

Open Science for Life in Space


Biological Data Management Environment (BDME) Tutorial

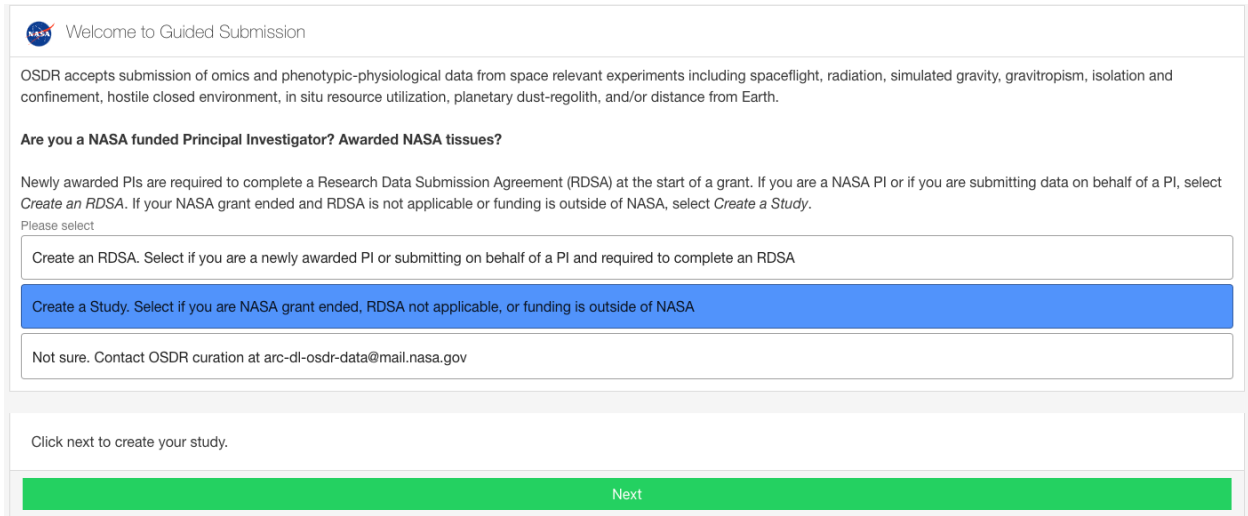
OSDR Submission Portal

Version 3

January 2024

CREATE A STUDY

1. Click 
2. Select Create a Study if the data is not from a NASA funded grant and click Next.



Welcome to Guided Submission

OSDR accepts submission of omics and phenotypic-physiological data from space relevant experiments including spaceflight, radiation, simulated gravity, gravitropism, isolation and confinement, hostile closed environment, in situ resource utilization, planetary dust-regolith, and/or distance from Earth.

Are you a NASA funded Principal Investigator? Awarded NASA tissues?

Newly awarded PIs are required to complete a Research Data Submission Agreement (RDSA) at the start of a grant. If you are a NASA PI or if you are submitting data on behalf of a PI, select *Create an RDSA*. If your NASA grant ended and RDSA is not applicable or funding is outside of NASA, select *Create a Study*.

Please select

Create an RDSA. Select if you are a newly awarded PI or submitting on behalf of a PI and required to complete an RDSA

