Morpho Activity

Start Entering/Practicing with real data

Morpho Activity

- The following slides are set up to take you step by step through the process of creating a data package in morpho
- If you have any questions please feel free to ask the facilitors.

Register with KNB

- To begin register as a user at the KNB site http://knb.ecoinformatics.org/index.jsp
- Scroll down the page until you find the login & registration box in lower left of the page
- Click on the link create a new account

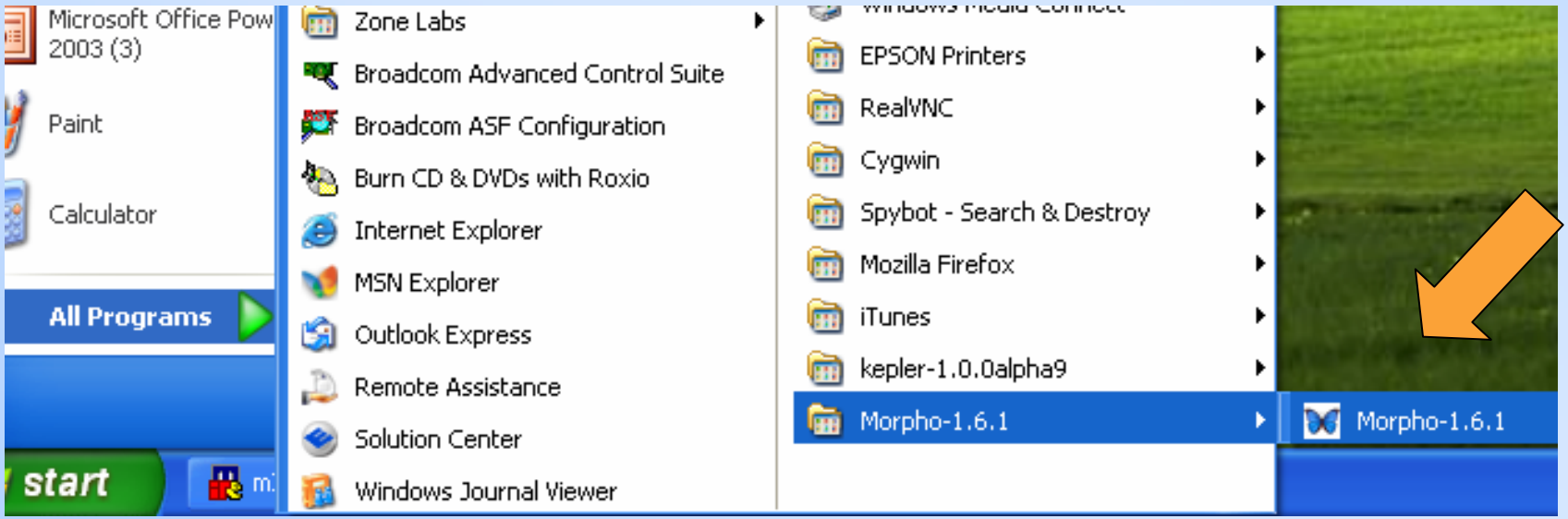
- **Write down your username, organization and password as you will use this in Morpho**

Downloading & Installing Morpho

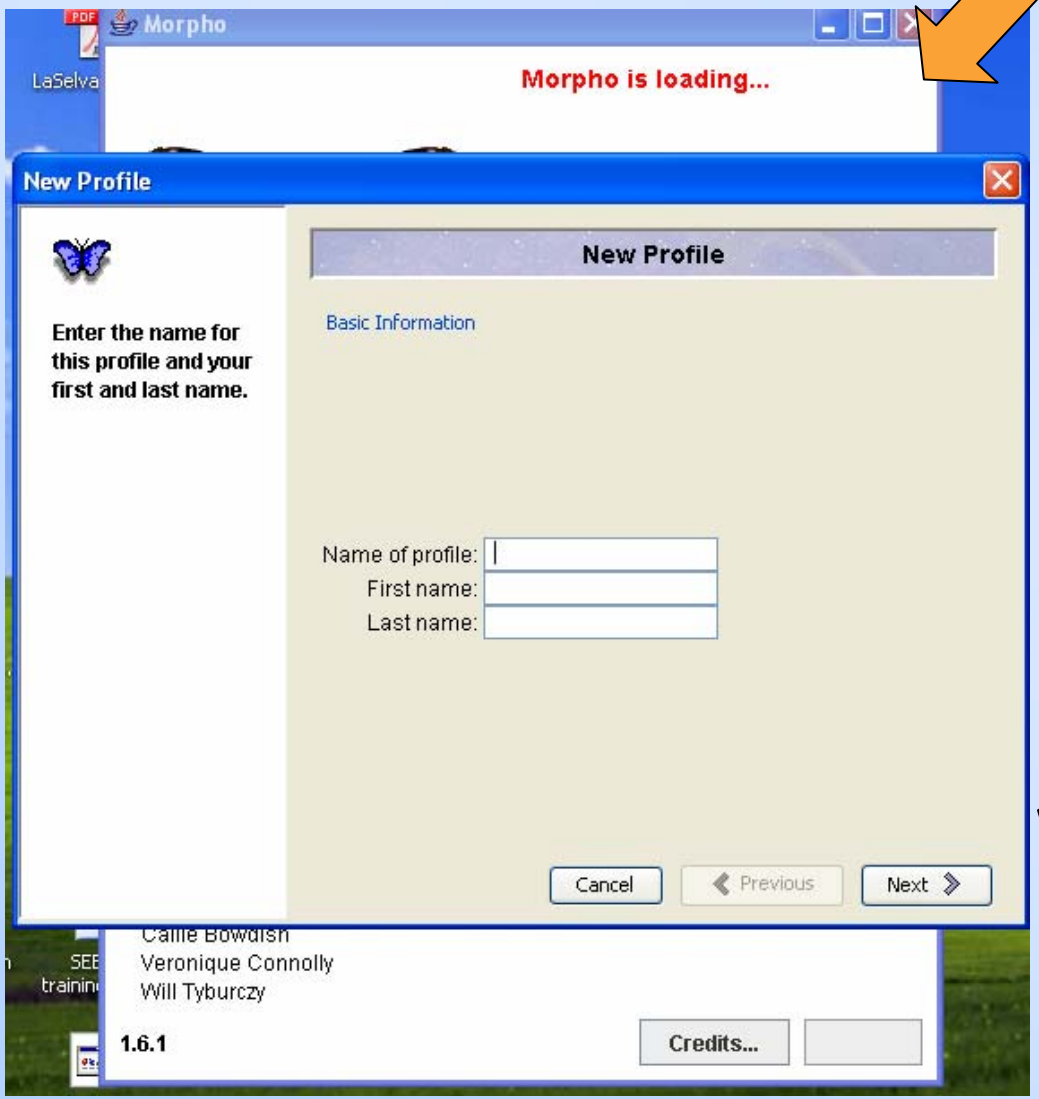
- Next go to http://knb.ecoinformatics.org/morphoportal.jsp to download the most recent version of morpho.
- Download Morpho with Java.
- There is an installer that will walk you through the installation.

Opening Morpho

- Once you have installed Morpho. Locate Morpho in your program file and start the application.



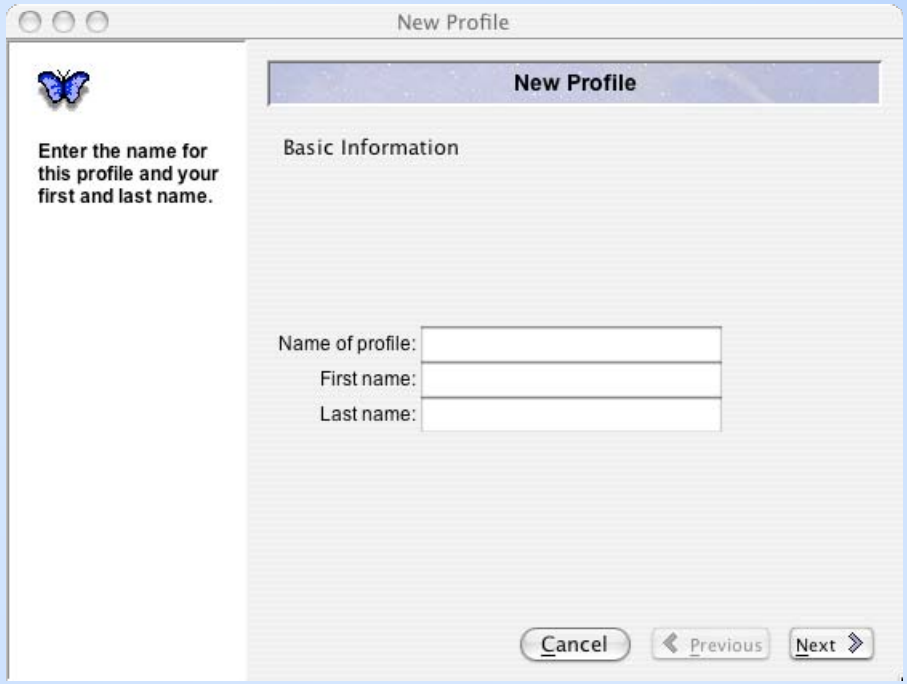
Opening Morpho



- When you open Morpho for the first time two windows will open: a splash screen and a new profile window.

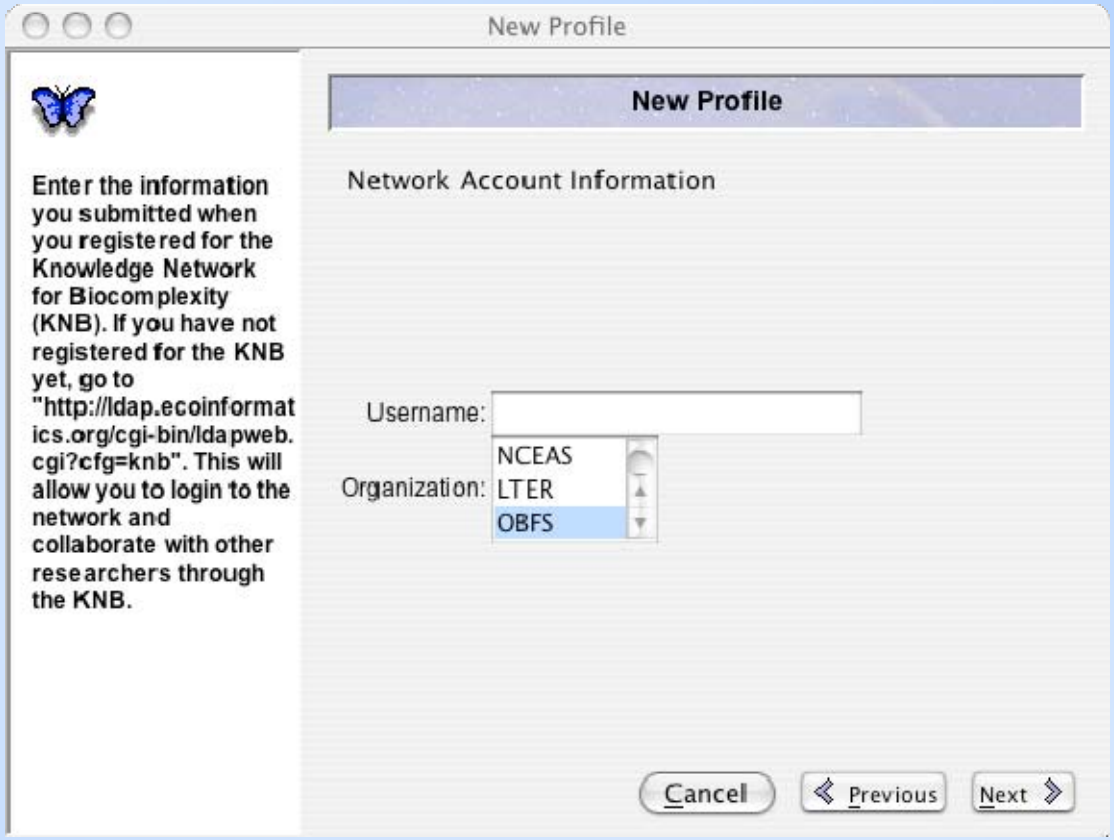
Creating a profile

- Enter a name for the profile
  - Suggested: first initial and last name (wtyburczy)
- Enter your name
- Hit “Next”



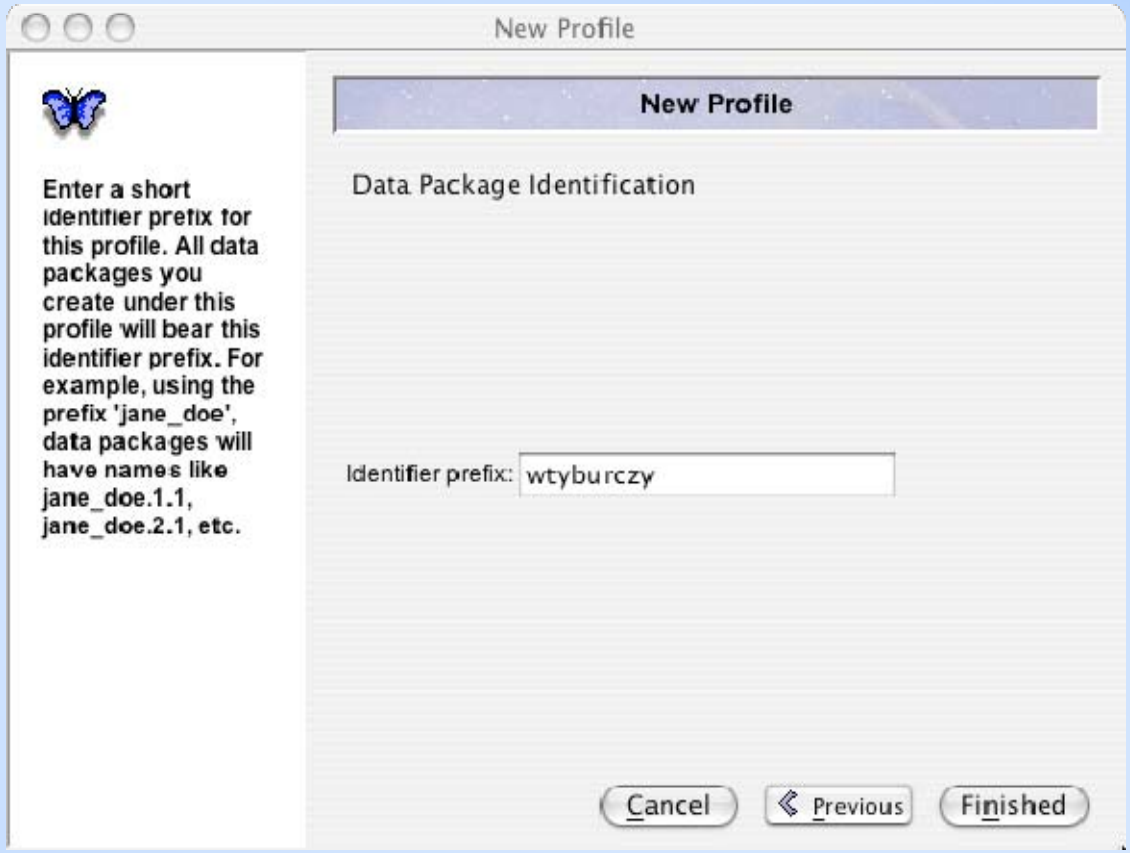
Creating a profile

- Enter the username and affiliation of your KNB account
- Hit “Next”
- This is the same username, and organization you created on the KNB site

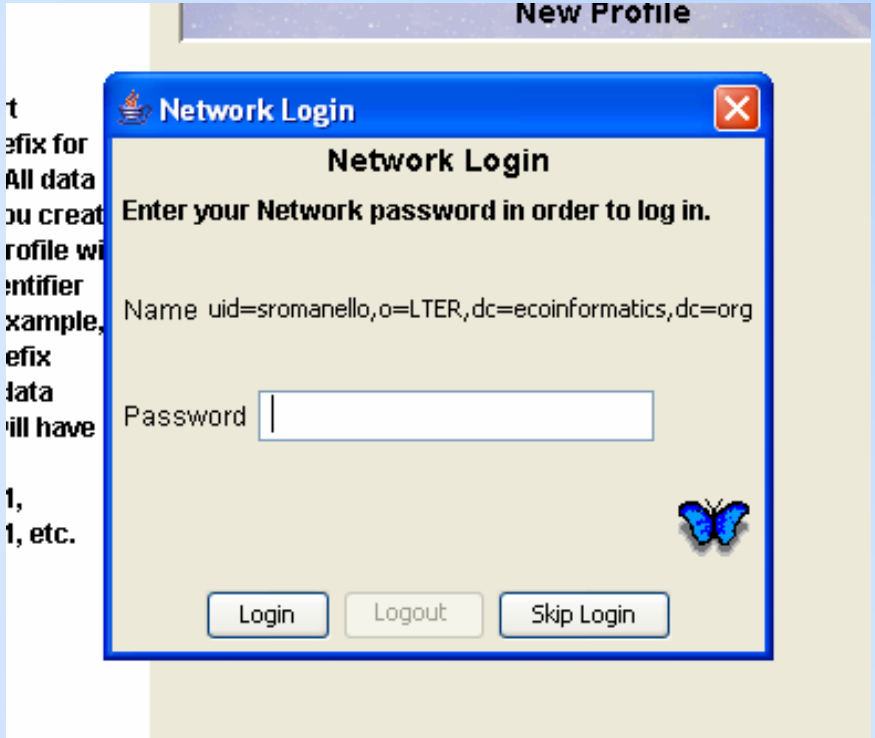


Creating a profile

- Select an identifier prefix
  - Usually the same as your account username
  - Used as the first part of the name of your data packages
- Hit “Finished”

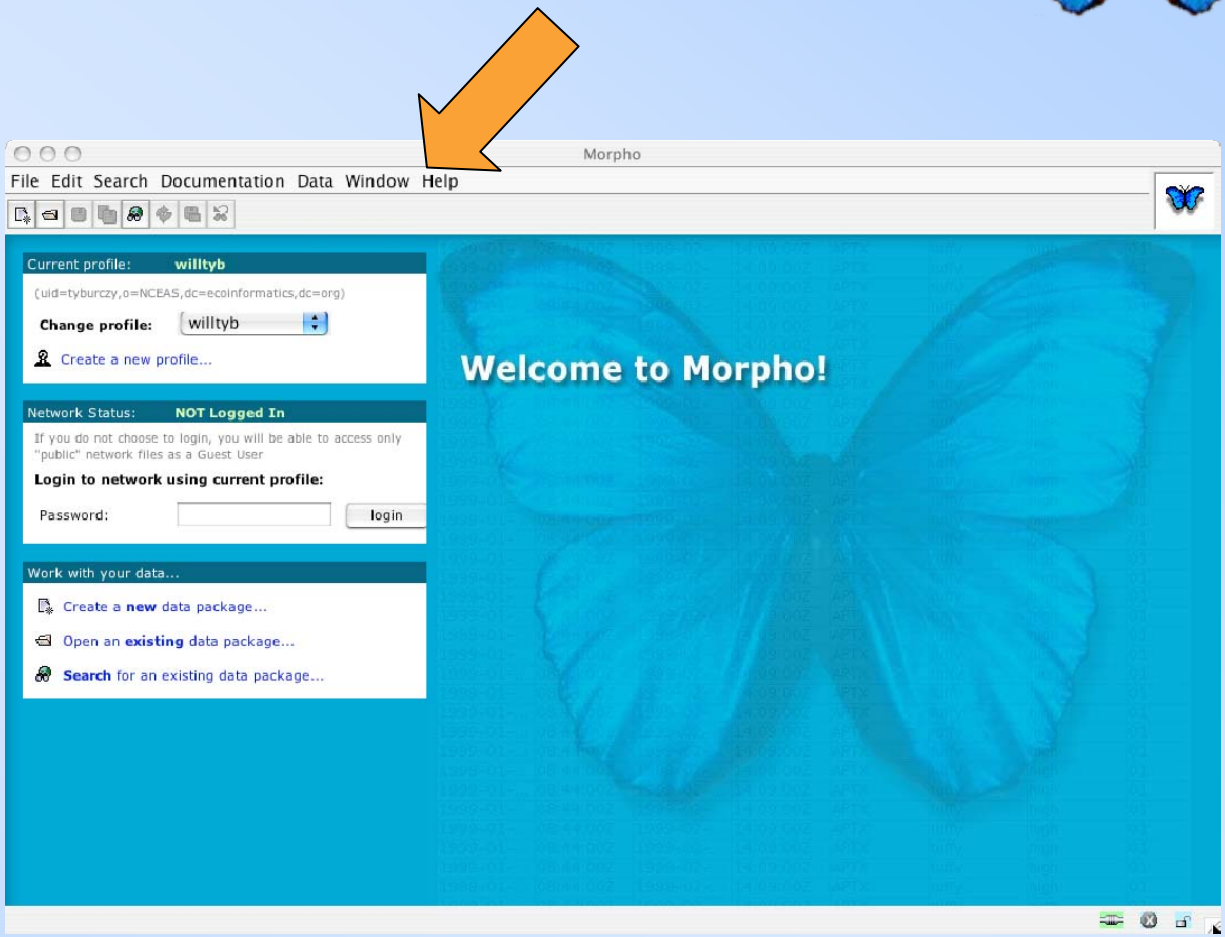


- A screen will open asking you for your password.
- This is the same password that you created on the KNB site



The main window

- **All controls accessible via the menu bar**
- Common tasks also in graphics toolbar
- Center window provides access to main functions
- Butterfly icon indicates that program is processing



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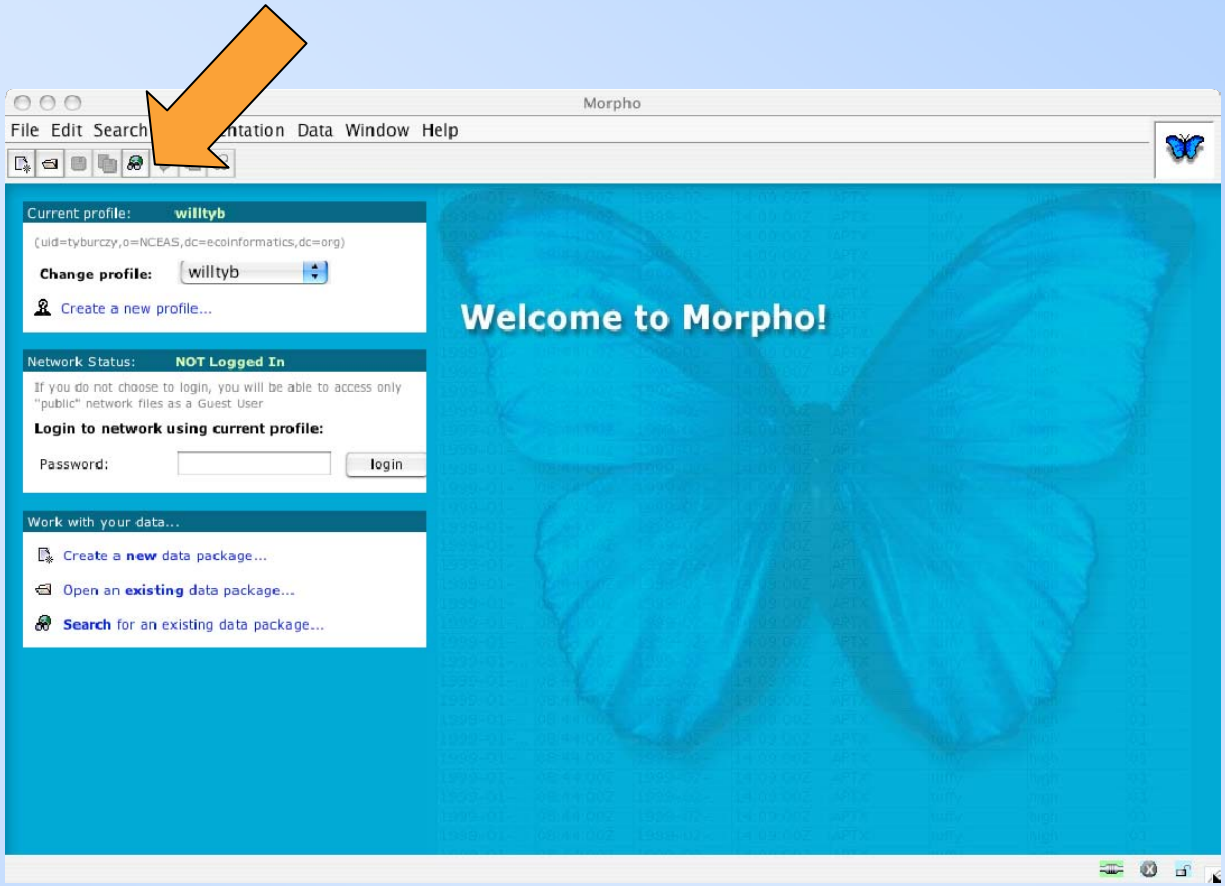

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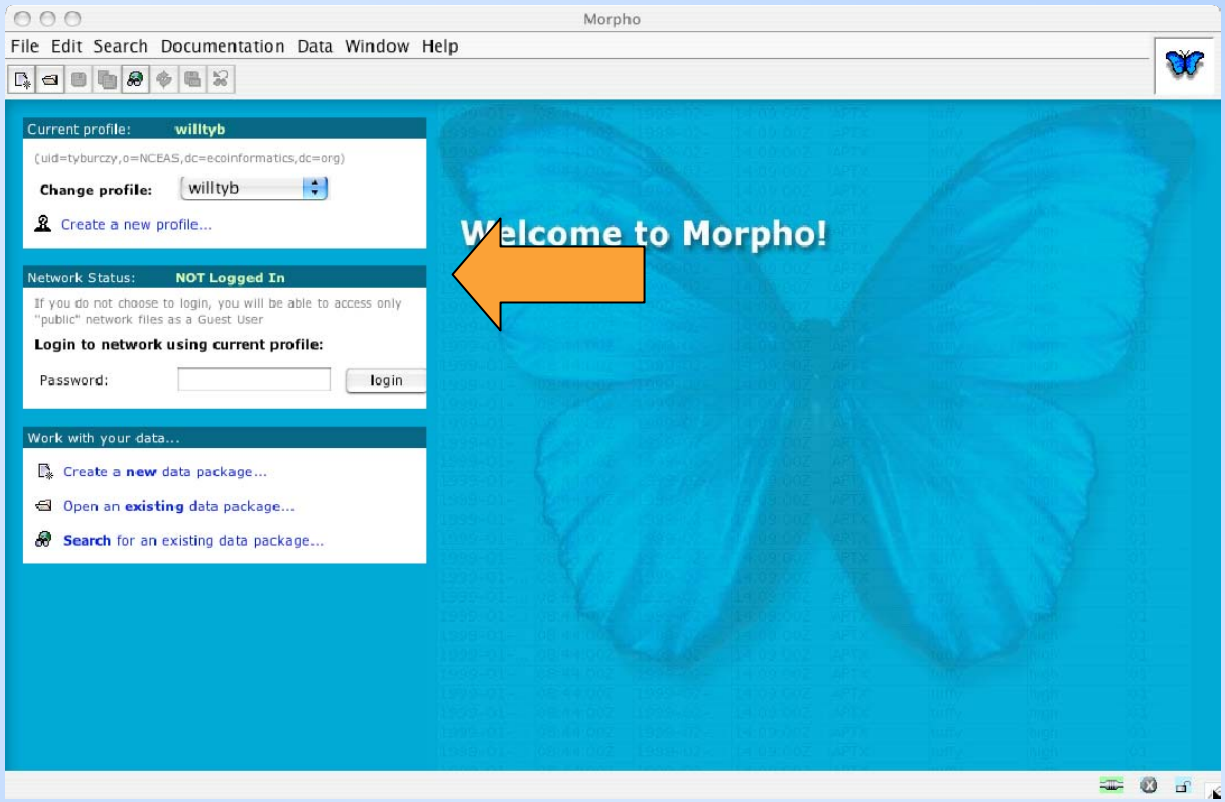

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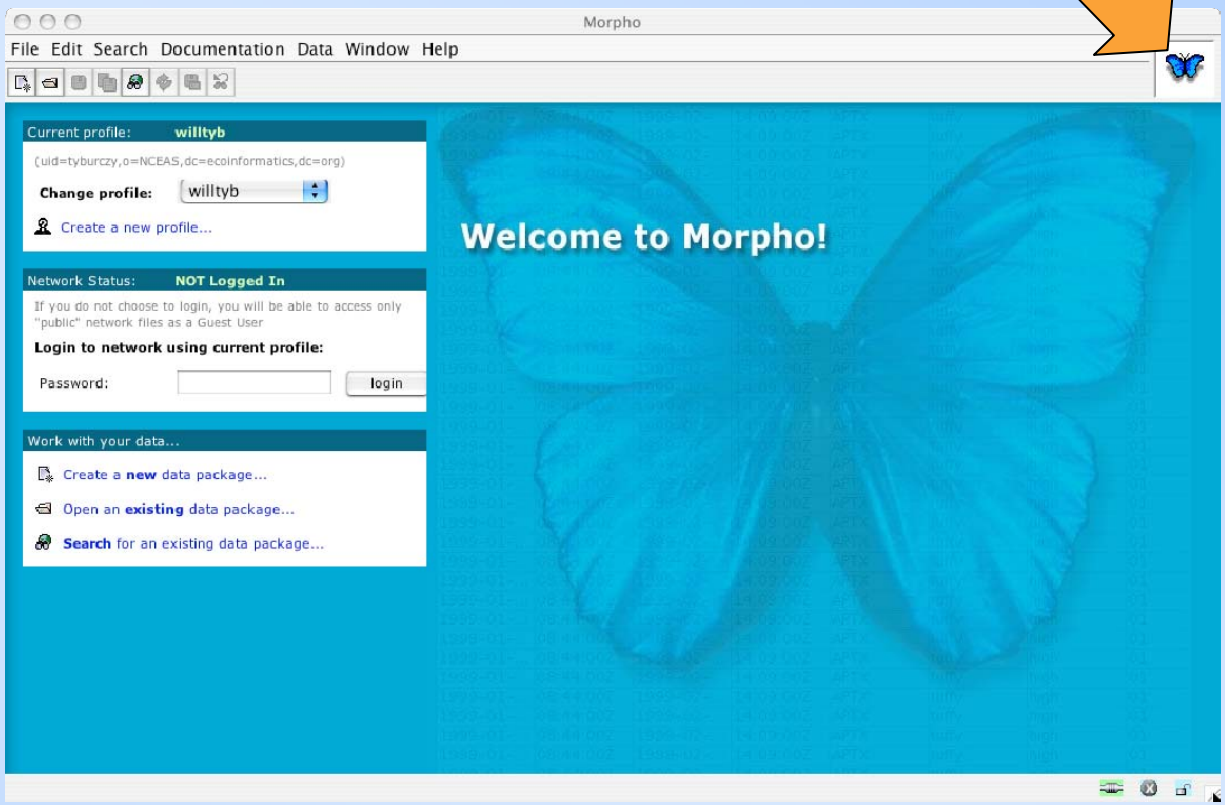
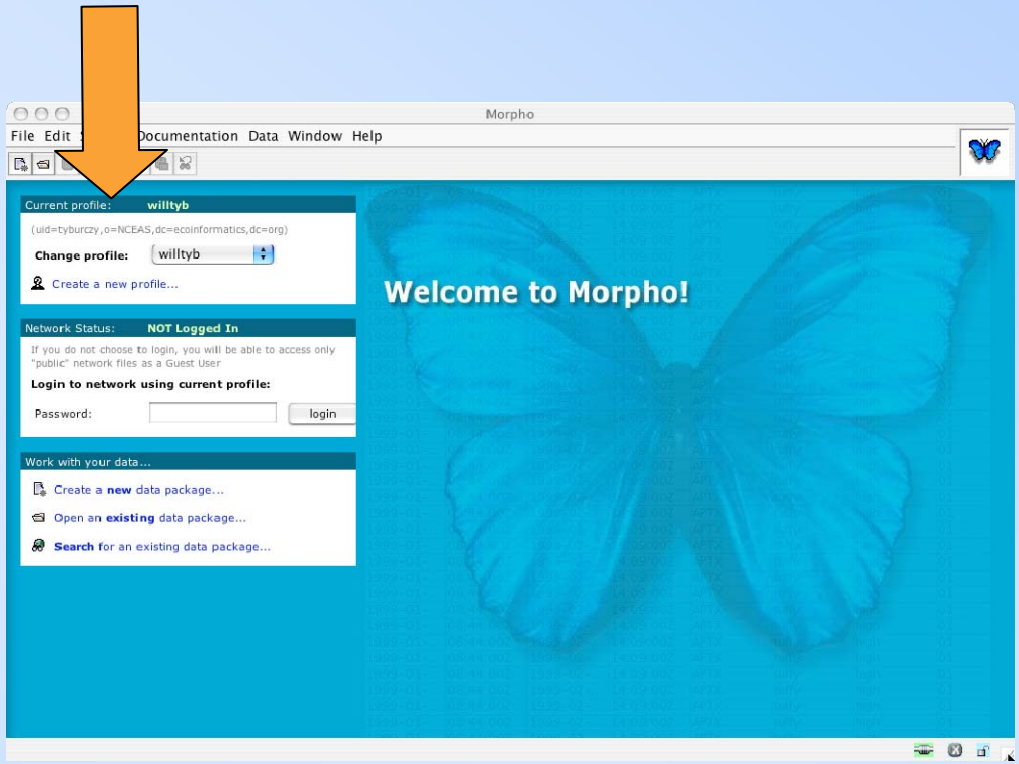


Profiles in Morpho

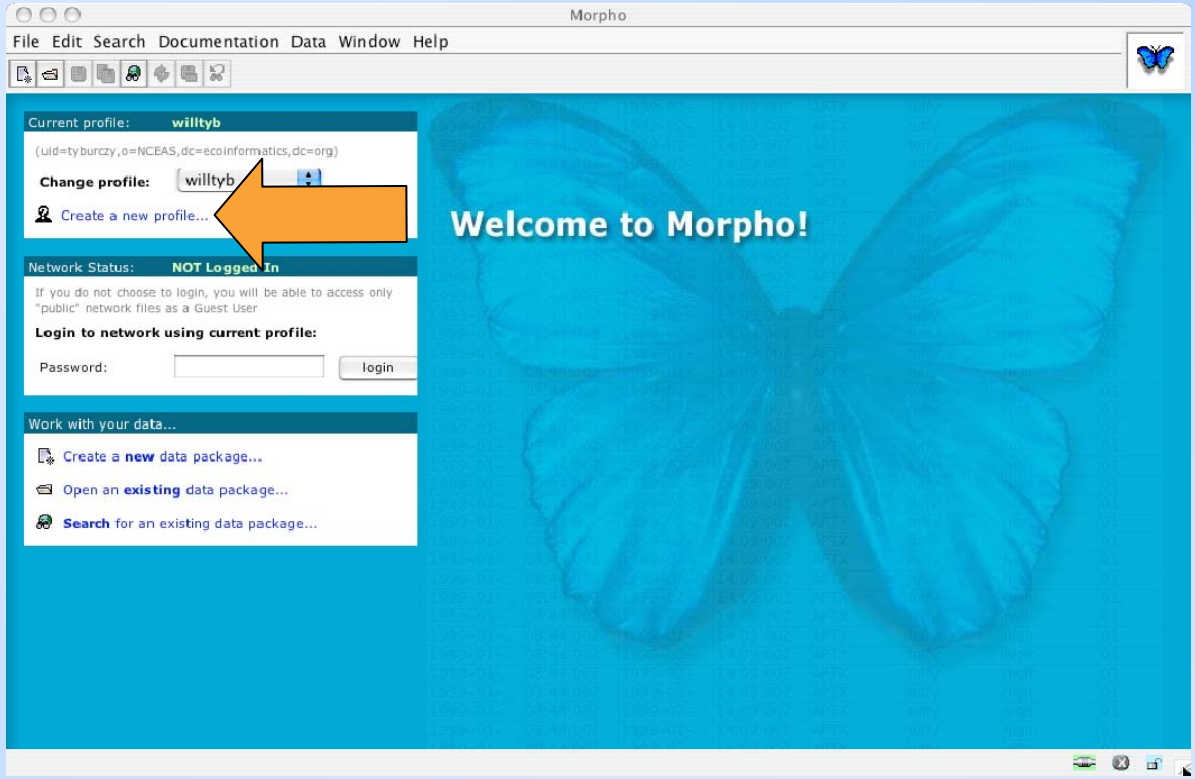
- Allows multiple users on the same machine to keep their data separate
  - Profiles are NOT password protected on the local machine
- A profile generally corresponds to an associated KNB account
- Can also be useful to separate work done for different projects/organizations



Register for a KNB account at http://knb.ecoinformatics.org

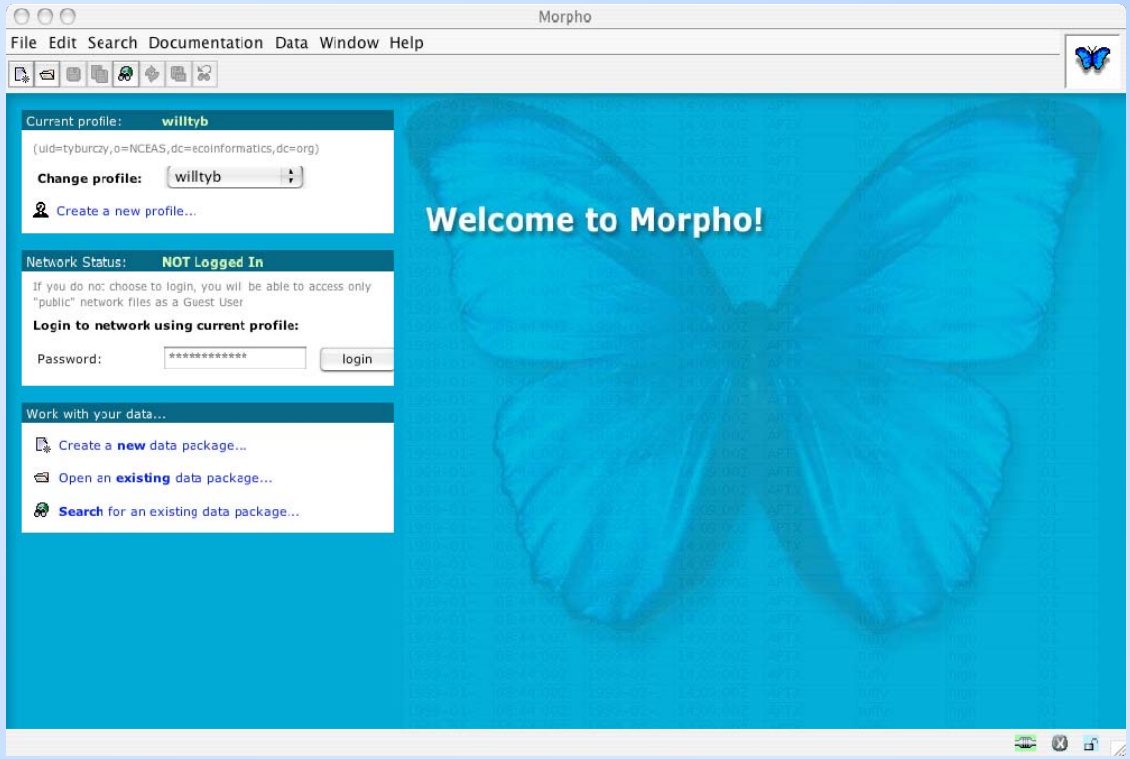
Creating a profile

- Select "Create a new profile…" from the main window



Logging in

- **Required to save or edit data packages on the network**
- **Allows viewing of data packages that may not be publicly readable**
- Select your profile from the drop-down box
- Enter the password for your account
- Hit “Login”



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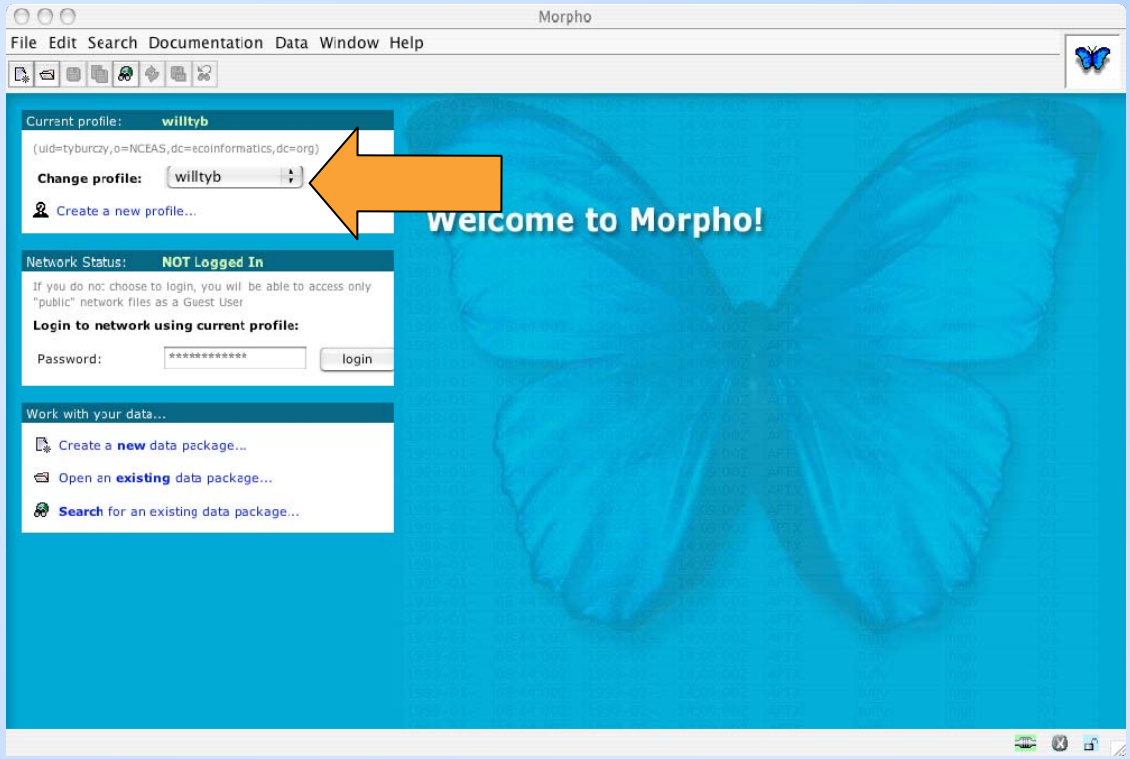

