

## **NEEScentral Release Notes**

Version 1.8

June 16, 2008

The NEEScentral 1.8 release consists of significant features to support easier use of NEEScentral. Features were focused primarily on:

- Increased database reliability and scalability
- Improved NEEScentral data portal performance and usability

### **Major New Features and Enhancements:**

#### **NEEScentral Reliability:**

- Transition to UNAVCO off-site database replication with dynamic fail-over capability
- Partnership with CloudCreek Software Inc. to ensure database management best practices
- Increased maximum file upload size to 2 GB
- Bug fixes and enhancements to Facilities

#### **NEEScentral Usability:**

- Enhanced customizable experiment report
- New advanced search capability with file indexing
- New capability to associate a specific image with a project and experiment that represents the research being conducted
- New capability to delete projects, experiments, trials and perform more file management, including: moving, copying, and deleting
- Extensive user interface enhancements
- Added more help text within NEEScentral application as well as direct links to the NEEScentral User Guide from every page
- Ability to update metadata for multiple files at the same time (previously, users could only update metadata to one file at a time)
- Ability to clone existing trial or simulation run with the associated data
- Enhanced integration with the Curation application

### **Bug fixes / Minor Enhancements:**

- Improved upload applet to deal with special characters (spaces, illegal characters, Windows/Unix issues, etc.)
- Experiment start date is now optional
- Tsunami Reconnaissance Data Repository elevated to "Projects" menu

### **Known Issues:**

- Thumbnail generation feature for images turned off for performance reasons
- Rest web services turned off until they can be fixed permanently

Version 1.7

June 15, 2007

The NEEScentral 1.7 release consists of significant features to support easier use of NEEScentral. Features were focused primarily on:

- Excel spreadsheet to automate metadata upload into NEEScentral
- Enhanced navigation of NEEScentral hierarchy through a tree browser
- Easier mechanisms for data/metadata download out of the repository
- Support for data curation in order to formally publish NEES data sets
- Bug fixes and enhancements to Facilities
- Integration of NEEScentral with community data viewers such as UC Davis (N3DV), RPI (3DDV) and RDV
- Capability to archive and disseminate legacy data sets

#### Major New Features and Enhancements:

- Automatically ingest metadata (sensor locations and channel lists) into NEEScentral using excel spreadsheet templates
- For each trial, connect sensor channel and metadata about its location directly to the corresponding time series data
- More easily download one or multiple files and subfolders from a project, experiment, and trial to local machine
- Search and find public data sets based on a Keyword/Basic search capability as well as conduct canned advanced searches.
- Publish data sets so they are publicly available (Intended for non-NEESR projects and legacy data; NEESR projects require going through the Curation process)
- Download data and metadata from NEEScentral to be imported into N3DV (data viewer) for visualization. Note: Metadata representing sensor locations that are uploaded to NEEScentral using local coordinate spaces and different units are converted automatically in NEEScentral using a coordinate transformation matrix to produce output in a unified coordinate framework.
- Enhanced navigation and access of information and data in NEEScentral through a tree browser navigation feature and mouse highlight dropdown menus
- Download a tar/zip file that contains all of the project data files and an xml file with all of the project's metadata. User can also download files and metadata for a particular experiment or trial.
- View a NEEScentral Demo project to see an example of real data, including experiment and trial setup, documentation, and sensor data, for a hands-on understanding of NEEScentral
- Full integration of Data Curation application into NEEScentral so that the Data Librarian at NEESinc can more easily curate NEESR project data
- More conveniently select NEES users as members of projects and/or experiments from the large list of NEES members

#### Bug fixes/Minor Enhancements:

- Designate preferred units at the experiment level to be used as default for various standard quantities. Units can still be changed for each entity.
- Bug fixes and minor enhancements to the Facilities section of NEEScentral to better represent the equipment and sensors at the NEES Facilities (Continued Site Specification Database (SSDB) migration)
- Designate who can see your project listed in the "All Projects" user interface (i.e., only your project members, any user with a NEES account, or the general public)
- Over 280 bugs fixed

#### Known Issues

- Sensor Location Plan does not support cylindrical and spherical coordinate spaces.
- Sensor Location Plan orientation is not being stored as a unit vector. However, please input sensor orientation as a unit vector. This will impact the orientation of sensors if exported to N3DV.
- N3DV does not scale, requiring the user to scale their data in NEEScentral prior to export.

