



SCIENCE ENVIRONMENT FOR ECOLOGICAL KNOWLEDGE



# Usability of Data Registry Forms

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# Agenda

- Introduction
- Content Exercise
- Form Usability
- Data Registry Form
- Participant Feedback



# Introduction

- Evolution of the data registry form
  - Subset of EML
  - Started with UC NRS in defining a minimal set of fields to describe a data set
  - Other organizations (NCEAS, OBFS etc.) took the baseline and added some of their own fields



# Content Exercise

- What is the minimal set of fields necessary to describe a data set?
  - Handouts
  - Instructions




# What is a form?

- A form is a document that asks questions and provides choices and space for answers.
- It can be divided into three general dimensions:
  - Perceptual
  - Conversational
  - Relationship

*(Reference 2)*



# Form Usability – Perceptual Layer

- Layout, alignment, readability, colors, grouping, headings, graphics
  - “If it looks good, it’s easier to use.”  
(Caroline Jarrett)
    - Nicely designed translates to more trustworthy
    - Good visual chunking makes the form look easier
    - Details in layout are rarely commented on, but do affect users. *(Reference 6)*
- 




# Form Usability – Conversational Layer

- The question and answer dialog
- Are the right questions being asked?
- Do things flow?
- Are all appropriate choices given?
- Is the terminology understandable and consistent?
- Are questions phrased correctly? e.g.,
  - You must fill in sections a, b, and c if you are x or y (incorrect)
  - If you are x or y, please fill in sections a, b, and c. (correct)

*(Reference 6)*



# Form Usability – Relationship Layer

- Represents a division of work between the issuing organization and the person completing the form. *(Reference 2)*
  - Users have developed attitudes, especially of trust, concerning the organization.
  - Do users understand the benefits of filling out the form?
- 






# Web Form Usability Guidelines

- Seventeen guidelines, from Redish, see *Reference 5*
  - Help users find the form quickly.
  - Help users know what they need before they start.
  - Do not expects user to read too much.
  - Assume users will click on the first likely link.
  - Give users information when and where they need it.
  - Indicate required fields before users start.
  - Group questions logically.
  - Use headings over groups of questions.



# Web Form Usability Guidelines (cont.)

- Indicate progress and steps if you can.
  - Use the users' words.
  - Provide hints/models/examples with the questions.
  - Autofill when you can, but be wary of refreshing the screen.
  - Be error tolerant.
  - Layer extra assistance.
  - Provide the right amount of space for the answer.
  - Choose the best control for the type of question and the user.
  - In a long form, let users save and return later.
- 

# Current vs. Proposed Data Registry Form

## BASIC INFORMATION (What's this?)

Name of Person completing this form

First Name

Last Name

Select your station here.  Station Name

Data Set Title

## PRINCIPAL DATA SET OWNER (What's this?)

First Name

Last Name

Organization Name

E-Mail

Phone

FAX

Street information (number, street, unit, etc., comma-separated)

City

Select state here.  State  Other State or Province

ZIP

Country

## ASSOCIATED PARTIES (What's this?)

First Name

Last Name

Role

Principal Investigator

Add Associated Party

## BASIC INFORMATION – name of person completing this form. (?)

◆ First Name

◆ Last Name

◆ Data Set Title

◆ NCEAS Project(s)   
NCEAS 6000: Andelman:  
NCEAS 7000: Bascompte:  
NCEAS 7001: Hackett:  
NCEAS 7002: Jones:  
NCEAS 7003: Schildauer:

## PRINCIPAL DATA SET OWNER (?)

◆ First Name

◆ Last Name

Organization Name

E-mail

Phone

FAX

Street Information   
(Number, street, unit etc., comma-separated)

City

State

Other State/Province

Postal Code

Country

## ASSOCIATED PARTIES (?)

First Name

Last Name

Role

Add Associated Party

# Current vs. Proposed Data Registry Form (cont.)

## DATA SET ABSTRACT [\(What's this?\)](#)

### Data Set Abstract

## KEYWORD INFORMATION [\(What's this?\)](#)

(for example keywords, have a look at the keyword thesaurus for the [NASA Global Change Master Directory \(GCMD\)](#))

Keyword	Keyword Type	Keyword Thesaurus
<input type="text"/>	none	none

Add Keyword

## TEMPORAL COVERAGE OF DATA [\(What's this?\)](#)

Beginning Date of Data Set:

<input type="text"/> Year (YYYY)	<input type="text"/> 00 Month (MM)	<input type="text"/> 00 Day (DD)
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Ending Date of Data Set (provide no ending date at all if your data set is open-ended):

<input type="text"/> Year (YYYY)	<input type="text"/> 00 Month (MM)	<input type="text"/> 00 Day (DD)
----------------------------------	------------------------------------	----------------------------------

## SPATIAL COVERAGE OF DATA [\(What's this?\)](#)

### Geographic Description

Enter a general description of the geographic area in which the data were collected. This can be a simple place name (e.g., Santa Barbara) or a fuller description.

Coordinates (in Degrees, Minutes and Seconds; at least 1 lat./long. pair is required):

Enter the first lat./long. pair only to indicate a point location. Enter both coordinate pairs to indicate a bounding box.

## DATA SET ABSTRACT [?](#)

### Data Set Abstract

## KEYWORD INFORMATION – for samples, see NASA Global Change Master Directory (GCMD). [?](#)

Keyword

Type  None

Thesaurus ☒ None ☐ GCMD

Add Keyword

## TEMPORAL COVERAGE OF DATA [?](#)

Start Date		Stop Date	
Year (yyyy)	<input type="text"/>	Year (yyyy)	<input type="text"/>
Month	<Select>	Month	<Select>
Day	<Select>	Day	<Select>

Note: Leave "Stop Date" blank if your data set is open ended.

