt tags	M
When tables are used for data display, they should be captioned, and appropriate header and other organizational tags should be used	M
There are at least 5 different content options displayed when 'Home' is clicked on. The different content options should be made apparent to users through an option to page through content [e.g. View page <1 2 3 4 >]	M

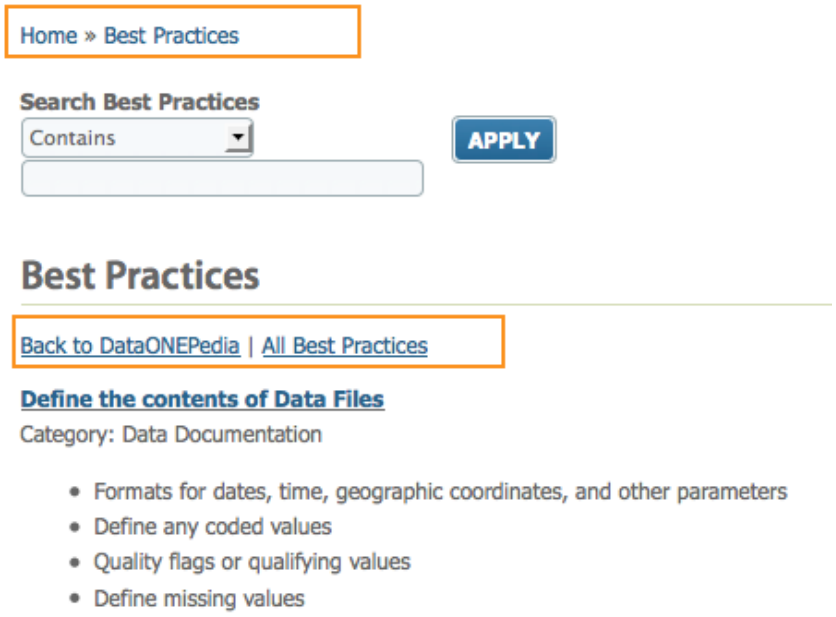
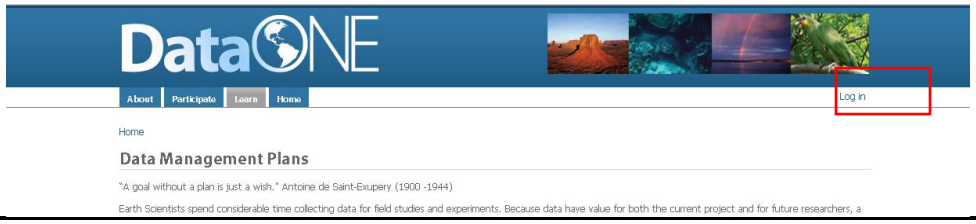
	
The position of 'home', 'search' and 'contact us' are not web standard	**M**
Search in DataONExpedia is started with "APPLY". The Advanced search option dropdown is confusing. Is this really needed and used by users?	**M**
The upper and lower navigation are not consistent e.g. News & Events is found under the "About" menu but not in the lower page navigation. The top navigation bar "About" has a different list order than shown in the "About" section in the lower homepage navigation.	**M**
Active tab is not always indicated (sometimes the button is grey, sometimes not but this might be a bug)	**L**

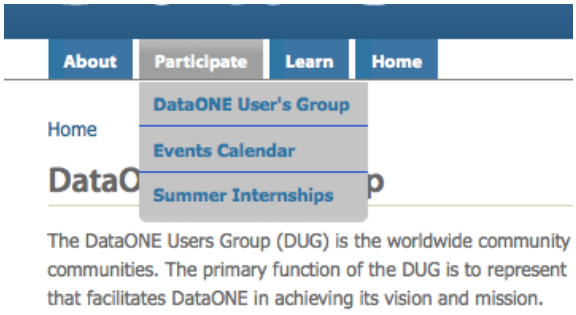
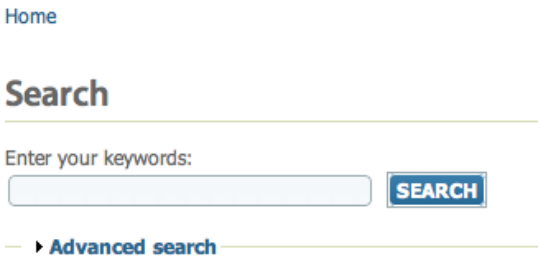
Orientation and Navigation

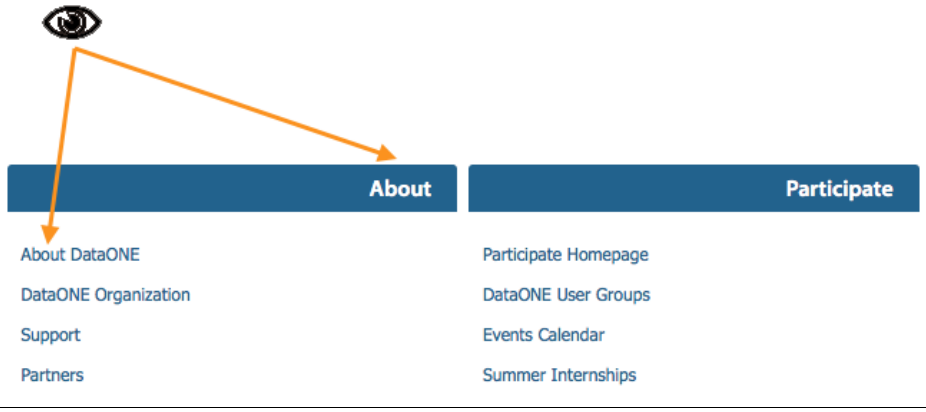
How well is user oriented to site contents? Do users have good sense of where they are? How easy and efficient is it to navigate the site?