- New look and feel for NEEScentral causes some odd behavior in the user interface related to button locations and other minor issues. This occurs if you are using Internet Explorer 6.
- For project, experiment, and trial export, the file limit is 4 gigabytes.

Version 1.6

October 13, 2006

New features for the NEEScentral 1.6 release include:

- Support for simulation data model.
- Ability for facility administrators to create/edit facility sensor models.
- Ability to copy material properties, coordinate spaces, sensor location plans, and channel lists between experiments within a project.
- Allow non-NEEScentral users to be marked as having done sensor calibrations.
- Support for multiple DAQs.
- Support for source location plans and source controller configurations.
- Added GPS location to the global coordinate space to identify the coordinate space's origin.
- Ability to propagate project roles/permissions to lower layers of the hierarchy.
- Completely revamped web services. They are now REST-based.
- Ability to upload a document that describes a sensor's calibration history.
- Support for MD5 checksums when uploading files via web services.
- Allow multiple organizations to be associated with an experiment.
- Allow multiple facilities to be associated with an experiment.
- Support for multiple input motions.
- Associate a file with a sensor model to enable more complete information to be uploaded.

Version 1.5

June 16, 2006

The NEEScentral 1.5 release consists of significant metadata extension in the areas of experiment and trial setup. Chief among the new features are:

- Experiment level metadata for material properties, coordinate systems, sensor location plans, equipment inventory, scale factors, and models. Trial level metadata for DAQ channel lists.
- Expanded search and the ability to automatically generate an experiment level data report.
- Final migration of Site Specification Database functionality and data to the Facility component within NEEScentral.
- Extension of the Facility component to include sensors, sensor models, and calibration.

Major New Features

- Extension of facility level metadata and user interface to:
  - Create, view, and manage sensors, calibrations, and sensor models.
  - Associate NEES users with a facility by assigning permission levels and roles to enable these users to maintain Facility information.
- Extension of experiment level metadata and user interface to:
  - Describe experiment setup for material properties, coordinate systems, sensor location plans, equipment inventory, scale factors, and models (e.g. CAD drawings).
  - Link experiment with Facility data/metadata

- Create structured or unstructured experiments; the latter supports flexible directory management without metadata fields.
  - Associate Project members with an experiment and assign roles/permissions.
- Extension of organization level metadata to create/manage/view the organization's sensors and sensor models.
- Extension of trial level metadata and user interface to map sensor locations to DAQ channels and facility/organization sensors.
- Association of units and conversions with numeric metadata fields.
- Migration of remaining functionality and data from the Site Specifications Database to the NEEScentral facility component.
- Automatic generation of a printable data report at the experiment level.
- Advanced search prototype using structured metadata fields.
- Contextualized tooltip help to provide definitions of metadata fields as they are encountered in the user interface.

#### Bugs/Minor Enhancements since 1.4

##### Metadata Fixes

- Project level display of experiments now show experiment start and end dates.

##### File/Folder Fixes

- Tooltip help has been added to data folders (Converted, Corrected, Derived, Unprocess) to provide contextualized information of folder contents.
- Project members with view only permissions are no longer able to upload files to the project.
- Files listings may now be correctly sorted by name.

##### Web Service Interface Fixes

- Resolved issue where /project/delete did not delete project
- Resolved problem with /data/put and SingleShot

##### Miscellaneous

- Clone trial now copies input motion metadata fields.
- Projects may now be searched by nickname.
- Facility staff list now reformatted to display last name first and is sortable based on table headings.
- Required fields are enforced on the Edit User Preferences screen.
- Error messages are displayed more consistently across NEEScentral.

#### Known Issues

##### Metadata

- Sensor models cannot be created/edited at the facility level.
- Calibrations cannot be created at the organization level.
- Units need to be associated with location measurements in sensor location plans. A comment field is also needed.
- Tolerance metadata needs to be added to coordinate spaces.
- Load cell needs to be added as a sensor type.
- Units need to be selectable from a drop down for facility sensors.
- Need the ability to associate more than one organization with an experiment.

## Files/Folders

- There are no warnings when overwriting an existing file
- Upload limit for a single file is 1.4 gigabytes
- Need ability to download files in bulk
- Deleting a repetition can hide an existing repetition
- Error creating directories with non-ASCII characters

## Web Services

- The web services have lagged behind the metadata model extension and UI implementation and need to catch up.