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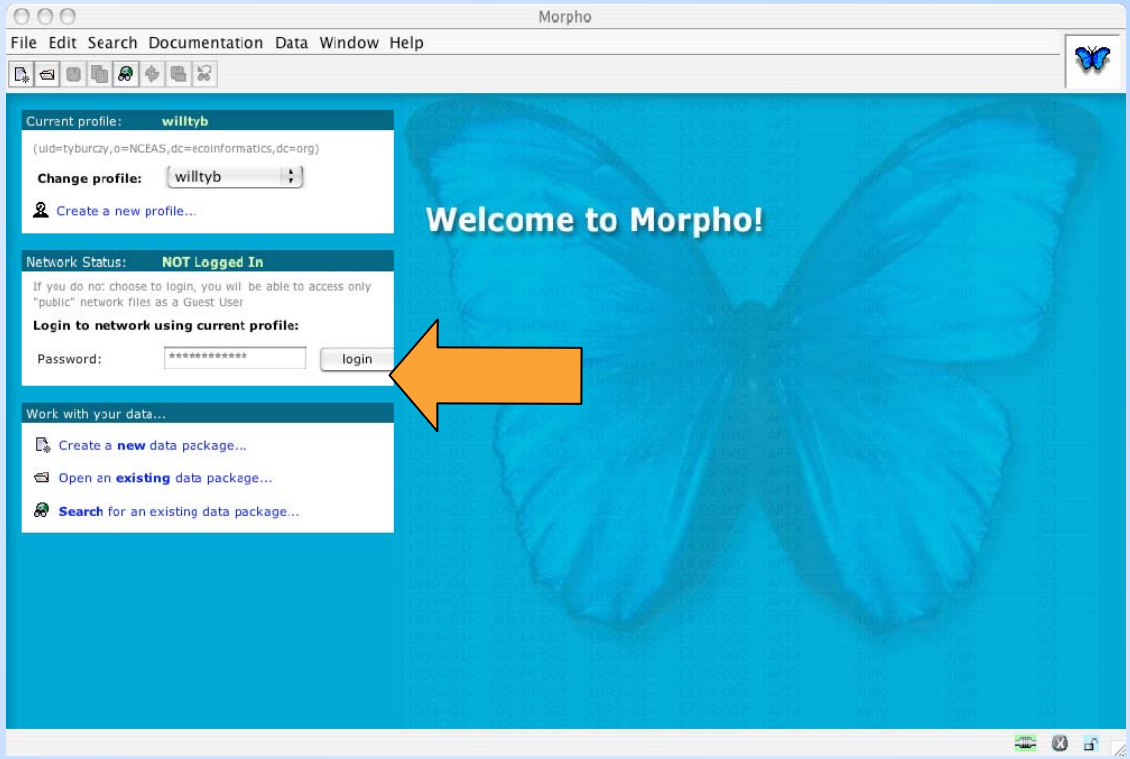
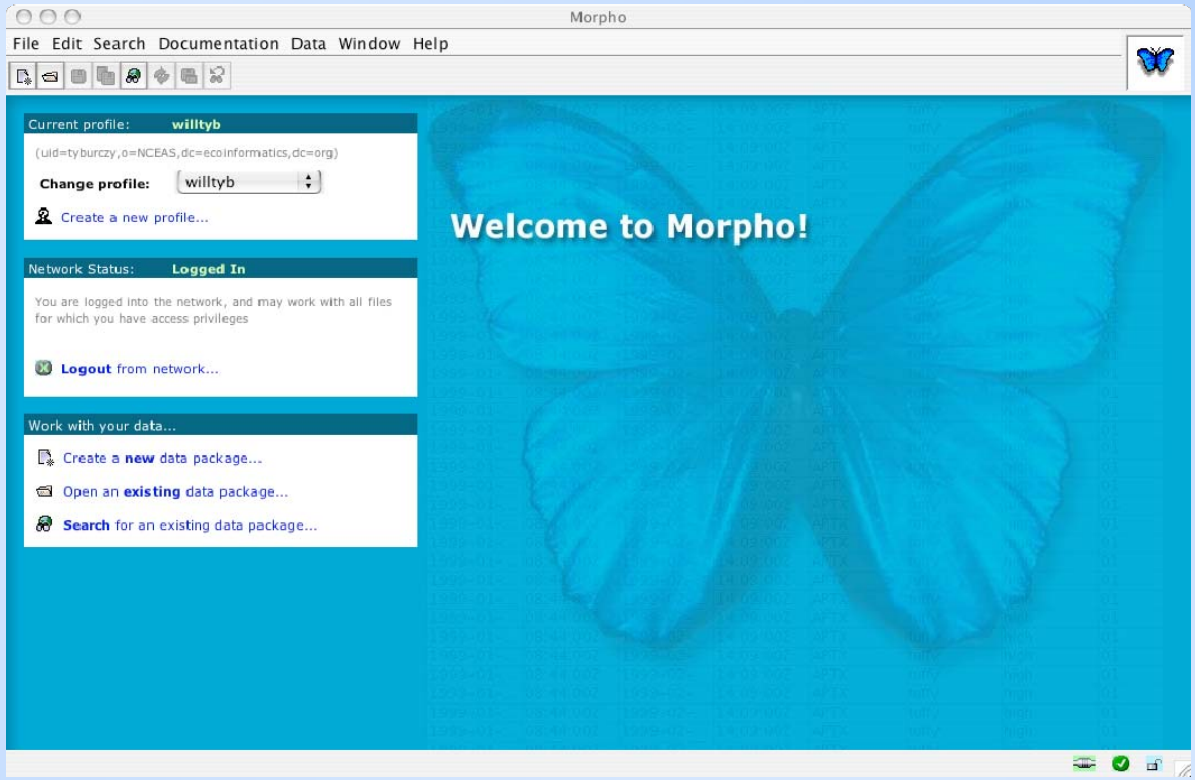


Logging in

- **You can see your network status in two places**
  - The main window
  - The login status icon on the lower right



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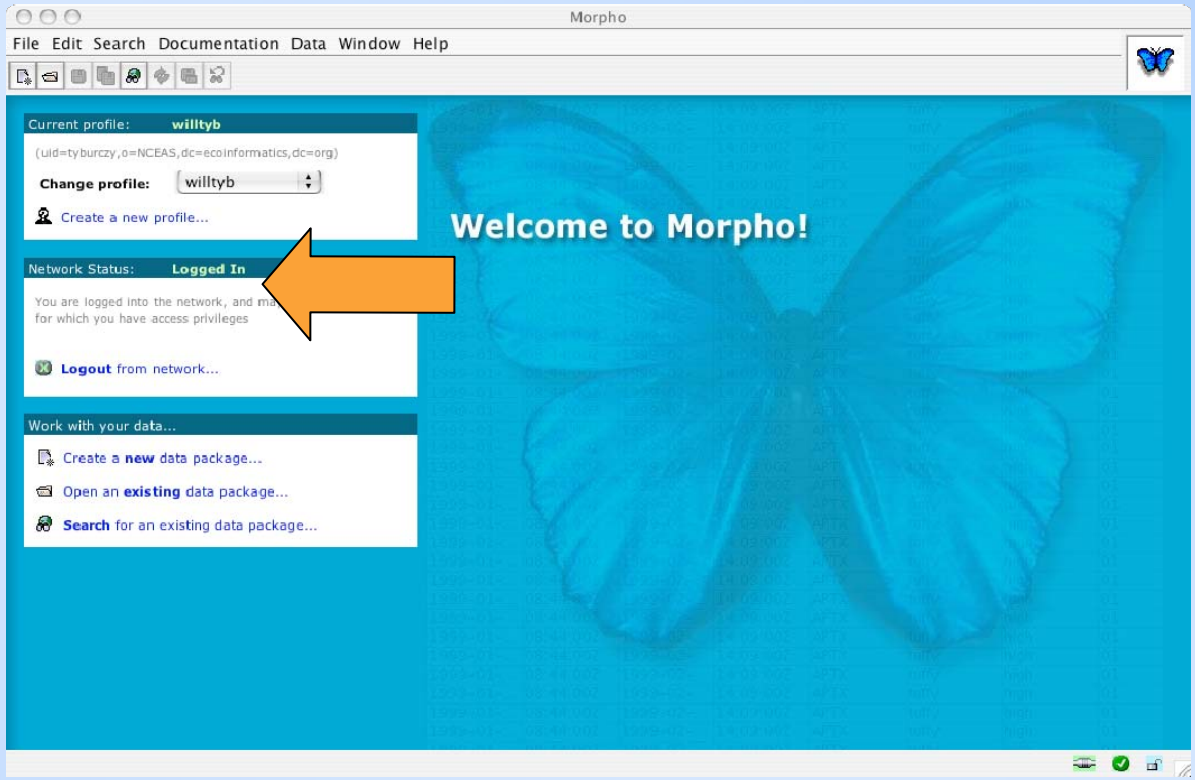

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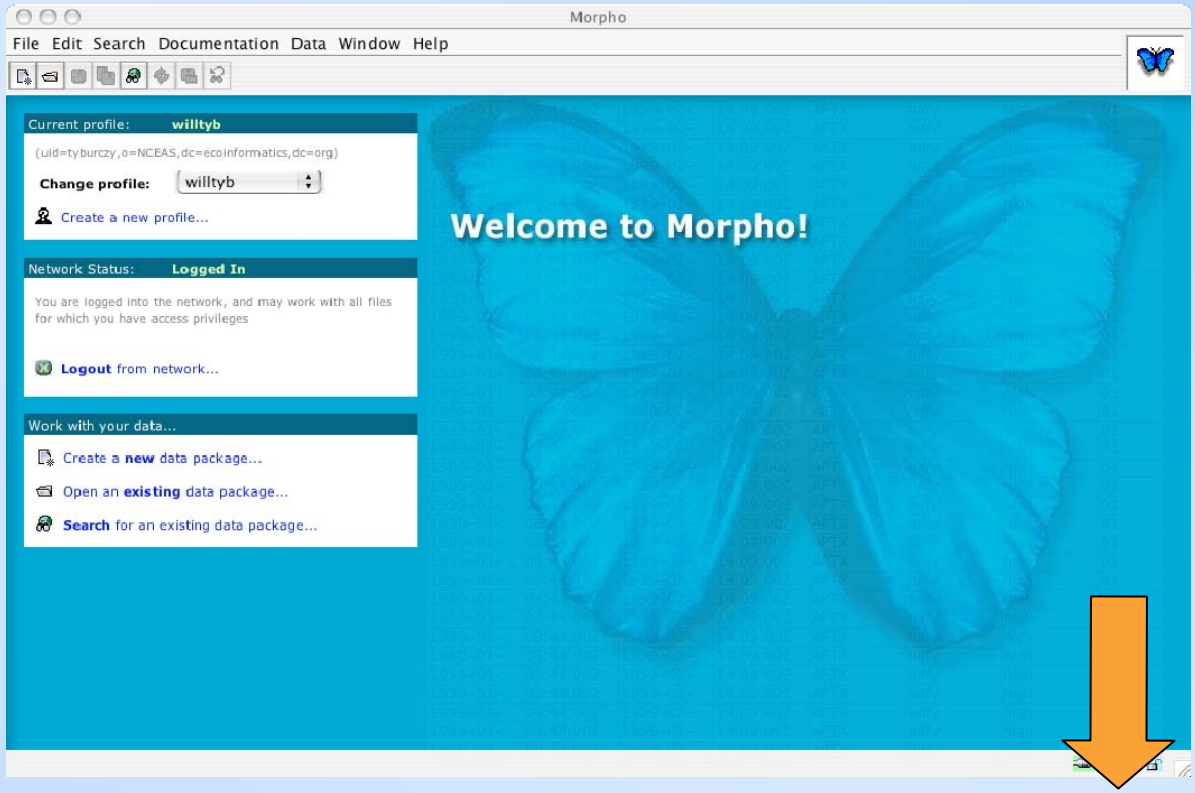
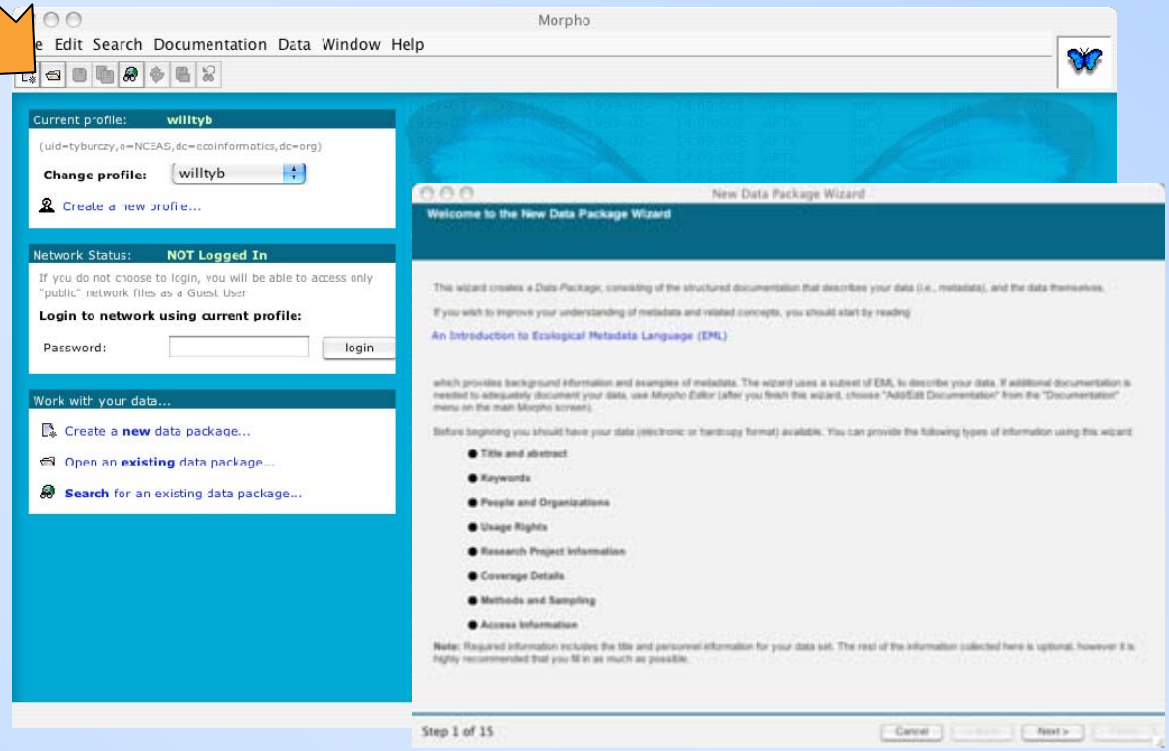


Creating a data package: The Data Package Wizard

- **Step-by-step interface for creating valid EML documents**
- **Required elements are listed in RED**
- After creating documents, the interface for the various sections is reachable via the “Documentation” menu



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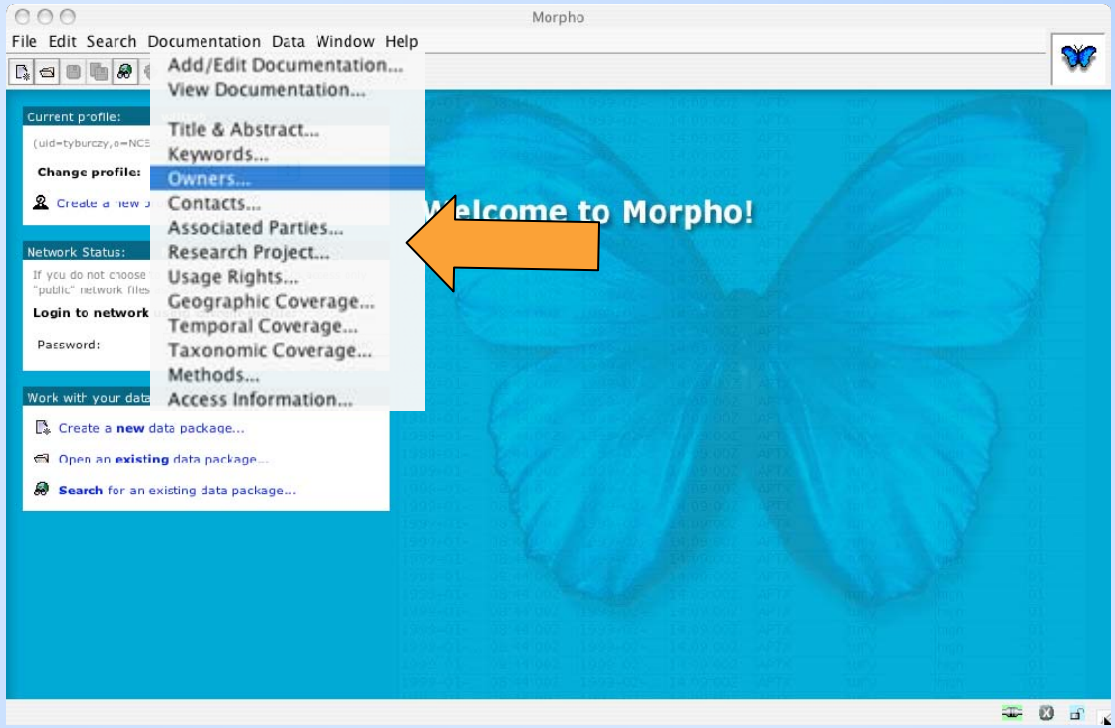
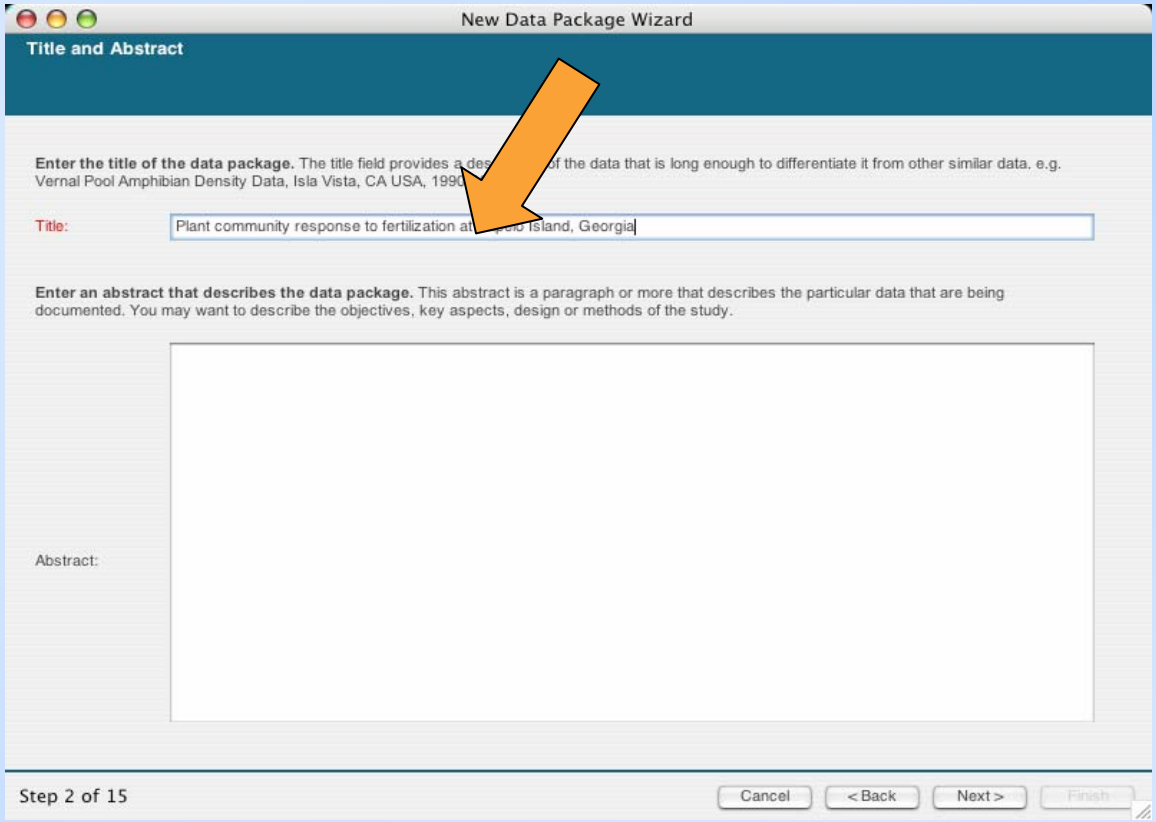


There are 12 steps, similar to the sections of the web registry form

Editing Data Packages: Title and Abstract

- **Enter a descriptive title**
- Briefly describe the content and purpose of the data in the abstract



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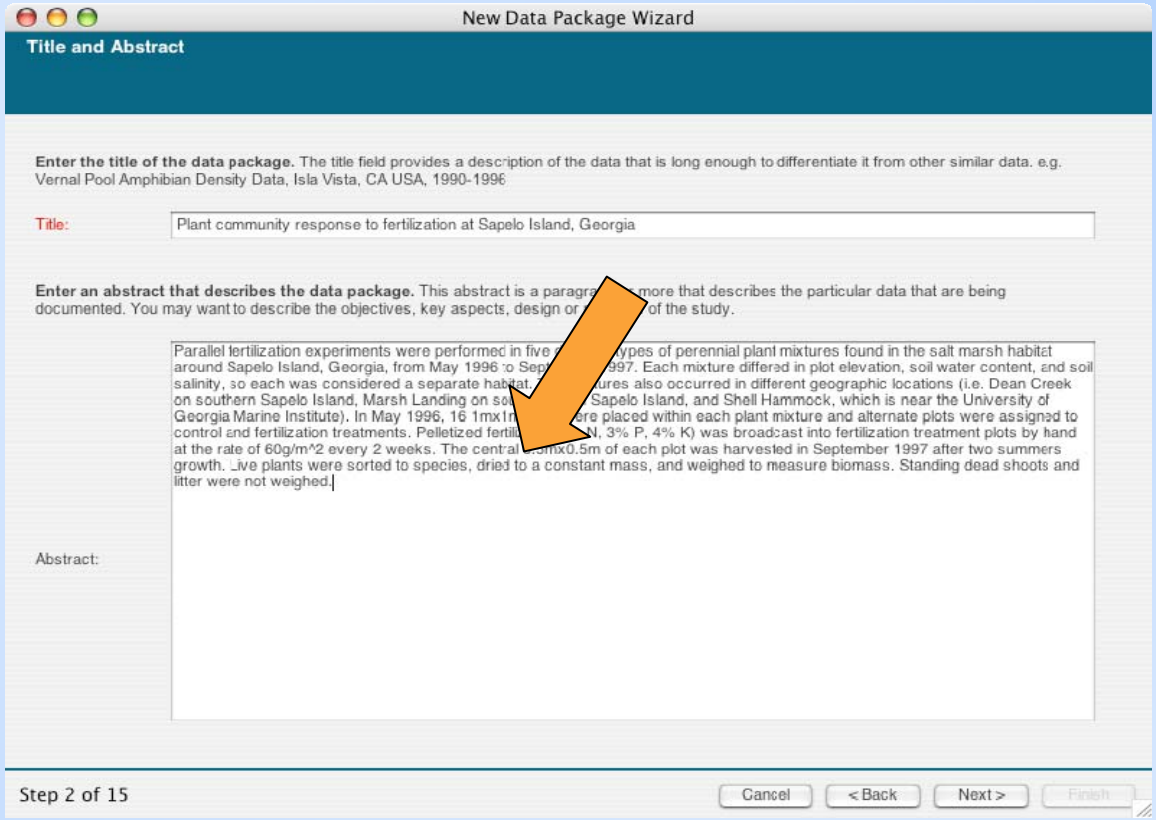
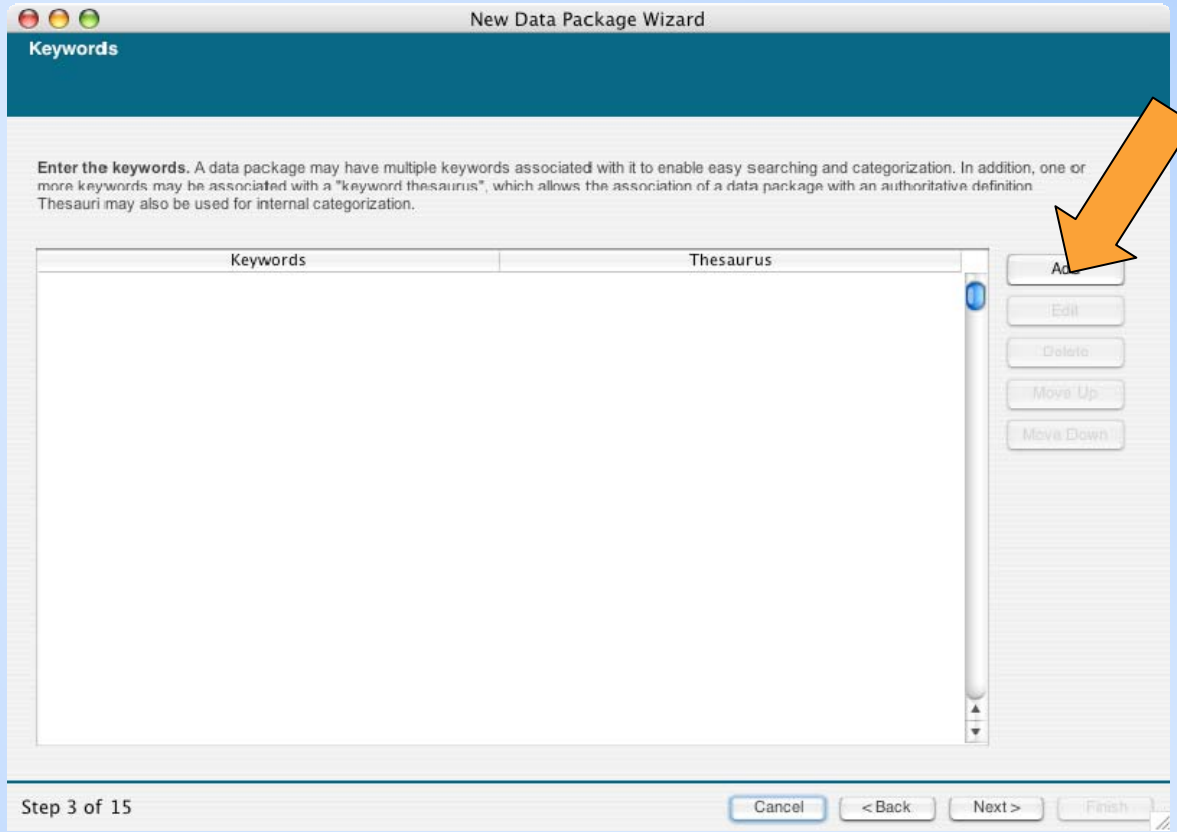


Editing Data Packages: Keywords

- **Hit “Add” to enter more keywords**
- To edit or delete existing keywords, select them and hit the appropriate button



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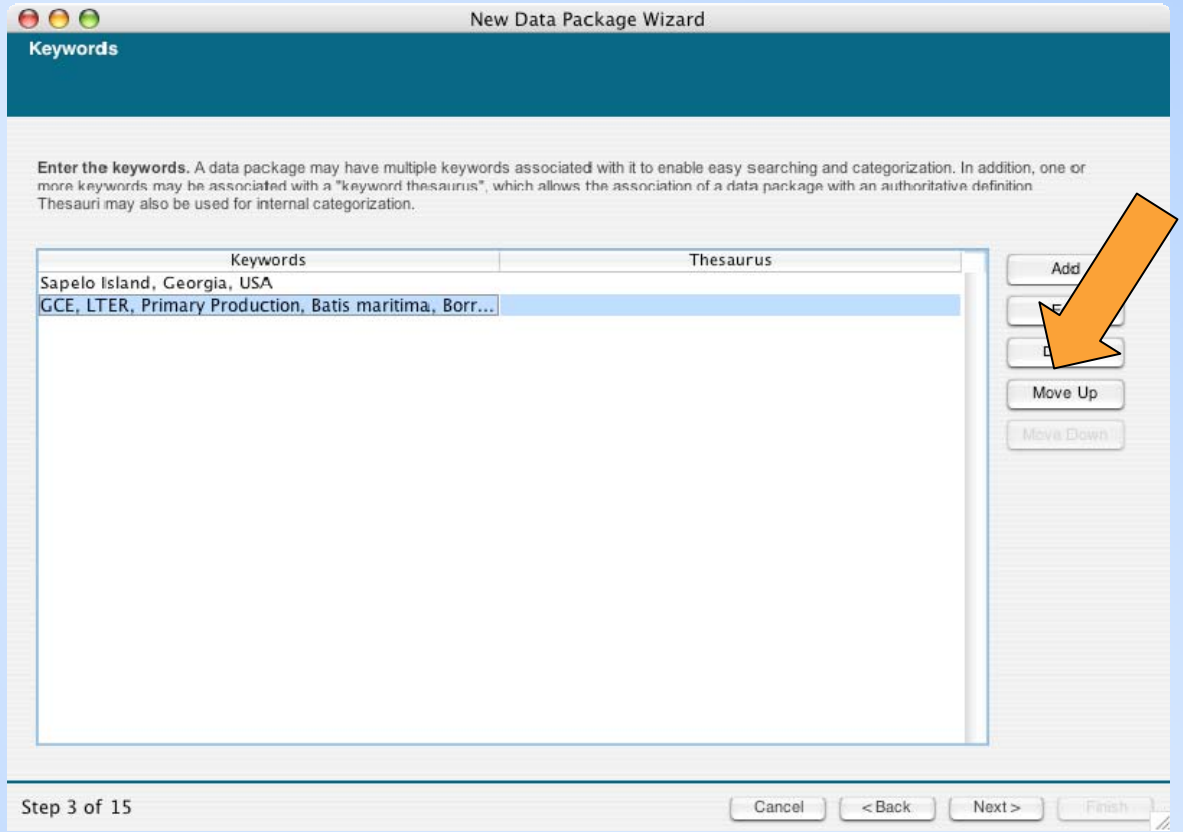
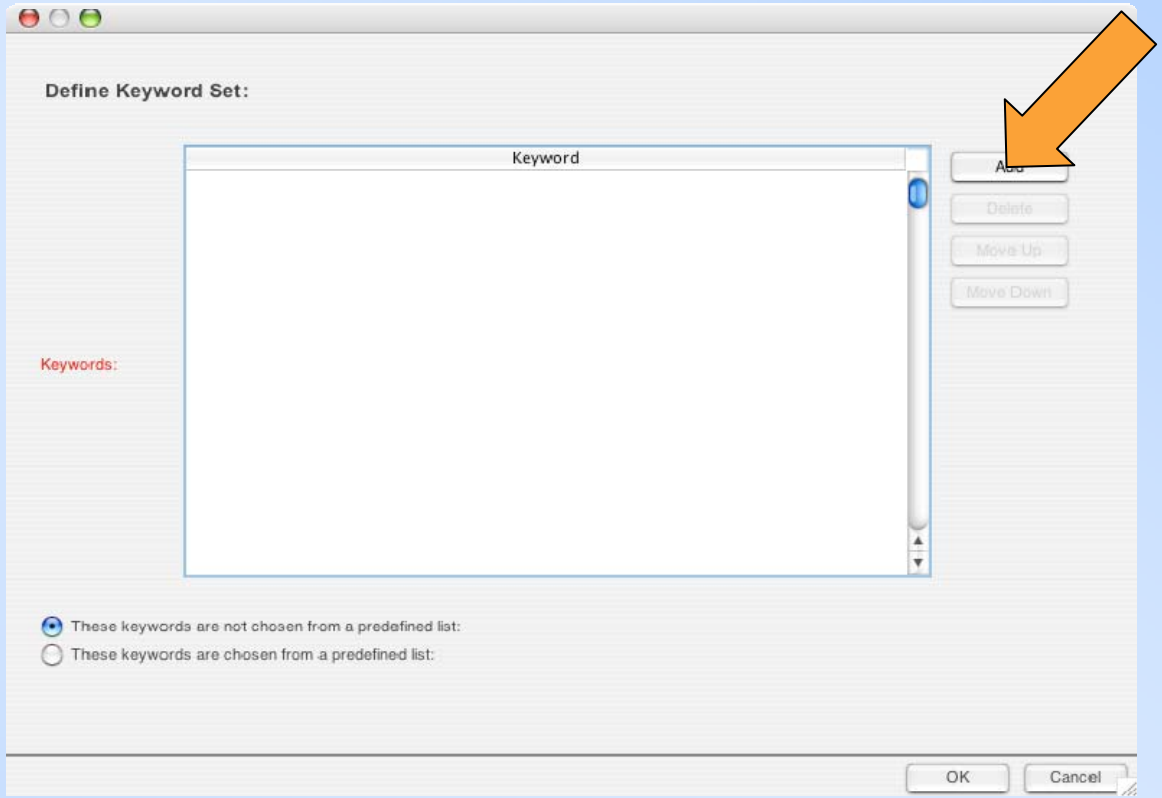


Editing Data Packages: Keywords

- **To add a keyword, hit "Add"**
- Enter keyword in designated space



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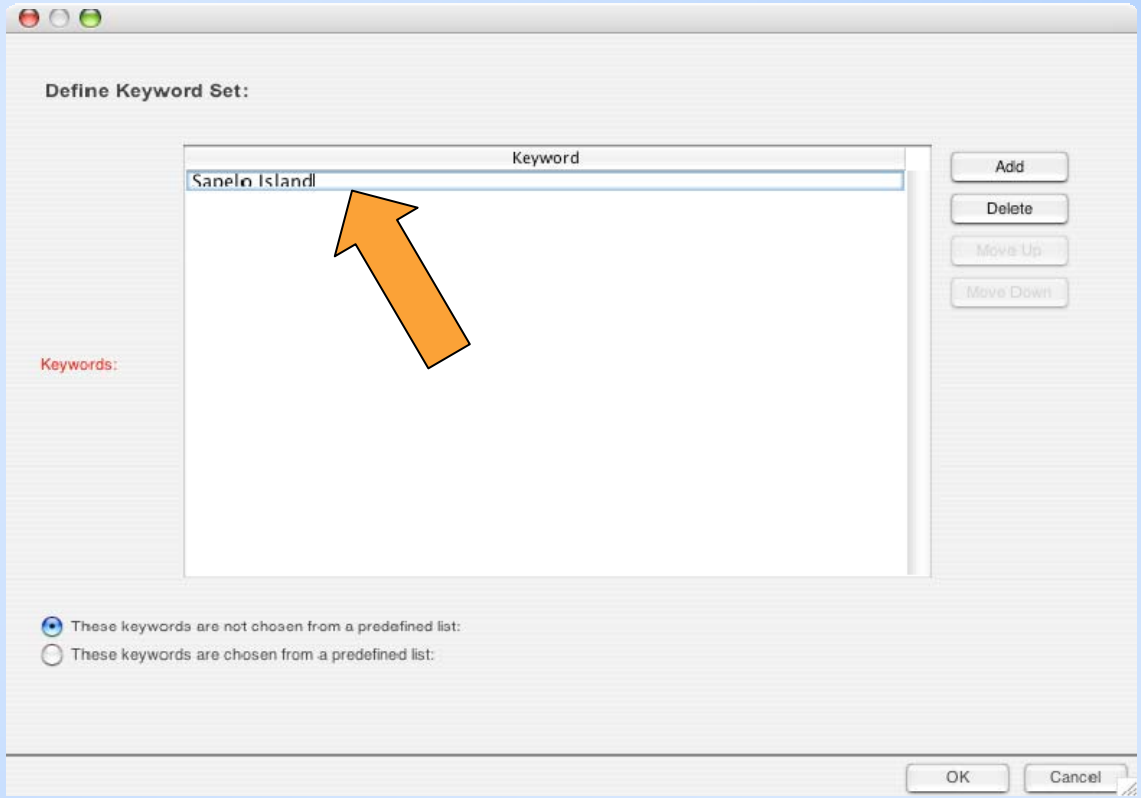
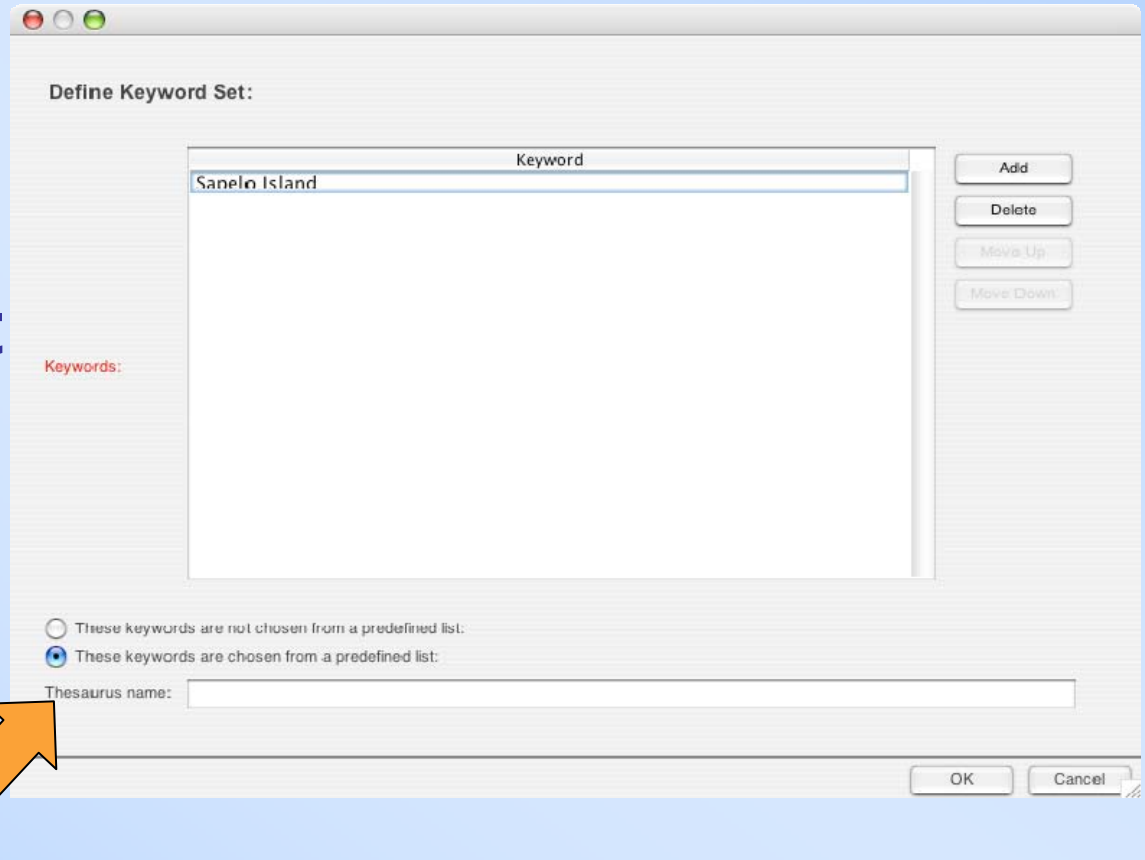


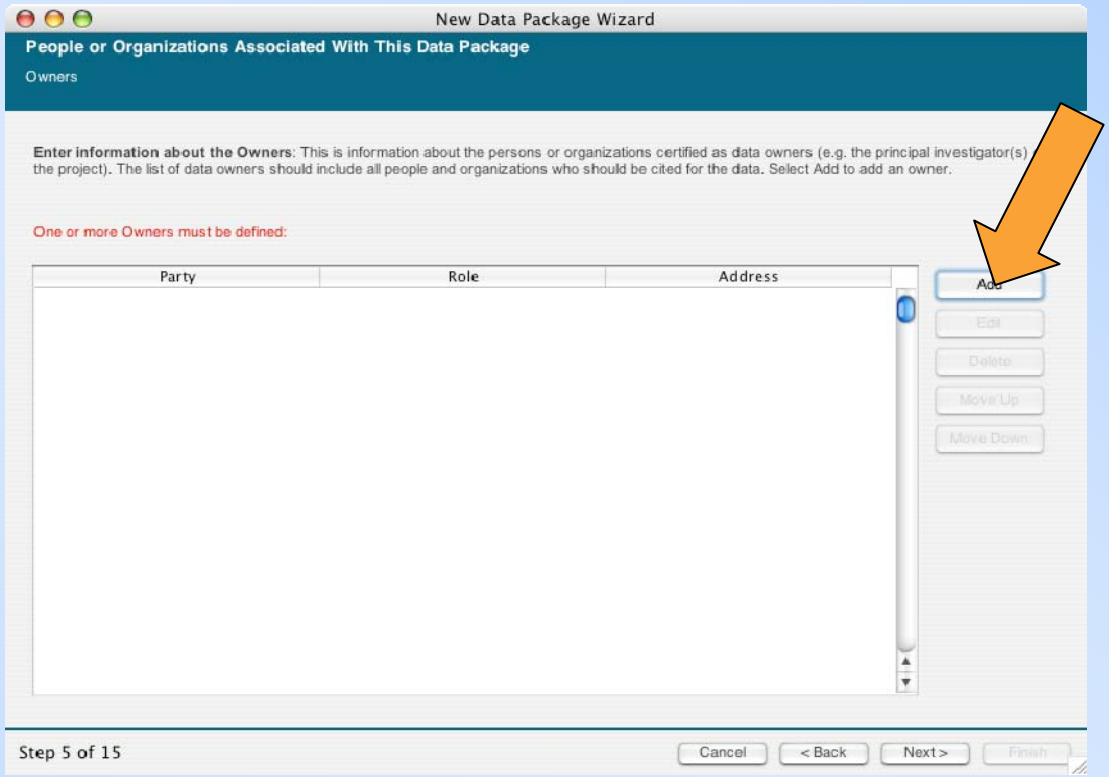
Editing Data Packages: Keywords

- To designate a source for the keywords (GCMD, for instance), select the appropriate radio button at the bottom and type in the name of the source



Editing Data Packages: Data Set Owner

- **To add an owner, hit “Add”**
- To edit or delete an owner, select the listing, then hit the appropriate button