Description	Severity
Site Logo is a link to the site home page	+
Page titles appear consistent with page content throughout the site	+
Key navigational items (navigation buttons, login, search pagination, etc) are given descriptive titles. Use of an H1 on all pages gives good overview of where you are at any given time.	+
Lower level pages have a breadcrumb "Home" but no breadcrumb to show the page location or to navigate back: this should either become a complete breadcrumb or just be removed. The Search function is the only one with complete breadcrumbs. This should be extended to all pages: adding a meaningful breadcrumb trail would assist with navigation and users' understanding of where they are in the site.	H



Within the Best practices section of the site the breadcrumb 'back to . . .' and the 'all best practice' link are mixing up functions. The "All..." link is something different. A strong recommendation is to review all breadcrumbs and make them consistent throughout. 	**M**
The Login link is a different style then the navigation links (which are buttons), which is fine, but since it is in the same style as the content links it could be easy to overlook 	**M**

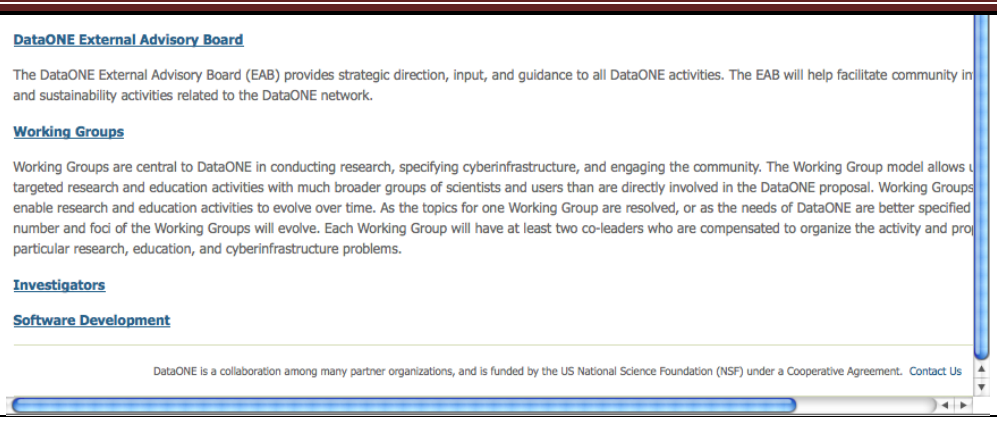
Once off of the home page, the sub-section navigation is only available from the drop-downs of the main navigation bar.	**M**
The top navigation menu entries drop down on mouse over. Clicking on the header ("About", "Participate" etc) takes the user to a valuable introduction page that is likely to be overlooked: the introduction page should be included in the dropdown menu options. 	**M**
The Search box is only available from the home page: it would be more effectively presented if it were placed in the standard position top right of the screen and universally available throughout the site. The advanced search option should also be grouped with the search functionality and be universally available. The Header "Search Site" is not needed for a simple standard search box. A click on the SEARCH button is possible without entering any search string. This will lead the user to the search results page without any error message. The search button should not be active when the search string is empty. 	**L**
The search results could be numbered and could have more whitespace or some other device to visually separate out the different results	**L**
The search results pagination exists only at the bottom of the page, and not at both the top and the bottom	**L**
The position of navigation headers in the lower home page menu makes it difficult to get the connection. It would be more effective to place the header text on the left hand side.	**L**

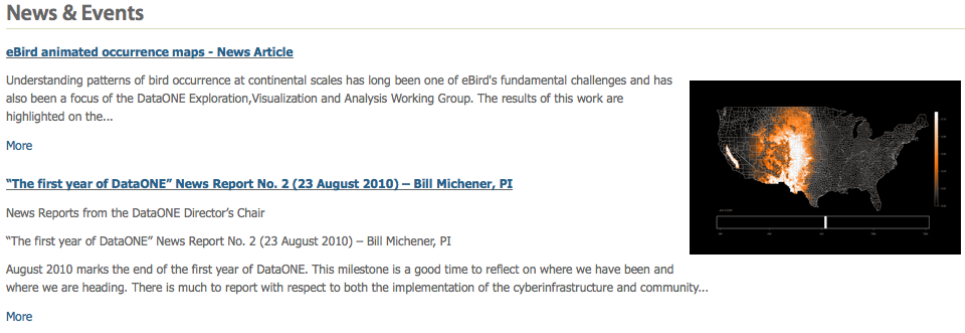
	
"Home" button is on the far right of the main navigation options. This is an unusual placement, as the home button/link is generally the leftmost link in the site navigation	**L**
The 'more' button is too far from the content to which is relates and therefore it is easily overlooked. 	**L**

Page Layout

How well does layout of pages facilitate communication of options to users?

Description	Severity
Pages seem to be logically displayed with decent layout.	+
Every page (except for the home page) has a h1 header.	+
Sub-headers are used on all pages (h2, h3, h4, etc) but are not always used appropriately. For example, there are pages that have an h1 header and then several h4 headers, but no h2 or h3 headers. The hierarchy should be consistently maintained	**M**
Some sections of the site are very text heavy: they would benefit from being written for the web i.e. more succinct. Long text areas with fixed width are difficult to read. Horizontal scrollbars should not be needed to read text.	**M**



The Search function is only available from the home page. Could benefit from being moved to the top navigation bar as a universal option.	M
Search provided intelligent results for the most part; however, a search for "Contact Us" produced no usable options.	M
The Homepage has a clear layout but the main message is suppressed by the big "Search", "Events" and bottom navigation boxes. The blue headers could be smaller and have the same height (those on the right are higher) 	L
The imagery used in the site does not always clearly link to a particular story or section: [see image for an example] 	**L**