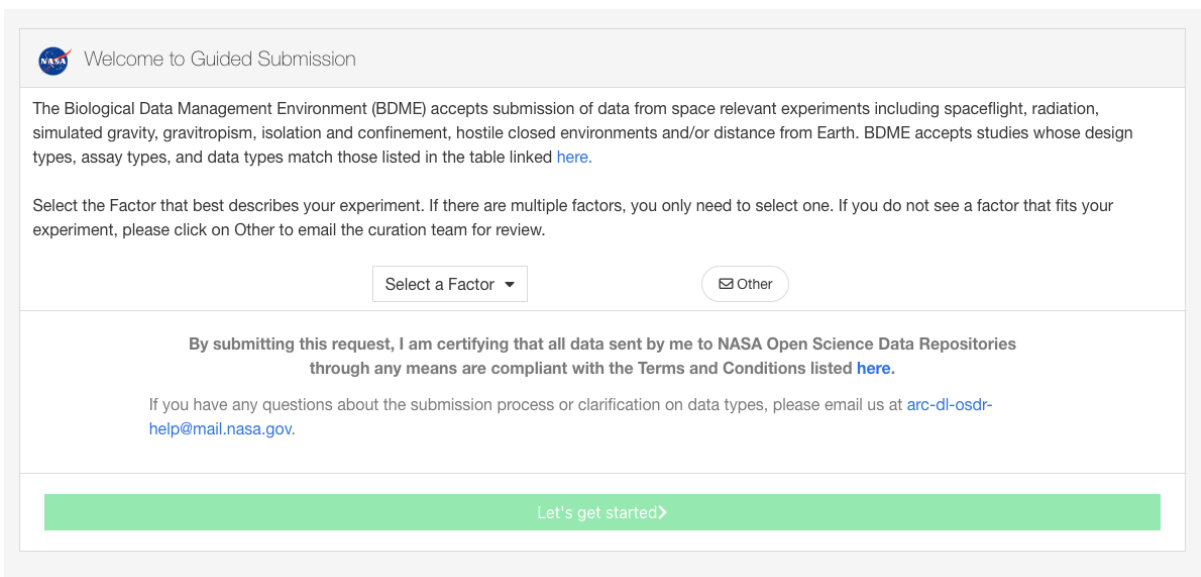
Create a Study. Select if you are NASA grant ended, RDSA not applicable, or funding is outside of NASA

Not sure. Contact OS DR curation at arc-dl-osdr-data@mail.nasa.gov

Click next to create your study.

Next

3. Select a factor that best describes your study from the drop-down menu and click **Let's get started**. If you do not see a factor on the list, click on Other to email the curation team for review.



Welcome to Guided Submission

The Biological Data Management Environment (BDME) accepts submission of data from space relevant experiments including spaceflight, radiation, simulated gravity, gravitropism, isolation and confinement, hostile closed environments and/or distance from Earth. BDME accepts studies whose design types, assay types, and data types match those listed in the table linked [here](#).

Select the Factor that best describes your experiment. If there are multiple factors, you only need to select one. If you do not see a factor that fits your experiment, please click on Other to email the curation team for review.

Select a Factor ▾

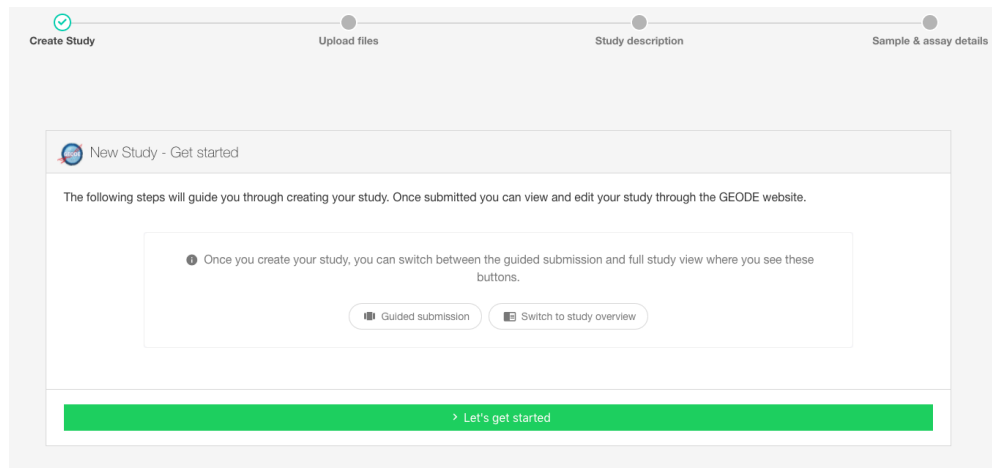
Other

By submitting this request, I am certifying that all data sent by me to NASA Open Science Data Repositories through any means are compliant with the Terms and Conditions listed [here](#).