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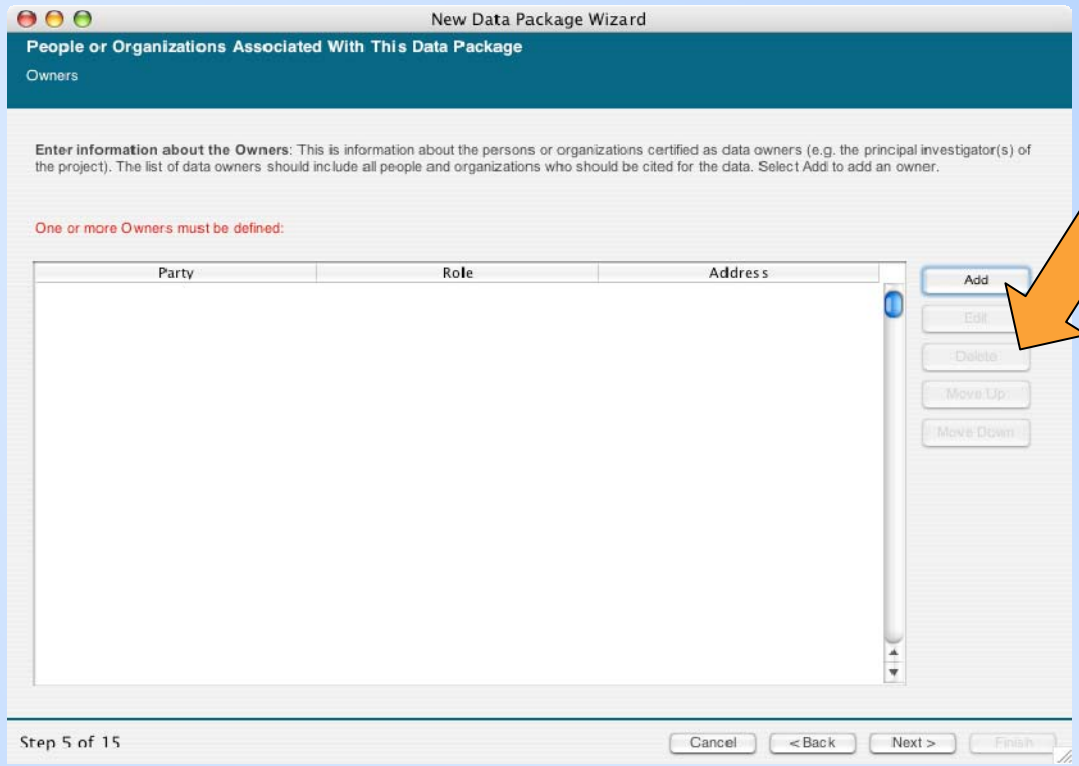
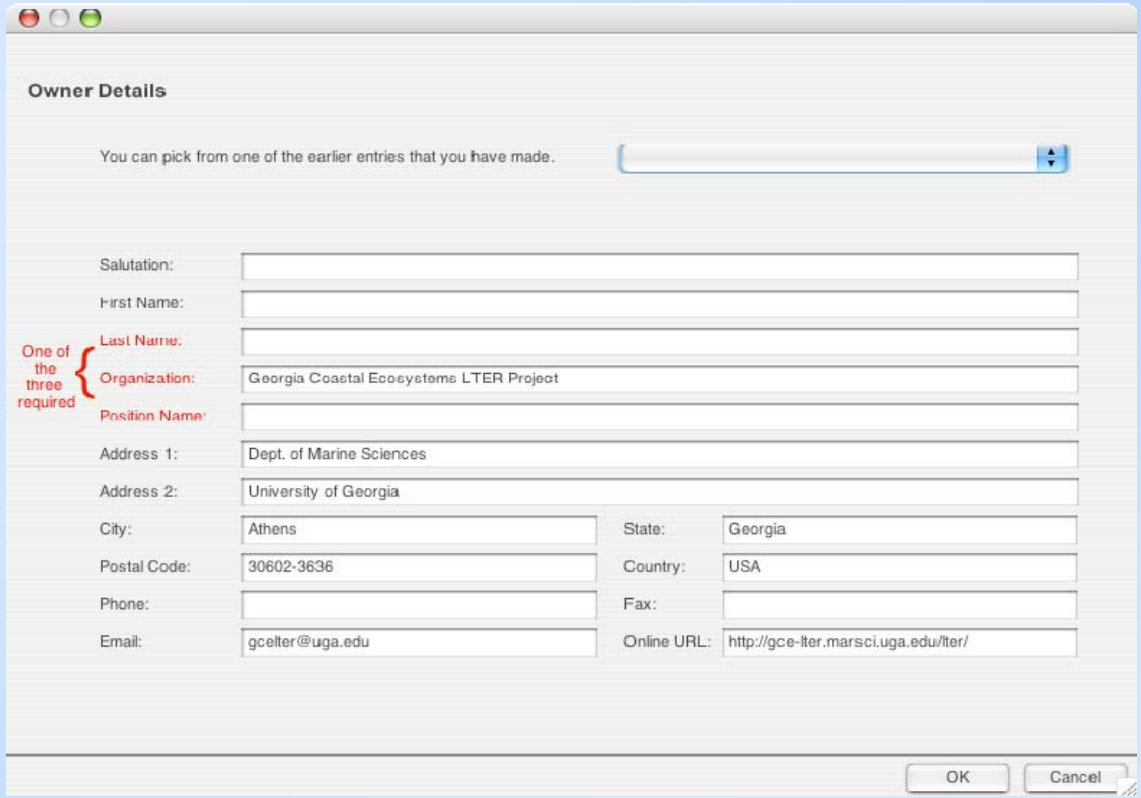


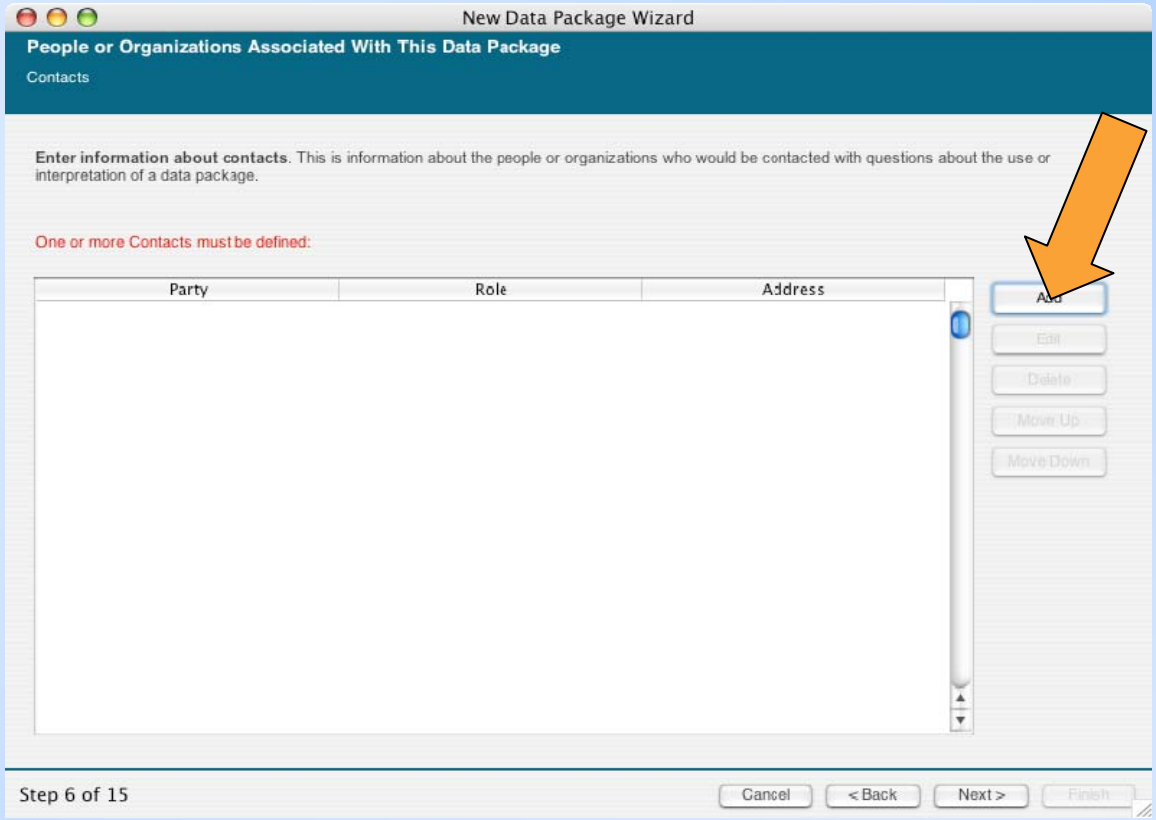
Editing Data Packages: Data Set Owner

- Enter in the information for the owner, then hit “OK”



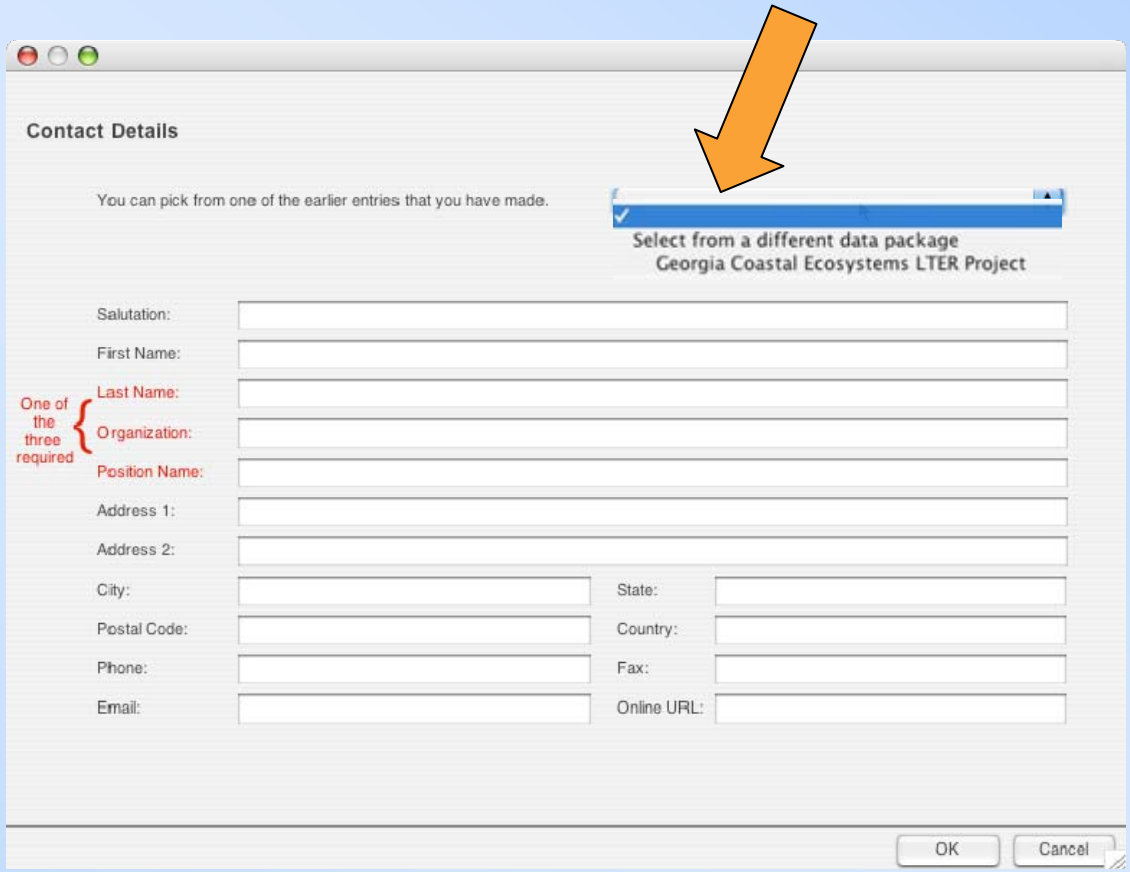
Editing Data Packages: Contact Person

- Works similarly to data set owners
- To add a contact, hit "Add"



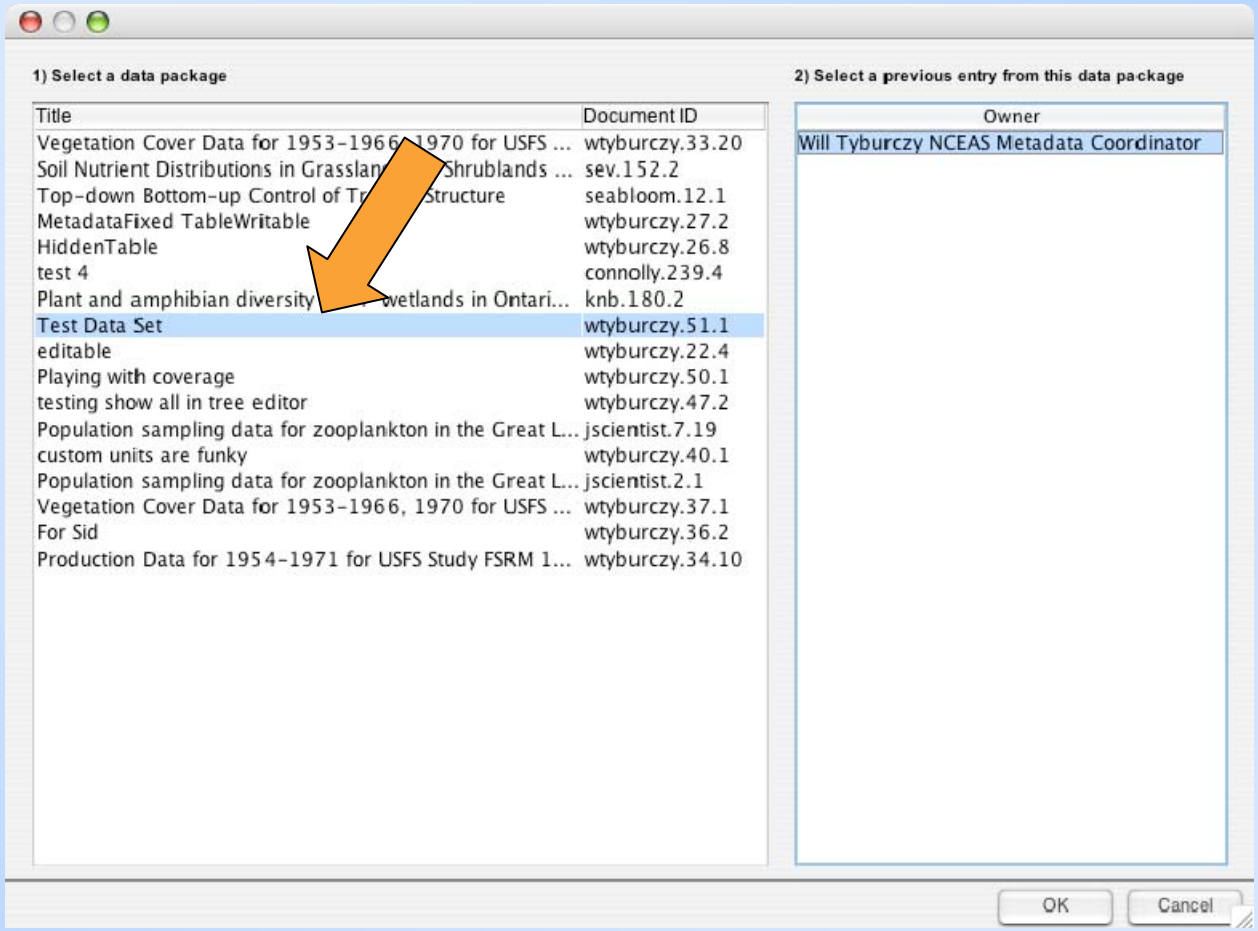
Editing Data Packages: Contact Person

- Can select a previous entry in the data package to specify the same person
- Can also specify a person from another data package



Editing Data Packages: Contact Person

- **To select an entry from another data package:**
  - **select the package on the left**
  - then the contact on the right



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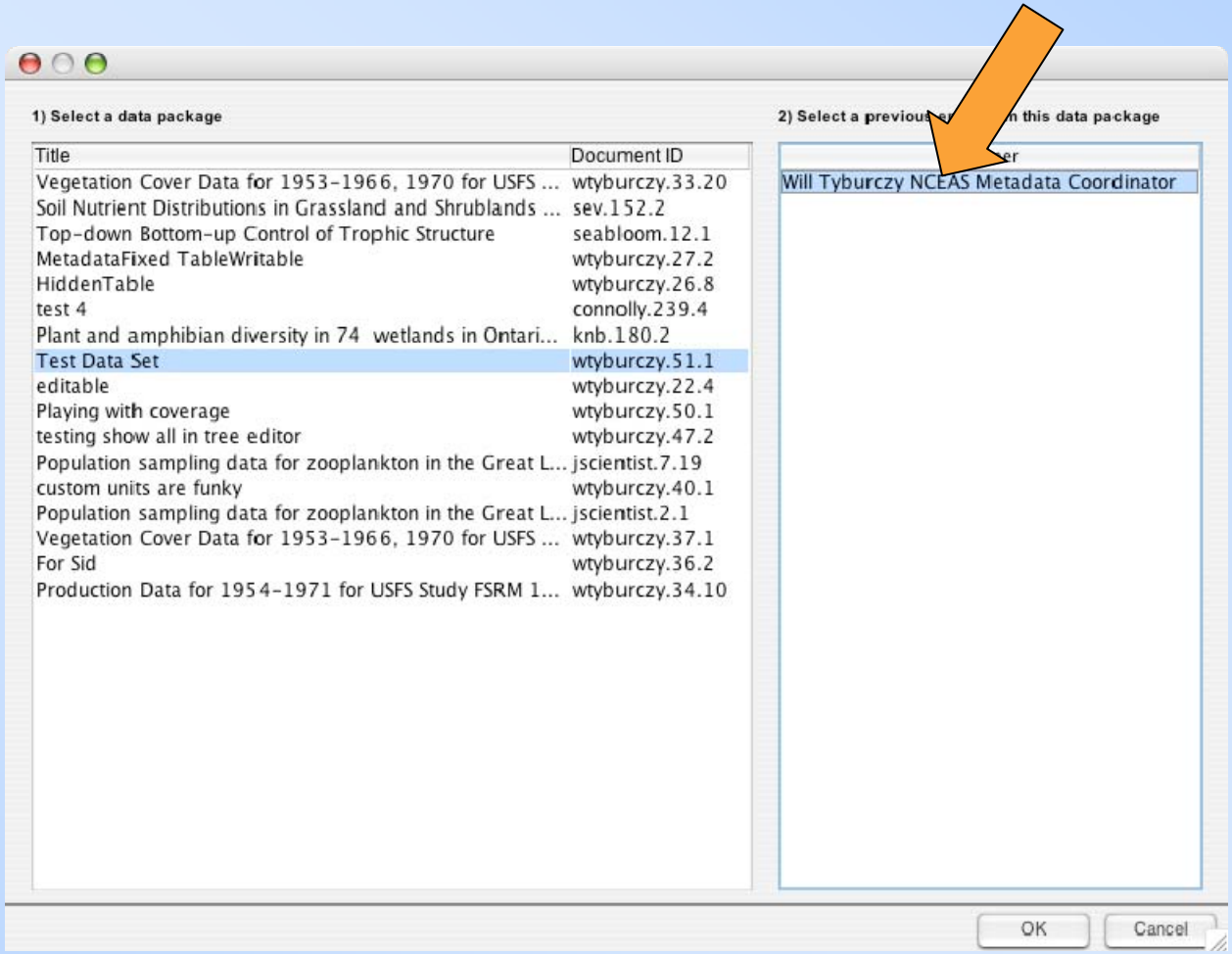
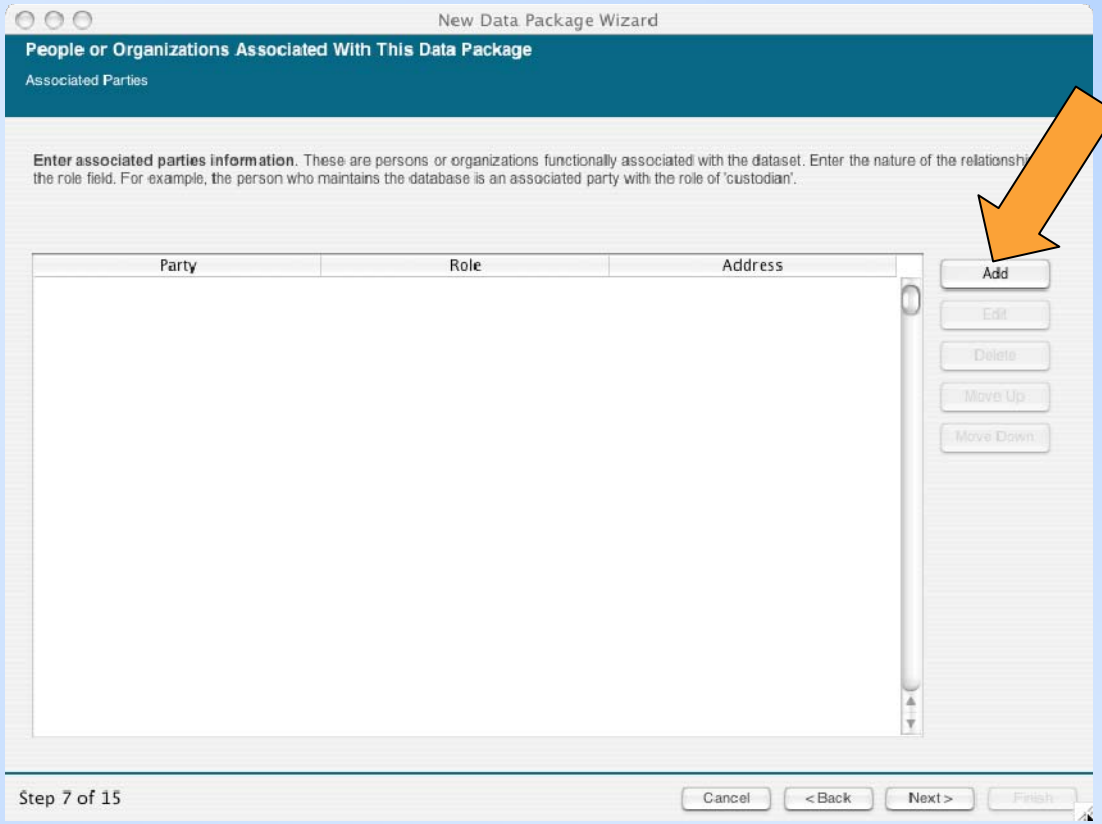


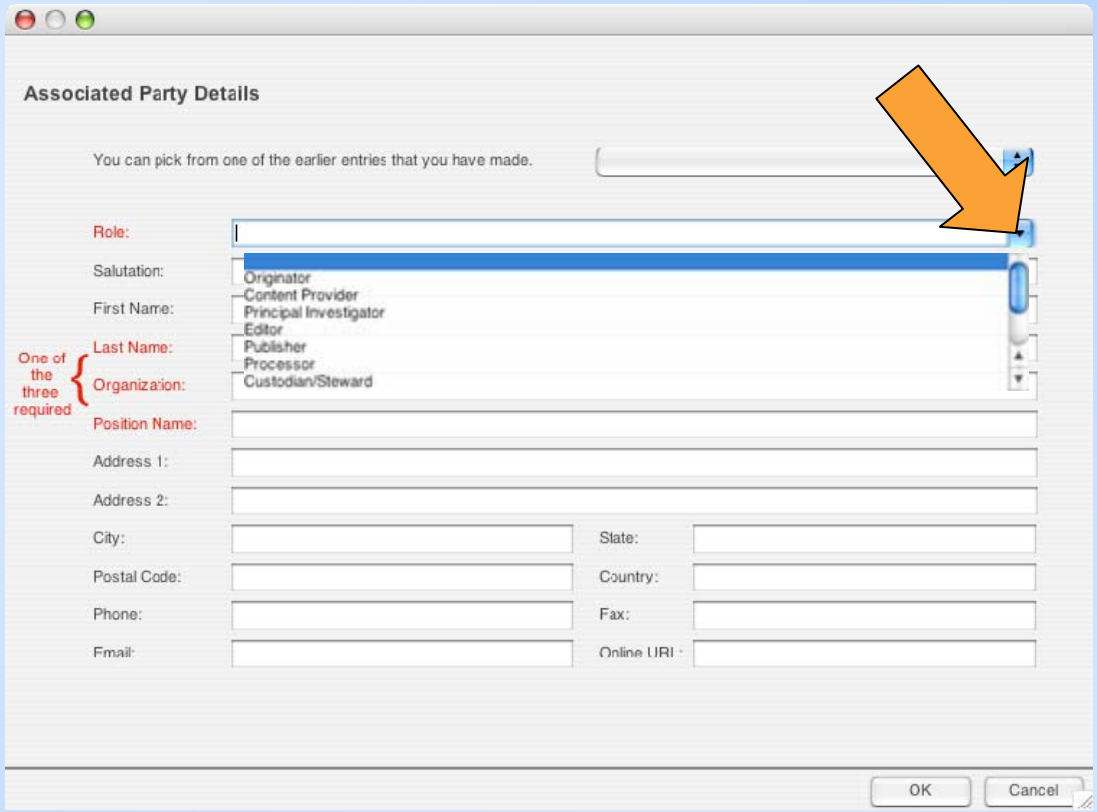
Editing Data Packages: Associated Parties

- Works similarly to entering owners and contacts



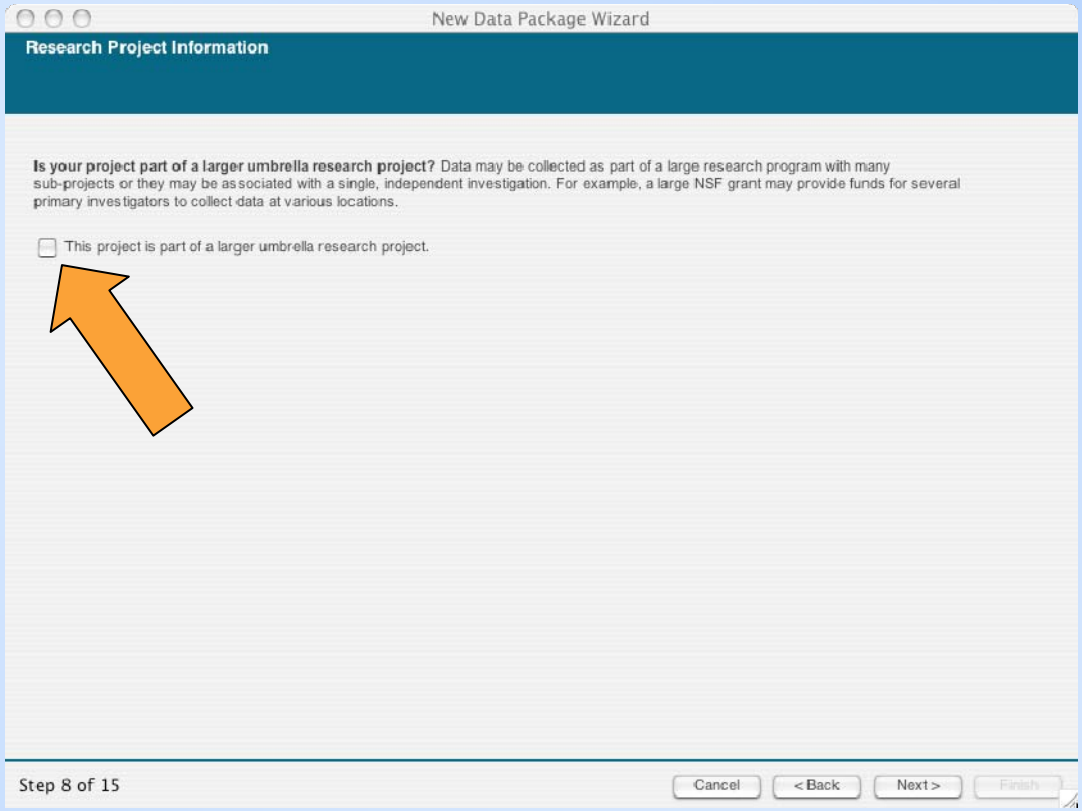
Editing Data Packages: Associated Parties

- Works similarly to entering owners and contacts
- **Can enter "Role" by hand or select from the drop down list**



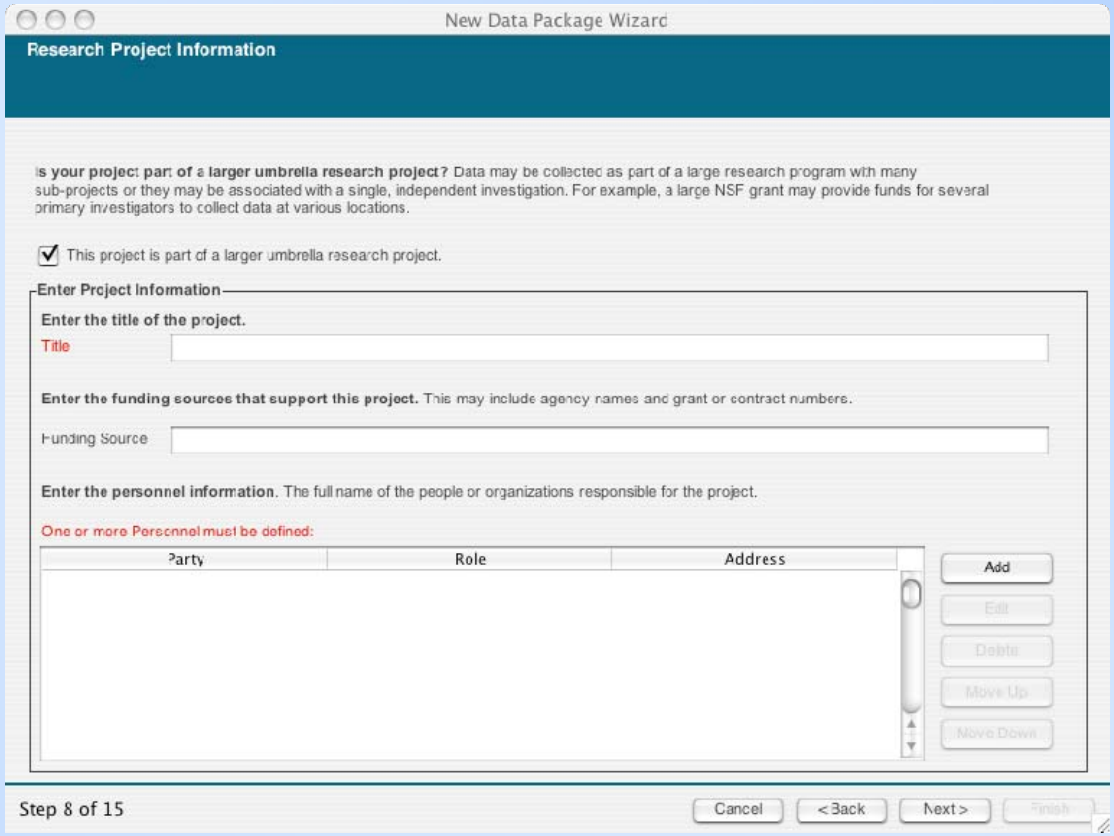
Editing Data Packages: Research Project

- Check the box if the dataset is part of a larger research project
- This is a subjective call, use when you feel it is appropriate



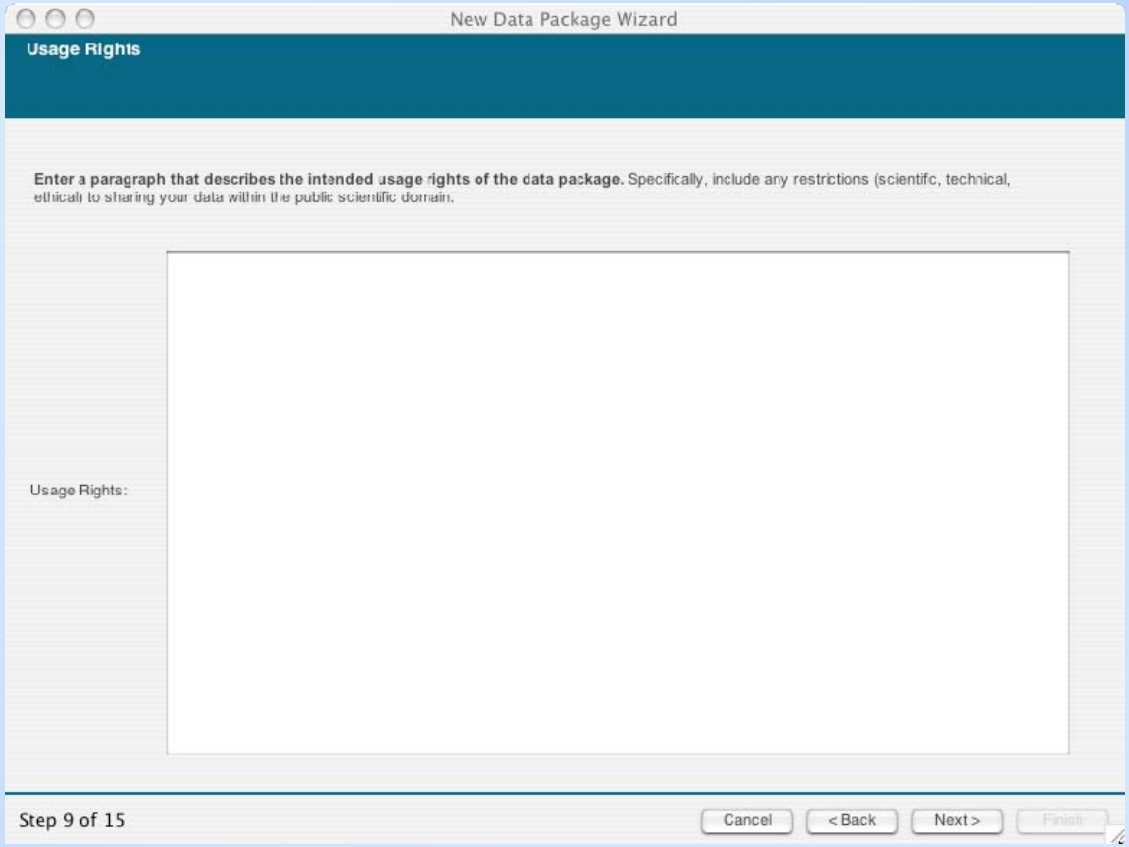
Editing Data Packages: Research Project

- Enter the information about the research project



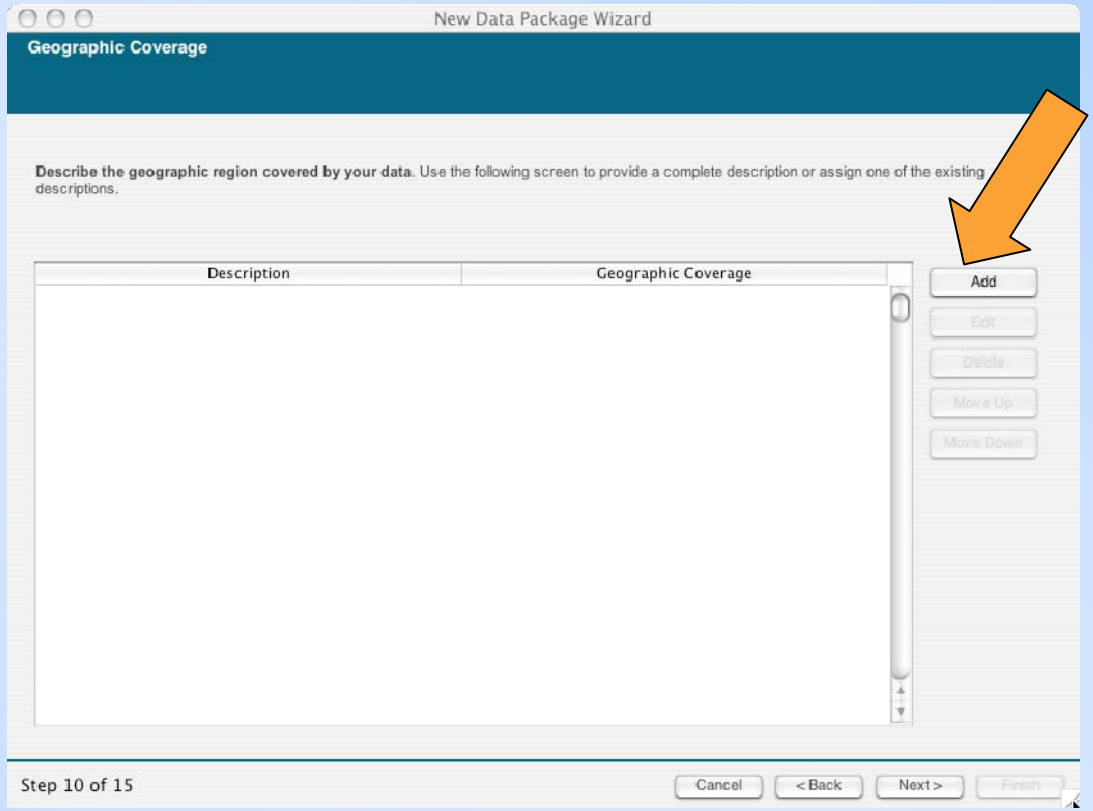
Editing Data Packages: Usage Rights

- Describe usage restrictions for the dataset, if any



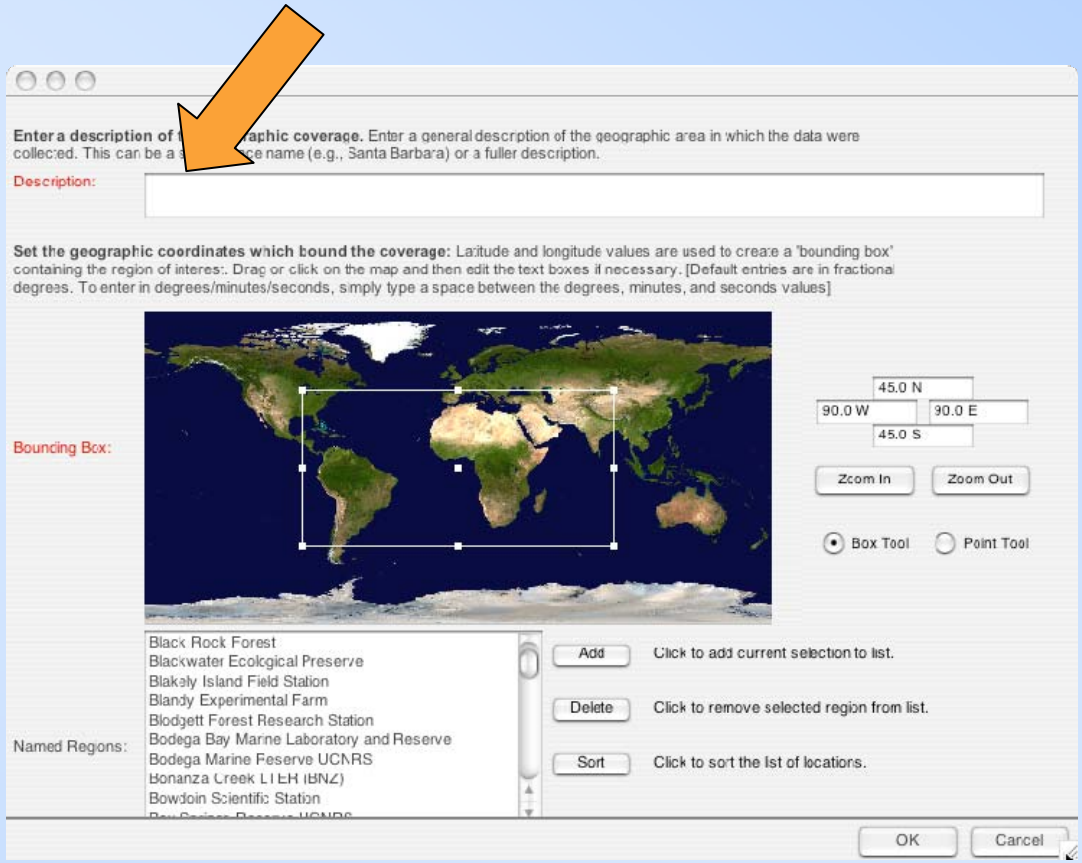
Editing Data Packages: Spatial Coverage

- To add an area of spatial coverage to the data, hit “Add”



Editing Data Packages: Spatial Coverage

- **Enter a description for the area**
- Many ways to select the area
  - Enter coordinates manually
  - Select from list
  - Box Tool
  - Point Tool



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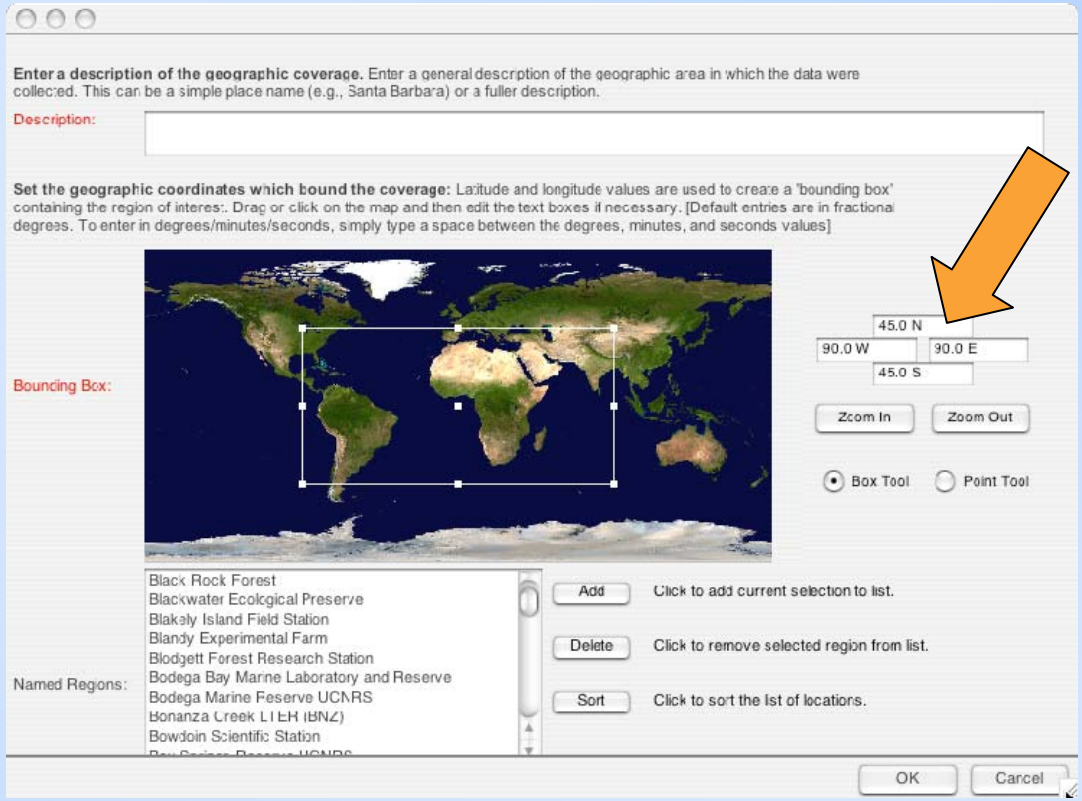