The presentation of information [and the hierarchies of information] could be much more effectively presented. For example the font sizes / types do not match the structure of the content. The headline is big and bold, whilst the second level header is smaller and regular while the third level header is again a bit smaller but bold. In the example shown below, it is not clear what the "DUG Resources" section is, similarly the "General" and "Member Node Information" is also unclearly presented. **DataONE User's Group** The DataONE Users Group (DUG) is the worldwide community of Earth observation da communities. The primary function of the DUG is to represent the needs and interests that facilitates DataONE in achieving its vision and mission. Members of the DUG include representatives of the Member Nodes, Coordinating Nod institutions, data centers, data repositories, environmental observatory networks, edu NGOs, private companies, etc.). The inaugural meeting of the DUG occurred December 9th-10th 2010 in Chicago, IL. established. The next DUG meeting is scheduled for July 2011. The DUG will meet annually to identify the evolving technical challenges and opportur DataONE data products, tools, and services. **DUG Resources** **General** DUG Charter (in review) **Member Node Information** DataONE Structure and Potential Partnership as a Member Node Participating in DataONE as a Member Node A better example of information design in the site is found here: **Investigators** **DataONE Principal Investigator** • William Michener, University of New Mexico (UNM) **DataONE DataONE Co-Principal Investigators** • Robert Cook, Oak Ridge National Laboratory • Mike Frame, Center for Biological Informatics, U.S. Geological • Stephanie Hampton, National Center for Ecological Analysis ar • Todd Vision, National Evolutionary Synthesis Center, Duke Uni **DataONE DataONE Co-Investigators** • Suzie Allard, University of Tennessee • Paul Allen, Cornell University • Peter Buneman, University of Edinburgh • Randy Butler, University of Illinois at Urbana-Champaign • John Cobb, ORNL	**L**
The structure of information, such as lists, should be presented in a more consistent manner using tabs and spacing. Long lists like the example shown below could be better structured:	**L**

DUG Founding Members

Robert Sandusky, Interim Chair - University of Illinois at Chicago
Richard Huffine, Interim Vice-Chair - United States Geological Survey Library
Stephen Abrams - University of California Curation Center / California Digital Library
Suzanne Allard - University of Tennessee
Steve Aulenbach - National Ecological Observatory Network
James Beach - University of Kansas
Karl Benedict - Earth Data Analysis Center / University of New Mexico
Sky Bristol - United States Geological Survey Informatics
Bob Cook - Oak Ridge National Laboratory Distributed Active Archive Center
Trisha Cruse - University of California Curation Center / California Digital Library
Tim DiLauro - Johns Hopkins University / Data Conservancy / Digital Research and Ci
Debora Drucker - University of Campinas / BIOTA-FAPESP / International Long Term
Mike Frame - United States Geological Survey Center for Biological Informatics
Greg Gollberg - University of Idaho
Vivian B Hutchison - United States Geological Survey
Christopher Jones - University of Hawaii at Manoa

Some of the information presentation requires explanation [see example below]; it may well be meaningful to the intended audience however a table 'key' or 'legend' would be helpful.

L

Checklists

A group at the California Digital Library, including Patricia Cruse and John Kunze, both members of the DataONE has identified several data management checklists that are currently in use in the community. This group analyz checklists, and what was unique across checklists. The results of that analysis are summarized in the following t

COMPONENT	MIT	DCC	ANDS
OBJECT CHARACTERISTICS			
Data type (raw, computational, observational)	√	√	X
Naming conventions	√	X	√
Format types	√	√	√
CONTEXTUAL INFORMATION			
Software (resilience, obsolescence)	√	√	X
Required and stored metadata	√	√	√
Documentation (may relate to metadata)	√	√	√
Intellectual control (copyright, ownership)	√	√	√
Transfer of Responsiblity	?	?	?
ENVIRONMENTAL / STORAGE FACTORS			
Data retention	√	√	√
Anticipated volume	√	√	X
Backup	√	√	√
USAGE			
Access restrictions	√	√	√
Privacy / anonymization	√	√	√
Security	√	√	√
Audience	√	√	√

MIT: Massachusetts Institute of Technology
DCC: Digital Curation Centre
ANDS: Australian National Data Service
CESSDA : Council of European Soc. Sci. Data Archives
JPL: Jet Propulsion Laboratory
QUT: Queensland University of Technology
DAAC: ORNL Distributed Active Archive Center
Cornell Univesity

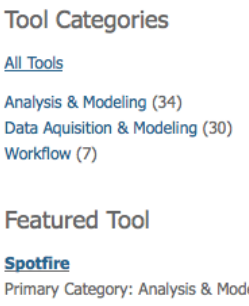
The Page layout works consistently through Safari, Firefox, Chrome, Opera and IE8. Div based layout produces problems when viewed in IE6. Webkit

L

browsers produce a slight artifact in the top navigation bar where the left of each button has a lighter area.	

Hypertext / Linking

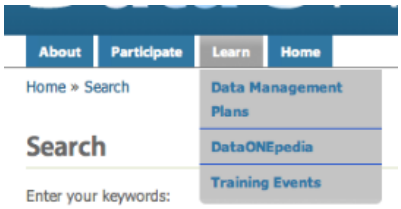
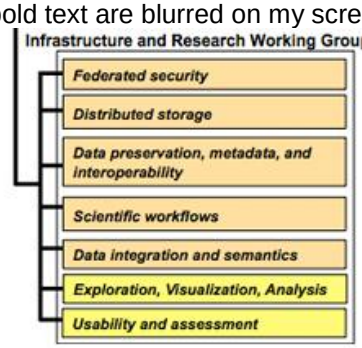
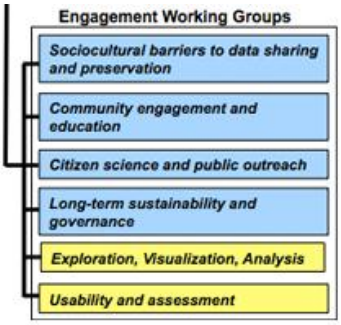
Are hypertext links used in the most effective and appropriate ways?

Description	Severity
Links in the content are a different color then the body text	+
Without breadcrumbs, if a paragraph header doubles as a link, when a user clicks on the link, the only way to return to the previous page is by using the Browser back button. A User can get lost, or lose interest if this happens too many times.	H
External links do not open in a new window; instead they replace the existing site with the external linked page. Users should be warned that this is going to happen.	H
There are "more" links on many of the pages. The text used should be expanded to be more descriptive.	M
Internal links should offer a back option. Especially for those labeled "example" user will have a look and then continue on the calling page.	M
Not all links in the page body are treated the same. Some are not underlined, but do show an underline on rollover, and some are always underlined. There should be consistency. Visited links are not consistently treated; this is especially true of the tools section which has some confusing switching of links once visited. 	M
Some links in the text are difficult to detect. There could be greater color contrast between the links in the body text and the body text itself, so that scanning the pages and picking out links is easier	L

Aesthetics & Graphics

How good does the site look? To what extent are graphics used in the appropriate way and in the appropriate magnitude?