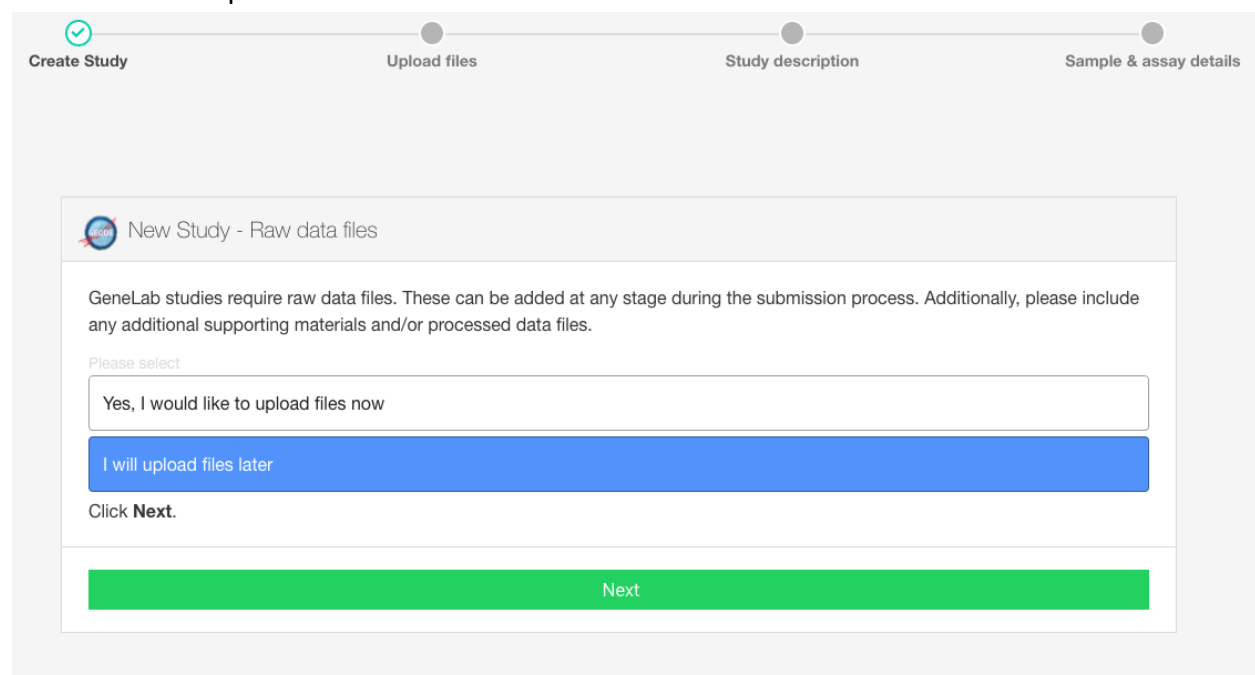
If you have any questions about the submission process or clarification on data types, please email us at arc-dl-osdr-help@mail.nasa.gov.

Let's get started>

4. There is nothing to do in the next screen, just click **Let's get started**.



5. Raw data files are required. Uploading raw data files can be done at any time, so you can select **I will upload files later** and click **Next** for now.



6. An accession number and the unique DOI are assigned to your study. When you see this screen, a new study has been created successfully.



Study

Your study has been assigned the unique OSD identifier [OSD-561](#) and the unique DOI [10.26030/yj0g-1273](#). Please refer to the OSD identifier in any communication with the Open Science team.

How to reference your study:

Please use OSD-561 and DOI when referencing this study in manuscripts, reports, etc. together with the URL: **Please also cite the following paper:** GeneLab studies: Daniel C Berrios, Jonathan Galazka, Kirill Grigorev, Samrawit Gebre, Sylvain V Costes, NASA GeneLab: interfaces for the exploration of space omics data, Nucleic Acids Research, Volume 49, Issue D1, 8 January 2021, Pages D1515–D1522, <https://doi.org/10.1093/nar/gkaa887>

Next

7. There are two ways to proceed from here, follow the steps in 7.1 to continue with **Guided Submission** or skip 7.1 to continue with **7.2 Study Overview**. Both will result to the same page later (step 8). Also, you can stop at any point and come back to resume editing if needed.

- Guided Submission

7.1.1 Populate all the fields after reading through the Helpful Hints and click Next.

- Study Design Description: use an ontology if available
- Study Title
- Study Summary: a brief description of the study. You can also enter the abstract of the publication. there is a 60-character minimum for this field.
- Study Contact: the principal investigator and the submitter are required to be listed in a dataset.
- Manuscript: enter DOI or PMID to add a manuscript

Helpful Hints – Guided Submission

Study description:

Click on the pencil icon to edit the Study Design Descriptor. Press the +Add button on the top right of section to add more terms.