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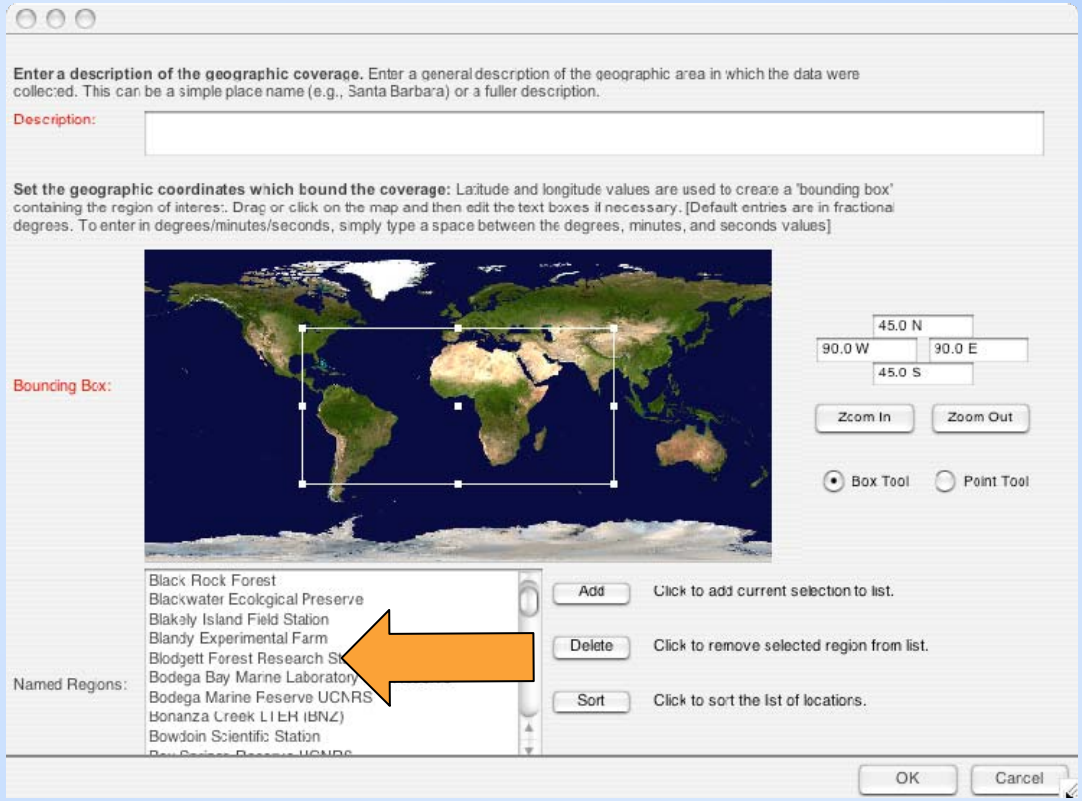

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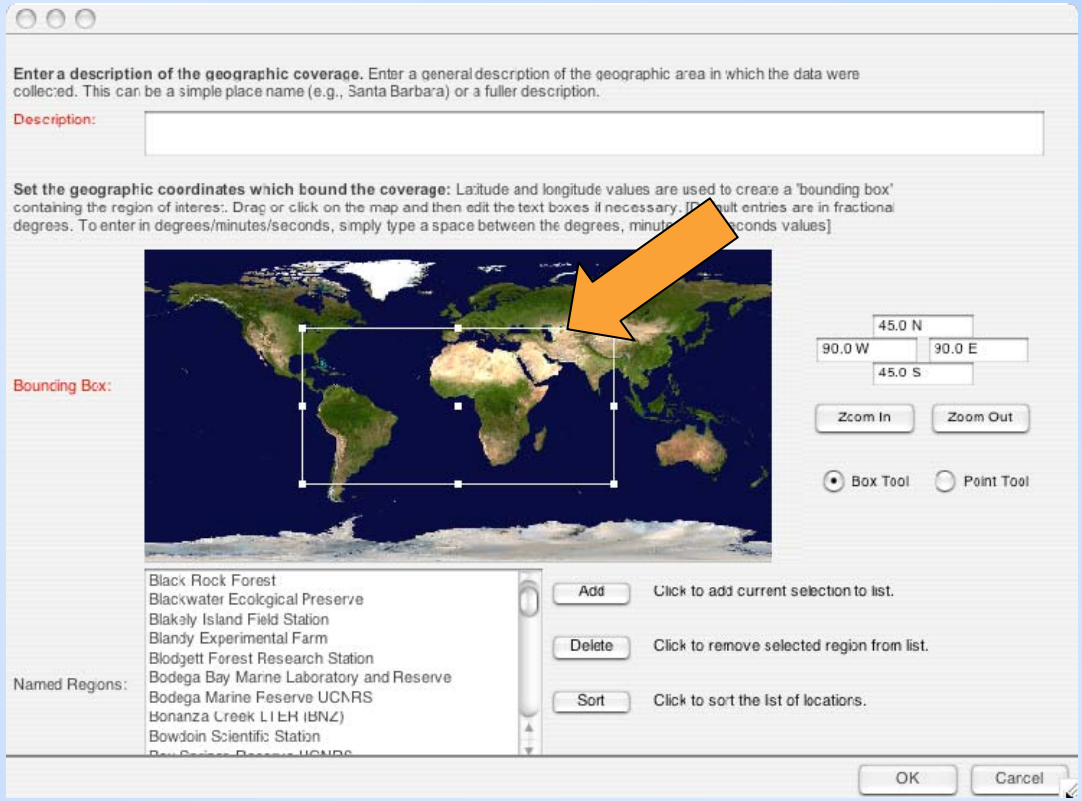

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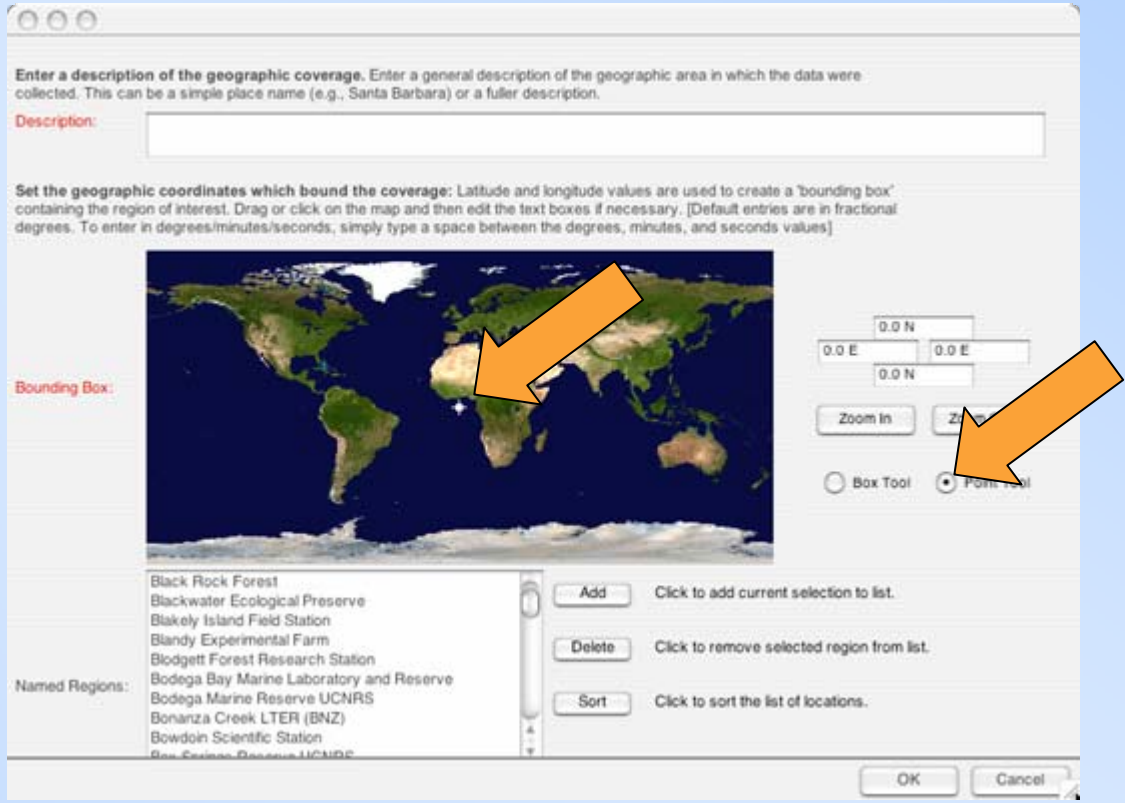
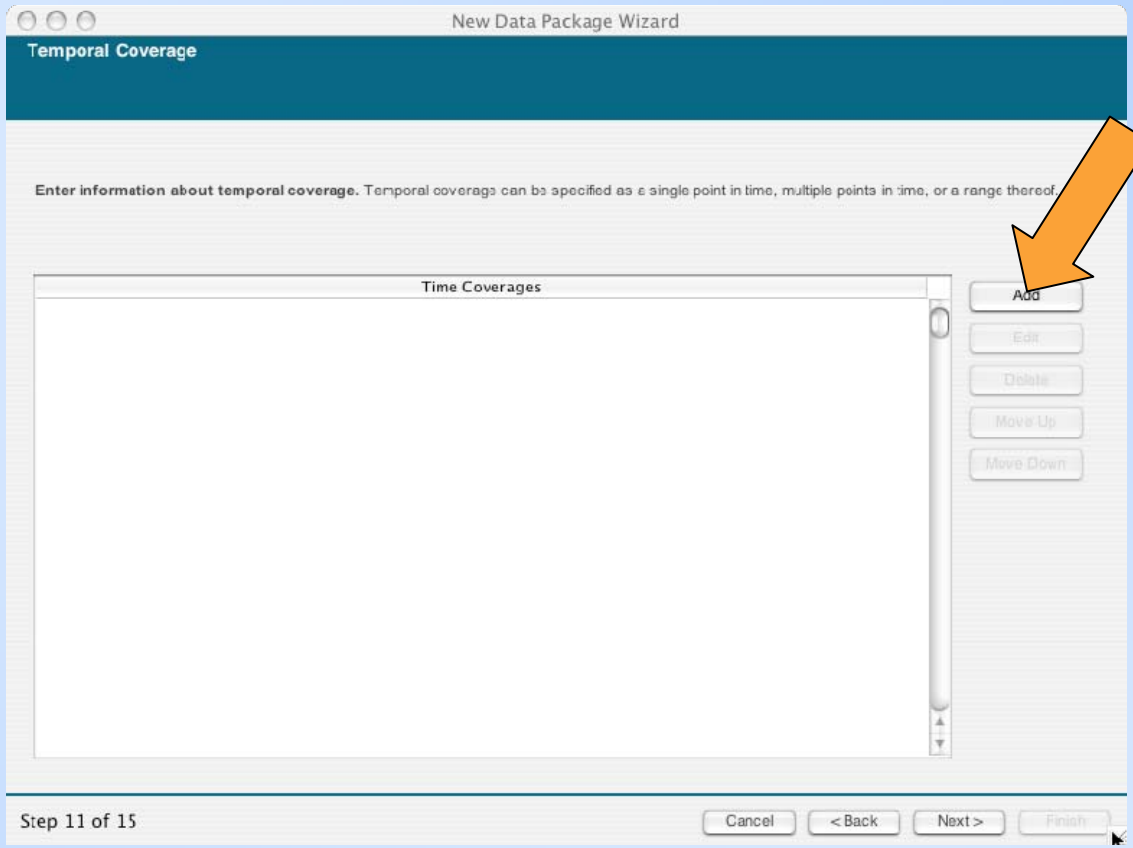


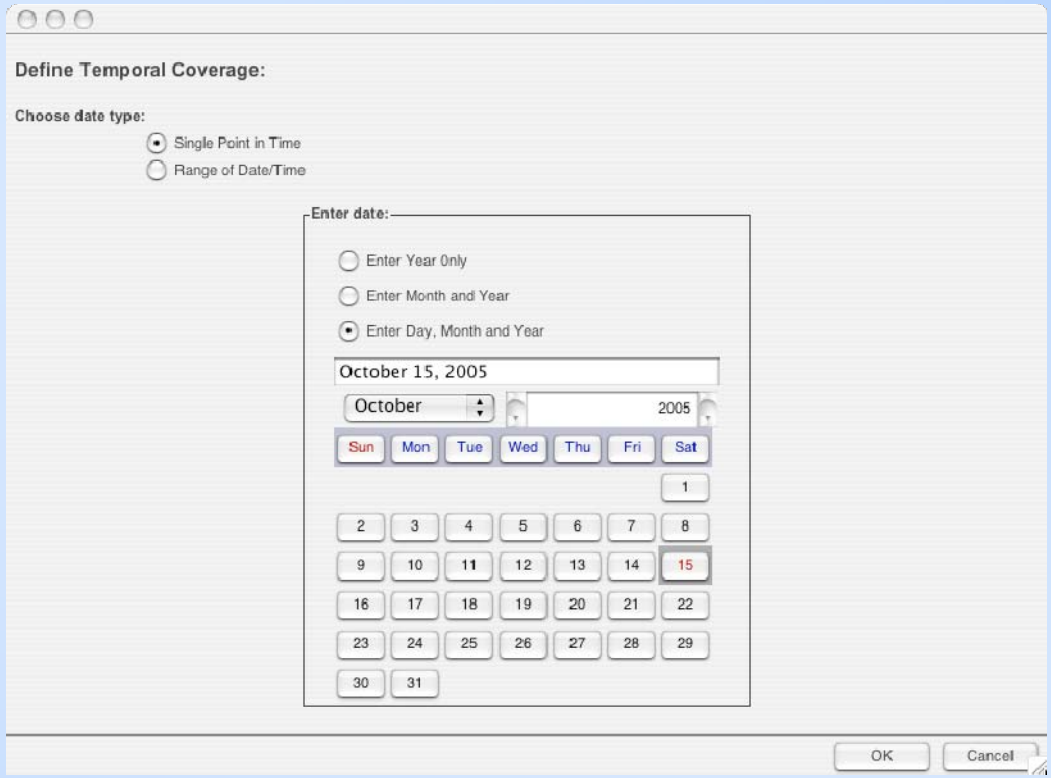
Editing Data Packages: Temporal Coverage

- To add a new temporal coverage, hit “Add”



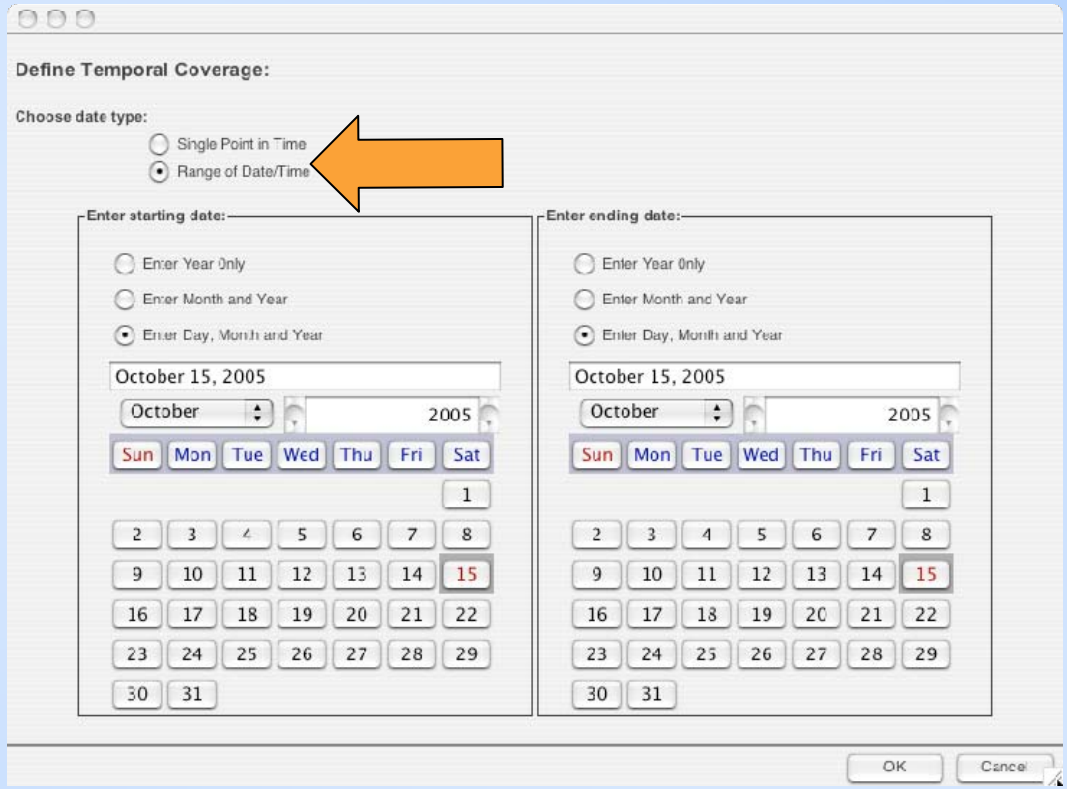
Editing Data Packages: Temporal Coverage

- **Enter in the date and hit “OK”**
- Alternatively, you can enter a range of coverage



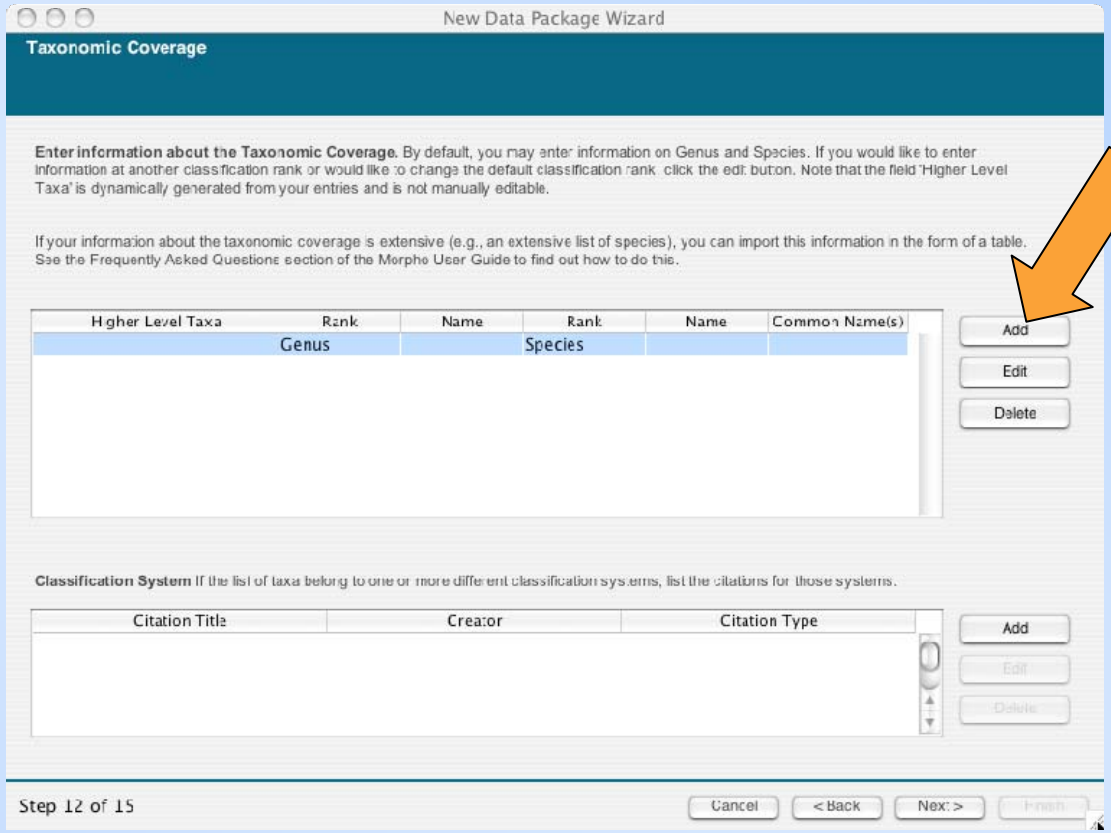
Editing Data Packages: Temporal Coverage

- Enter in the date and hit “OK”
- **Alternatively, you can enter a range of coverage**



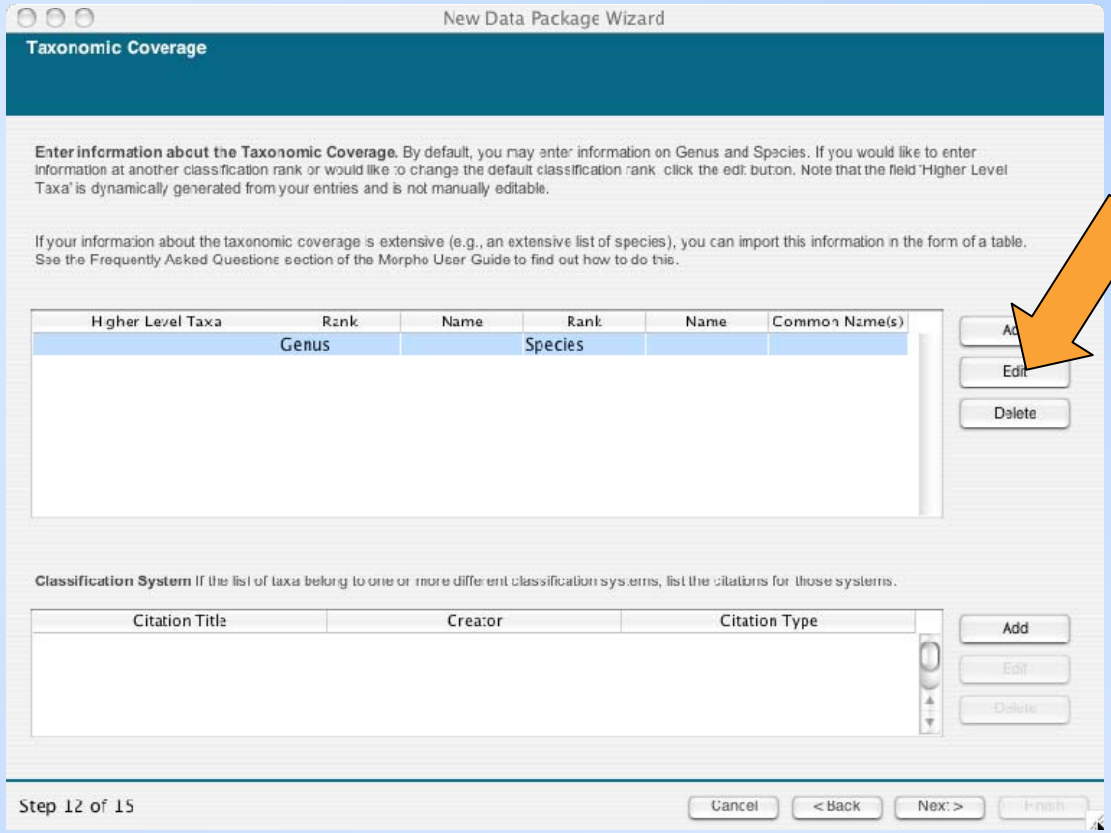
Editing Data Packages: Taxonomic Coverage

- **To enter additional taxonomic information, hit "Add" beside the top frame**
- To enter information above genus level, select the appropriate entry and hit "Edit"



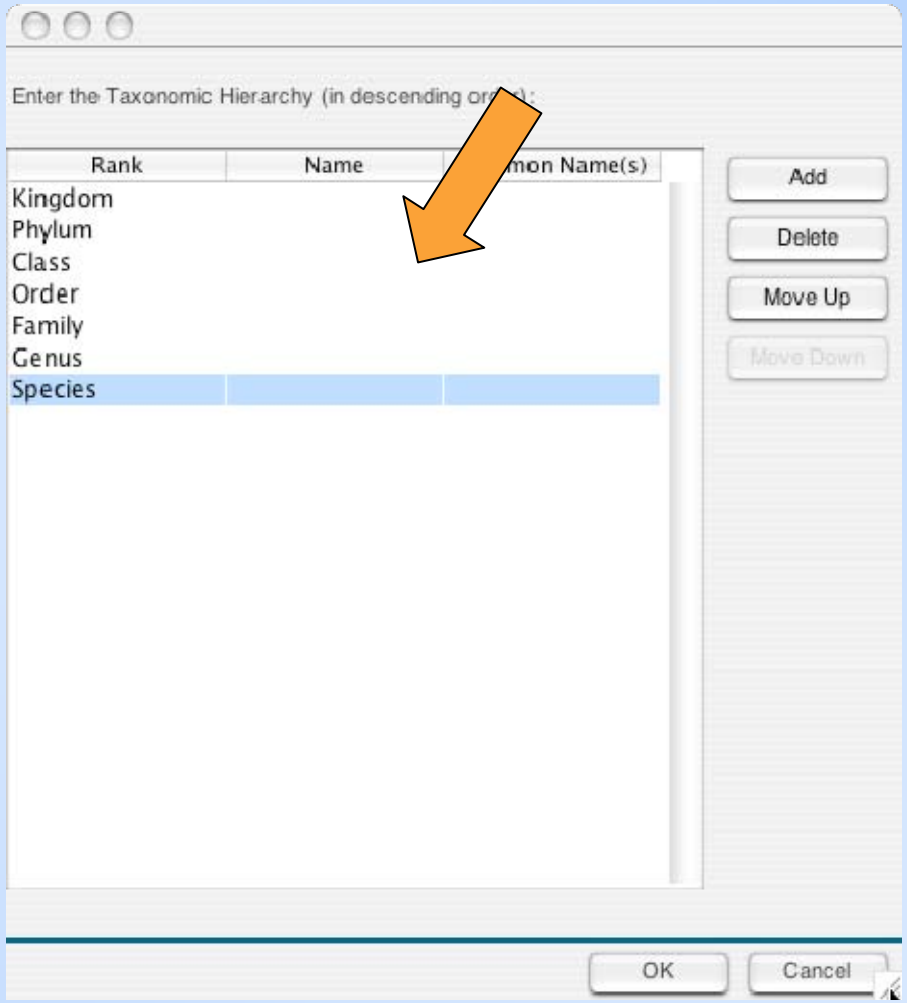
Editing Data Packages: Taxonomic Coverage

- To enter additional taxonomic information, hit "Add" beside the top frame
- **To enter information above genus level, select the appropriate entry and hit "Edit"**



Editing Data Packages: Taxonomic Coverage

- **Enter in the names and common names for each rank**
- Ranks can be added, deleted, or modified as appropriate



Editing Data Packages: Taxonomic Coverage

- Enter in the names and common names for each rank
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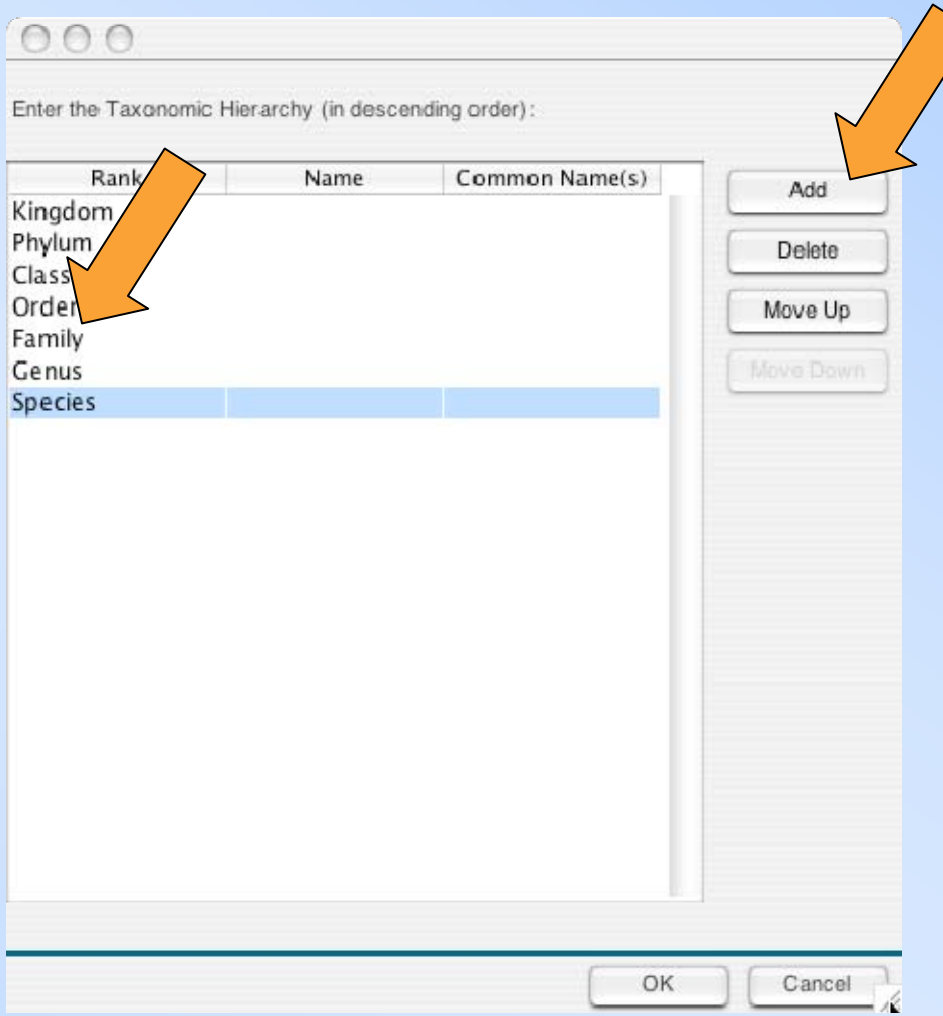
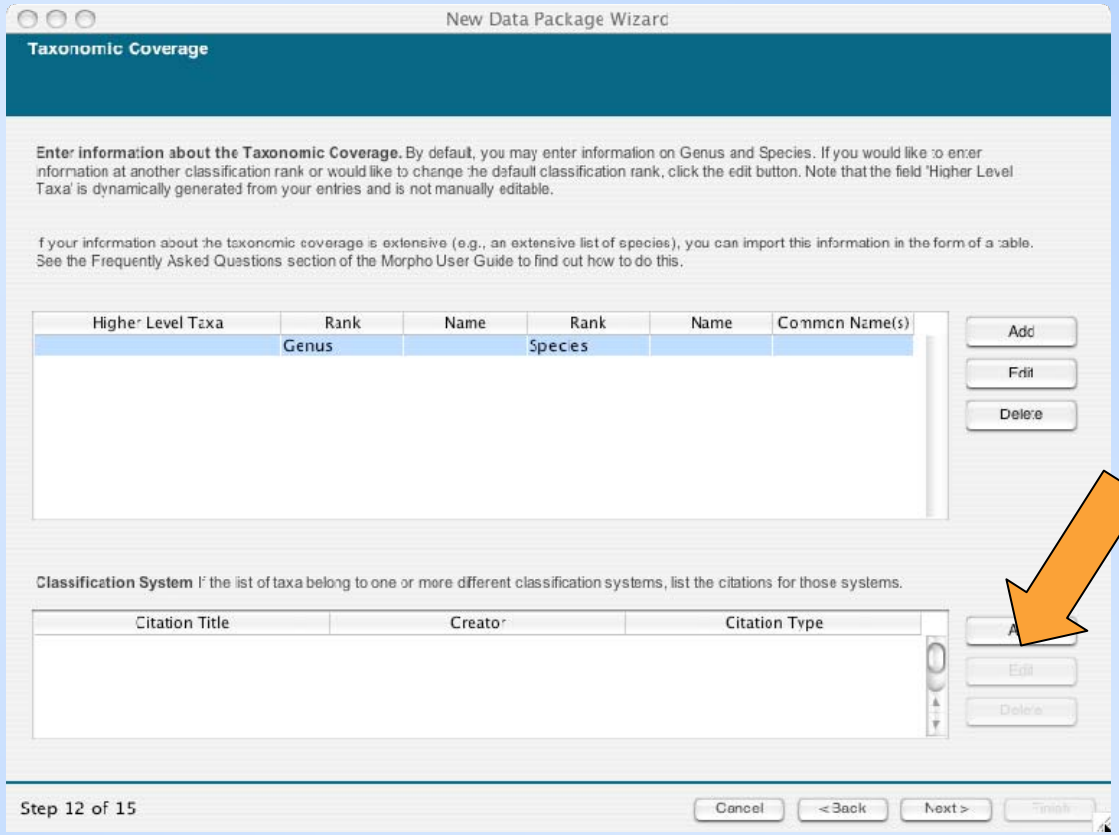


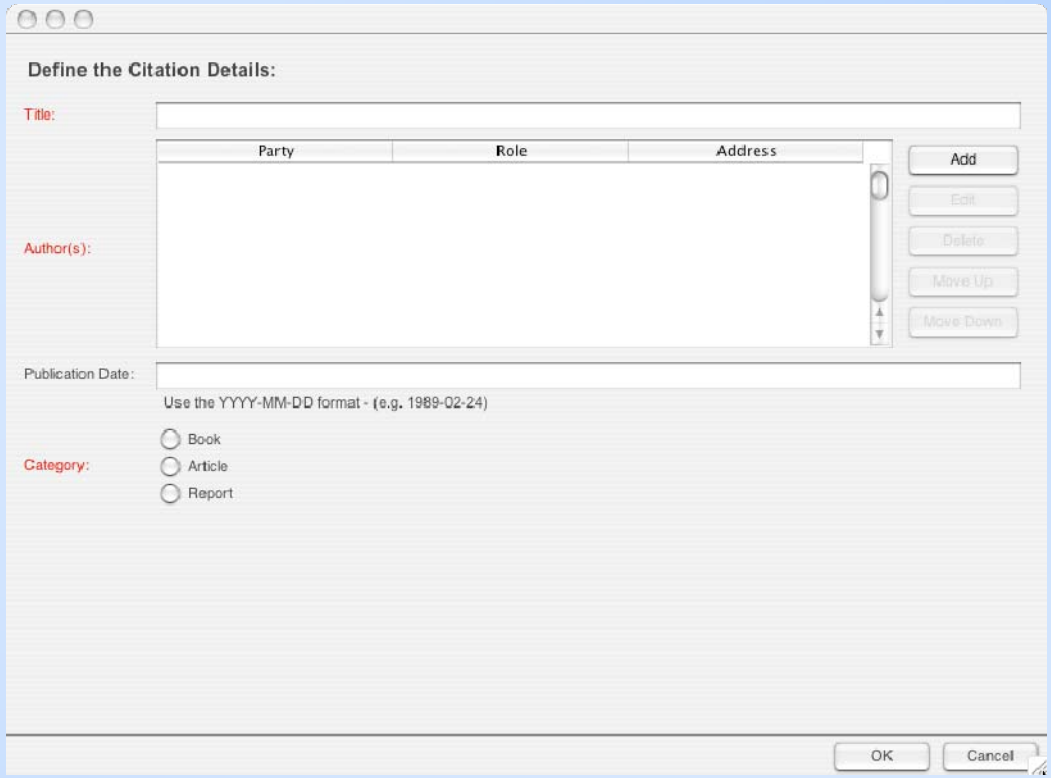
Editing Data Packages: Taxonomic Coverage

- To enter a classification reference (e.g. Lights Manual), hit “Add” under “Classification System”



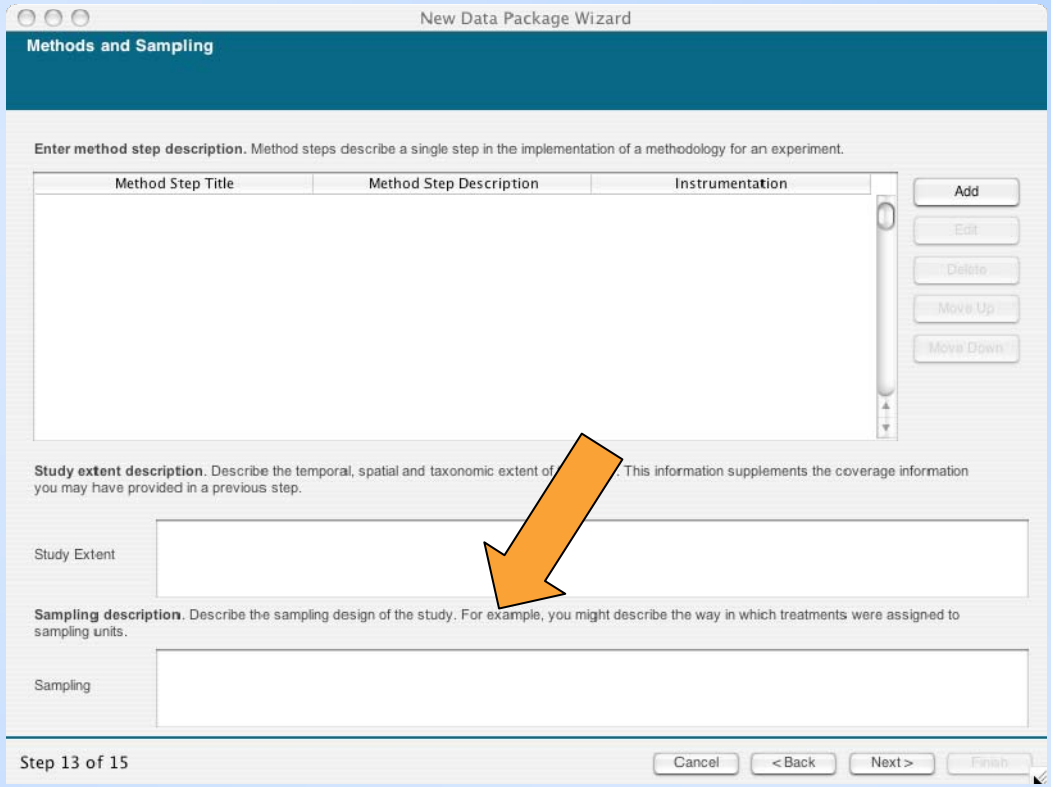
Editing Data Packages: Taxonomic Coverage

- Fill in the information for the reference



Editing Data Packages: Methods

- **Enter a description for the method of sampling and the extent of the study**
- To enter a new step in the methods, hit "Add"



Editing Data Packages: Methods

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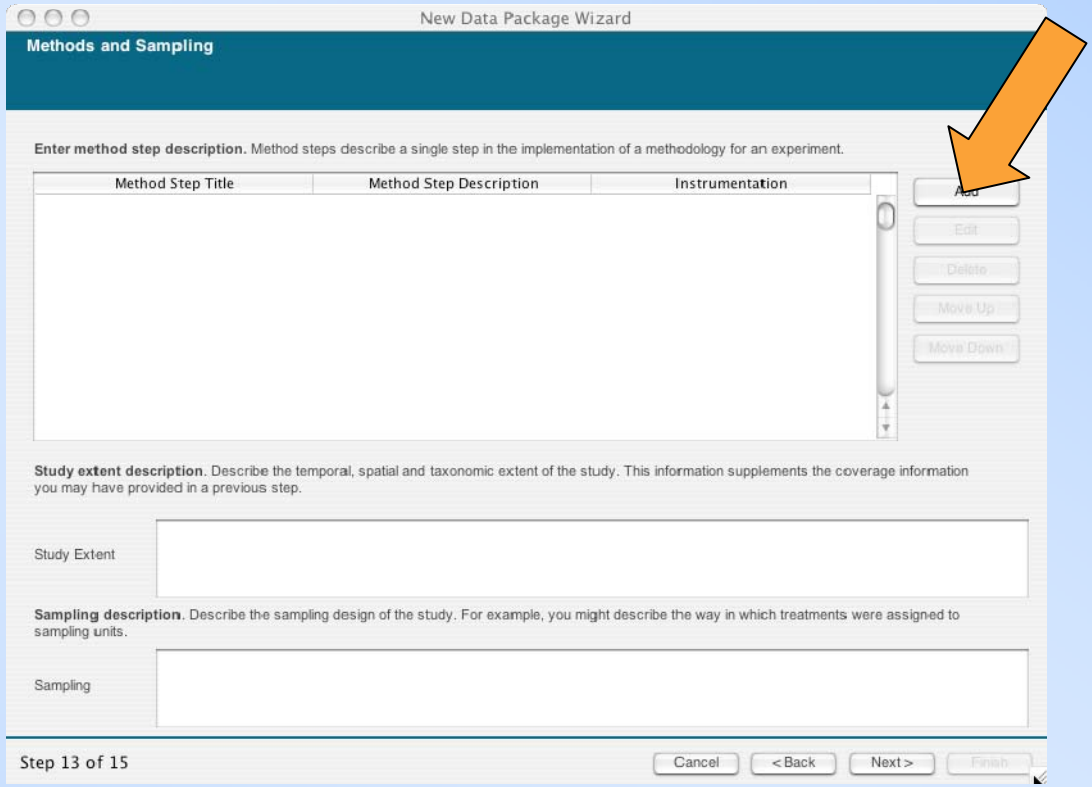
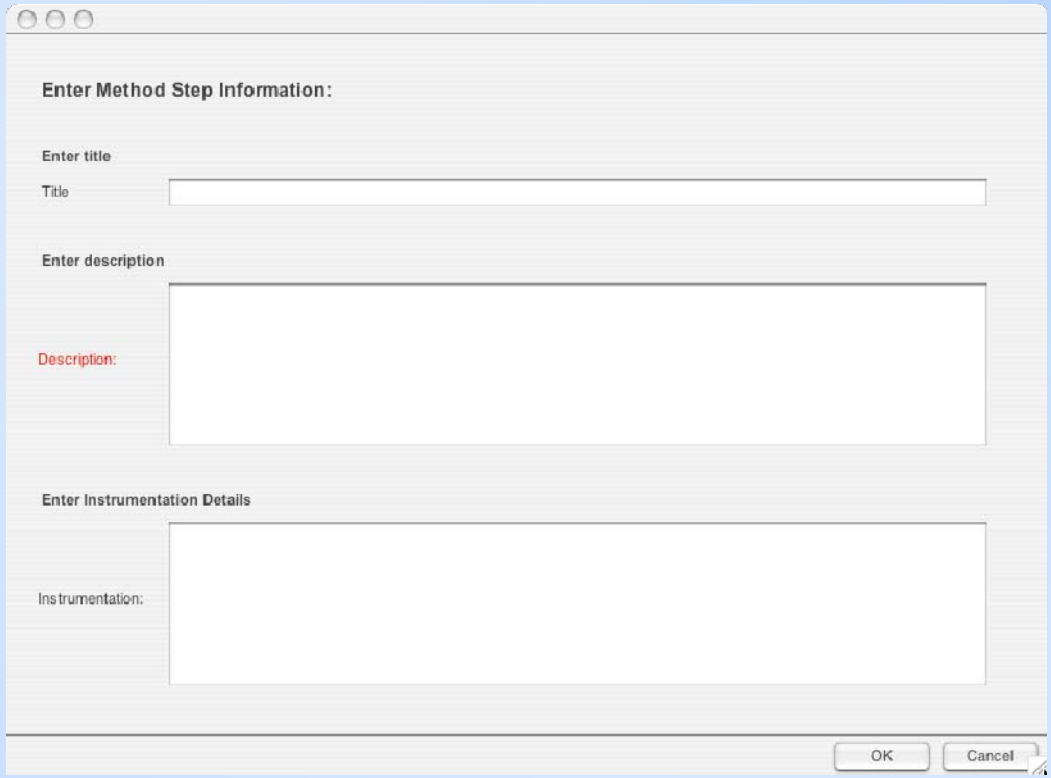