Description	Severity
Simple, clean site design, the homepage is friendly and inviting.	+
Good contrast between text and ground for body text, links, and headers	+
In some instances, text is displayed as a graphic with no alt tag. Would pose a	H

problem for text readers.	
In the main navigation readability suffers from bold font on grey background. 	**M**
The colors could be brighter. Grey text is difficult to read and links in the text are difficult to see.	**M**
The pages contain a lot of text, and using some different font weights and other graphic tricks to highlight key content or information could make it easier for the user to read the site	**L**
Use of graphics is good. On the homepage they are decent but inviting. A zoom option might be good for the org chart (the orange and yellow boxes with bold text are blurred on my screen)  	**L**

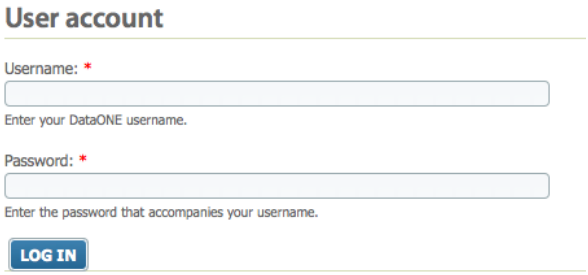
Flexibility and Efficiency of Use

How quickly (independent of system performance) can a user accomplish tasks?

Description	Severity
The site is more about information than tasks. It loads fast and there is not much content on a page.	**+**
Finding out **when** an event will be held and at **what time** went pretty quickly and smoothly.	**+**
Finding out **where** an event was to be held proved difficult. Clicking on the "map" link launches a new window on Google maps with a generic search for Online – EVO. There are multiple choices including two completely different agencies called EVO which is confusing. Would recommend adding a proper Event address, or at least a more specific link to Google maps.	**H**
Contact us is hard to find in the footer, it would be more easily found if it were in the main navigation.	**M**

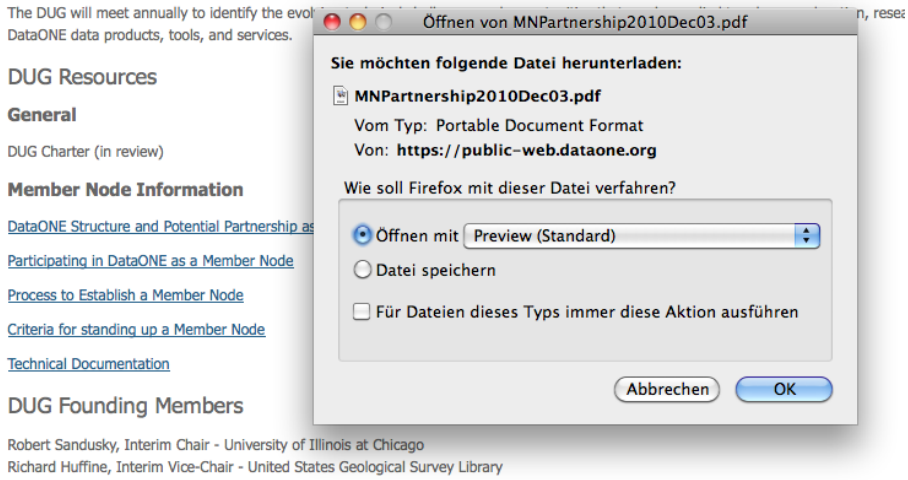
Match Between System and User Activities

To what extent does the site speak the users' language, follow real-world conventions, make information appear in a natural and logical order?

Description	Severity
The site is technical but seems logically worded.	+
Most of the informational pages follow standard page layout convention, Page Header, Paragraph heading, paragraph etc	+
The whole site is rather "wordy". Many things could be expressed in a simpler way. Even the login which is a standard uses a lengthy explanation ... 	**L**
For reading and browsing efficiency the amount of text could be reduced.	**L**

User Control and Freedom

To what extent are users allowed to do what they want? Can they "exit" or "undo" quickly when they make a mistake?

Description	Severity
The browser "back" button operates normally	+
Error messaging prevents forms from being submitted with incorrect or missing information	+
A Breadcrumb implementation is recommended to support user control,	M
All external links should be signposted to the user and ideally implemented to launch a new window.	M
Some links start a download. This should be indicated. 	**L**
The "Log in link" does not offer to create an account or tell the user why they	**L**

can't get one e.g. who is entitled to have an account?	

Error Prevention and Handling

How well does the site prevent errors or facilitate the recovery from errors?

Description	Severity
In general error messages are clear, though some of them could be re-worded for additional clarity and brevity. For example (on the Contact Us page) the message "Your name field is required" could be re-worded to "Your name is required"	+
The error message for an unrecognized username/password includes a link to a "Have you forgotten your password" page	+
The "Page not found" page does not have a Back or Home button. Also, the top navigation bar is missing from this page, so it is not easy to navigate away from the error. Would recommend adding the top navigation bar to this page, and possibly a "Back one level" option.	**H**
There is no way to get to the "Have you forgotten your password" page other than by trying (and failing) to login	**H**
The Forgotten Password page does not seem to exist on the site	**H**
Again the missing back option is a drawback	**M**

Help

Is help concise and focused on the user's task? Do error messages use plain English language and suggest a solution to the problem?