- *Study Design Descriptor* – requires use of ontology term. Start typing your design type until you find the ontology you would like to use or type the whole keyword and click more terms to search

Import Study Details from a published manuscript:

If a manuscript is published with a DOI or PubMed ID, BDME can import the Study Title, Study Summary, and the Study Contact information from the Published sources.

Simply select the "Yes, import from DOI or PubMed ID." option and enter the DOI or PubMed ID in the field that appears.

Title & Description:

If your manuscript does not have a published DOI or PubMed ID, select "No, enter the information manually." to bring up fields for entering the information manually.

Start with entering the Title and Description by clicking on those sections. For example, click on "Enter Title Here" to receive the pop-up box to enter your title.

- Description: minimum character requirement is 60 in order to save.
- These special characters - &<>= are not allowed.

Contacts & Authors information:

To enter contacts, click + **Add Person**

- Required fields - First Name, Last Name, Role

If you have any questions or run into any errors/invalid notices, please feel free to contact us at arc-dl-osdr-help@mail.nasa.gov.

 OSD-561: Please tell us about your study

Study Design Descriptor

+ Add

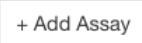
Add terms that define your study eg. Technique, disease, experimental design

Would you like to import the Study Title, Study Description, and Study Contacts from a published manuscript?

Please select

Yes, import from DOI or PubMed ID.

No, enter the information manually.

7.1.2 Click  and **select the Measurement, Technology type and Platform** applicable to your data. You can also click **Next** to go to the next step and populate assay info later.

Helpful Hints – Guided Submission

Assays:

Select **+Add Assay**.

Select the technique type and scroll down to select the assay. Both fields need be highlighted/selected in to click **+Add assay type**.

After adding an assay, click Next and Confirm to switch to full study view.



GLDS-404: Study samples and assay details

Help ?

+ Add Assay

Next

Select Measurement

Transcription Profiling

Metagenome Profiling

Protein Expression Profiling

Genome Sequencing

Metabolite Profiling

DNA Methylation Profiling

RNA Methylation Profiling

Cell Sorting

Cell Counting

Loss Of Heterozygosity Profiling

Histology

Clinical Chemistry Analysis

Deletion Pool Profiling

Histone Modification Profiling

Hematology

Environmental Gene Survey

Transcription Factor Binding Site Identification

Cancel

Select Measurement

Transcription Profiling

Show Measurements

Select Technology

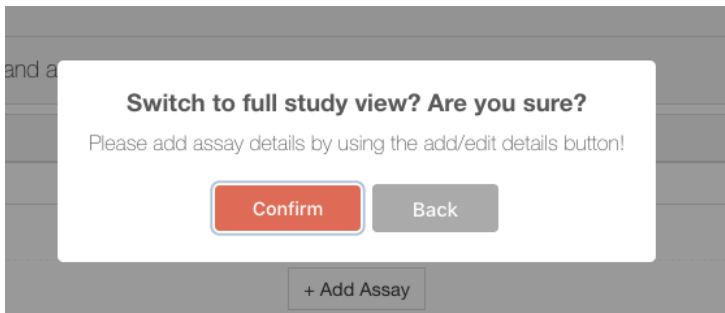
RNA Sequencing (RNA-Seq)