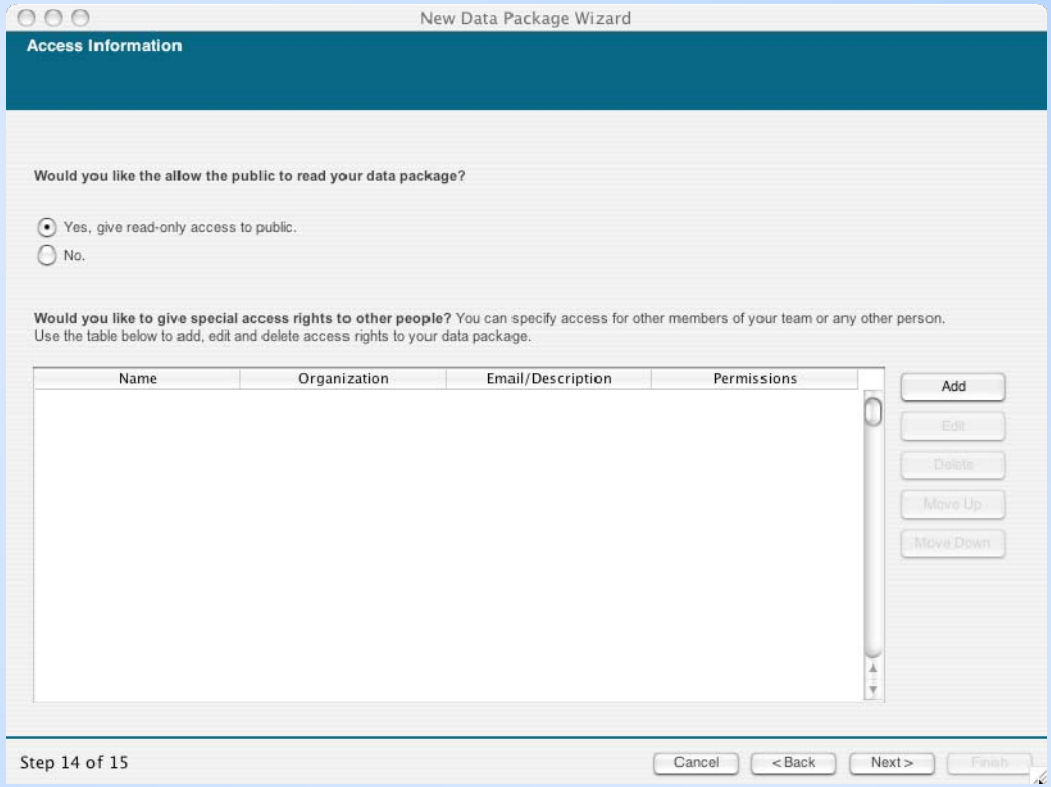
Editing Data Packages: Methods

- Fill in the description of the method



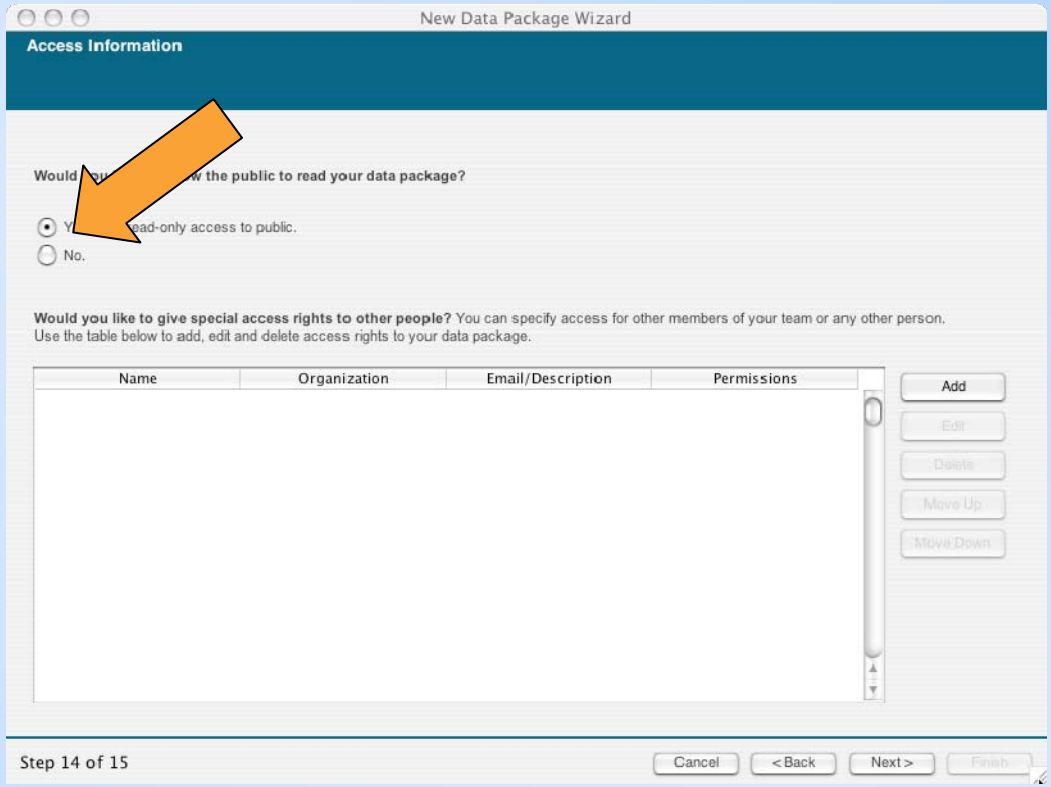
Editing Data Packages: Access Rights

- Control who is allowed to view, edit, delete, and change access rights to your data package
- Only apply to copies saved on the network
  - anyone can view and edit data packages saved on the local machine



Editing Data Packages: Access Rights

- **Select whether to give read access to the public**
- To add an additional access privilege or restriction, hit "Add"



Editing Data Packages: Access Rights

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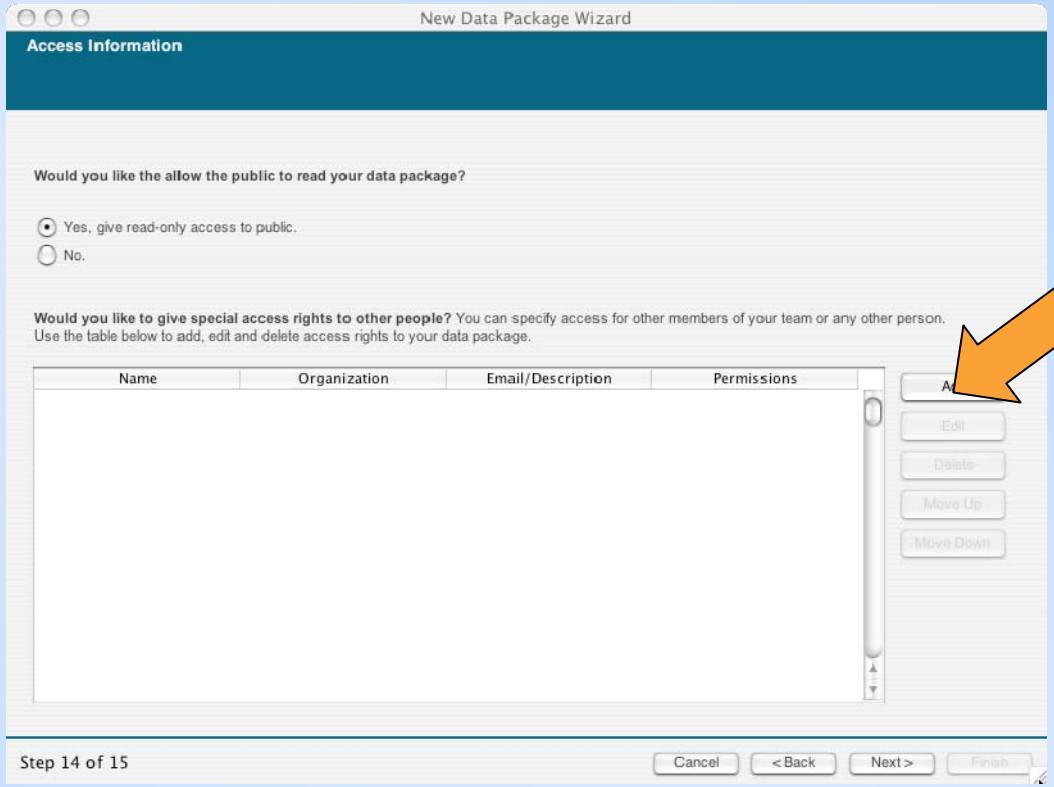
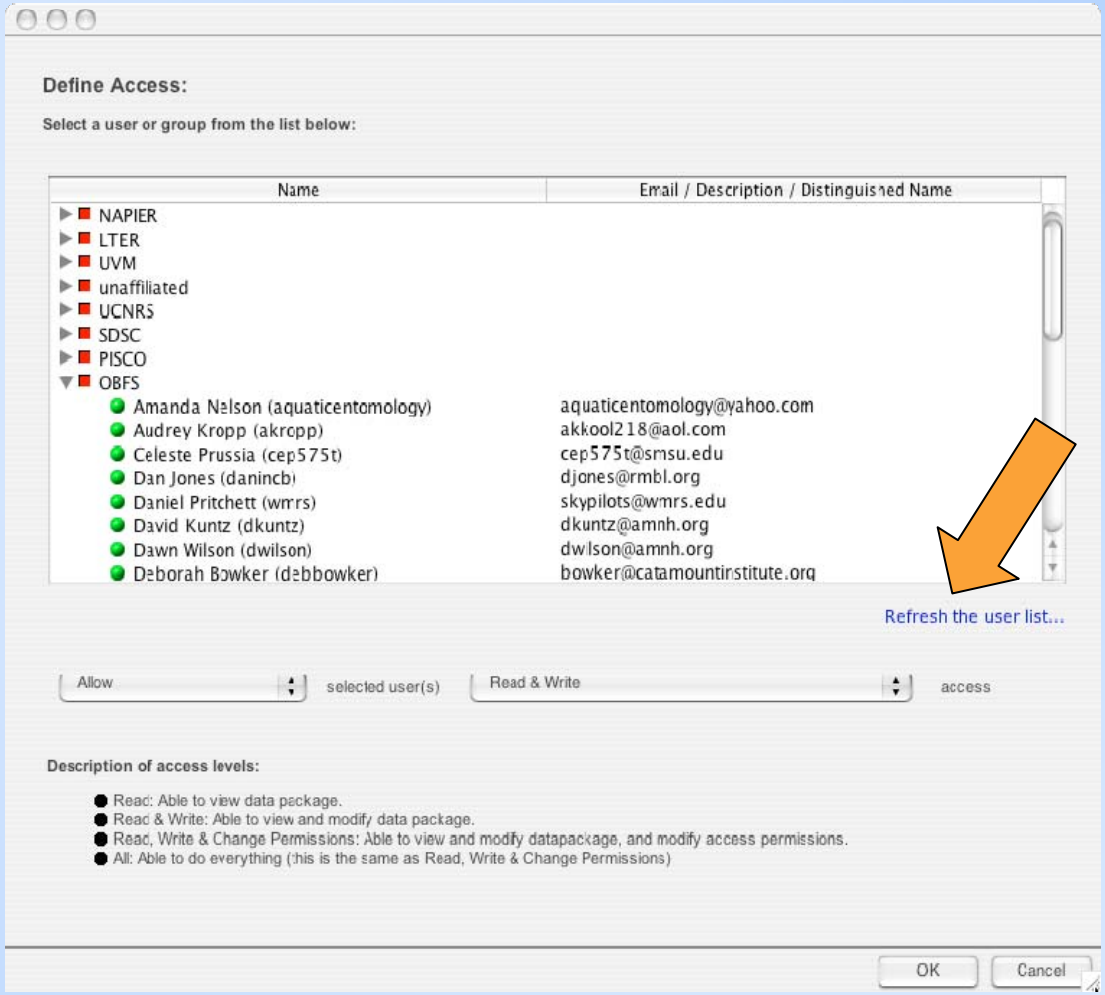
- **To add an additional access privilege or restriction, hit "Add"**



Editing Data Packages: Access Rights

- **Click "Refresh the user list…"**
- Select the user or group to give special access rules
- Select "Allow" or "Deny"
- Select the type of access



Editing Data Packages: Access Rights

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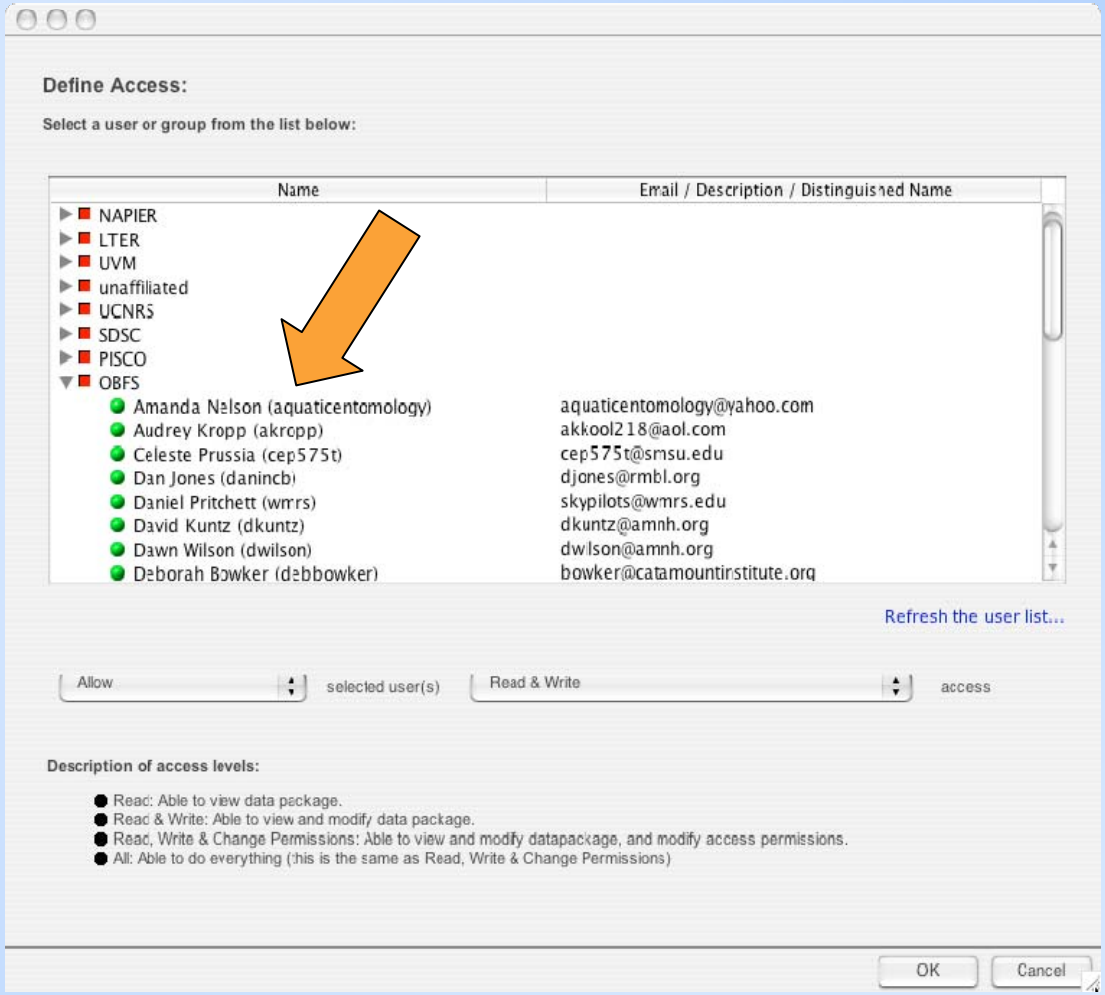

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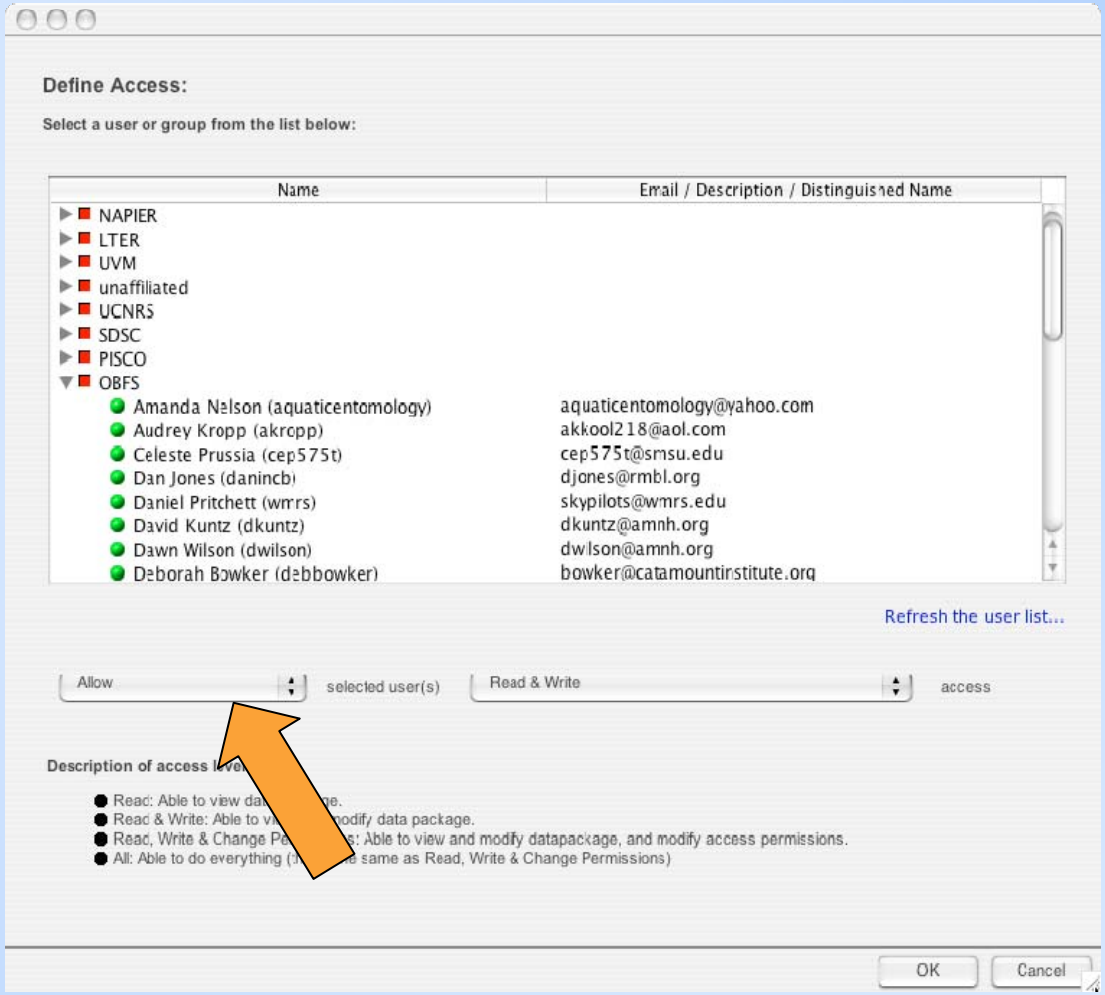

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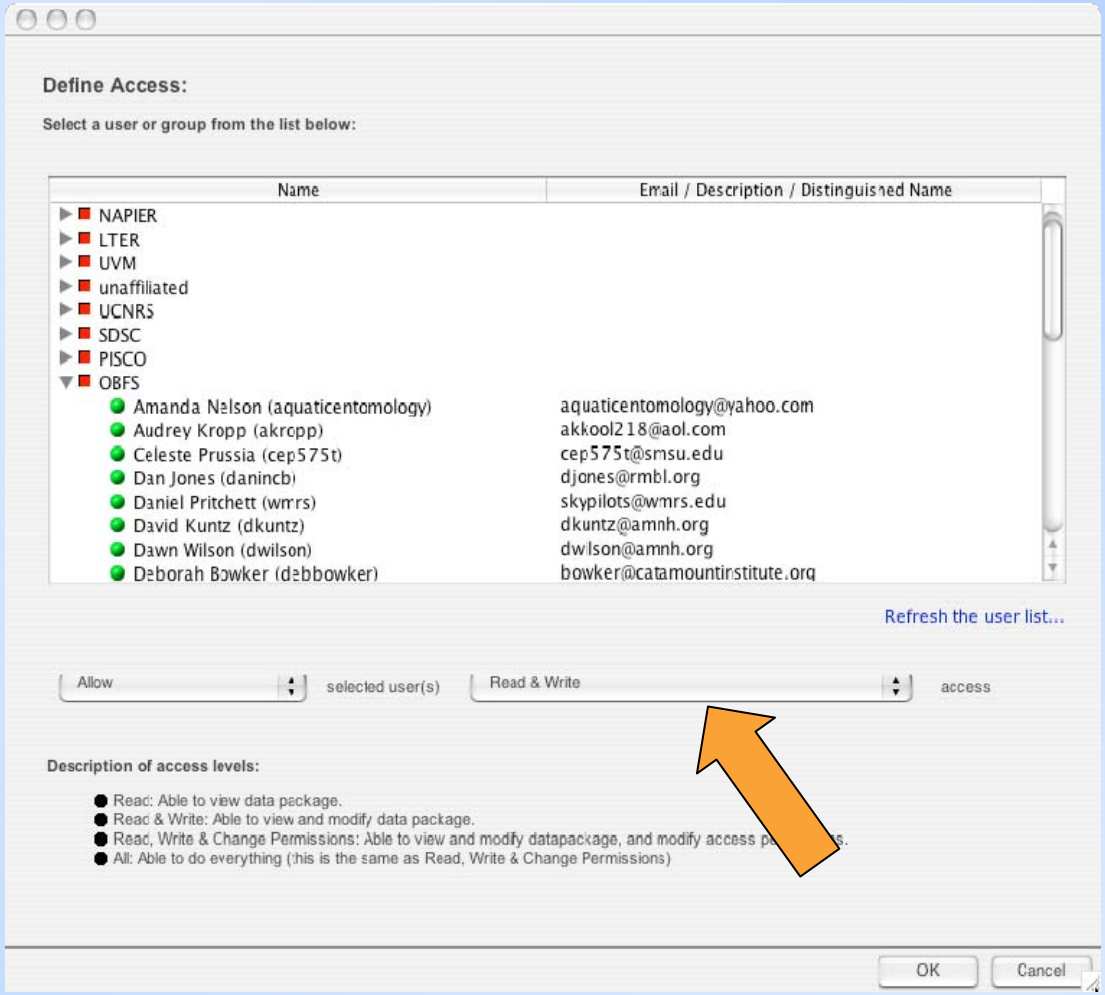
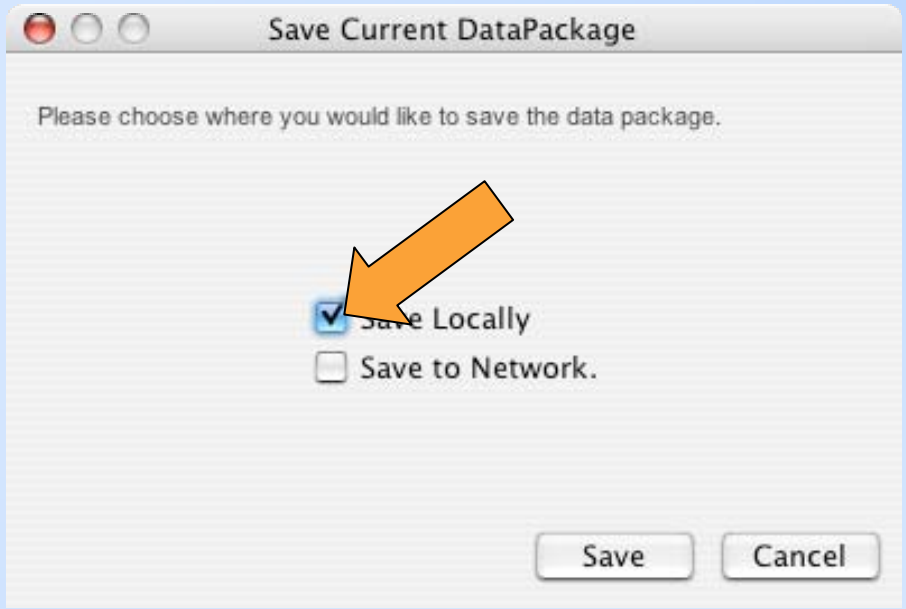


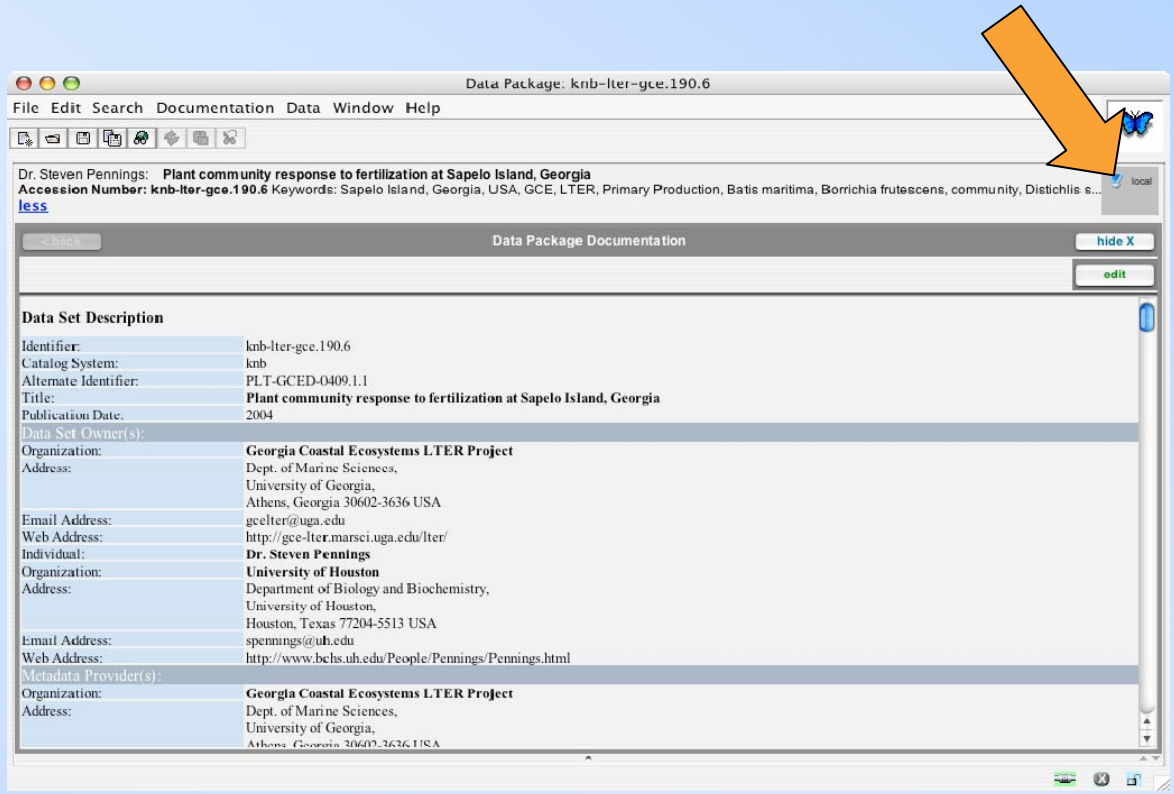
Saving Data: Local

- Select “Save…” from the “File” Menu
- Select “Save Locally” from the pop-up window, then deselect “Save to Network” if necessary



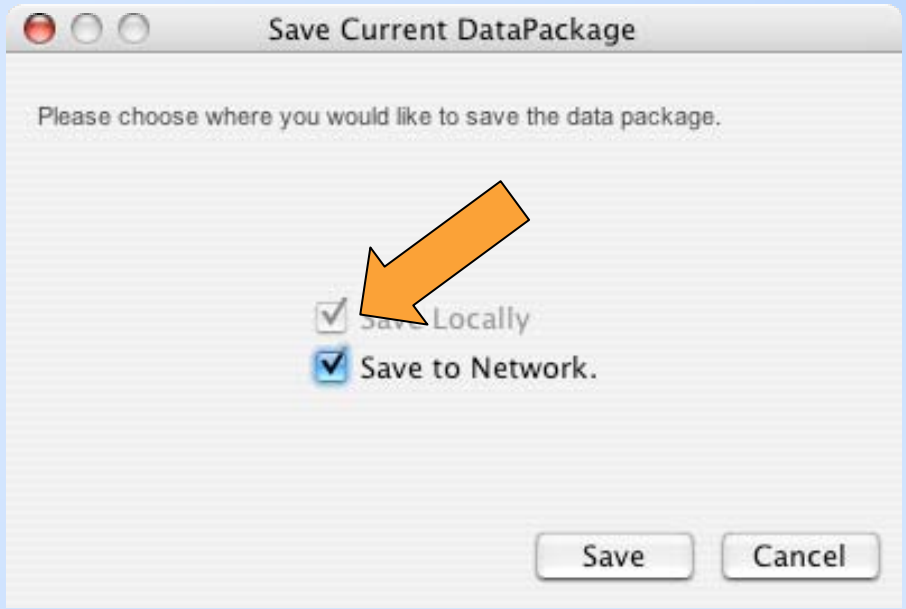
Saving Data: Local

- You should see “local” and a computer icon in the upper right hand corner below the butterfly



Saving Data: Network

- **Select “Save…” from the “File” menu**
- **Notice “Save Locally” is grayed out because the local version is the current working copy**
- Select “Save to Network”



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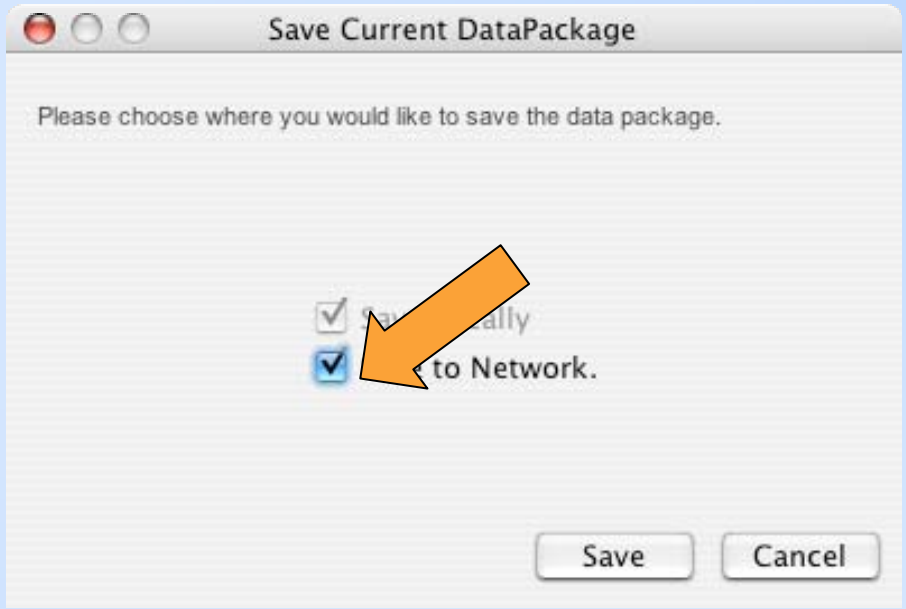
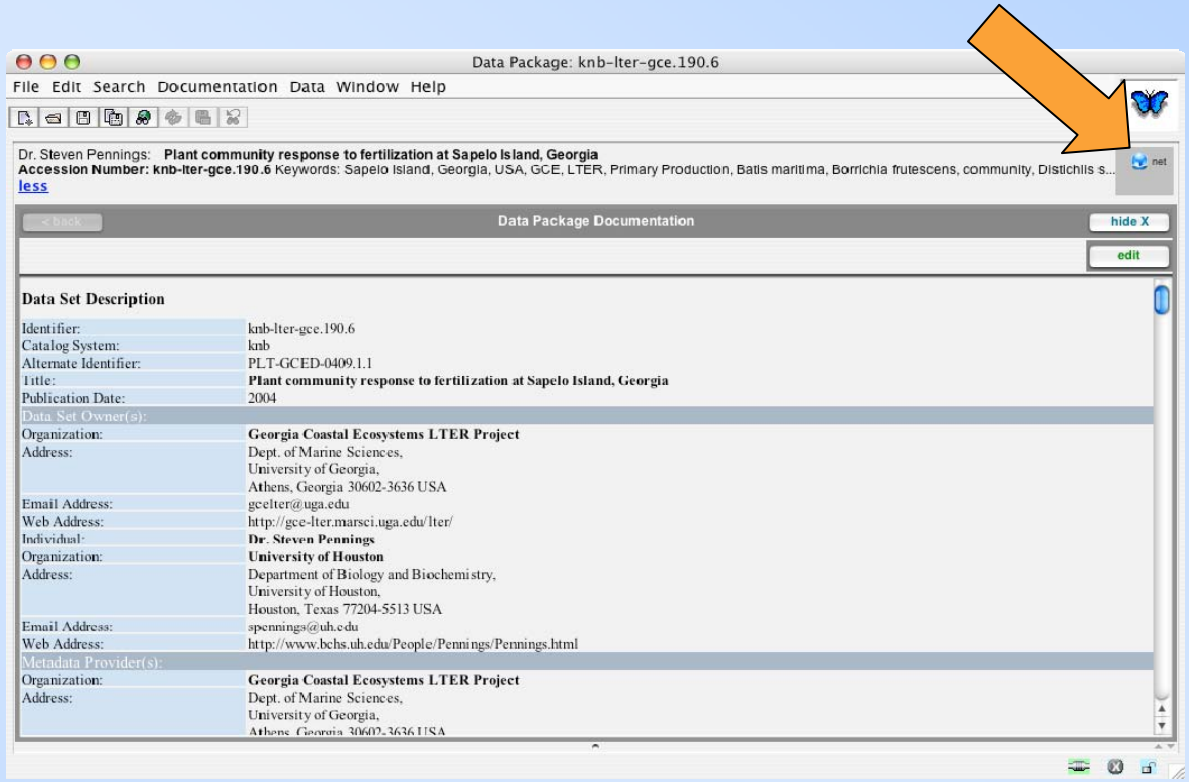


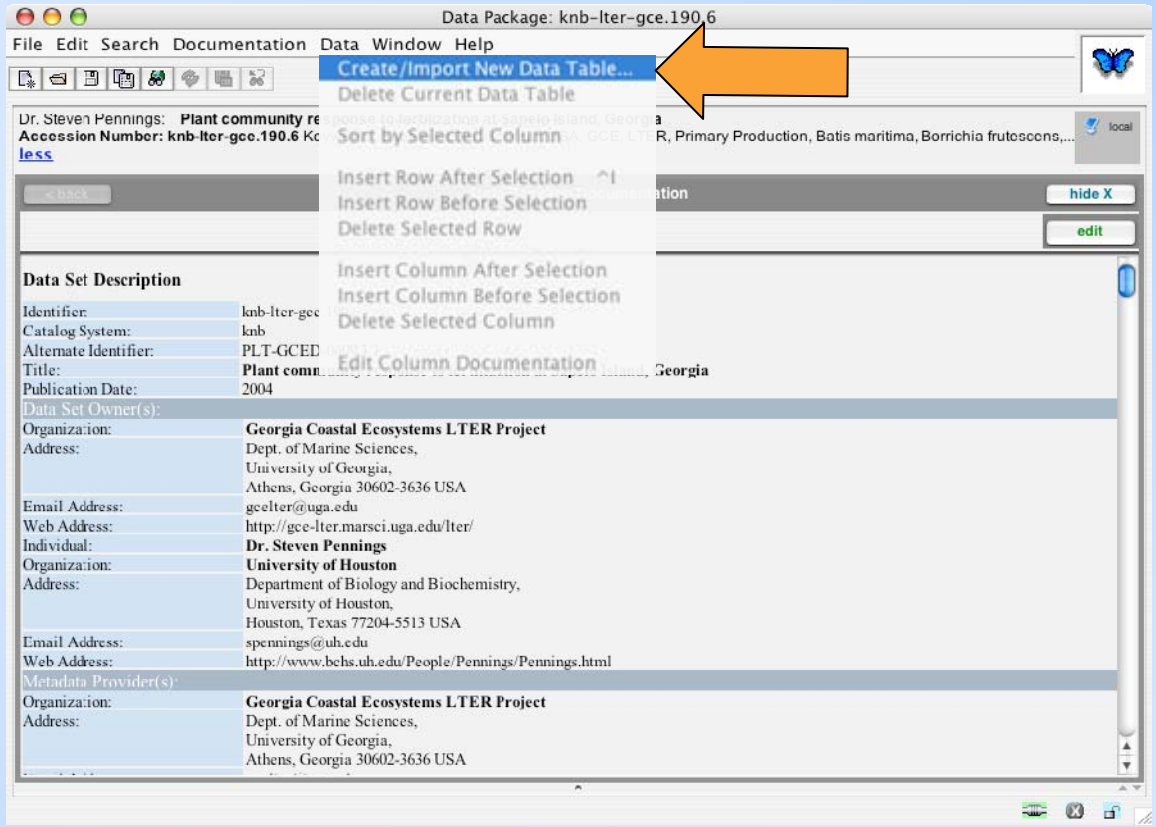
Saving Data: Network

- You should see “net” and a globe icon in the upper right below the butterfly



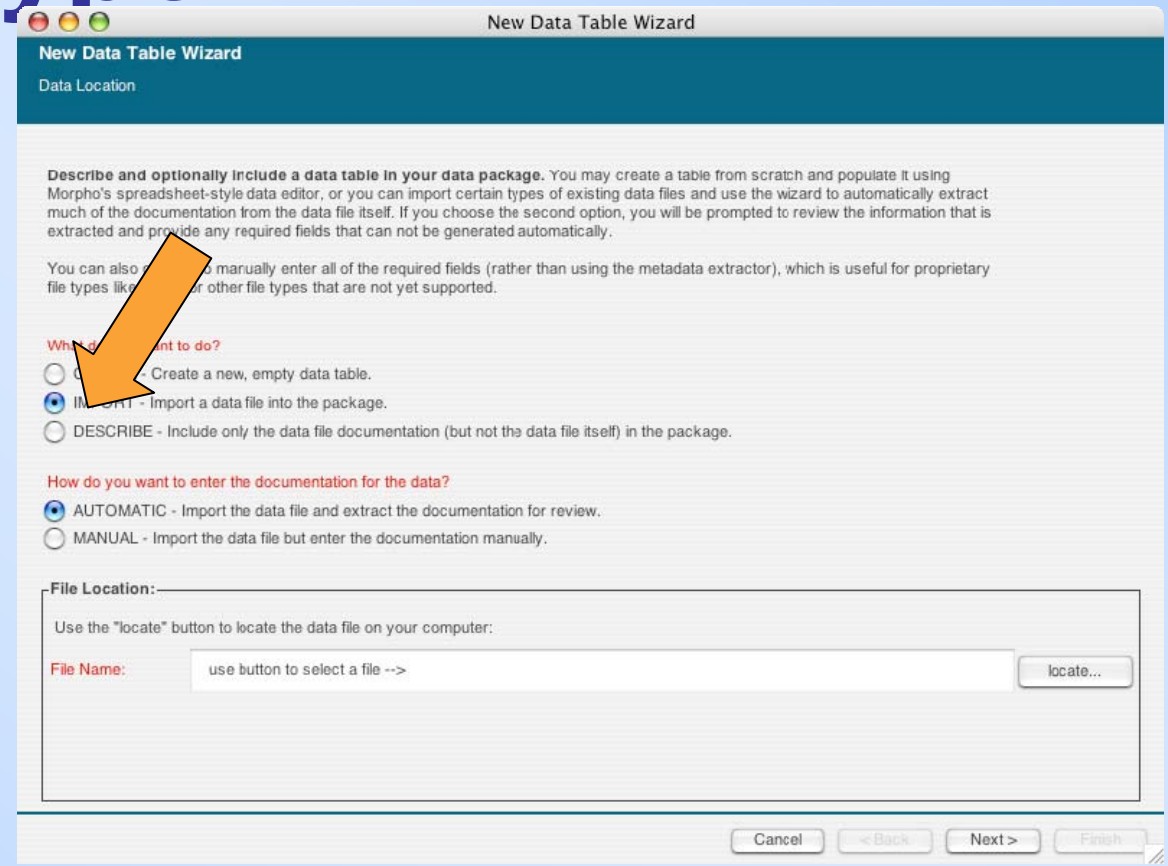
Importing Raw Data: The New Data Table Wizard

- Data should be in ASCII, character-delimited format
- Select “Create/Import New Data Table” from the “Data” menu



New Data Table Wizard: Import Type

- **Select “Import” for what you want to do**
- Select “Automatic” for how to enter the documentation
- Select the location of the file



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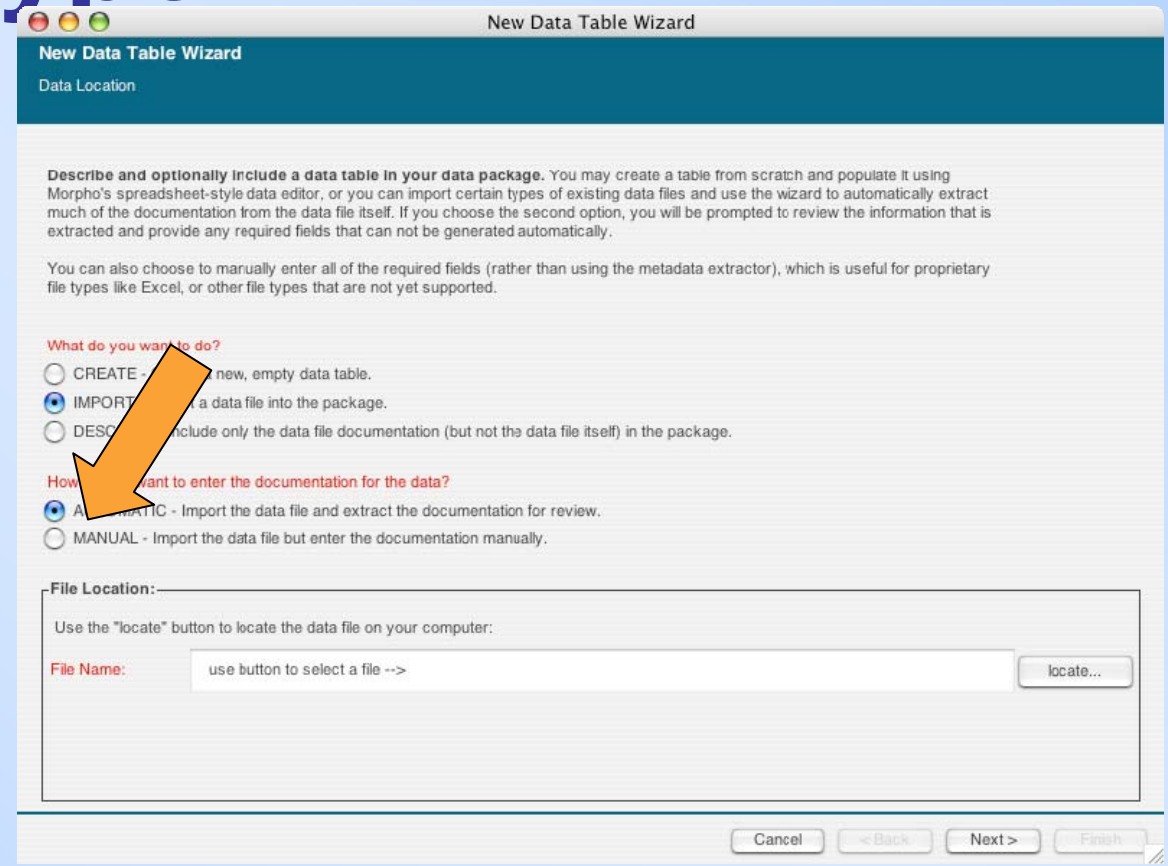
- **Select “Automatic” for how to enter the documentation**
- Select the location of the file