Description	Severity
In general error messages are clear, though some of them could be re-worded for additional clarity and brevity. For example (on the Contact Us page) the message "Your name field is required" could be re-worded to "Your name is required"	+
There does not appear to be any "help" function on the site .The only way to contact the group is through an email form available from a link in the footer. There is no other way to get in touch – no phone/fax numbers, mailing address, or email address. A help and contact us section in a prominent position would enhance the site.	**M**
The Forgotten Password page does not seem to exist on the site	**H**
There are no FAQs in the Support section. Would recommend adding some, either in Support or as its own section under "About"	**H**

Appendix B: Preliminary Observations by a U&A WG Member in USGS

As an NSF-funded project, is DataONE subject to Section 508 requirements? I'm thinking it probably is subject to these requirements. Some of the graphics and images are not 508-compliant:

- The Organizational chart (under About-DataONE Organization) should provide an alternative text summary.
- The distributed framework schematic (under About-Partners) needs some kind of text summary, even if it's more high-level than what can be represented visually.
- The checklist chart under "Data Mgmt Plans" needs tweaking. The columns and rows don't have headers and id tags that would allow audible browsers to connect and interpret cell values, and the checks and x's in the cells are images that don't correspond to alt-tags containing "yes" or "no" to enable audible browsers to "read" their content.
- The pulldown menus under "DataONEPedia" aren't compliant.
- Not all of the decorative images and graphics have alt tags.
- The Events Calendar table is not compliant (no headers or id tags).

I'm assuming the duplication of the Javascript navigation at the bottom of the page is to accommodate users who can't run Javascript, as well as for audible browsers. This is good, but looks a bit like "filler" content right now, because there is so little on the homepage. A few people to whom I showed the site thought that these links were somehow different from the tabbed navigation links at the top and clicked on several of them until they realized the links were simply alternative navigation.

The Login button in the top corner will generate questions from people who assume they need to obtain an account for more access. I'm assuming this is a Webmaster login. If possible, we may want to move that link somewhere less obtrusive.

The "Sustainable and Secure Cyberinfrastructure" image on the home page (world map with circled text) has the look of something clickable. It also doesn't have an alt tag.

The homepage layout loads differently in my IE7.x and Firefox 3.6.x browsers. In IE, at the bottom of the homepage, the LEARN blue toolbar drops beneath the blue toolbars for ABOUT and PARTICIPATE. In Firefox, all 3 sections load on the same line/level.

DataONEPedia is a misguided use of the Wikipedia simile for tools and standards. If I want to "learn," I'm looking specifically for the concepts of tools and standards as navigation items. DataONEpedia doesn't exactly roll off the tongue, either. I think it needs to go.

About-News & Events: This page essentially duplicates the "feed" on the homepage. I'm assuming this page is the chronological "archive" for all news announced by DataONE. Since the primary access point for News & Events will likely be the homepage, perhaps the page needs to be removed from the "About" tab navigation. Because the "feed" from the homepage already contains a "more" link to get to older news, you don't really need to have multiple access points that look like different content areas to the user.

Though the News & Events call-out on the homepage looks like a feed, maybe this would seem more newsy and timely if it were an RSS feed that sits on the homepage and that

people could subscribe to, rather than a "section" on the site that is rather dry and unappealing.

Under "Participate," why is there not a navigation item for "become a provider" or something similar? That's the kind of language one would expect to find. "DataONE User's Group" sounds like it is end-user focused (as has already been discussed). If we can't change the group name, then for web site purposes, I think we need to drop the group name and make the navigation item action-oriented to help first-time users of the web site understand that by "User's Group" DataONE actually means data provider groups. If there is is separate information for potential and existing providers, perhaps the navigation needs to say something like "Become a Data Provider" and "Existing Data Providers" under the Participate area.

The Events Calendar is very nice, but is there any way to stretch it wider or wrap the text in the date boxes so that the event titles are readable without clicking on the detailed event view? Can the boxes expand vertically to accommodate text wrapping?

Links at the bottom of Data Management Plan page are useful, but should have some context that advises users what it is they're clicking on. The links are names of orgs, so it's not clear that these links are "other guidance" on management plans. Perhaps a header "Links to the Data Management Plans in This Table" or something similar.

Why is there both a "Home" navigational tab AND a "Home" hyperlink on each page of the site above the page title? Are both necessary? Also, it is not standard practice for a Home button to be the right-most navigation (it should be the left-most navigation according to standard convention).

Is there overlap among "News and Events", "Training Events" and "Events Calendar"? This is confusing. This is another reason to make true NEWS a feed on the homepage (eliminating News and Events), and then better distinguishing between "Training EVENTS" and "EVENTS Calendar".

Many of content areas under DataONEPedia are quite incomplete, with ellipses standing in for more developed content. Shouldn't it be a priority to get this information completed and posted on the site? It looks unprofessional. We have all of these fancy search options for these categories, but we have very little content and substance to search.

The opening paragraphs of the DataONEPedia section contain a historical summary of the history, goals and objectives for this compilation. This isn't what action-oriented users want to wade through when they are browsing for best practices. The core resources need to be front and center at the top of the page.

Several users to whom I showed the DataONEPedia section asked me repeatedly about the location of best practices for metadata. They were deliberately seeking the term METADATA and not finding it. I think that the interpretation of "Best Practices" is going to differ among users. I noticed that some people were expecting to see standards (such as metadata standards) in this section. In the DataONE context, Best Practices are prescriptive; they truly are recommendations for specific ways of doing things. As DataONE is not going to issue a best practice for metadata, I think that we need to consider adding a separate section called "Standards" under "Participate" that provides links to commonly used and authoritative standards within the DataONE community. In other words, "Best Practices" are

strong guidance about specific ways of doing things as a DataONE provider, while a standards section would offer a tightly edited shopping list of legitimate and accredited processes that are endorsed by DataONE, any one of which providers should consider using. My dilemma here is what to call such a section, because I'm convinced that most users do not distinguish between "best practices" and "standards."

Appendix C: Usability Observations by Three U&A WG Members at UTK

Member 1:

Positive points:

1. The language of the content on the website is simple and the construction of sentences is also unambiguous.
2. The error messages are simple to understand by the users.
3. The position of the menus section at the top of the website is quite useful from the visibility perspective and the process of mouseover text showing the submenus makes things very easy for the user.
4. The prominent position of the search interface at the homepage is very useful for the users, too.
5. The website offers very good navigation. Information presented is logically ordered.
6. The information about current events on the front page helps a lot.