## Miscellaneous

- Various issues with lack of enforcement of experiment level permissions.
- For example, experiment level permissions are overruled by project level permissions.
- Organizations needs to be redesigned as an entity at the same level as Projects and Facilities
- The full sensor location plan name cannot be viewed in the channel list.
- Coordinate system calculation has a rounding error.
- Authentication problems with site activities (NAWI) using a GASession.
- Interface for associating members with projects/experiments needs improvement.
- Time zone needs to be added to all date fields with a time element.
- Clone trial does not copy end date.
- Need to preserve carriage returns in text fields in NEES Site Activities.

## Version 1.4

April 17, 2006

The NEEScentral 1.4 release represents the initial phase structuring NEES research data in database fields rather than files. Chief among the new features are:

- Implementation of a Facility and an initial migration of Site Specifications Database data into this Facility.
- Significant extension of metadata fields at the project, experiment, and trial levels.
- Extension of project membership capabilities to limit a member's abilities within the project.

A complete list of major new features is as follows:

- Implemented initial version of Facility management, used to track data and metadata associated with an equipment site.
- Extended NEES user level metadata extensions with user category (Researcher, Facility Staff, Practitioner, etc.) and fax number.
- Enforced entry of address, phone number, and user category required fields for obtaining a NEES account.
- Extended the Project by:
  - Adding support for NSF Award title, nickname (short title), funding agency, and funding organization project ID.
  - Sorting and display projects list by project nickname, funding agency, or contact.
  - Extending the metadata of project members with role (e.g., PI, Co-PI, Grad Student, etc.) and permissions fields.
  - Limiting a member's abilities within the project based on their permissions.

- Developed the user interface and infrastructure to represent an Organization involved in a project, which consists of a name, web site address, and a description. A Facility is an Organization but an Organization is not necessarily a Facility.
- Extended Experiment metadata by linking an experiment to the Organization responsible for the completion of the experiment.
- Improved experiment display by listing each Organization along with its experiments.
- Added Input Motion metadata to the Trial, which includes Name of Input Motion, Station Recorded, Peak Base Acceleration, and Input Motion File.
- Implemented XML schemas for Web Service Interface return values for project, experiment, trial, and repetition list view. This task is incomplete as other Web Service Interface return values still need to be implemented.

Bugs and minor enhancements that were fixed since NEEScentral 1.3 include:

#### **Metadata Fixes**

- Fixed bug where editing metadata in experiment could not be saved.
- Fixed bugs where single quotes and double quotes were automatically removed from metadata fields.
- Temporally disabled ability to link Projects with a Facility within the interview. This capability will return in the next release.
- Fixed bug where members of projects could not be removed using the Safari browser.
- Improved enforcement for mandatory fields.
- Changed outdated "Edit Info" link to "Edit Project".

#### **File/Folder Fixes**

- Applied patch of Jupload provided by our Japanese collaborators to support multi-byte, Japanese characters for the file.
- Added support for '&', '#', and other nonstandard characters in filenames.
- Fixed problem which prevented directories for non-experimental projects from being renamed.

#### **Web Service Interface Fixes**

- Removed XML key name "comments" when there is a line break was a line break in NEES user's address.
- Changed /project/list to print project name rather than ID.
- Fixed but where /repetition/list did not show implicit rep-1 for Trials.
- Fixed but where meta\_get would not show metadata elements with a minus in the name.
- Made NEEScentral key names consistent in saving and retrieving metadata.
- Fixed security issues where nonmembers could use /data/list on project directories.

#### **Miscellaneous**

- Removed automated emails to site administrators requesting access to NEESpop when members were added to a project.
- Made significant performance improvements, which improved responsiveness of the system by at least an order of seven.
- Simplified ability to backup NEEScentral data and metadata.
- Migrated central server from RHEL3 to RHEL4 and PHP4 to PHP5.

Version 1.3

November 7, 2005

The NEEScentral 1.3 release introduces the NEESactivities Web Interface (NAWI).

NEESactivities is a web application providing an outreach presentation medium for experiments occurring at earthquake engineering facilities. Initially, it presents the user with a map of the United States. By navigating this map or the nearby list, a visitor can access information about the status of the equipment and each project assigned to that equipment. If there is an active event occurring, the user may choose to bypass the equipment site details and skip directly to viewing the experiment video.

This interface will allow outreach audiences (including, the public, NEES consortium and the NEES community) to better understand what is occurring at NEES equipment sites on a daily basis. It will assist NEESinc and Equipment Site administrators in tracking the use of their equipment. Furthermore, it will raise awareness of ongoing research at the equipment sites, promoting greater understanding of the network [NEES]. It will aid internally by building connections amongst the NEES community while simultaneously making significant contributions to public outreach and education initiatives.