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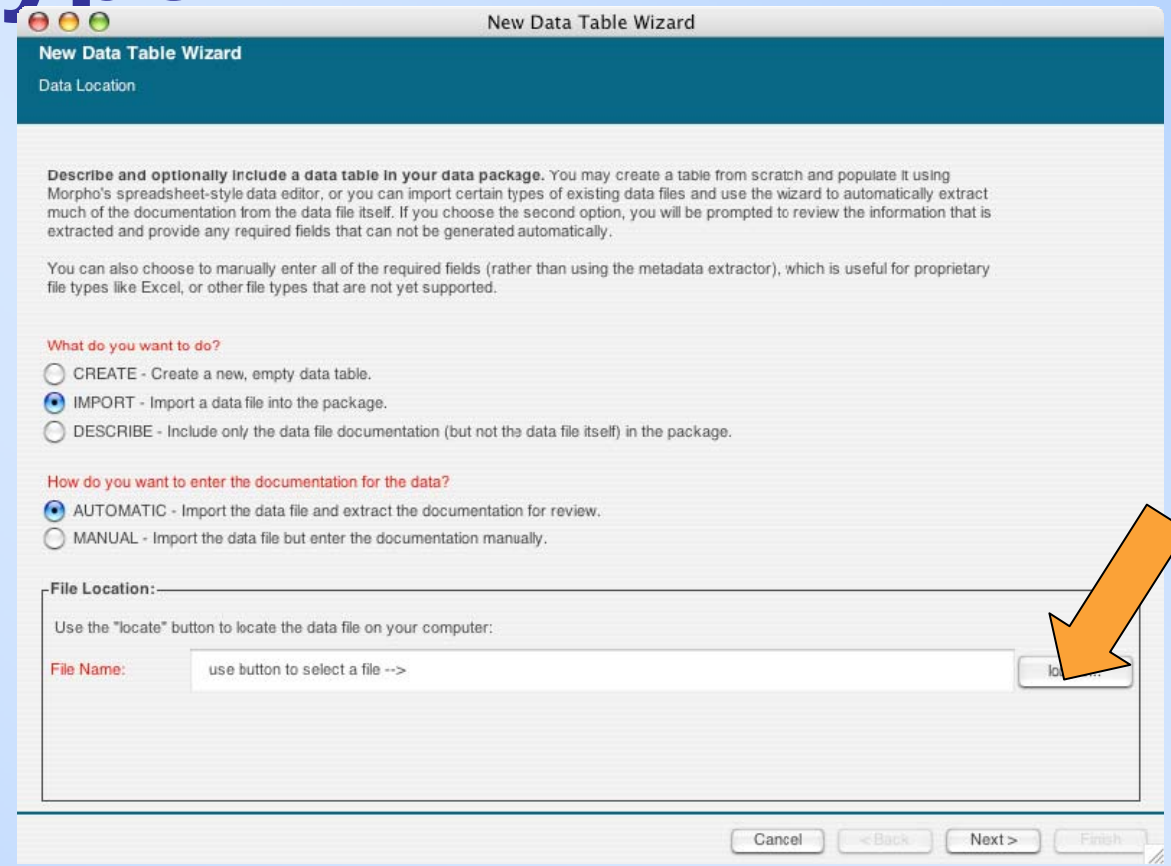
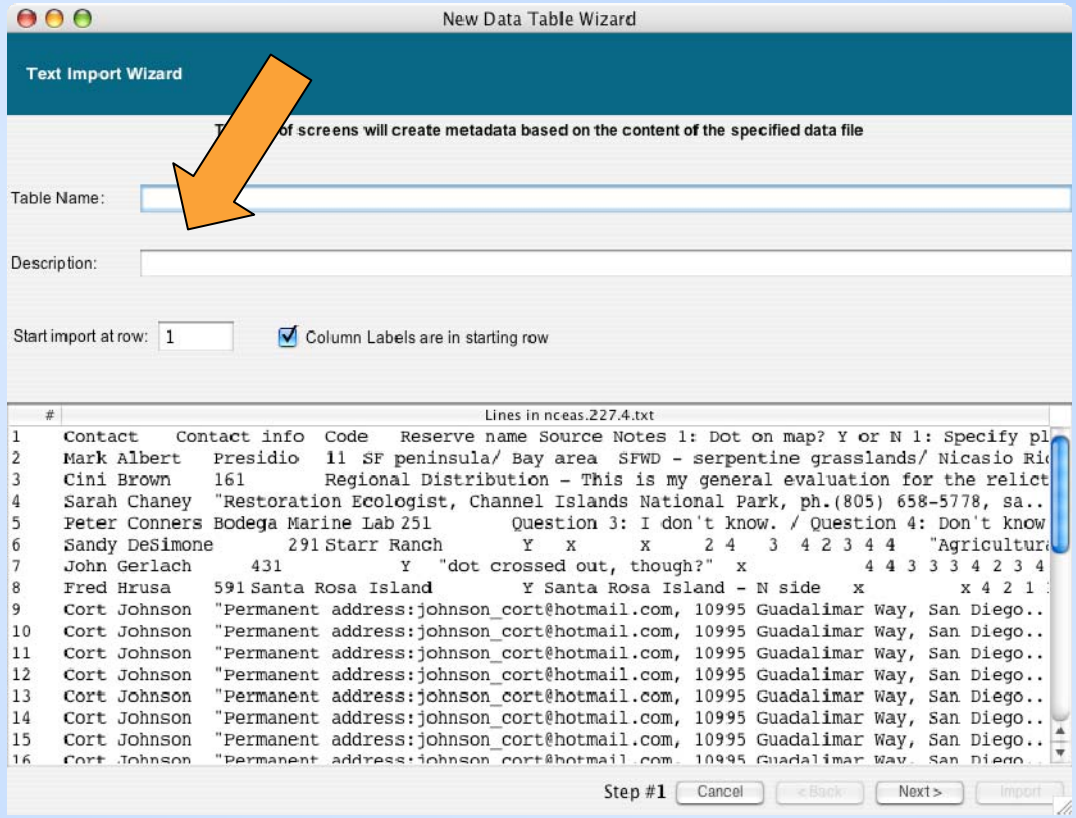
- **Select the location of the file**



New Data Table Wizard: Table Information

- **Enter a name and description for the table**
- Enter line to start importing
- Select whether the first row is a column label



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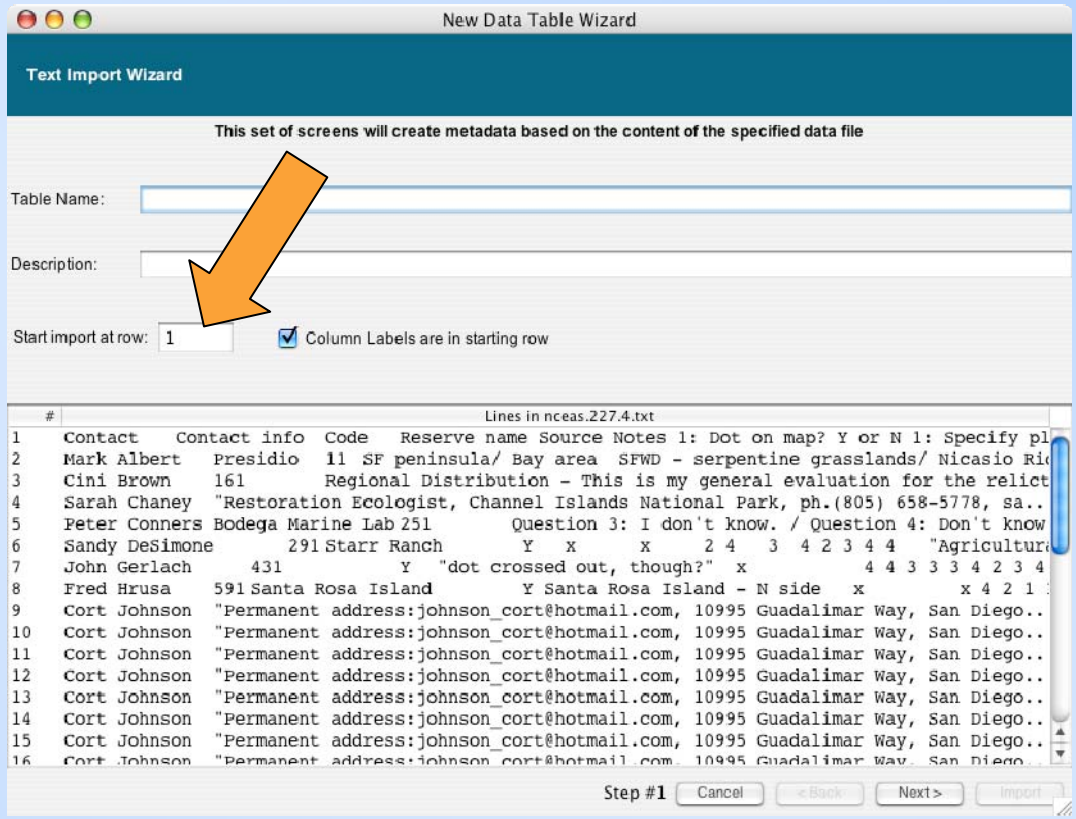

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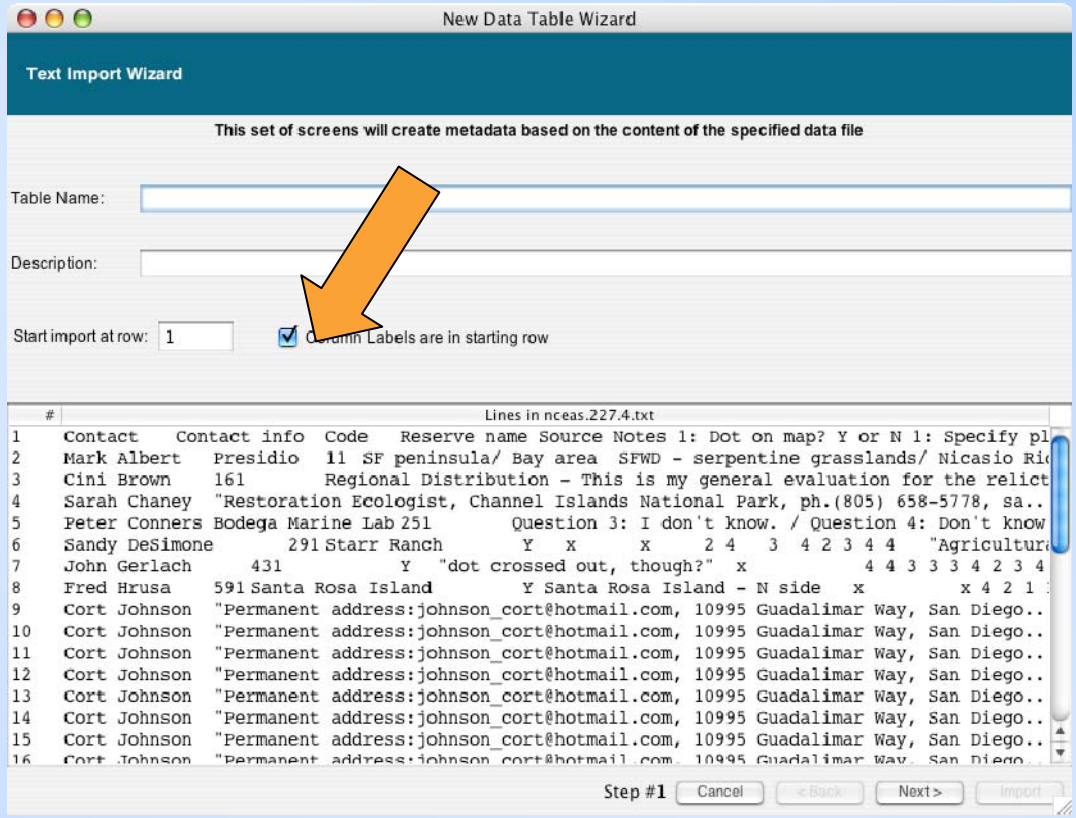
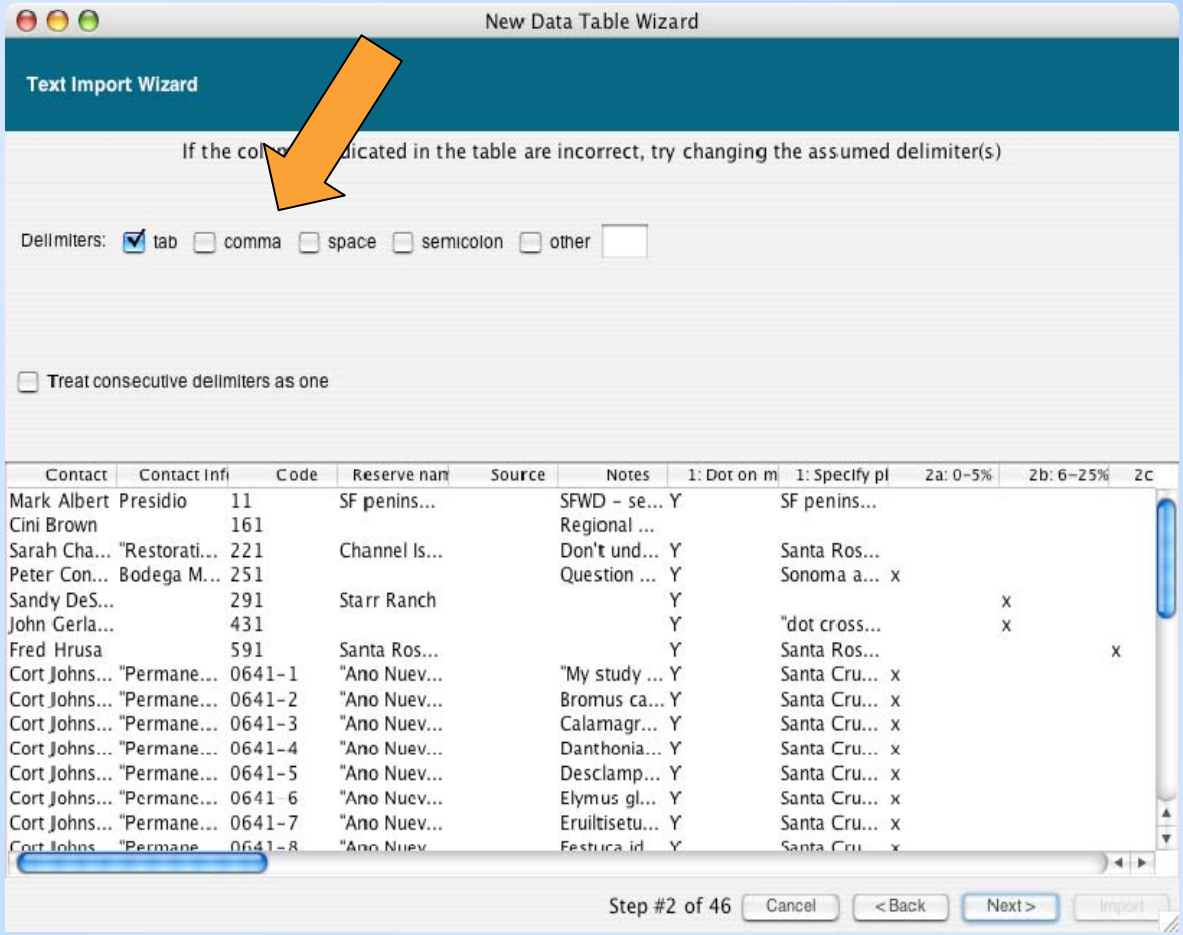


New Data Table Wizard: Table Information

- **Select the characters that separate values**
- Check in window to ensure the table looks correct



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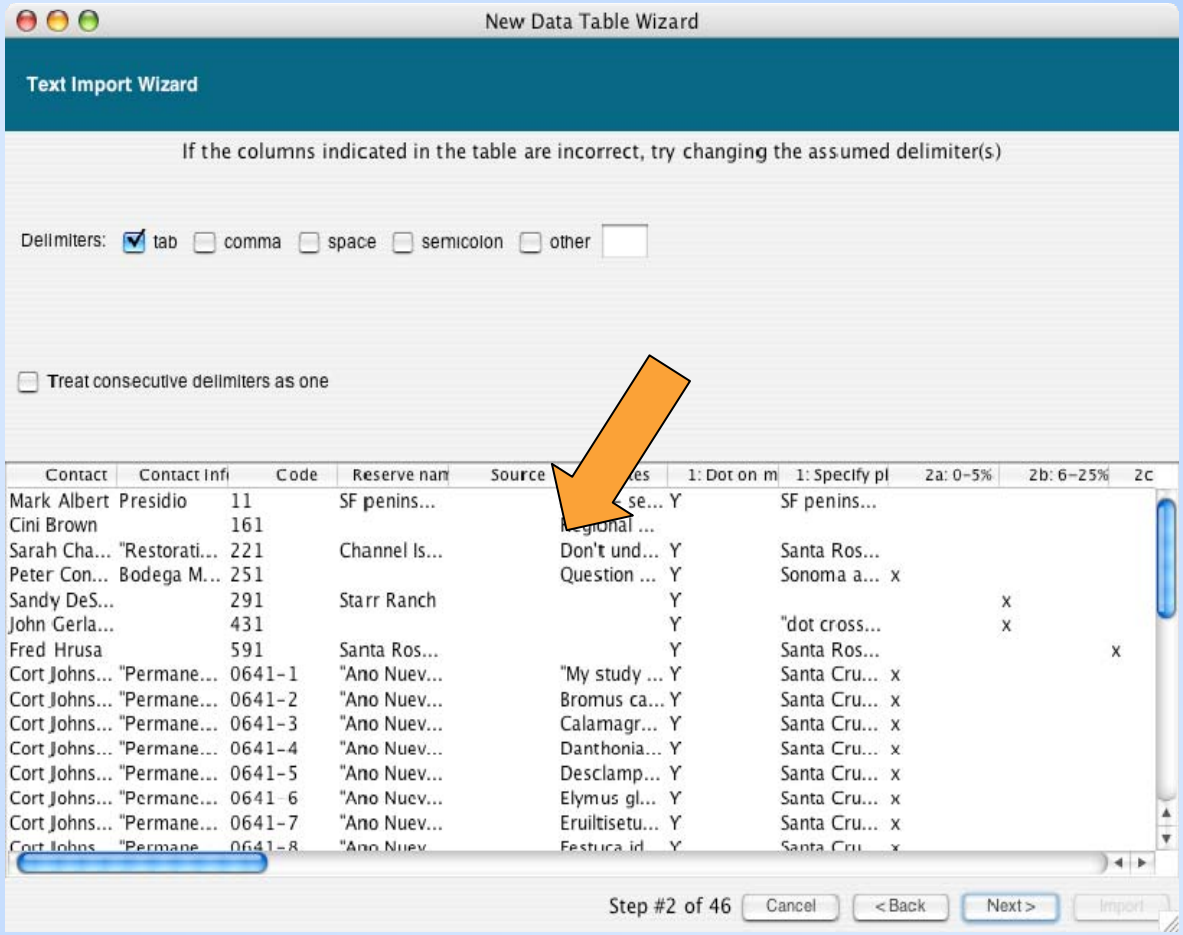
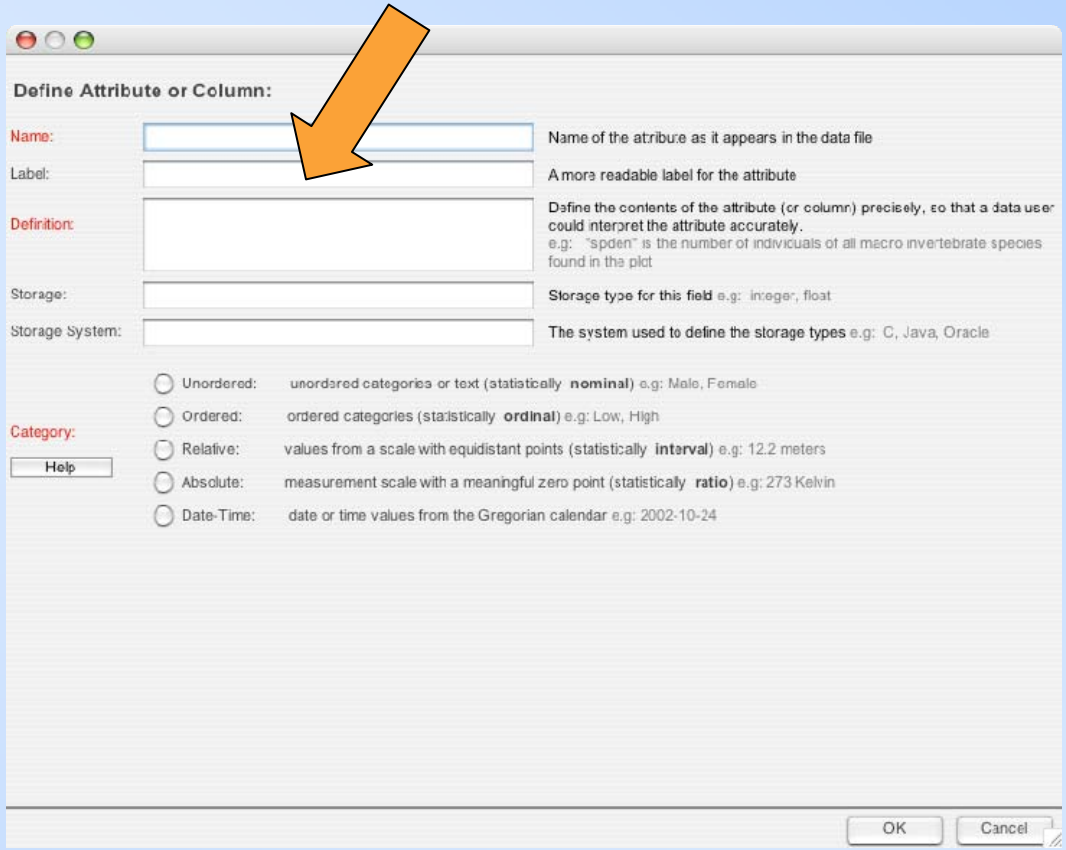


New Data Table Wizard: Columns

- **Enter a name and description**
- Select the type of data in the column
- For more information on column types, hit “Help”



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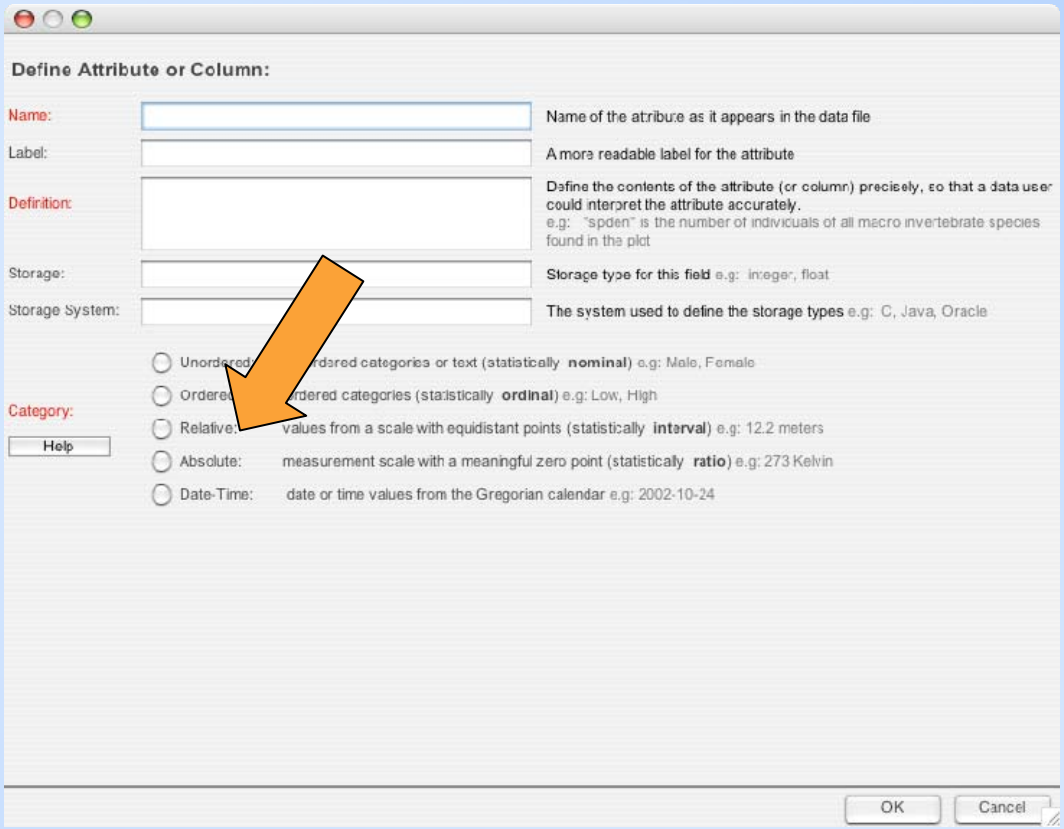

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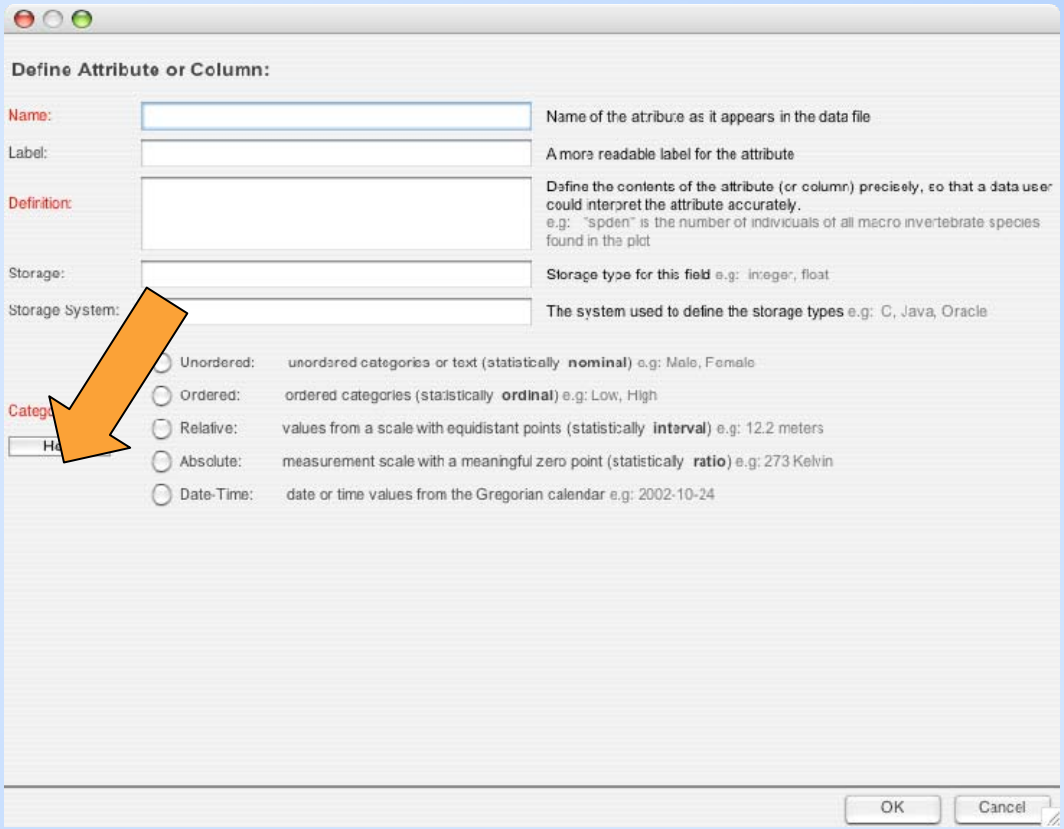
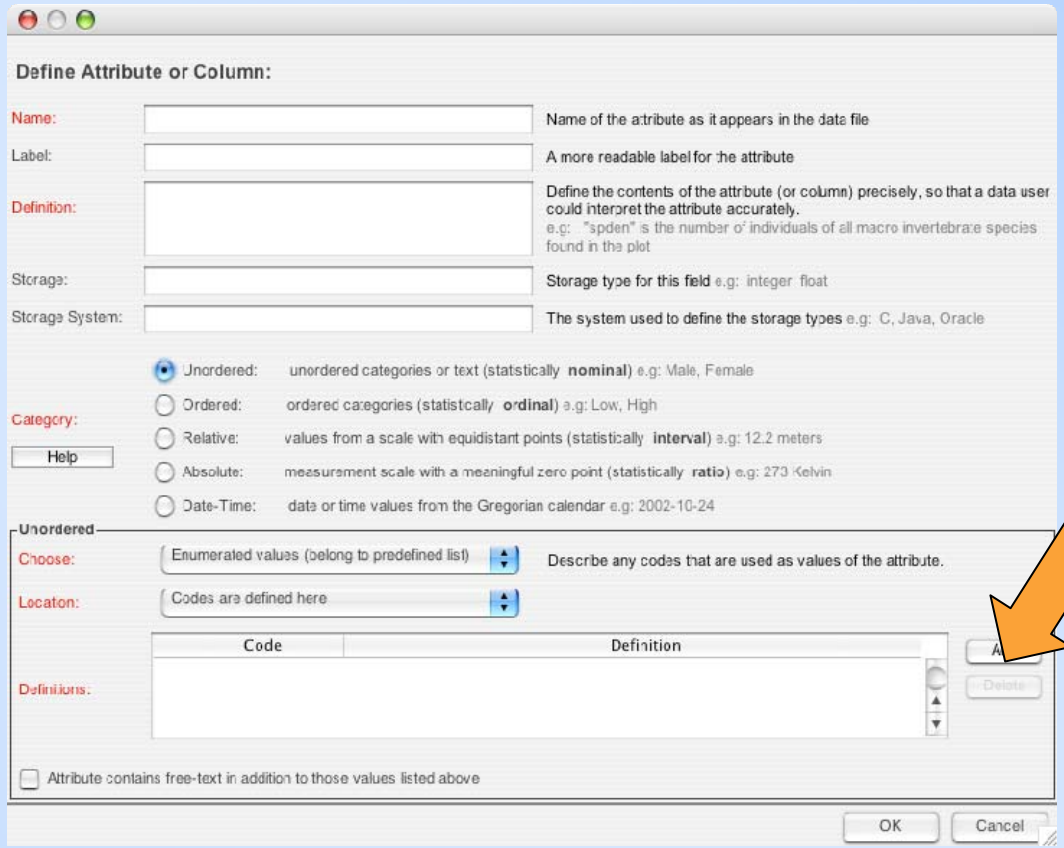


New Data Table Wizard: Column Types

- Categories were derived from a Stevens 1951 paper on levels of measurement
  - Unordered - categorical labels with no inherent ranking (male and female)
  - Ordered - ranked data (low to high)
  - Relative - numerical data where values are evenly spaced (degrees Fahrenheit)
  - Absolute - numerical data with a meaningful zero point (degrees Kelvin)
  - Date-Time - used for temporal measurement (2005-10-31 14:15:00)

Column Types: Unordered and Ordered

- **Hit “Add” to enter a new code**
- Enter the code and its definition in the space provided
- Select whether columns have values other than the codes listed



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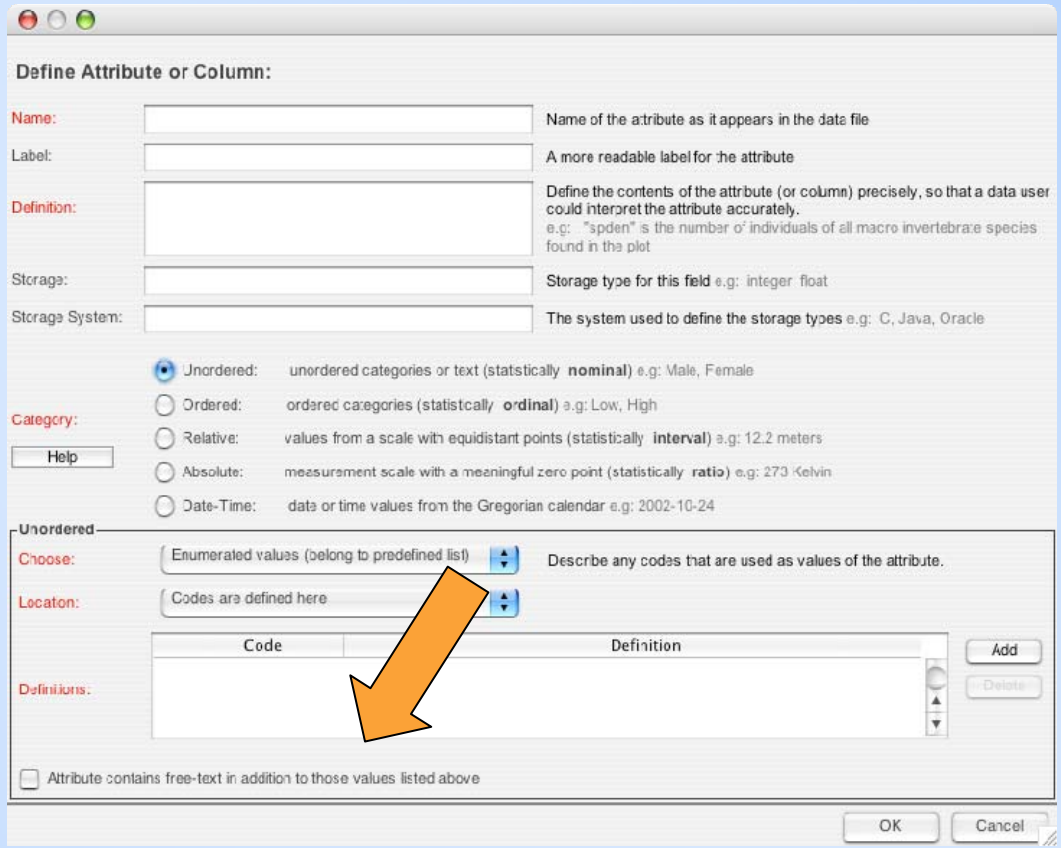

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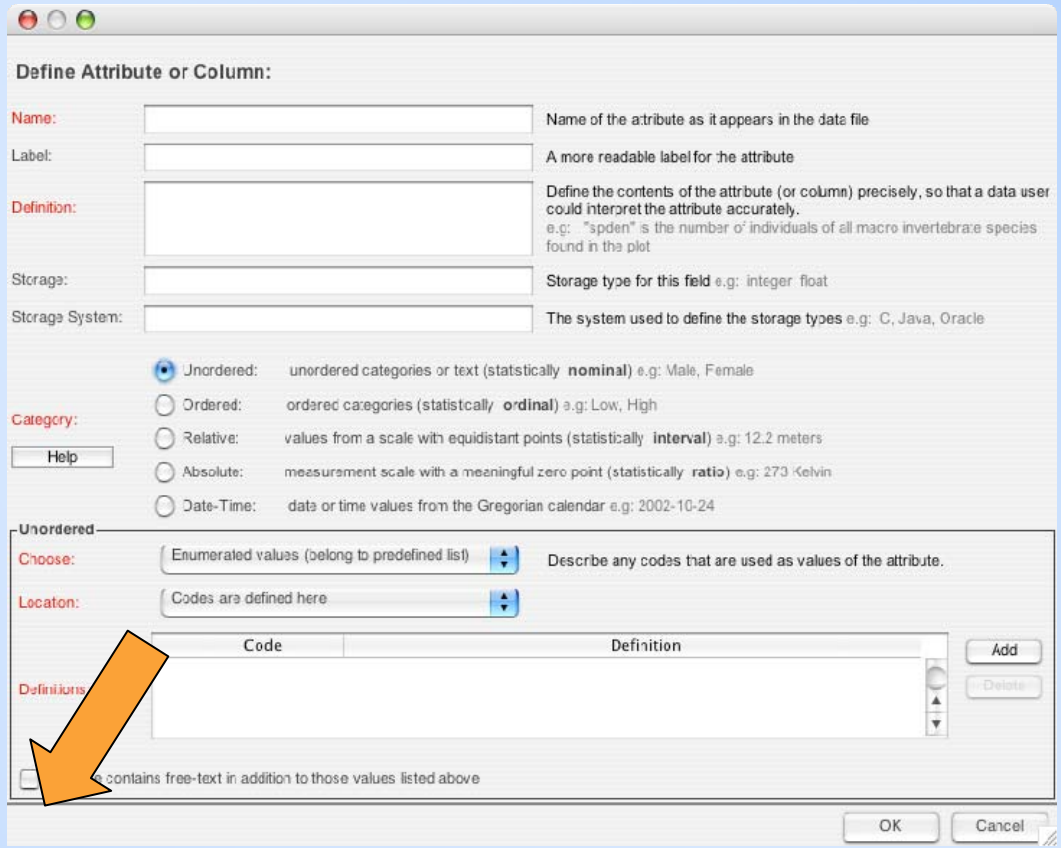
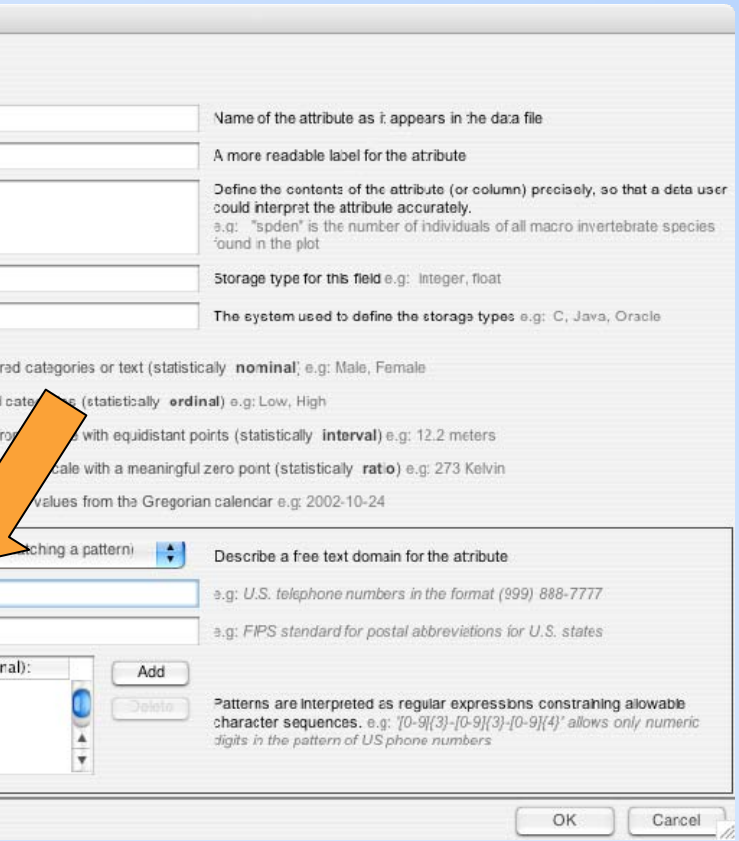


Column Types: Unordered and Ordered

- **Can also specify that columns contain text according to a certain format**
- Enter the description of the format