Negative points:

1. The website homepage is crowded with a lot of options and has a dull color scheme. It would be good to see a little brighter shade of blue on the website with bold text. An interactive website having pictures of the latest events in an animated form would keep the users interested in the website. These pictures could be a hyperlink to the actual piece of information/news.
2. The search button should be smaller in size and should be present on each and every page.
3. The menu section could be located solely at the top of the website, with bigger tab size and on every page. Keeping menu items in the bottom part of the website is taking up unnecessary space. The submenus could be at the resulting page on the top or the left side of the webpage in a tab form.
4. The logo of DataONE could be a little smaller in size. The pictures could be bigger in resolution. At present they are too small.
5. The font of the content is too small and light in color. It should be bigger in size, bold in texture, as well as in a brighter shade of blue.
6. It would be good to see a high resolution picture of the organizational hierarchy on DataONE Organization Page with the information about each and every unit present in the organization, their functions and most importantly the people working in those units and their contact information.
7. Log in button should have been a part of the main menu section at the homepage and at the top of each page.
8. Contact us option is at the bottom of the page; however, it should be a part of the main menu.
9. There are no demonstration videos about the processes/procedures regarding ongoing/past research work. It would be good to see more pictures and videos about how the data is collected, processed, and analysed, along with outcomes.
10. There is no documentation about how to use the website.
11. There is no site map.
12. There are no breadcrumb links to inform the user where he/she is on the website.
13. The hyperlinks for other webpages do not change colors if the page is already visited. If the user forgets that he/she has visited a particular page, the website has no mechanism to inform the user about it. The user will only know it when he/she visits the page once again.

14. A section of Frequently Asked Questions about the entire organization would be much more helpful for the users.

Member 2:

The website dataone.org was examined from the usability perspective regarding its content, information organization and presentation. The results were organized into three parts: positive points of overall design, negatives of the site regarding information content, and negatives of the site regarding information presentation.

Positive points:

- Clean and clear page design: the background color, font color, and menu color are easy for eyes. It is easy to distinguish text and links on every page.
- The DataONE logo stays on upper left position for every page and is clickable to return to home page.
- The whole website has consistent design throughout the site regarding menu items, headings/subheadings, font size/color, and layout of information.

Negatives – information content:

- The homepage of the site has five different versions of contents whenever refreshing the homepage or clicking "home" from the menu. It is confusing for users to see different version of contents, and may cause them to wonder if they have missed anything important on the homepage. I would suggest providing one standardized homepage.
- In "The DataONE Organization" page, there are links to different pages describing different teams inside the DataONE organization. Examination of every link was performed.
    - Only the "External Advisory Board" page provides brief introduction for each team member and his/her personal website link.
    - "Management Team" page provides the brief introduction, but no links.
    - "DataONE Leadership Team," "Working Groups," and "Software Development" pages have neither brief introduction of the team members, nor the personal website links.

It is better to provide bios for team members in each unit and provide the personal site links or email contact information if possible. Interested users can read and click the links to know more about participating members in this project, and can have email addresses to contact a particular member.

- The content in "News & Events" is mainly the news about the projects. It is confusing if the "events" in "News & Events" has the same meaning in "Events Calendar" or "Training Events." If yes, maybe "News & Events" should be simplified as "News."
- In "Participate" homepage, clicking "Stay informed" navigates to "News & Events" page, which does not make sense. I expect to go to a page about subscribing to an email list to stay informed about the project progress.
- In "Participate" homepage, two basic categories were made about participating in this project: as individual or as an institutional member. However, clicking the two links of "DataONE User Group (DUG)" under these two categories brought me to the same page regarding the DUG resources. I expect to have different contents based on if I am an individual or an institution who wants to join in this project.
- In "Training Events" page, there is no information about how to register for an upcoming event (of course, there are no upcoming events listed on this page now.)

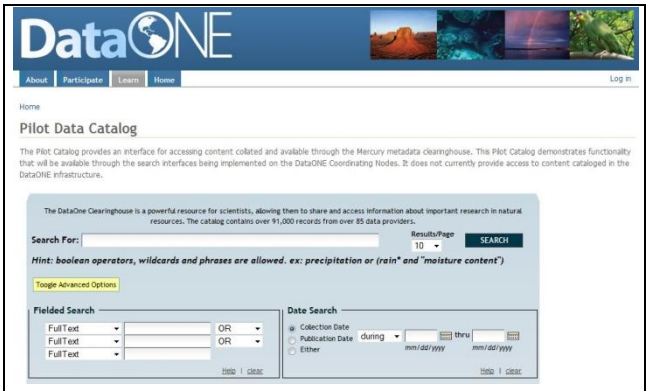
There is no contact information if someone needs more information about future training events.
- The whole website does not provide any help features or FAQs.

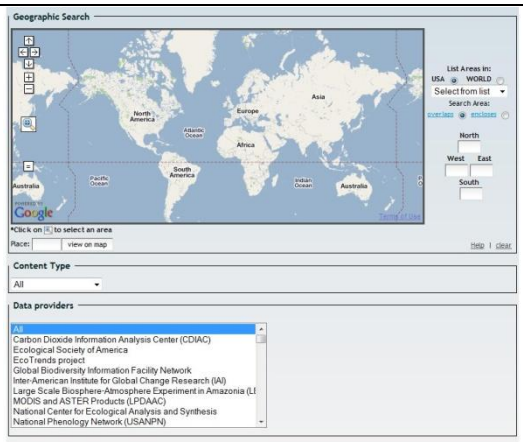
Negatives – information presentation
- Several issues on dataone.org homepage
    - The search box occupies lots of space on homepage and is not shown on other web pages on this site. Usually the search function is placed at the upper right position and should be a universal function on the whole website
    - No "advanced search" option visible on the homepage. Unless the user does not enter any query and click "search," the site brings the user to a search page that has "advanced search" option. This is not an usual result the user expects if no query has been submitted.
    - "Contact us" is on the lower right part of the page and font size is very small, which could be easily overlooked. It is better to put "Contact us" as one of the top menu items.
    - There is no "log in" on homepage, but it appears in every other page on this site. If "log in" is a universal function, it should be on the homepage.
- In "The DataONE Organization" page, the image of organization should be clickable to get an image with higher resolution.
- In "Events Calendar" page, the font size for "Events shown in time zone: Mountain Time" is small so it may be overlooked by site visitors.
- The name "DataONEpedia" is misleading. The contents in this page focus on "Best Practices" and "Tool Categories," which is not the traditional Wikipedia type of contents. Maybe the name for this page needs to change.
- In "DataONEpedia" page, the search button was named as "Apply", which is different from the usual naming standard of "Search" button. It may mislead users. Again, both search boxes on this page allow empty queries, which is not usual.