DNA Microarray

Real Time PCR

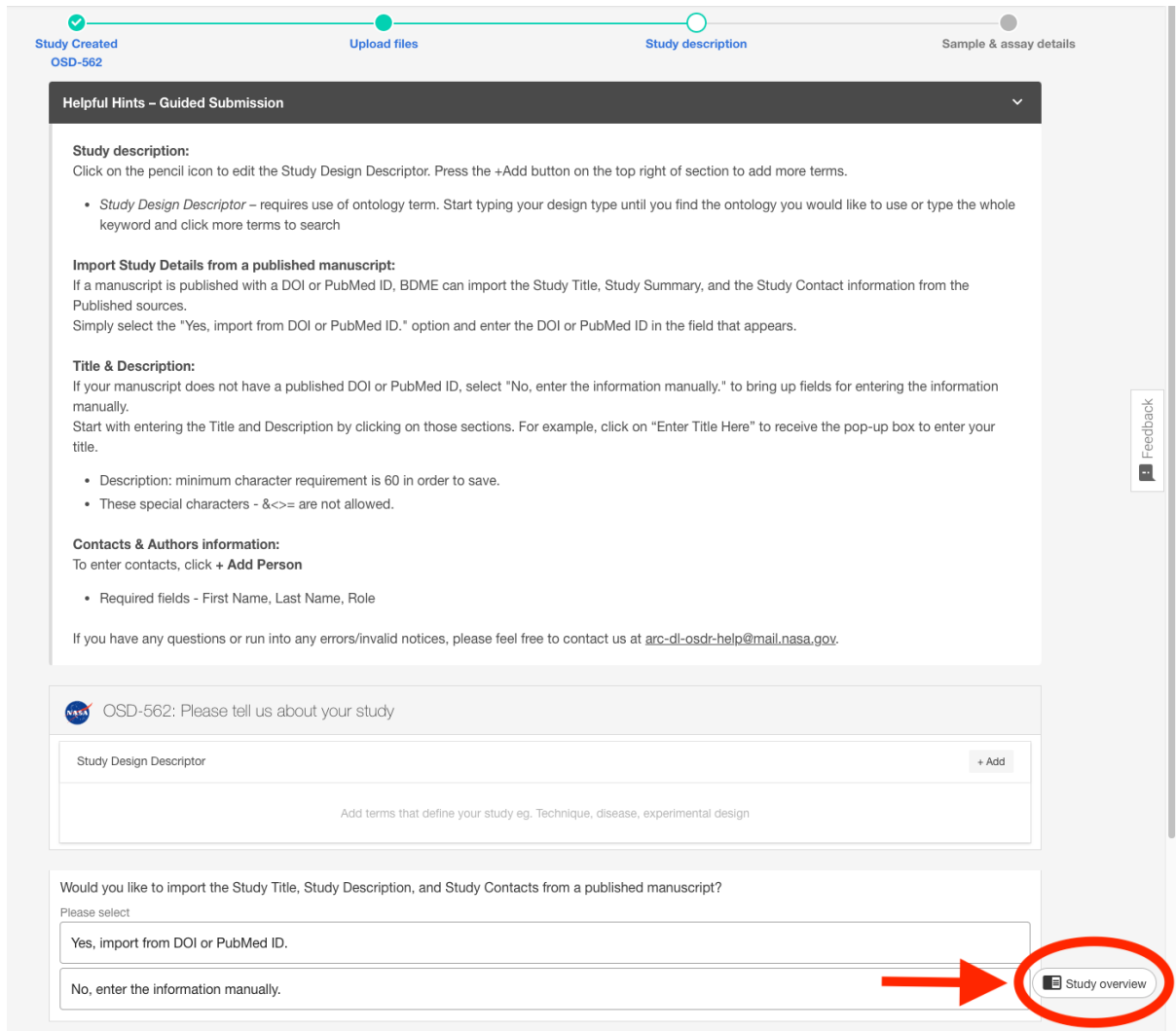
Cancel

7.1.3 After adding an assay, click Next and confirm to switch to full study view.



- Study Overview

Click at the small icon on bottom right of the page (this info can be populated later) to change to study overview.



8. Enter study title, description and click + Add person to list people participated in the study if you have not done so in the previous steps.
 - The principal investigator and the submitter are required to be listed in a dataset.
 - Next, enter all the metadata in the tabs circled in the image.
 - Note that the Release Date is one year later by default. You can click on the date to adjust it if needed.

Enter Title Here

No study persons/authors found

+ Add person

Enter Description Here

PUBLICATIONS

+ Add Publication

The study does not contain any publication information.
Please use the + Add Publication button above to add details.

Description Protocols Samples Assays Related Studies Files Study Validations

Study Design Descriptor

+ Add

Please Update

Factors

+ Add factor

Please Update : Please Update

Project Details

All fields with asterisks (*) are required.

Project Type * Set

Funding Source(s) * Set

Project Identifier Set

Project Title Set

Project Link(s) Set

8.1 Description: study design descriptor, factors, project details, mission (for spaceflight study), and data source (if the data has already been submitted to another repository).

8.2 Protocols: if you have added an assay in the previous steps, you will find a list of default protocol sections for the assay chosen to be populated. If you haven't added an assay, you can first go to Assays tab and add an assay then return to Protocols tab to populate all the protocols.