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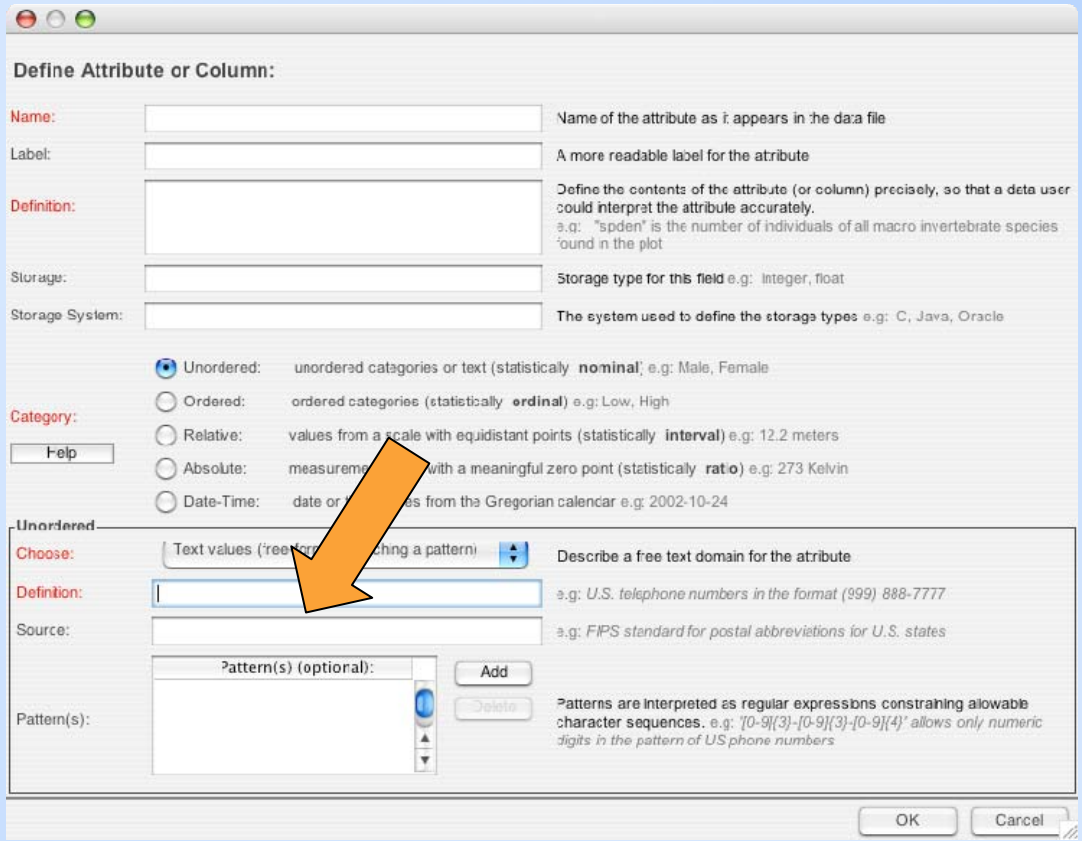
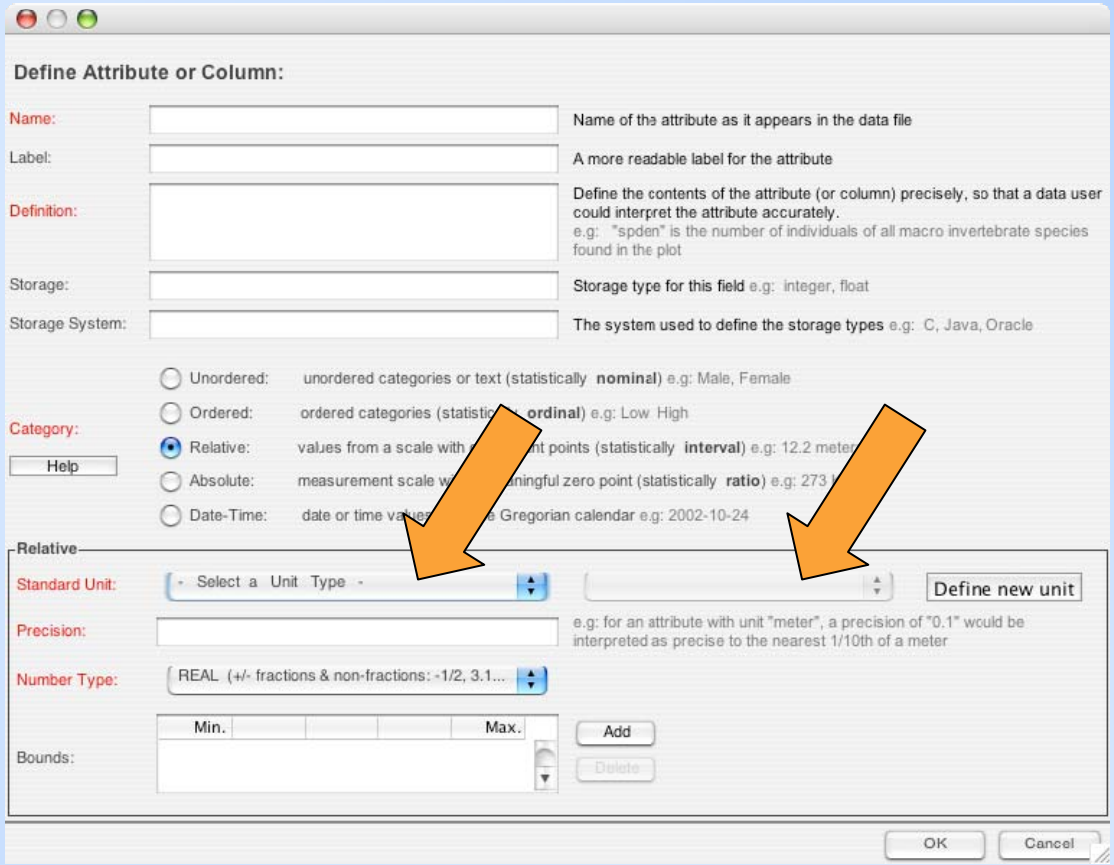


Column Types: Relative and Absolute

- **Select the units of measurement (can define new unit if necessary)**
- Enter the precision of measurement
- Select the number type
- Enter bounds



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- Select the units of measurement (can define new unit if necessary)
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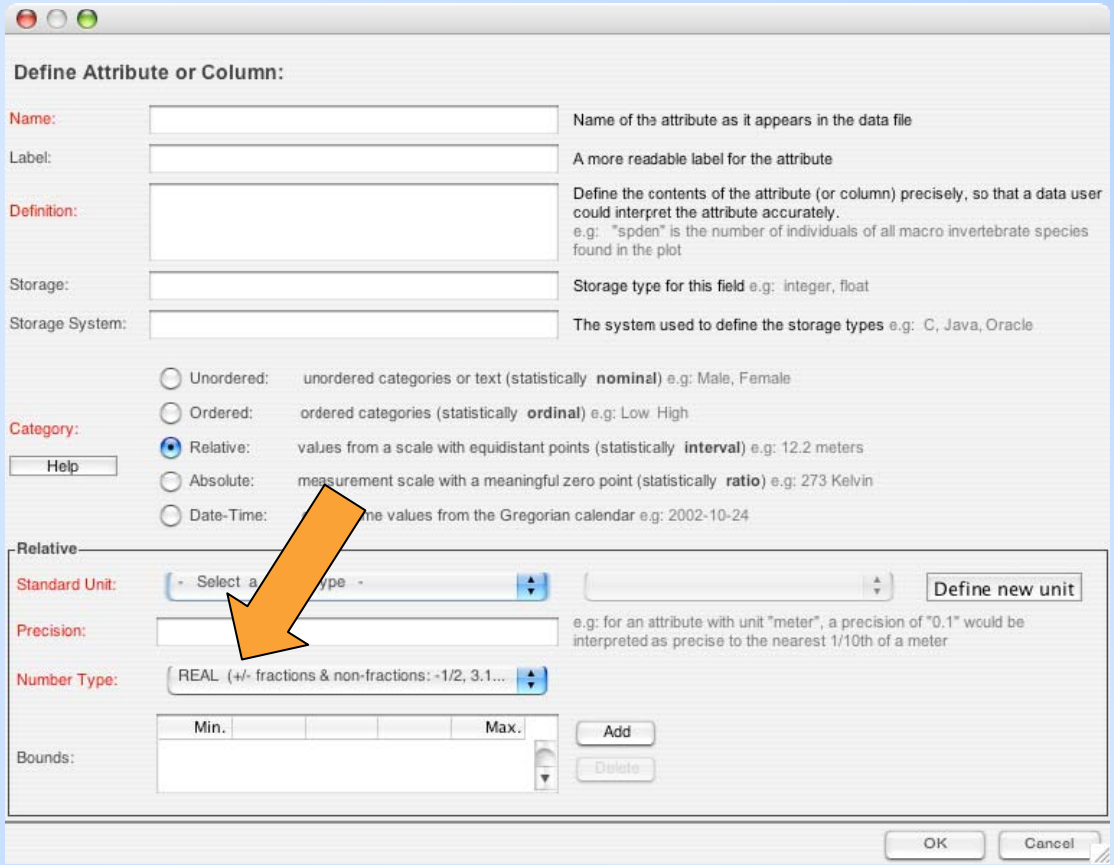

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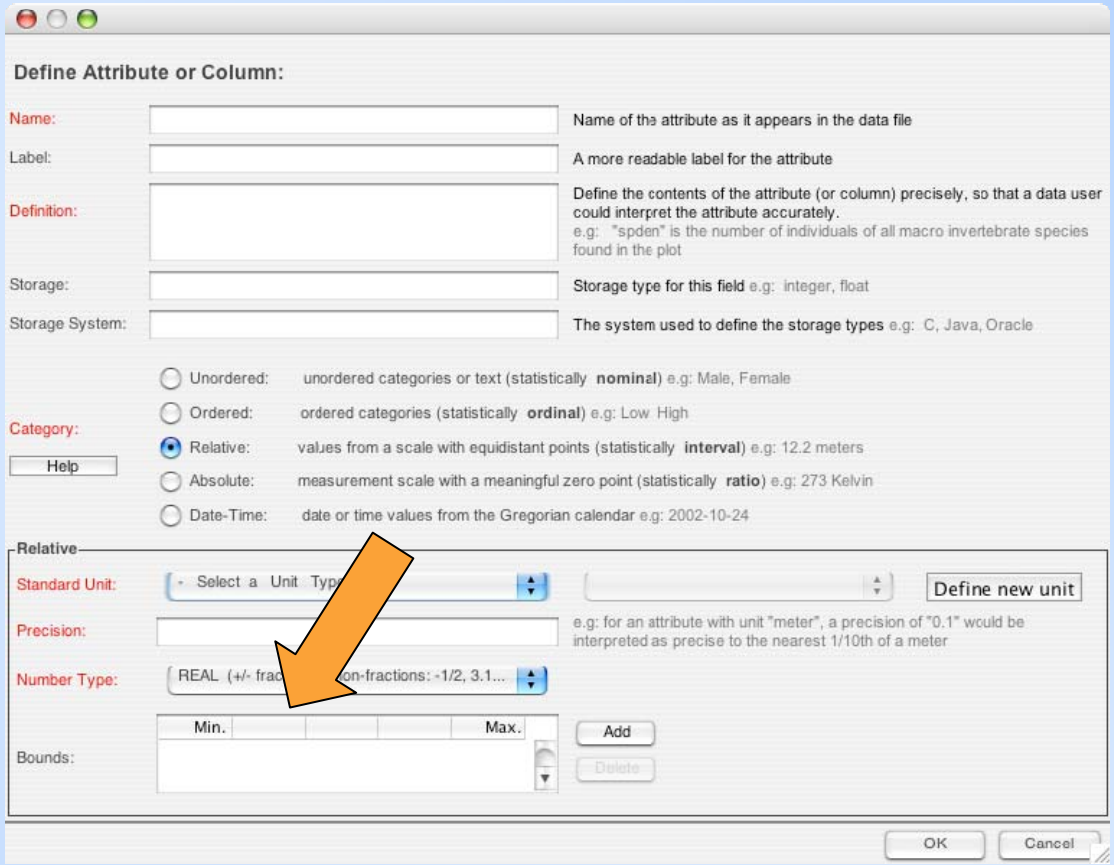

Column Types: Relative and Absolute

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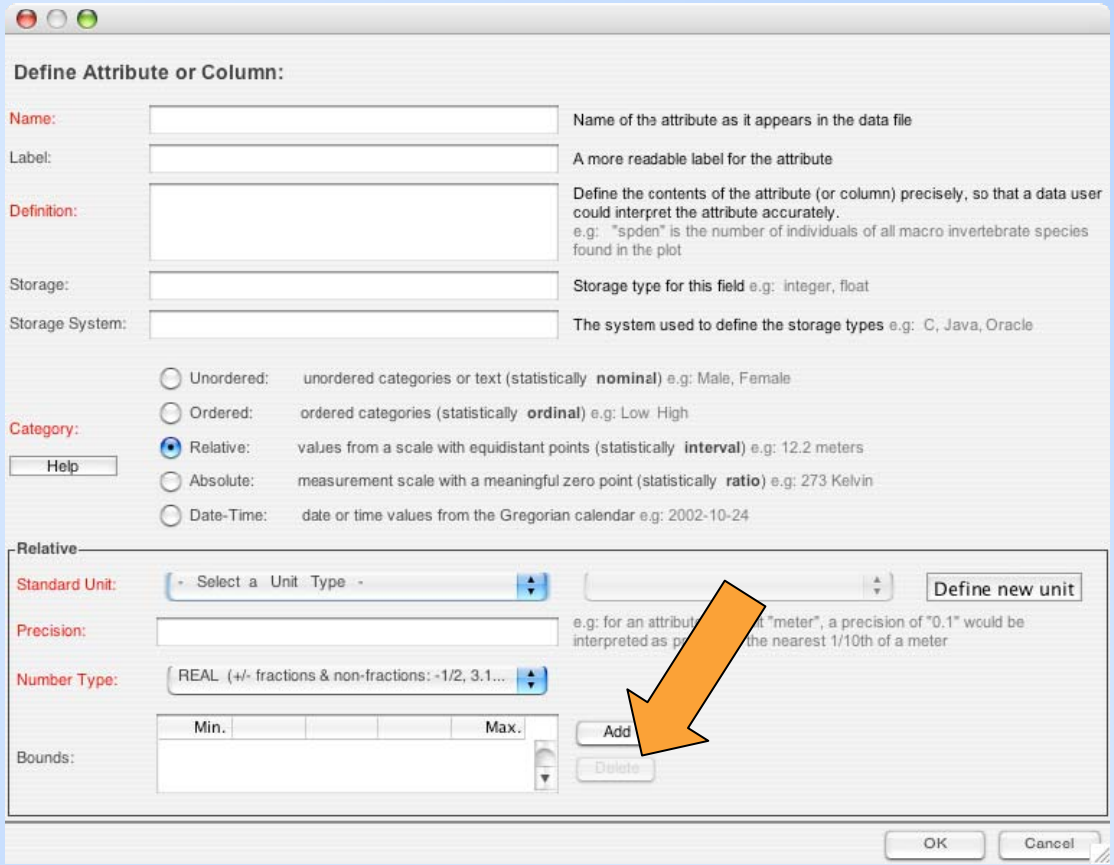
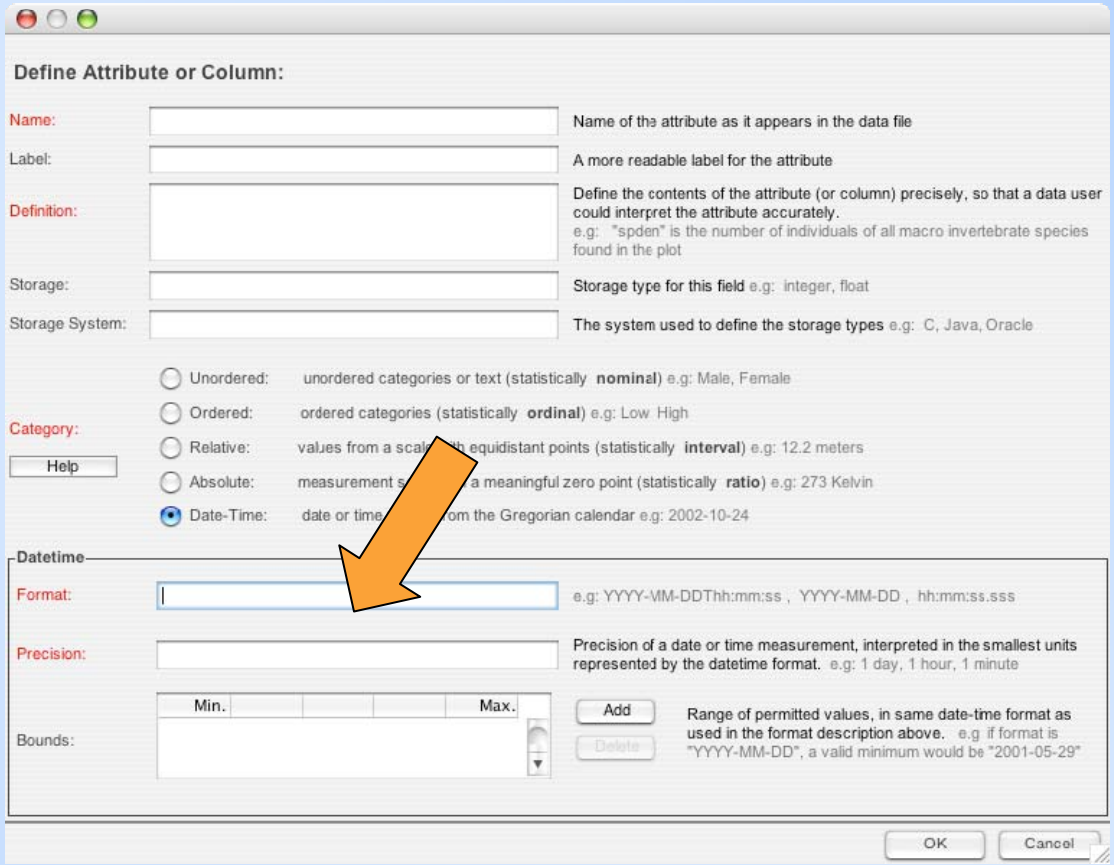


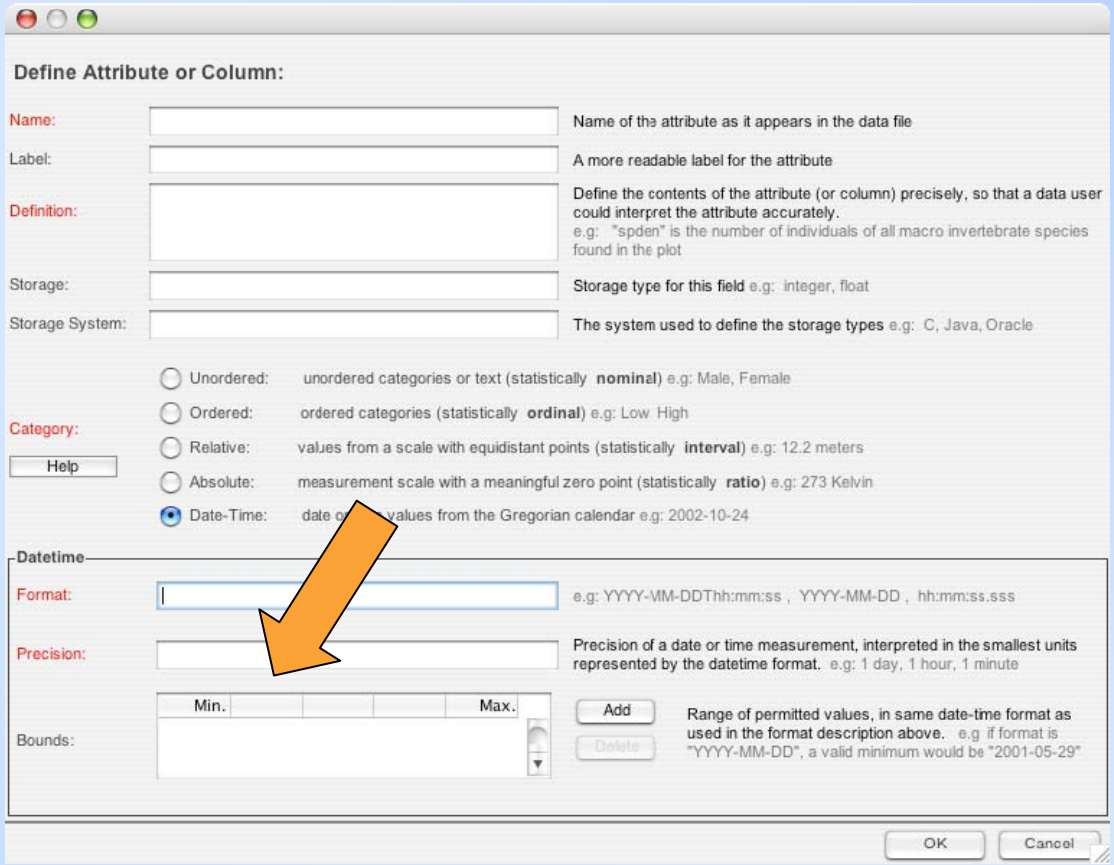
Column Types: Date/Time

- **Enter the date-time format**
- Enter the precision of measurement
- Enter the bounds of measurement



Column Types: Date/Time

- Enter the date-time format
- **Enter the precision of measurement**
- Enter the bounds of measurement



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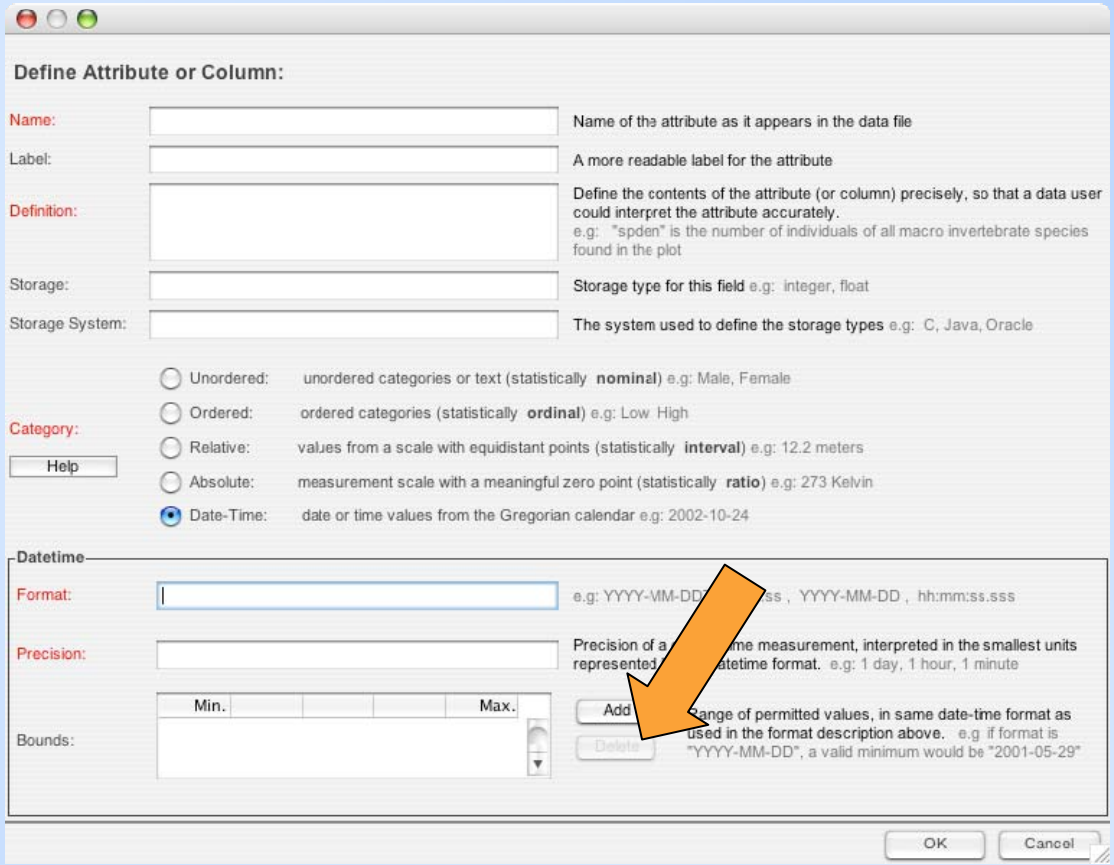
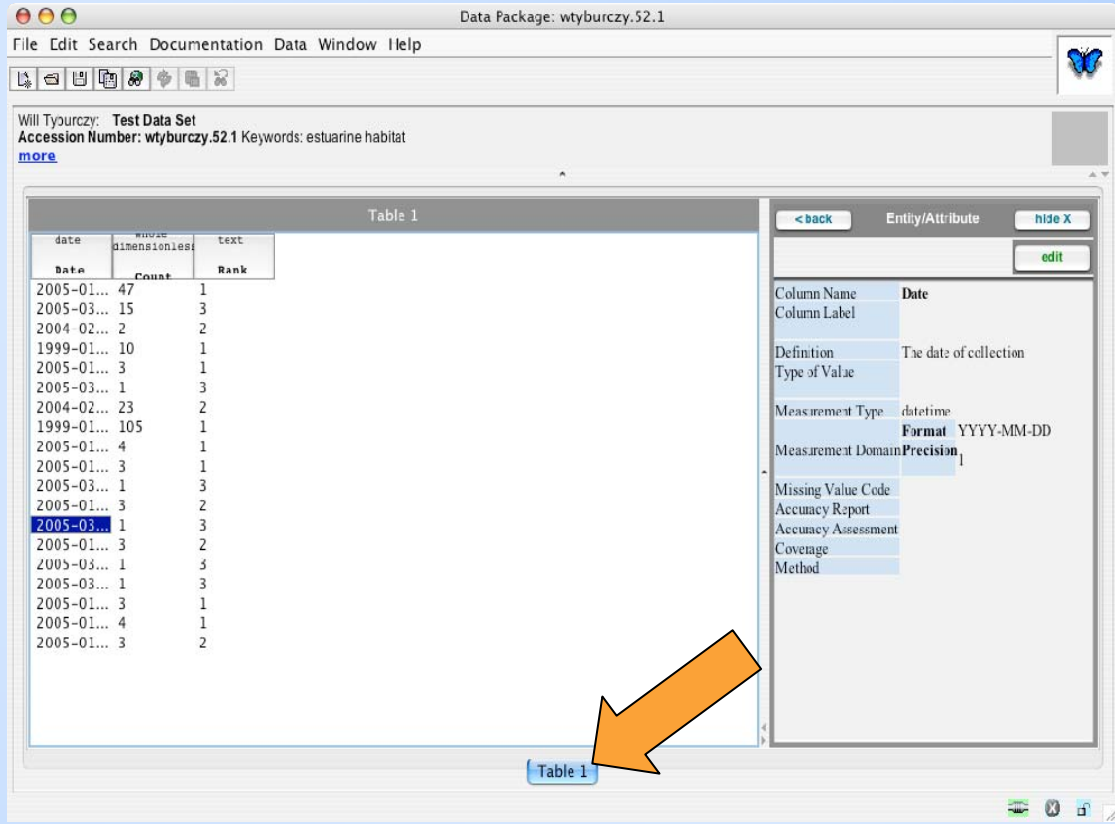
- **Enter the bounds of measurement**



The Completed Data Package

- **Click on a table tab to view that table**
- Click on column header to see attribute level metadata
- Click “More” to see data package level metadata
- Right-click in table to edit table structure or documentation



The Completed Data Package

- Click on a table tab to view that table
- **Click on column header to see attribute level metadata**
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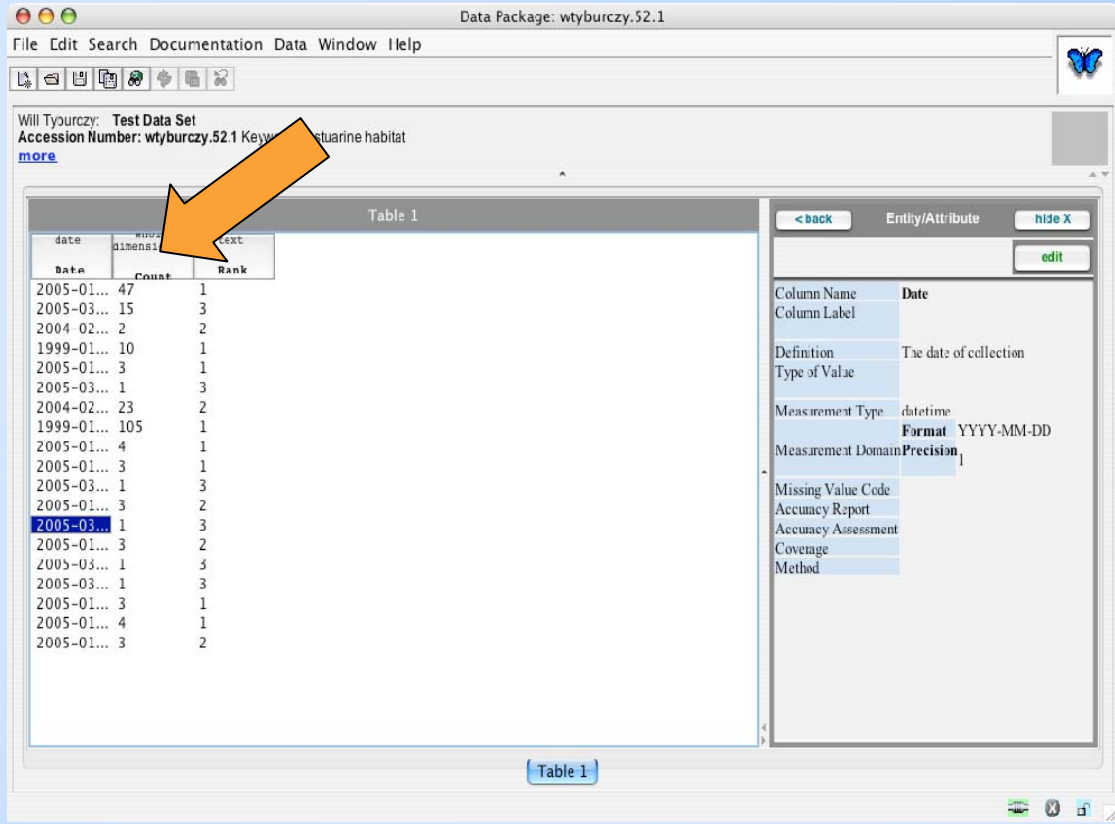

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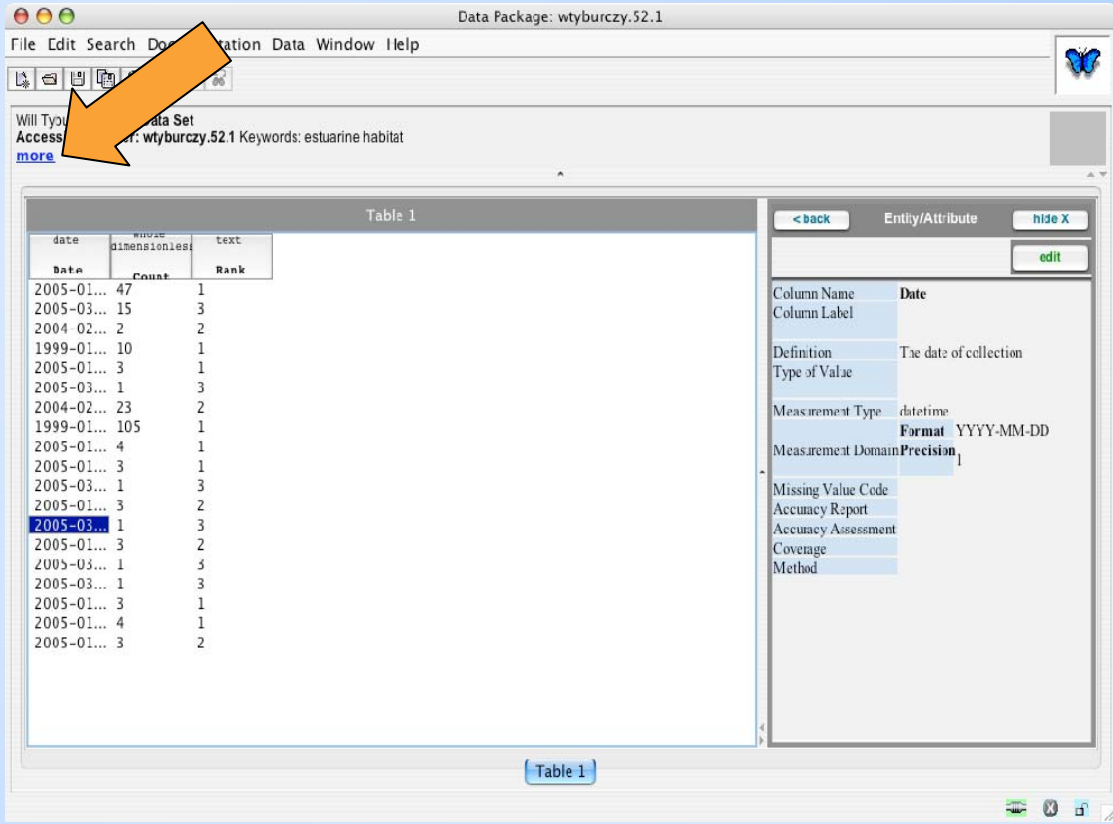

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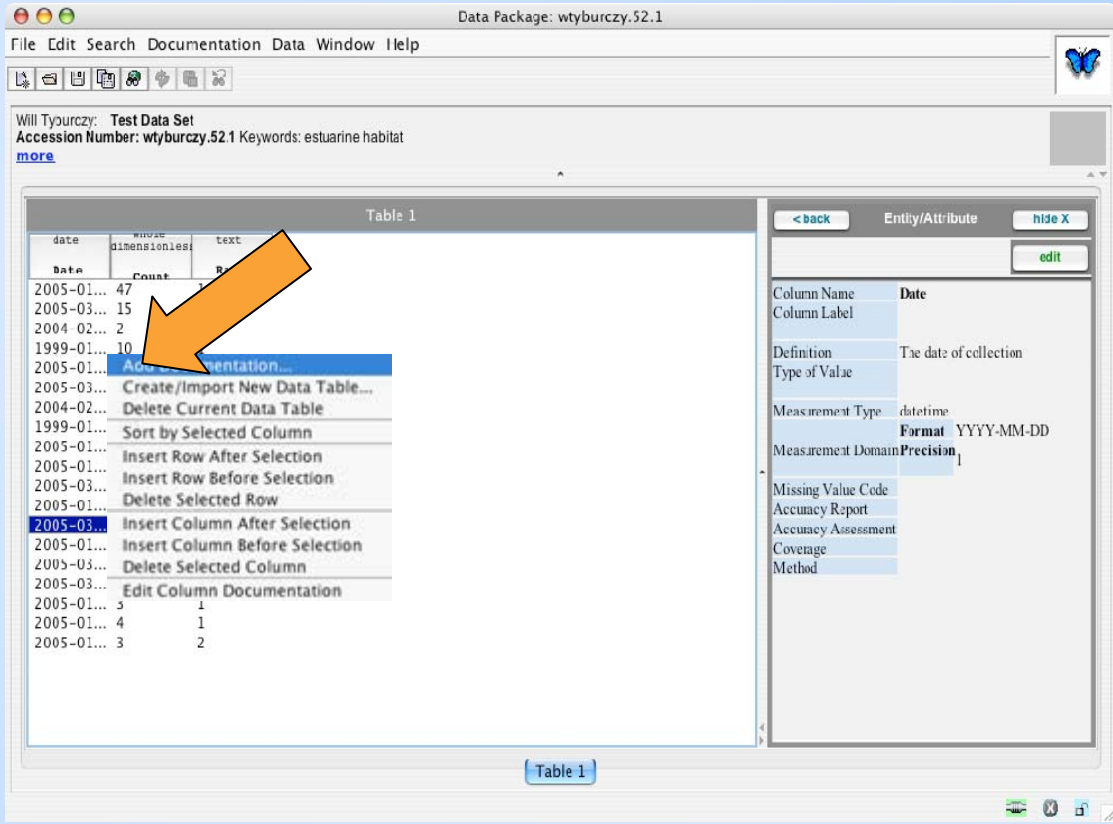
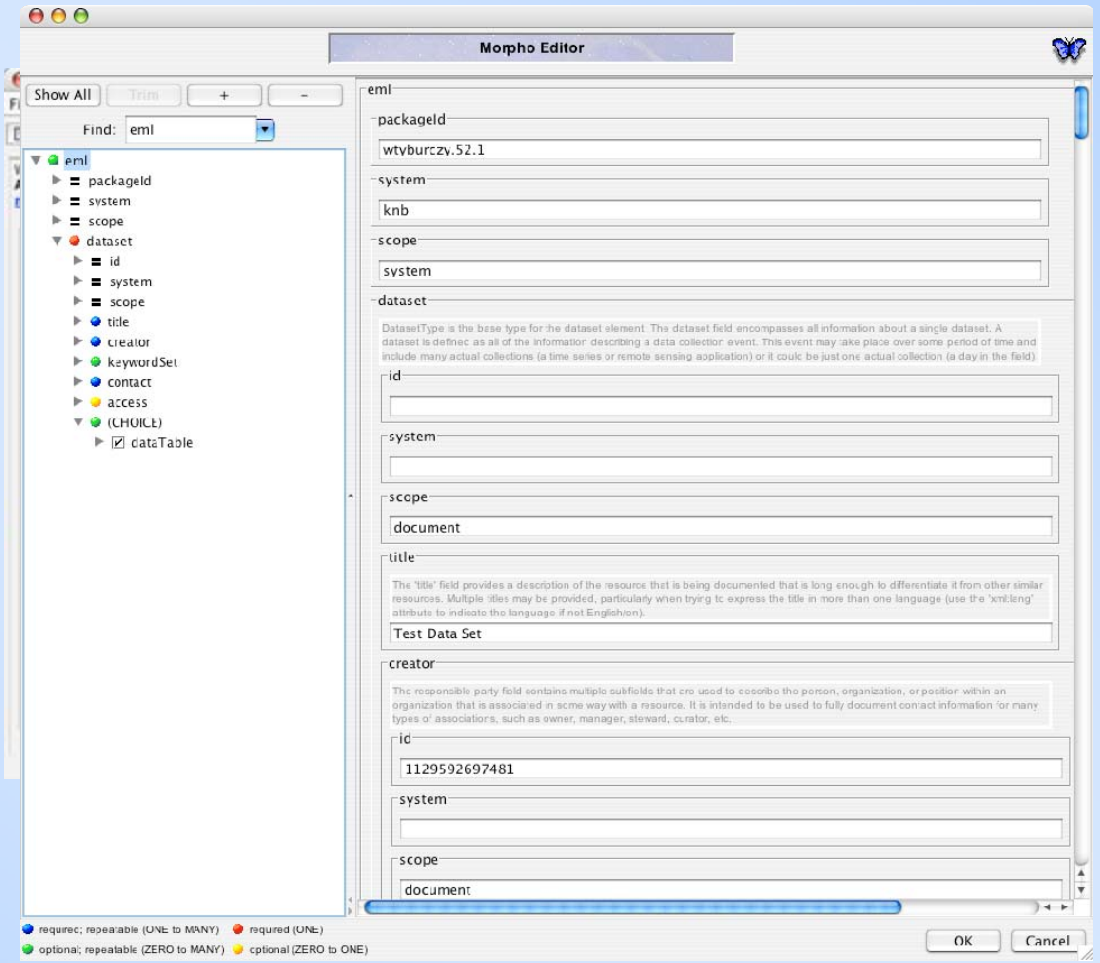


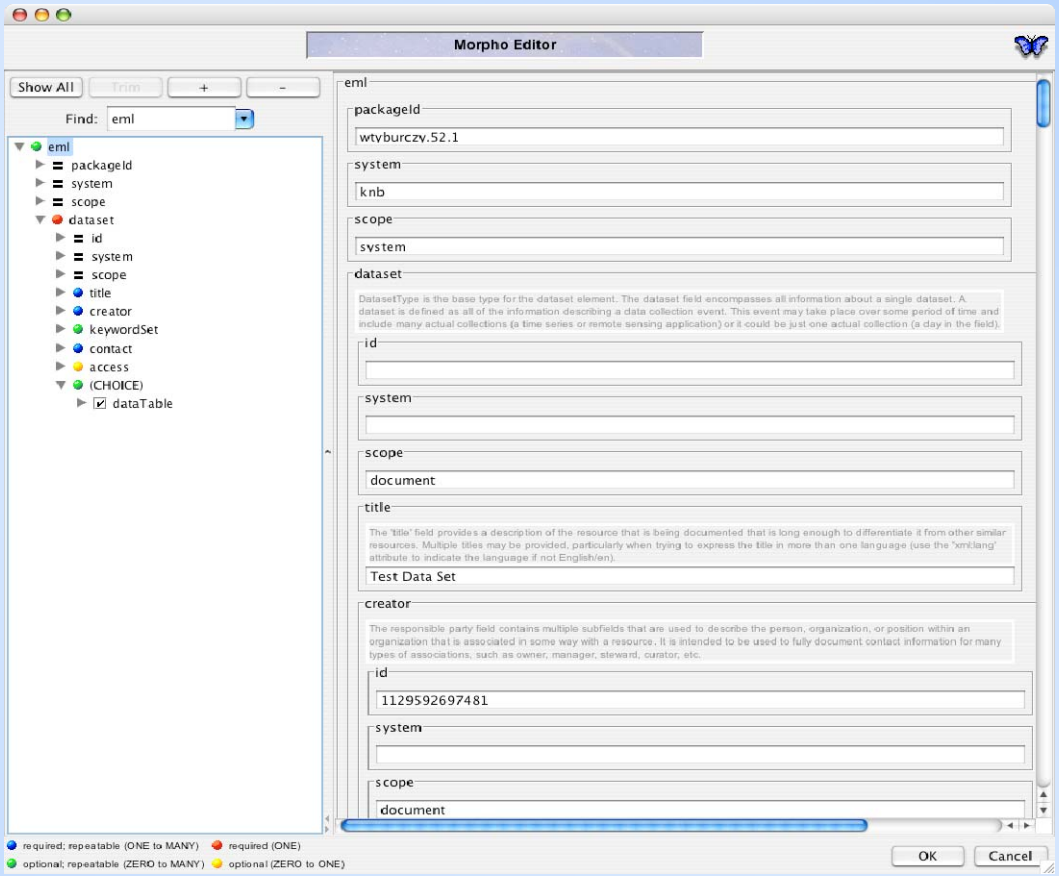
Advanced Editing: The Morpho Tree Editor

- "Add/Edit Documentation" Menu item from package window



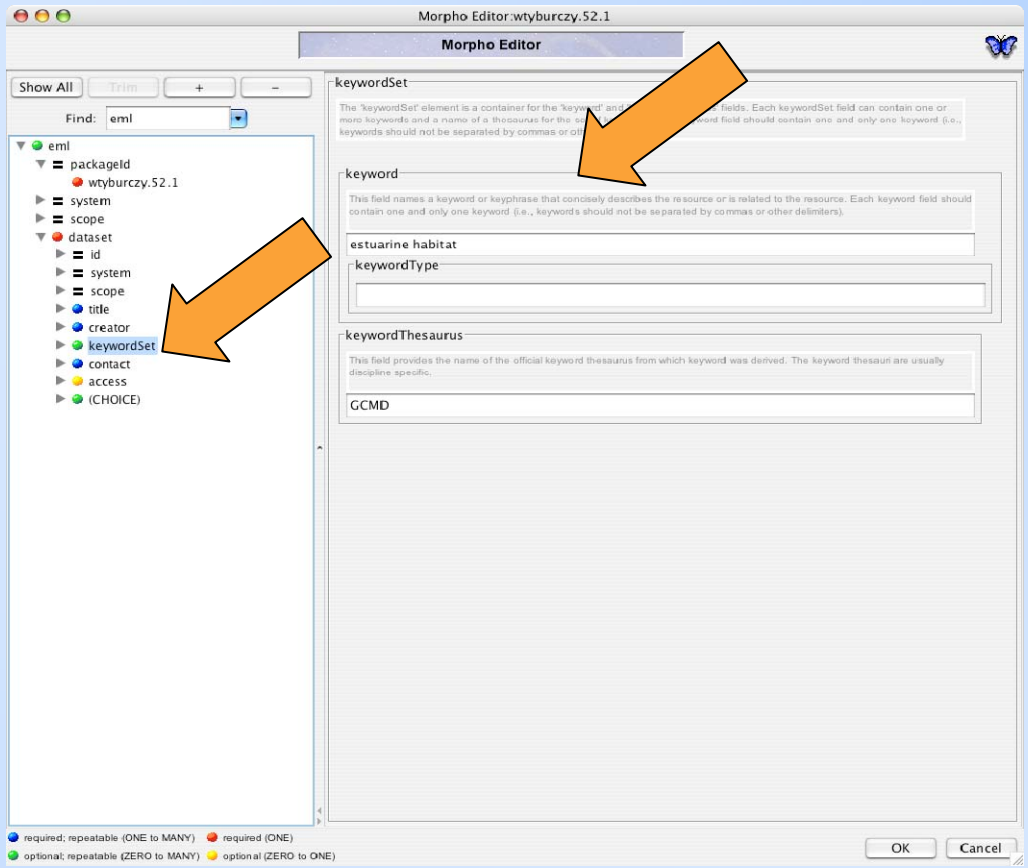
Advanced Editing: The Morpho Tree Editor

- Allows entry of uncommonly used EML elements, which are not available from wizards
- Can view whole EML document
- Still under active development