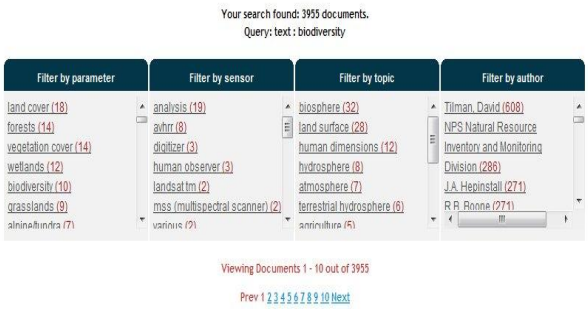
Member 3:

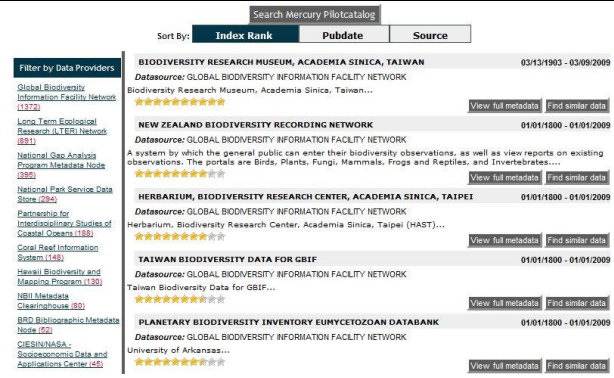
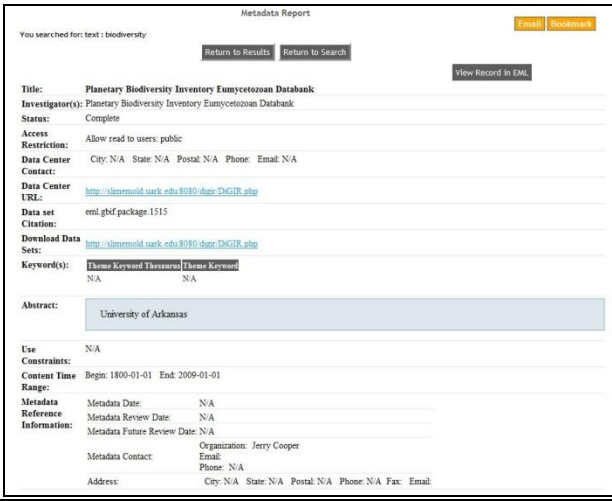
- The site is text heavy and not easy to read. Breaking the information into more manageable chunks is necessary. It's recommended to use bullet points and hyperlink to other pages/information within the site.
- There is no help information. There should be an FAQ section and dialog messages to help users if they are stuck on the site.
- DataONEpedia is confusing. The user is uncertain what to expect when making this selection from the menu.
- Information needs to be organized topically. It is confusing because the menu names don't always correspond with the content that is being presented.
- The training area needs some work. There is no place to schedule or request a training session. There is also no contact information available.

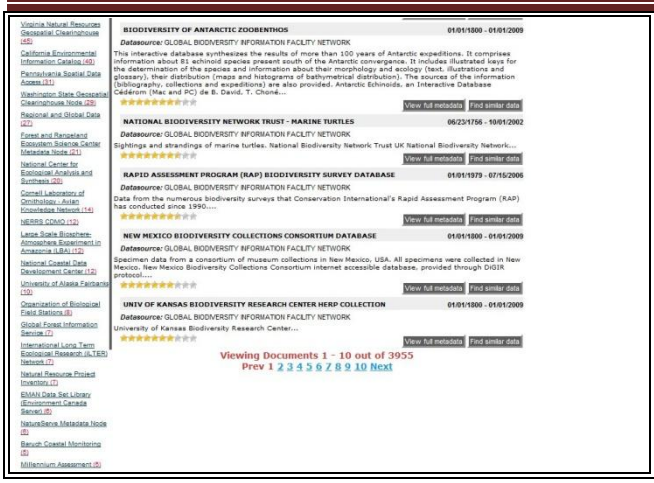
Appendix D: Usability Analysis of DataONE Pilot Catalog Search Interface

	Comments:
	The "Log In" doesn't go anywhere, why have it? Having the DataONE navigation bar is confusing. Change the text: "The Pilot Search Portal demonstrates functionality that will be available through the search interfaces being implemented on the DataONE Coordinating Nodes. It does not currently provide access to content cataloged in the DataONE infrastructure. For demonstration purposes, this Pilot is accessing content from the Mercury metadata clearinghouse [at ??]." It is confusing that one text area says this is not searching DataONE and the other text area says it is searching DataONE. Remove this text until the portal actually searches this content in DataONE, or state that it is under development: "The DataONE Clearinghouse is a powerful resource for scientists, allowing them to share and access information about important research in natural resources. The catalog contains over 91,000 records from over 85 data providers." Replace "Pilot Data Catalog" with "Pilot Search Portal." Comments on Search: Choices should be "QUICK SEARCH" versus "ADVANCED SEARCH" typo -- "Toggle" instead of "Toogle" but, why have this at all? We suggest removing.

	Replace "Fielded Search" with "Text Search." Separate "QUICK SEARCH" section with a solid line before TEXT SEARCH / DATE SEARCH section. "Help" for "Fielded Search" is dysfunctional.
	Comments on the "Geographic Search" option: Layout should pull these 3 options together better on the right column: SELECT from LIST SEARCH by PLACE ENTER N S E W lat/long coordinates <u>The help pop-up should give info for each:</u> In "geographical search", although north, south, west, and east text boxes are pretty intuitive, it is better to give some hints to require users to input longitude and latitude numbers. CHECK: After typing in numbers in north, south, west, and east text boxes, the rectangular area in map did not change.
	Comments on the "Data Providers" section: Add a help button with info about selecting more than one data provider. Check boxes would be easier to use. Consider being able to search for Data Providers rather than a very long alpha list.
	Comments: The rest of the page talks about Search, not Query. Change this to something like "Your Search Parameters (not editable)" or "Your Selections (not editable)"? "Clear Query" and "Search" buttons should be of the same kind.