8.3 Samples: to populate sample info up until sample collection with one row per sample and select an ontology term if applicable.

8.4 Assays: to populate assay level info, starting from extraction, with one row per sample and select an ontology term if applicable. In the end of the table, identify the sample to file(s) relation.

8.5 Related Studies: optional. If the data is related to a public study/studies in the Open Science Data Repository, you can select it/them here.

8.6 Files: your BDME account is connected to your Workspace account.

8.6.1 To associate data files, you need to first drag and drop the data files to your Workspace folder. Please provide compressed individual raw data files (e.g. .fastq.gz or .CEL.gz etc.) and do not archive multiple files. See this page, <https://genelab.nasa.gov/faq#5>, for accepted file types. Also, the default quota of the Workspace account is **30GB**. Please reach out to us if you need more space.

Instructions

Here you can associate files from your [Workspace](#) to your study. GEODE utilizes Resource Categories and Subcategories to classify study files. If you have any questions regarding Resource Categories/Subcategories, please reach out to us [here](#).

To associate files from your Workspace to your study:

1. Select a Resource Category.
2. Select a Resource Subcategory (if applicable).
3. Select the files you wish to associate with the Resource Category/Subcategory.
4. Click the "Associate" button.

If your files associated successfully, they will turn green. You can view the newly associated files in your study by clicking "Refresh Study Files". You may also refresh the files in your Workspace to show any additional files you may have uploaded by clicking "Refresh Workspace Files".

NOTE: GEODE can only accept zipped ISA Metadata Files. The zip file must contain the following files (where * can be any combination of alphanumeric characters):

- i_Investigation.txt
- s_*.txt
- a_*.txt


If you have a different format of metadata, please enter your study metadata manually via Guided Submission or Study Overview.

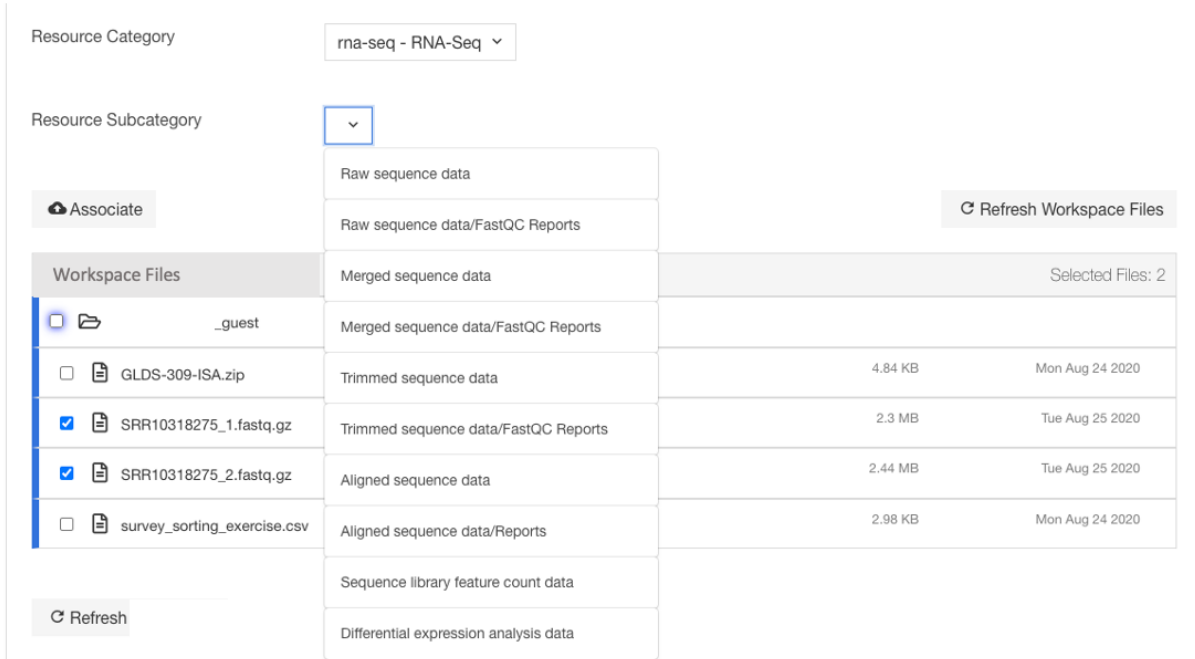
Resource Category: metadata - Study Metadata Files