Advanced Editing: Navigating the document

- **Select an element to see it's sub-elements and values on the right**
- Double-click to see its sub-elements on the left
- Shortcuts to some nodes available from the drop-down menu



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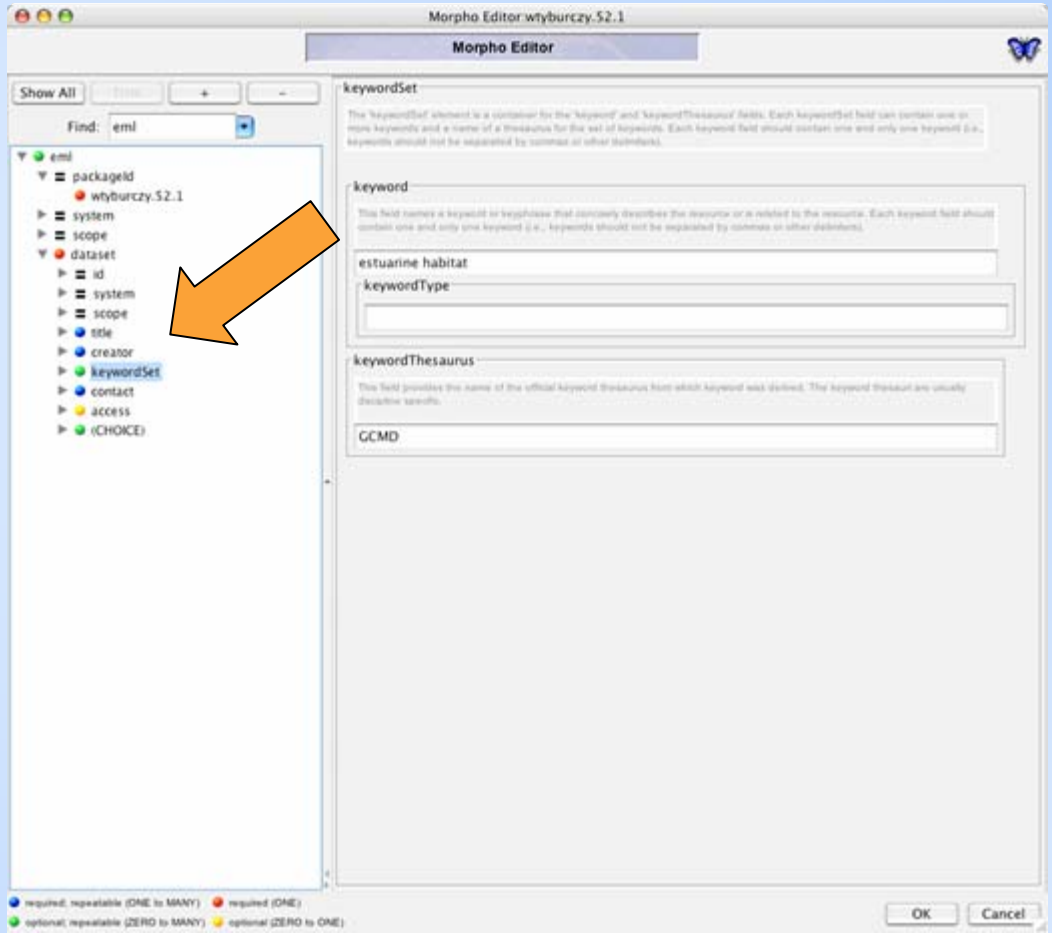

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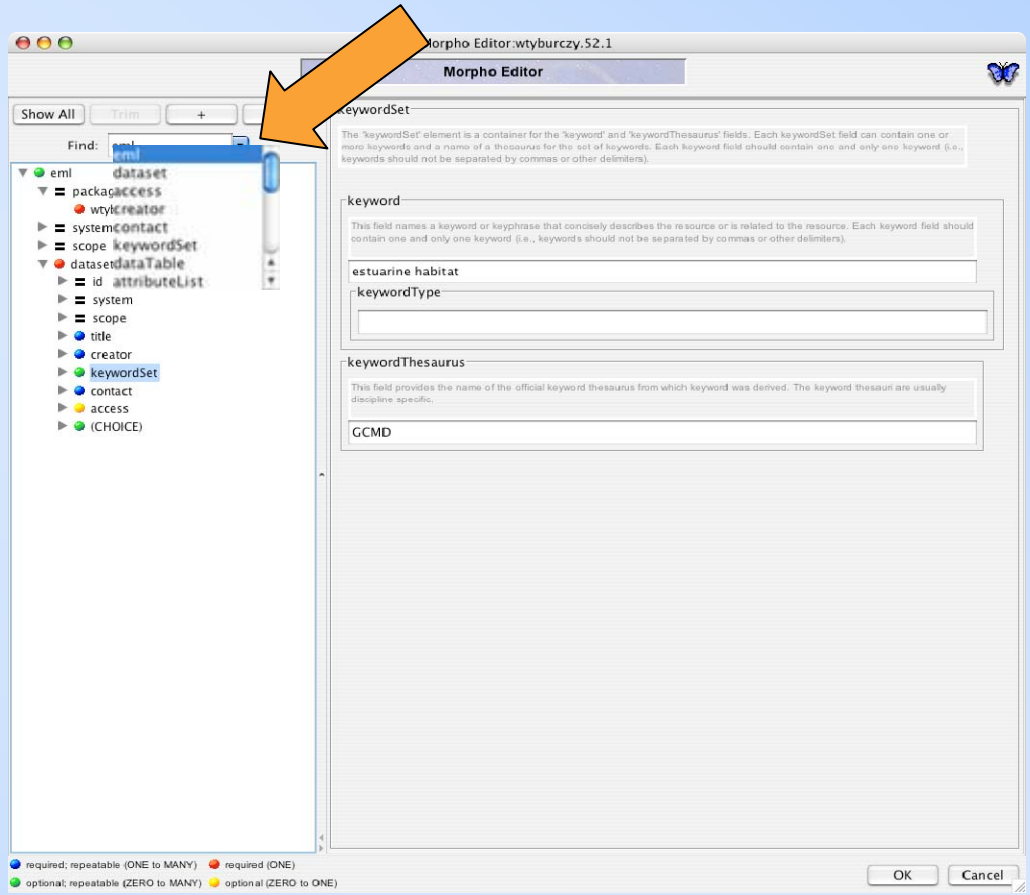
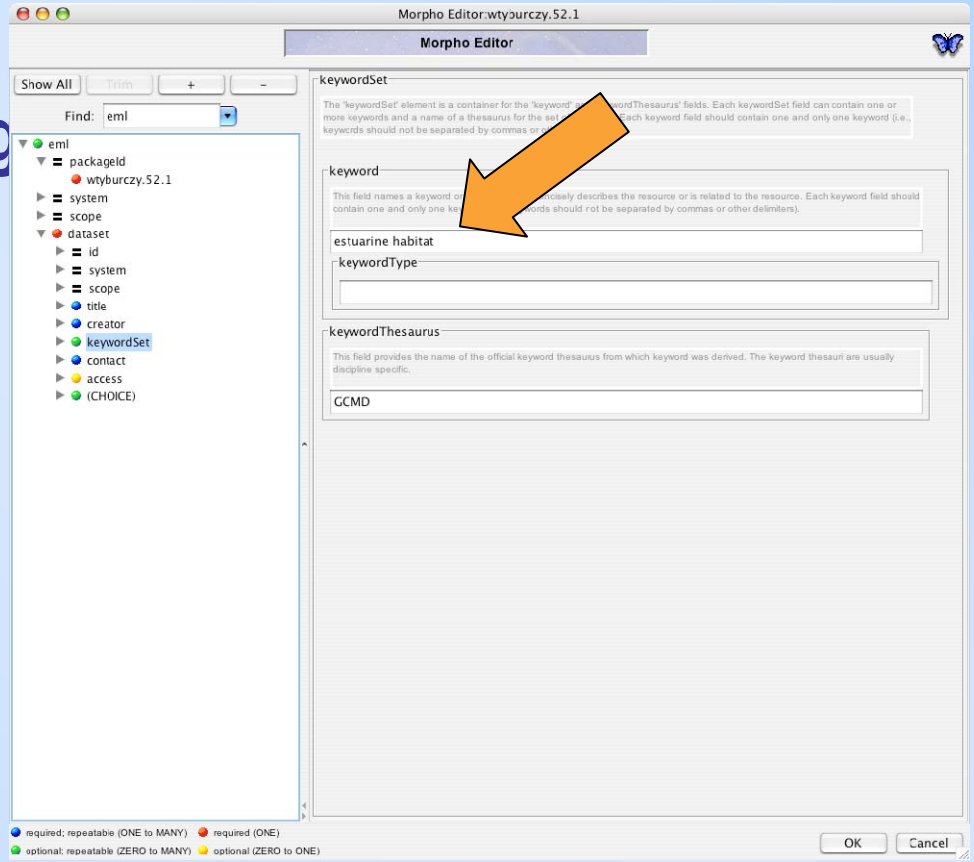


Advanced Editing: Editing Elements

- **Edit the value of an element by changing the text on the right**
- Right-click an element on the left to delete, copy, or paste it



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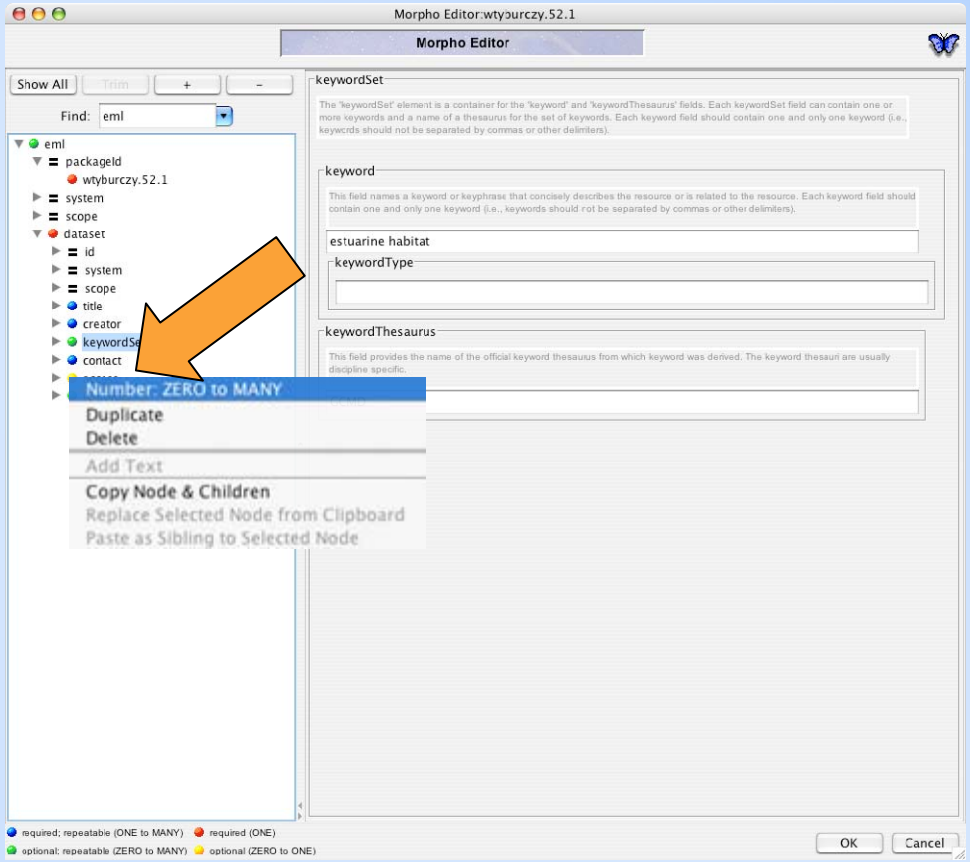
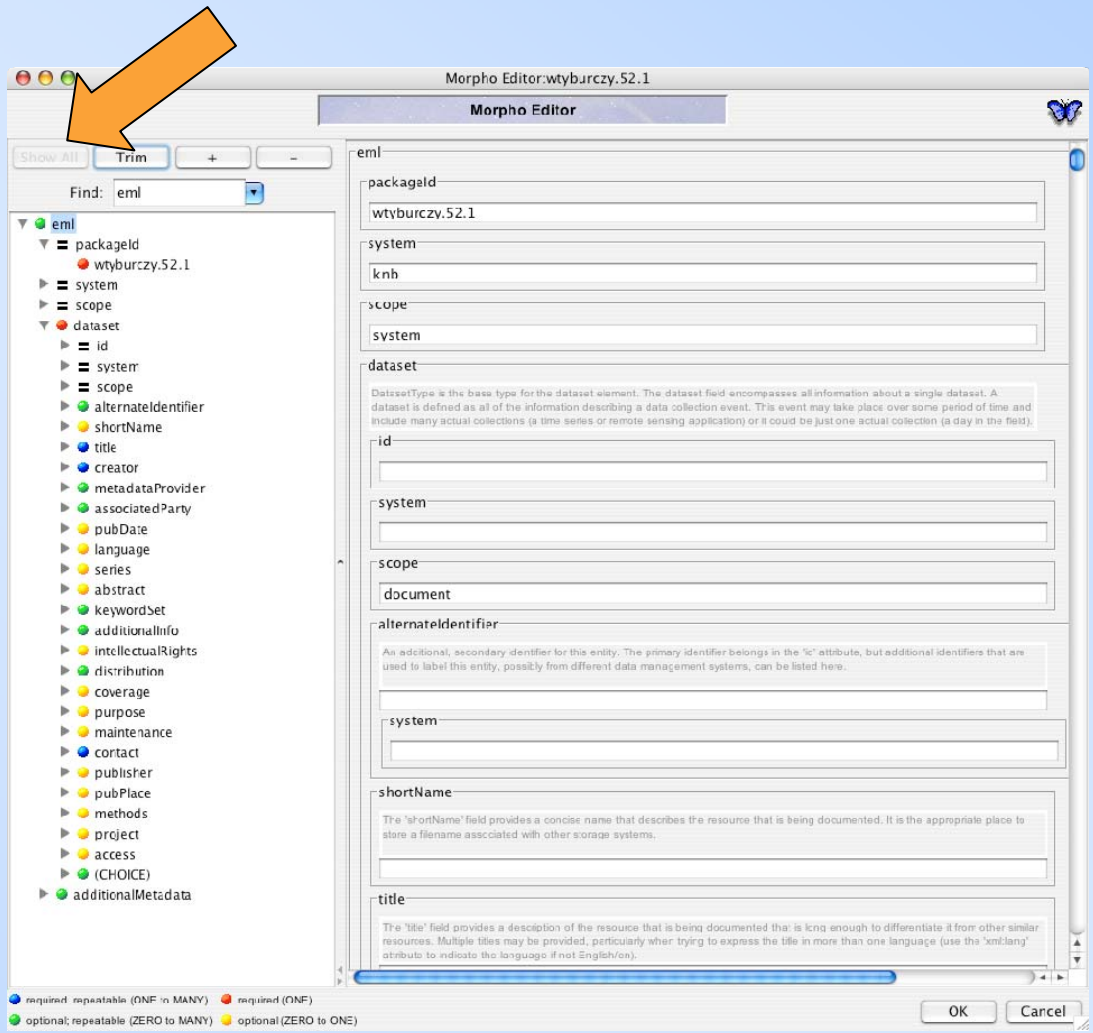


Advanced Editing: Show All and Trim

- **To see available elements not currently in the data package, hit “Show All”**
- After entering information for desired additional elements, hit “Trim”



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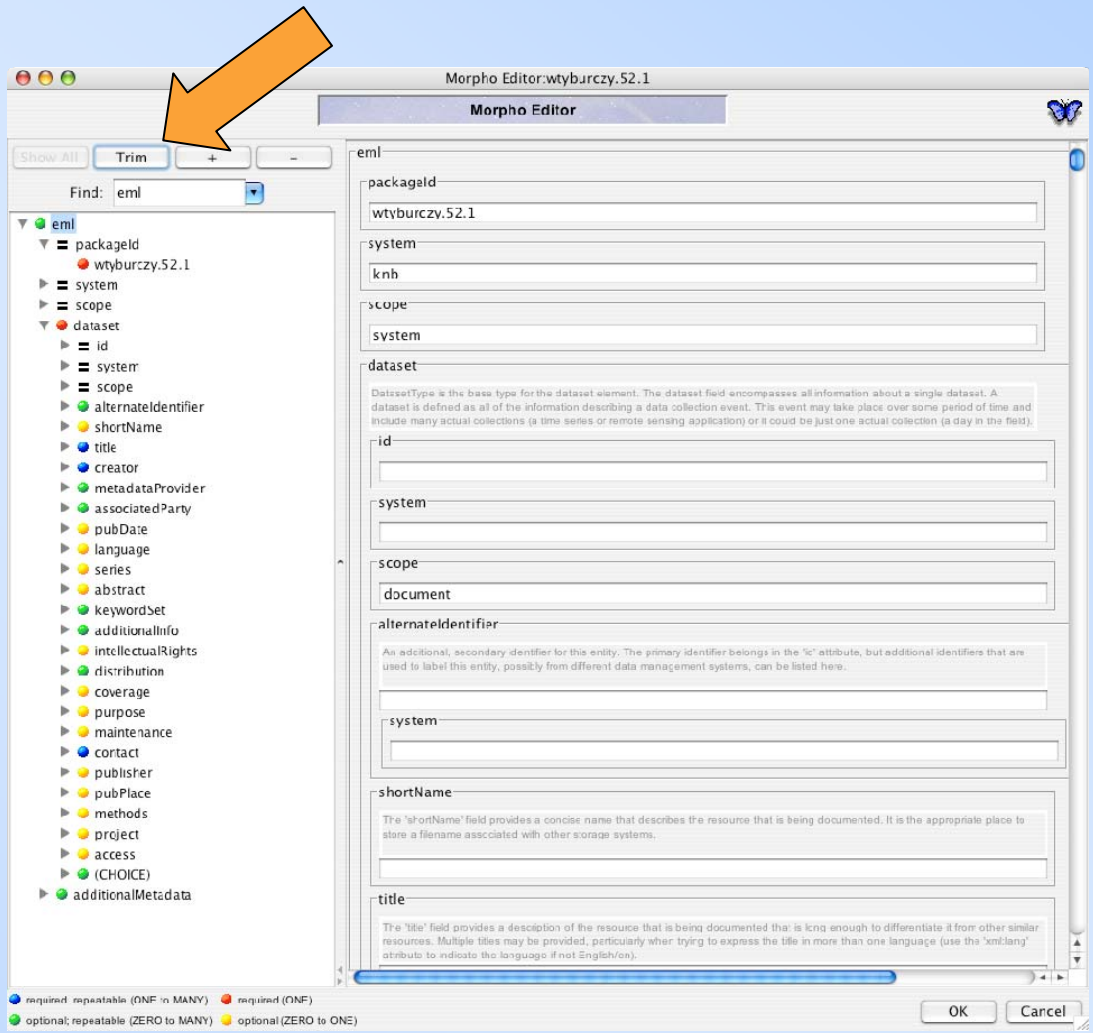
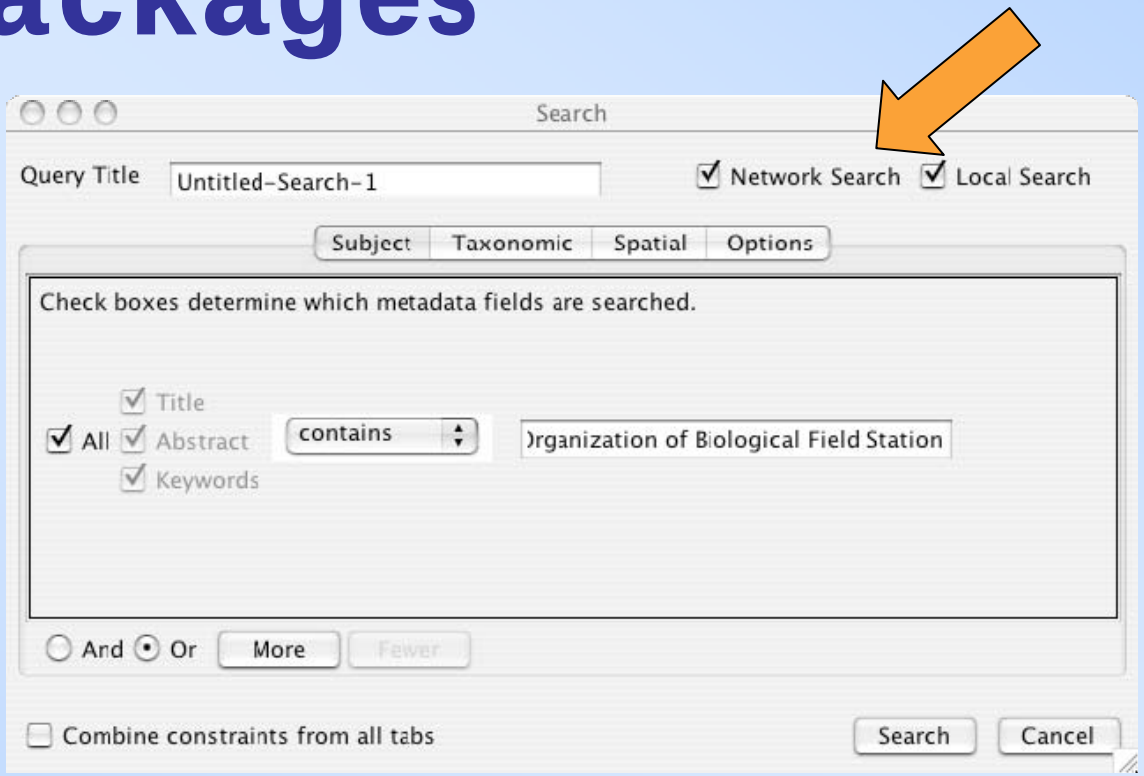


Searching for data packages



- **Search on local disks or network**
- Search multiple terms using “More”
- Combine subject search with taxonomic and spatial constraints

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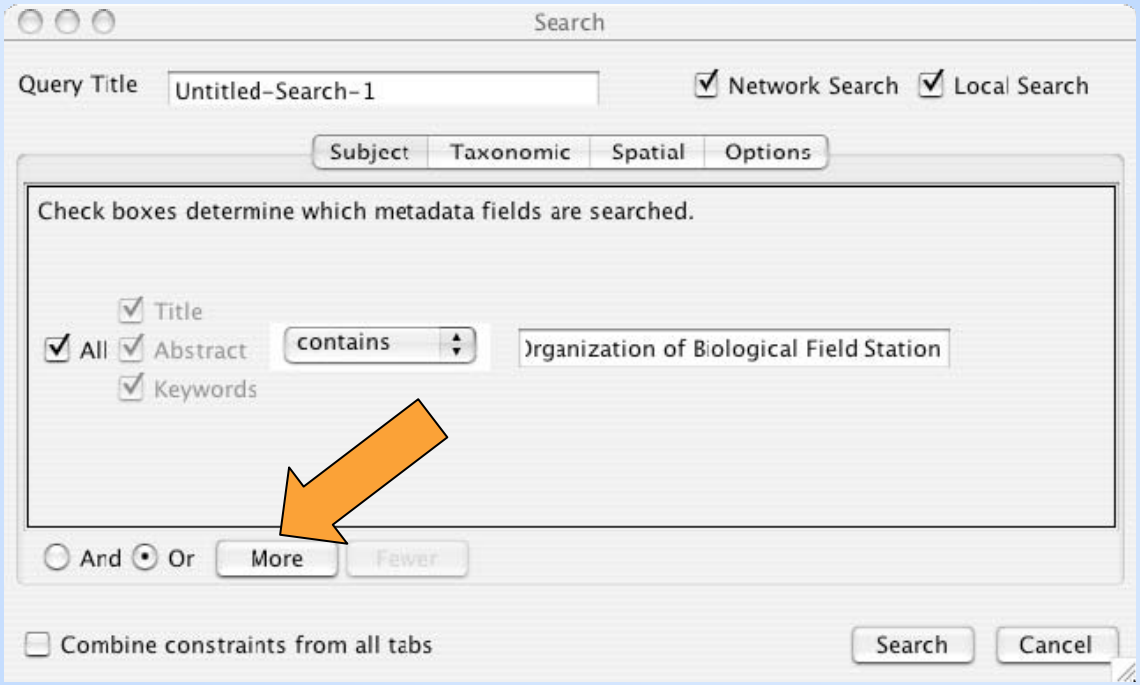

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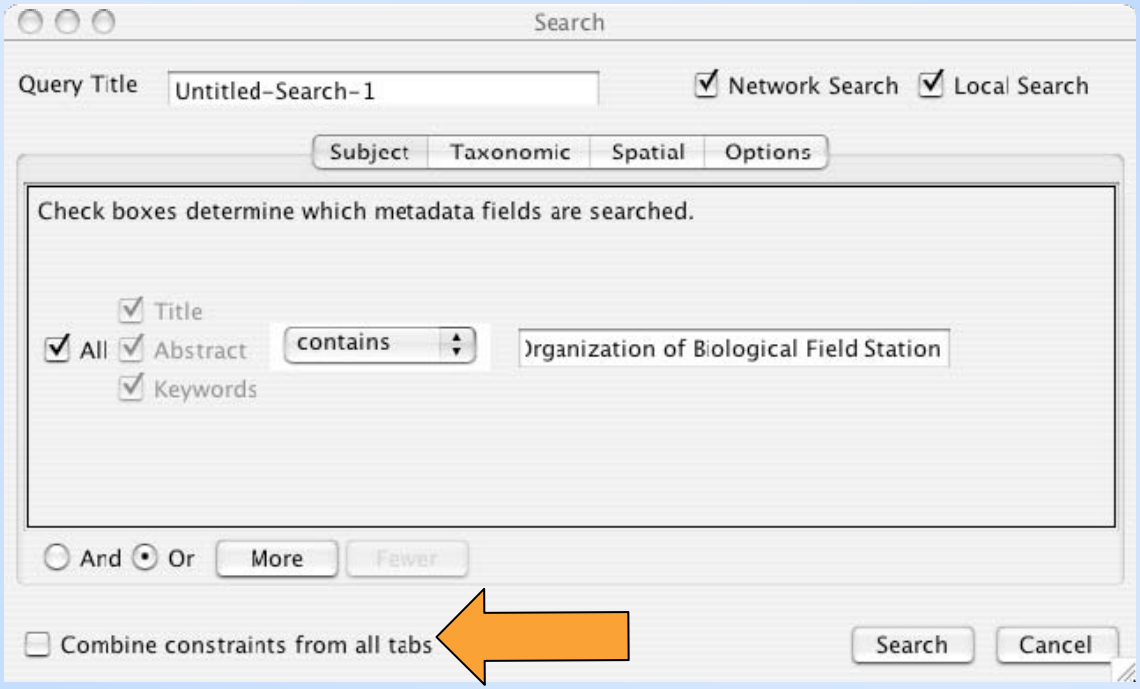

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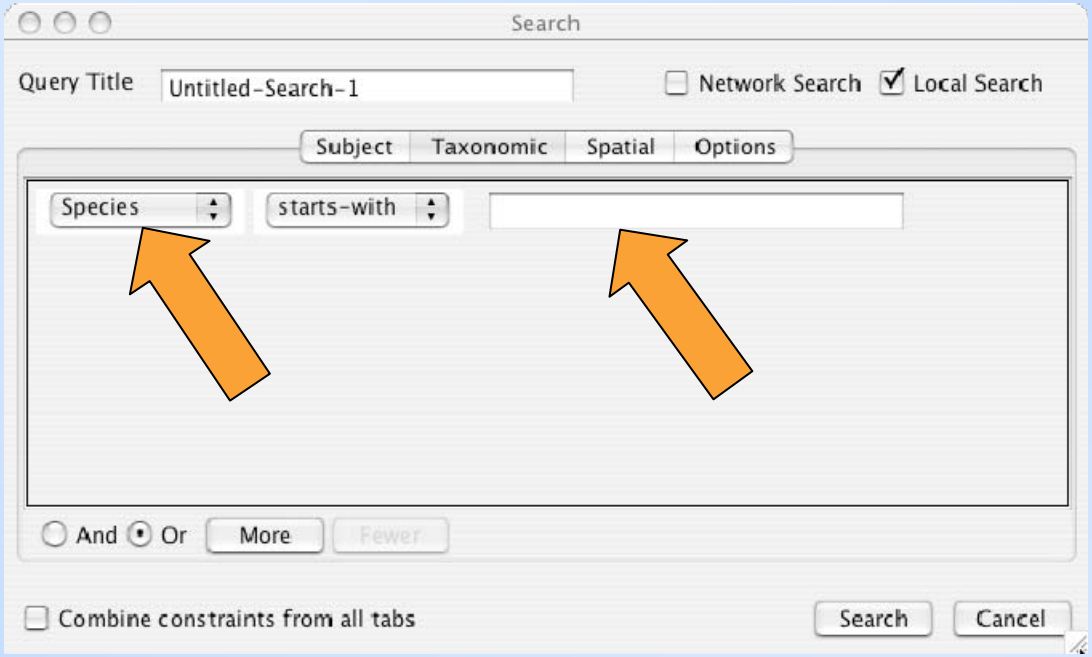
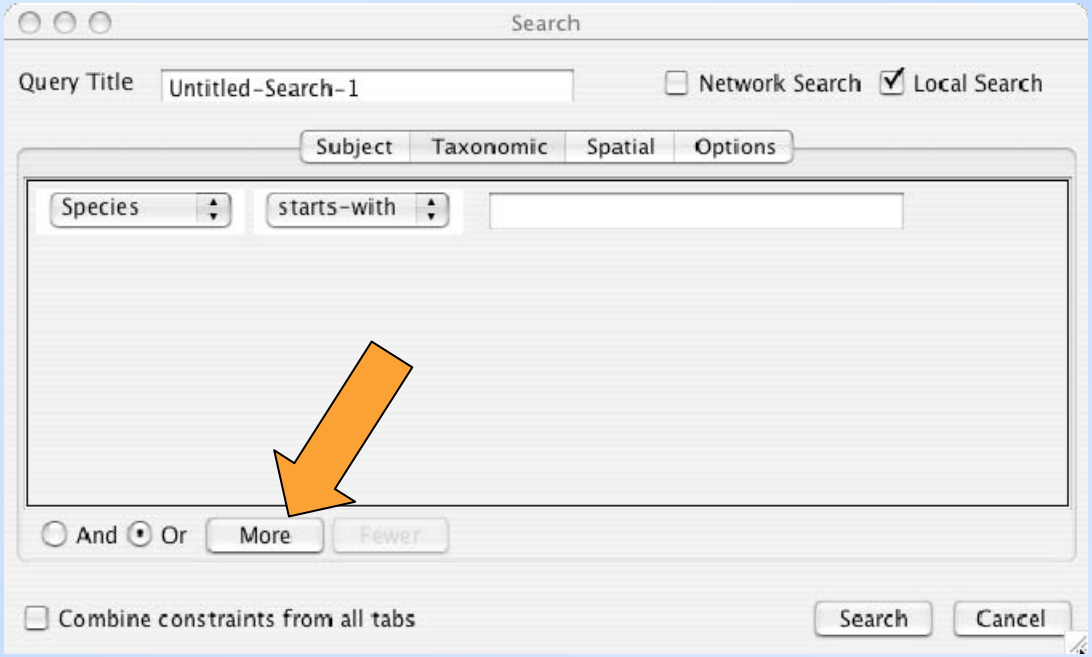


- **Select taxonomic rank and enter name**
- Can search multiple taxa using “More”

Searching for data packages



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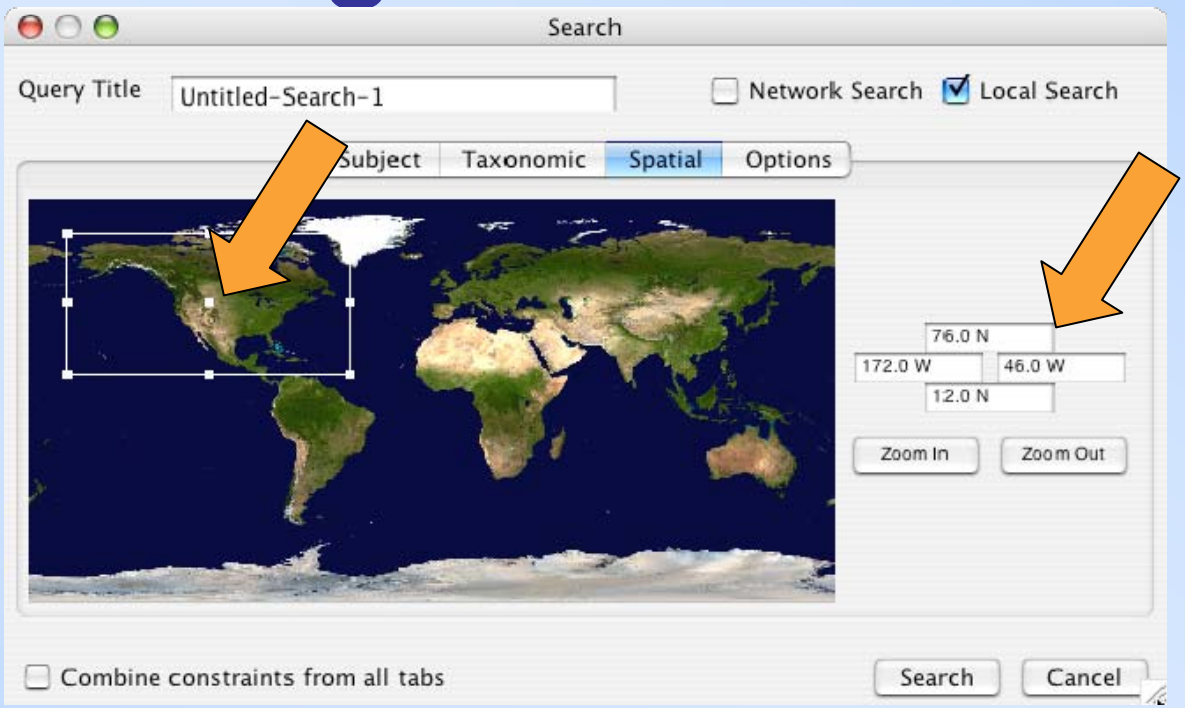
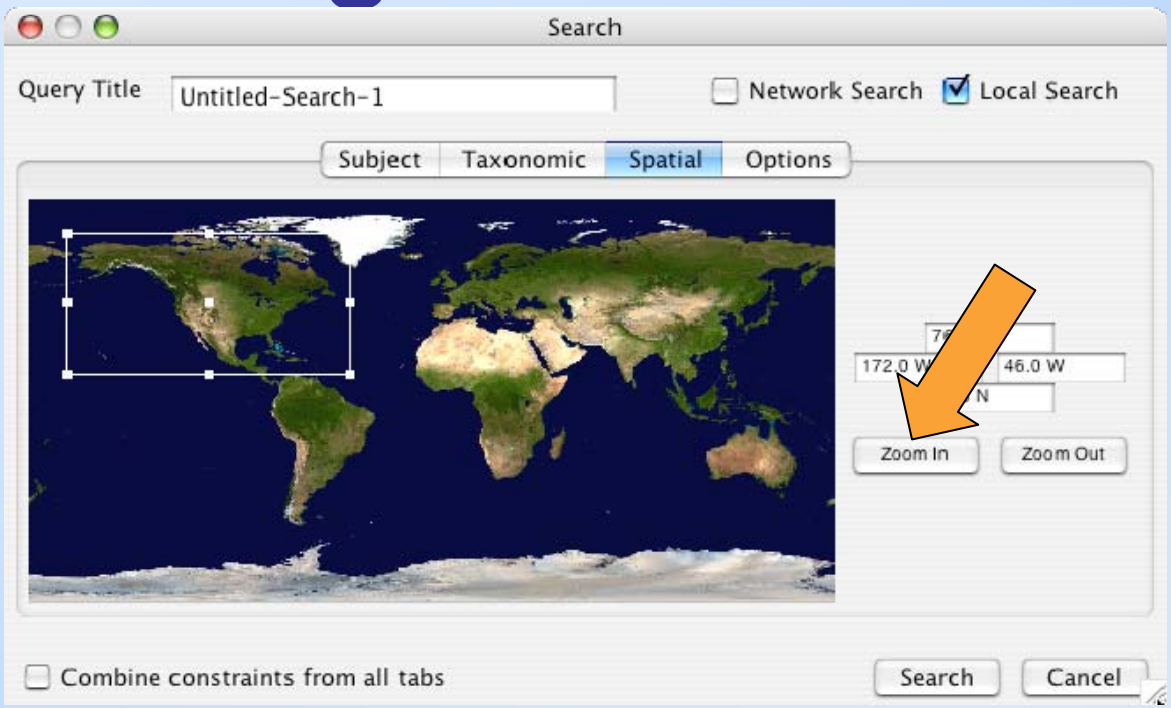


- **Select area of interest by moving box or enter coordinates by hand**
- Zoom in to allow greater precision using the graphical box

Searching for data packages



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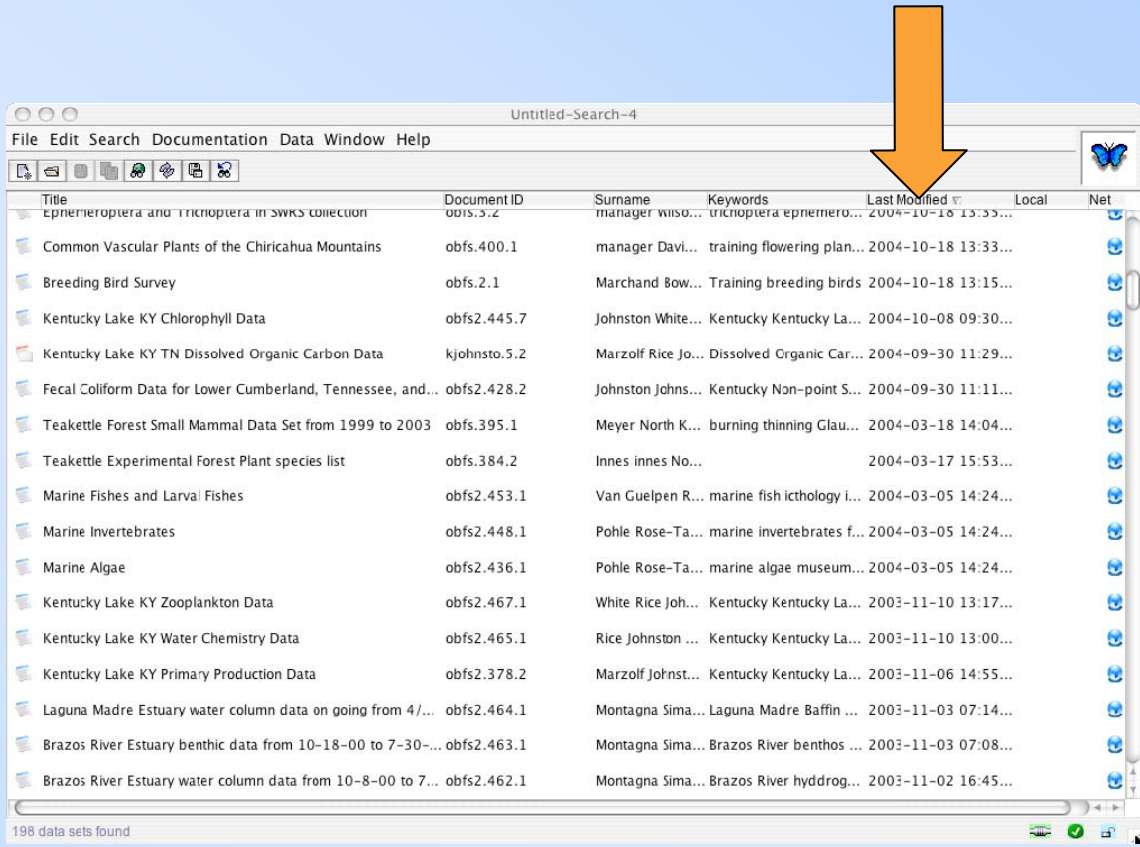
Searching for data packages

- **Data packages matching criteria are listed by last modification date**
- Red icon indicates the package includes data table level EML
- Double click a package to open it



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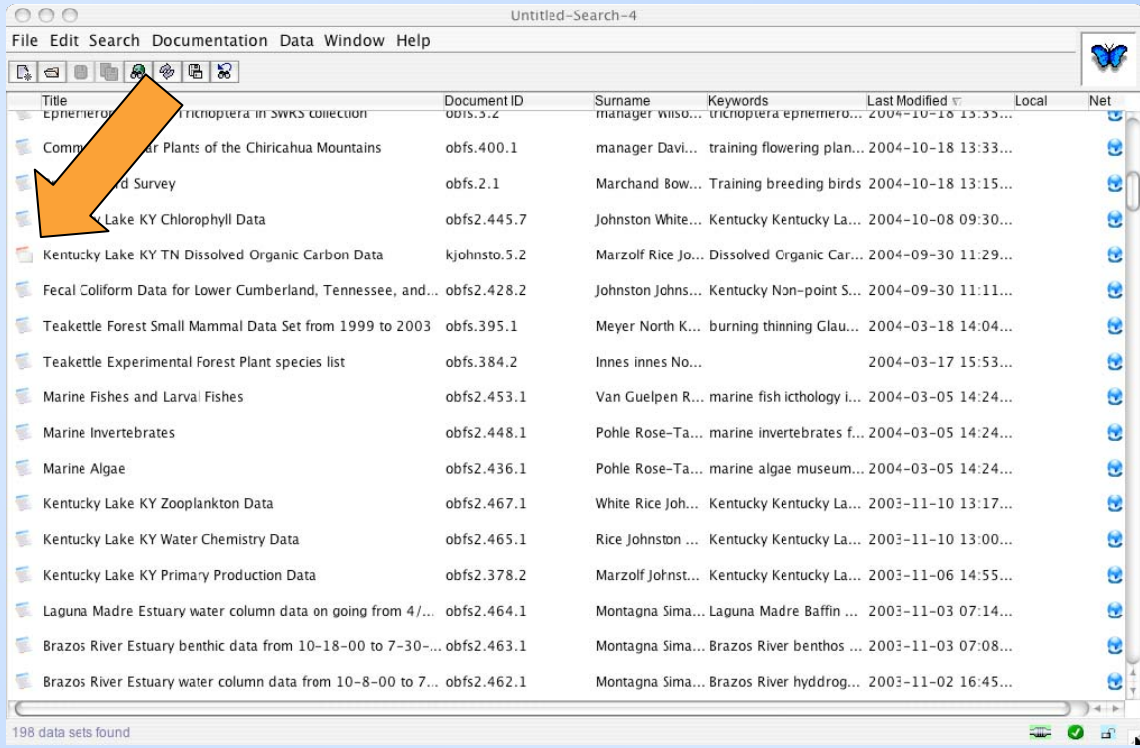

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