## SPATIAL COVERAGE OF DATA [?](#)

### Geographic Description

General description of the geographic area in which the data were collected. It can be a simple place name (e.g., Santa Barbara) or a fuller description.

## COORDINATES

	Degrees	Minutes	Seconds	
Latitude	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="radio"/> North <input type="radio"/> South
Longitude	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="radio"/> West <input type="radio"/> East

If only this first lat/long pair is entered, this indicates a point location. If both lat/long pairs are entered then this first pair represents the northwest corner of a bounding box.

Latitude	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/> North <input checked="" type="radio"/> South
Longitude	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/> West <input checked="" type="radio"/> East

If entered, this lat/long pair represents the southeast corner of a bounding box.

# Current vs. Proposed Data Registry Form (cont.)

## TAXONOMIC COVERAGE OF DATA [\(What's this?\)](#)

List the taxa associated with this set of data.

The Taxon Rank should indicate the level in the taxonomic hierarchy (e.g., Phylum or Species) and the Taxonomic Name should be the scientific name for the organism at that level (e.g., *Ursus arctos*).

Taxon Rank

Taxon Name

Add taxon

### Taxonomic Authority

List the source(s) used for identifying and naming taxa in this list. These sources should provide comprehensive information about the taxonomic concepts indicated by the names listed.

## METHODS [\(What's this?\)](#)

### Data Collection Methods

Title of Method

Method Description

Add paragraph

### Description of Study Extent

Describe the temporal, spatial and taxonomic extent of the study, supplementing the information on coverage provided above. For example, if the temporal coverage of the data is 1990-2000, you might provide details about any years that were missed or the months in which sampling occurred.

### Sampling Description

Describe the sampling design of the study. For example, you might describe the way in which treatments were assigned to sampling units.

## TAXONOMIC COVERAGE OF DATA [?](#)

Taxon Rank  (e.g., phylum or species)

Taxon Name  (e.g., *Ursus arctos*)

Add Taxon

Taxonomic Authority

List the source(s) used for identifying and naming taxa. These sources should provide comprehensive information about the taxonomic concepts listed.

## DATA COLLECTION METHODS [?](#)

Method Title

Method Description

Add Paragraph to Method Description

Extent of Study Description

Describe the temporal, spatial and taxonomic extent of the study, supplementing the information on coverage provided above. For example, if the temporal coverage of the data is 1990-2000, you might provide details about any years that were missed or the months in which sampling occurred.

Sampling Description

Describe the sampling design of the study. For example, you might describe the way in which treatments were assigned to sampling units.

# Current vs. Proposed Data Registry Form (cont.)

## DATA SET CONTACT (What's this?)

☐ Use the same name and address as the PRINCIPAL DATA SET OWNER above (If you check this box, you don't need to fill in the address fields below).

First Name  
 Last Name  
 Organization Name  
 E-Mail  
 Phone  
 FAX

Street information (number, street, unit, etc., comma-separated)

City  
 Select state here.  State  Other State or Province  
 ZIP  
 Country

## DISTRIBUTION INFORMATION (What's this?)

Dataset Name or Identifier (important) (What's this?)

### Data Medium:

Select type of medium here.

If you selected "other" for Data Medium, enter detail below

### Use Constraints:

Select restrictions here.

If you selected "other" for Use Constraints, enter detail below.

URL (for location of data set or of more metadata)

Additional Information (What's this?)

NOTE: You must submit your data in order for these to be entered in the Data Registry!

## DATA SET CONTACT

☐ Same as information listed for the Principal Data Set Owner.

OR

◆ First Name   
 ◆ Last Name   
 Organization Name   
 E-mail   
 Phone   
 FAX   
 Street Information   
 (Number, street, unit etc., comma-separated)  
 City   
 State   State  
 Other State/Province   
 Postal Code   
 Country

## DISTRIBUTION INFORMATION

Data Set Identifier

Note: If available, please enter the full name and path where the data set resides locally on your system. Alternatively, provide other pertinent information that can identify and locate the data set within your site's data management system (e.g., references to hardcopy information such as files numbers).

◆ Data Medium ☐ Digital ☐ Hardcopy ☐ Other


◆ Use Constraints ☐ No restrictions ☐ Obtain permission from originator(s) ☐ Other

URL

Additional Information



# Improvements

- Used color/shading to group sections and table outlines to provide feel of “one” form and to differentiate from background of web page
  - Lighten background of data entry portions to improve readability
  - Reduced clutter and improved flow by grouping, aligning and spacing elements appropriately and adjusting labels, formatting examples and eliminating superfluous verbiage.
  - Moved labels to the left of data entry fields.
  - Removed red writing for required fields and replaced with solid diamond symbol.
  - Substituted icon for “what’s this” link.
- 



# Participant Feedback





# References

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4. Usable Forms for the Web, James et al., 2002
5. Moving Forms to the Web, Usability University, Redish, June 2004, [www.redish.net/content/talks/MovingFormstotheWeb.pdf](http://www.redish.net/content/talks/MovingFormstotheWeb.pdf)
6. Usability and On-line Forms, NYC UPA Presentation, Jarrett, June 2004, [www.nycupa.org/past\\_events/formsthatwork-for-nyc.pdf](http://www.nycupa.org/past_events/formsthatwork-for-nyc.pdf)