Version 1.2

September 30, 2005

The NEEScentral 1.2 release introduces several new features and usability enhancements. Chief among the new features and improvements to this release is the NEES Web Services providing remotely accessible web services to manage NEEScentral projects.

New Features.

- Project member request email links to new project admin page, allowing the project admin to confirm or deny the membership request
- Optional project sysadmin for handling membership requests in addition to the normal project contact
- Hide project capability: limit your projects visibility to members, NEES users, or the public; this feature allows for test projects that are essentially invisible to non-members
- Updated best practices for managing research data in NEEScentral; added instructions for dealing with unprocessed data
- NEES Web Services: the new [NEEScentral API](#) can be used by developers to leverage NEEScentral remotely
- Improved project facility links, including links to NEESpop, flexTPS and equipment site homepage
- New search capability including ? and \* wildcards
- Auto-detect and install Java for upload applet
- New Welcome page
- Non-experimental project, allowing for pure file sharing capability through NEEScentral projects
- New metadata fields for files and directories, such as title and description that can be viewed through the file browser
- Upload statistics reported during file upload, including file count, time and transfer rate
- File upload status bar now includes transfer rate in addition to percentage
- New file and directory move capability, allowing data to be moved from one location to another within a project
- New file and directory copy capability, allowing data to be copied from one location to another within a project
- Delete capability for experiments, trials and trial repetitions
- Active experiment view that displays experiments that have not yet ended.
- Popup calendar to simplify adding and editing date information
- New look and feel on all forms
- About page including license and version information

Bug fixes include:

- Prohibit slashes in directory names
- Added tooltips for all truncated filenames and titles
- Properly removing cookies upon logout from NEEScentral or NEESit
- Force upload over https for all host certs
- Removed limit on the number of groups per account
- Consistent naming of equipment sites in project facility table
- Removed limit on the number of files uploaded at once
- Increased limit on the maximum size of an upload to 10GB
- Only allow copying and moving in valid directories
- Fixed javascript error when title contains single quote
- Fixed corrupt filename vulnerability
- Prevent renaming filenames with ../
- Account request email address used for sending rather than it-support
- Properly sorting user drop-down for project member add
- Improved usability on search results, and project listing
- Human readable errors in upload applet

Version 1.1

July 8, 2005

The NEEScentral 1.1 release introduces the initial version of *Managing Research Data in NEEScentral*, an online help page for researchers who are currently using NEEScentral for their research project. (*Managing Research Data...* has since been merged with the [NEEScentral User's Guide](#).)

Additionally, several bug fixes and usability enhancements were added.

Bug fixes include:

- Potential data loss when trying to overwrite someone else's file has been resolved. In the current release, any file overwrites will properly map the new file owner, and the old file is still preserved internally in the central repository. Overwritten files can be recovered by contacting [NEESit Support](#).
- Default NEEScentral account admin action has been modified. Originally, administrator was forced to select approve or deny before submitting, this was changed so that two submit buttons, one for submit and one for deny remove the possibility of not properly setting the confirm/deny option.
- NEEScentral sysadmin email updated to include instructions for chef\_useradd. NEESpop 3.4 introduced chef\_useradd to simplify adding local NEESpop accounts, this is still a temporary solution until the NEESpop can be fixed to recognize NEES user accounts without requiring a one-to-one mapping with local user accounts.
- Email text to NEESpop sysadmin includes minor edits for the new facility and new member email detailing clearer instructions (including cut+paste commands).
- The 1.1 release only provides minor updates to upload status messages, the core issue of fully supporting unlimited file sizes and unlimited number of files per upload will be addressed in a future release.
- Added NEESit facility to production NEEScentral facility list.
- Documentation for NEEScentral regarding "Example Project" was added to <https://central.nees.org/projects/view.php?projid=1>
- *Managing Research Data in NEEScentral* was published to enhance overall understanding of the Interim File Hierarchy. (*Managing Research Data...* has since been merged with the [NEEScentral User's Guide](#).)



Version 1.0

April 1, 2005

Announcing the first release of NEEScentral (<https://central.nees.org>), NEESit's central portal for providing NEES-wide services:

- Authentication and Authorization management – services to manage NEES user accounts and resource authorization, enabling a single username and password across all NEES resources
- Interim central data repository – interface and tools used to store, modify, search, and retrieve data and metadata