Results screen for search on biodiversity:	
	I like the filter set choice boxes. I have not seen this before (BWG). It is not clear if you can choose more than one filter. It seems you cannot. There must have a HELP screen. And there is no information about what the index rank or the stars mean. This is a nice way to browse, but it can be confusing what it is you are filtering. Need ways of indicating what the possible filters are because other filters appear in follow up screens. Confusion about filters could lead to false negatives. I wish these filters could be sorted. It is very hard to find anything when the list is ranked by number of hits. You end up scrolling through long lists hunting for things. It is unclear what 'parameter' means in relation to topic. This is primary real estate on the page. Is it something well understood and important to place on this screen? After an initial search, as shown here, there is a 'Filter by Author" tab at the top and down the left side is "Filter by Data Provider." Sometimes these are the same results, but the number of hits are not the same. Obviously, this is searching different metadata fields, but is it really helpful? Note that later this left hand area becomes a list of filters in place. After you filter by something (e.g. author), the results screen gives you new filters, but if you want one that was on the previous screen, you do not know how to use both(e.g. want to filter by topic and sensor). Then on successive screens other filters appear (by decade, by presentation type, by title, by keywords, by project). You never know what filters are coming next. Suggestion: build sets of similar metadata fields into a common group rather than all

	these separate filters.
	The one line comment descriptors are inconsistent in the content they relay, as well as in length. Both aspects need to be standardized. Terminology is confusing: Author, Originator, Source, Data Provider, Data Source, Project, Topic, parameter, keywords. Perhaps this is useful for experts who know what metadata fields will be searched by each of these filters, but for somebody who does not want to figure it out this is overload. The query text gives some idea of what is going on. Note that it shows both the Query, and the Filters, for example now it shows both even though they are the same: "Query: text : water AND (datasource :(ornldaac)) AND topic:biosphere Filters: topic : biosphere (remove) Data Providers : ornldaac (remove) " This is a little confusing. Also note that we can see the list of filters on the left hand side, but not the Query. It is unclear what "Sort by: Source" actually delivers (author? originator? data provider? data source? Investigator? project?).
	Metadata report for the previous find on the "Eumycetozoan Databank**": Metadata abstract appears as one long line with a slider bar you have to move to read the whole thing. This should be formatted as a single visible paragraph w/o the slider. Return to Search: you lose the search and it resets back to first search screen. Perhaps this should be "NEW SEARCH."


Virginia Natural Resources Geospatial Clearinghouse (48)
California Environmental Information Catalog (40)
Pennsylvania Spatial Data Access (31)
Washington State Geospatial Clearinghouse Node (28)
Regional and Global Data (27)
Forest and Rangeland Ecosystem Science Center Metadata Node (21)
National Center for Ecological Analysis and Synthesis (20)
Cornell Laboratory of Ornithology - Avian Knowledge Network (14)
NERRS CDMO (12)
Large Scale Biosphere-Atmosphere Experiment in Amazonia (LBA) (12)
National Coastal Data Development Center (12)
University of Alaska Fairbanks (10)
Organization of Biological Field Stations (8)
Global Forest Information Service (7)
International Long Term Ecological Research (ILTER) Network (7)
Natural Resource Project Inventory (7)
EMAN Data Set Library (Environment Canada Server) (6)
NatureServe Metadata Node (6)
Baruch Coastal Monitoring (6)
Millennium Assessment (5)
BIODIVERSITY OF ANTARCTIC ZOOBENTHOS
01/01/1800 - 01/01/2009
Datasource: GLOBAL BIODIVERSITY INFORMATION FACILITY NETWORK
This interactive database synthesizes the results of more than 100 years of Antarctic expeditions. It comprises information about 81 echinoid species present south of the Antarctic convergance. It includes illustrated keys for the determination of the species and information about their morphology and ecology (text, illustrations and glossary), their distribution (maps and histograms of bathymetrical distribution). The sources of the information (bibliography, collections and expeditions) are also provided. Antarctic Echinoids, an Interactive Database Cédérom (Mac and PC) de B. David, T. Choné...
View full metadata
Find similar data
NATIONAL BIODIVERSITY NETWORK TRUST - MARINE TURTLES
06/23/1756 - 10/01/2002
Datasource: GLOBAL BIODIVERSITY INFORMATION FACILITY NETWORK
Sightings and strandings of marine turtles. National Biodiversity Network Trust UK National Biodiversity Network:...
View full metadata
Find similar data
RAPID ASSESSMENT PROGRAM (RAP) BIODIVERSITY SURVEY DATABASE
01/01/1979 - 07/15/2006
Datasource: GLOBAL BIODIVERSITY INFORMATION FACILITY NETWORK
Data from the numerous biodiversity surveys that Conservation International's Rapid Assessment Program (RAP) has conducted since 1990....
View full metadata
Find similar data
NEW MEXICO BIODIVERSITY COLLECTIONS CONSORTIUM DATABASE
01/01/1800 - 01/01/2009
Datasource: GLOBAL BIODIVERSITY INFORMATION FACILITY NETWORK
Specimen data from a consortium of museum collections in New Mexico, USA. All specimens were collected in New Mexico. New Mexico Biodiversity Collections Consortium Internet accessible database, provided through DiGIR protocol....
View full metadata
Find similar data
UNIV OF KANSAS BIODIVERSITY RESEARCH CENTER HERP COLLECTION
01/01/1800 - 01/01/2009
Datasource: GLOBAL BIODIVERSITY INFORMATION FACILITY NETWORK
University of Kansas Biodiversity Research Center...
View full metadata
Find similar data
Viewing Documents 1 - 10 out of 3955
Prev 1 2 3 4 5 6 7 8 9 10 Next