Associate Refresh Workspace Files


Workspace Files Selected Files: 0


drag and drop to here

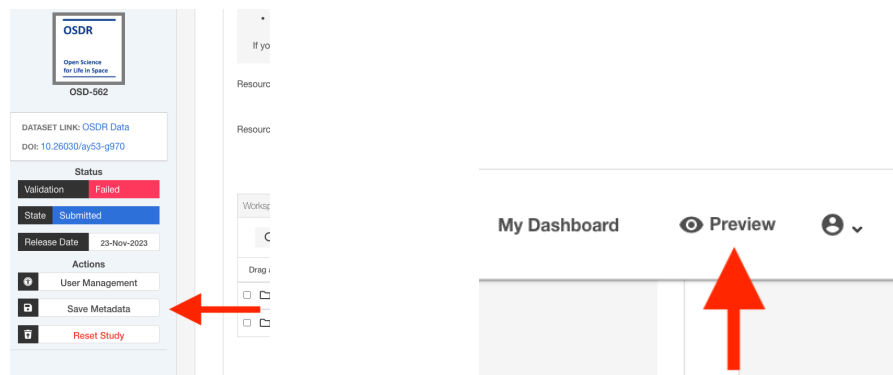
8.6.2 After uploading files, click and unfold the folder. Select the files and the appropriate Resource Category/Subcategory then click 



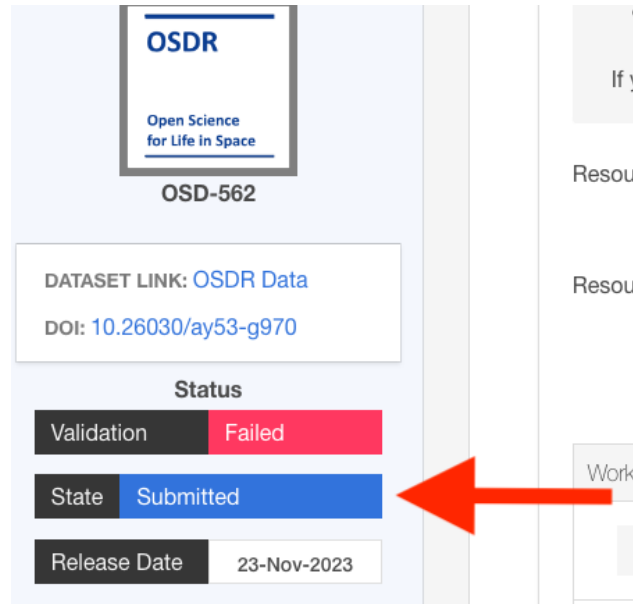
Workspace Files	Description	Size	Date
<input type="checkbox"/> _guest	Merged sequence data		
<input type="checkbox"/> GLDS-309-ISA.zip	Trimmed sequence data	4.84 KB	Mon Aug 24 2020
<input checked="" type="checkbox"/> SRR10318275_1.fastq.gz	Trimmed sequence data/FastQC Reports	2.3 MB	Tue Aug 25 2020
<input checked="" type="checkbox"/> SRR10318275_2.fastq.gz	Aligned sequence data	2.44 MB	Tue Aug 25 2020
<input type="checkbox"/> survey_sorting_exercise.csv	Aligned sequence data/Reports	2.98 KB	Mon Aug 24 2020

8.6.3 Click  to confirm all the files are associated. Repeat 8.6.2 to 8.6.3 until all the data files are associated.

9. You can preview the study by clicking  next to My Dashboard on top right corner anytime. Remember to Save Metadata, on left side of the page, so the preview page reflects the latest version.



10. When you are ready to proceed, click Submitted next to Status on the left panel and change study status to In Curation. Note that once in curation status, the study will be reviewed by the OSDR curation team and in the meanwhile, you are unable to make any changes. OSDR curation team will contact you to obtain any missing information and make any changes needed to meet our curation standards before sending it back to you for final review. A read-only preview link will also be provided for you to share with your reviewers and/or journals.



If you have any questions or issues, please contact us at arc-dl-osdr-help@mail.nasa.gov.