**Tephra Community Comprehensive SESAR submission v1.1 Jun 2021**

**Introduction**

Tephra community members created [best practices from collection through analysis](https://zenodo.org/record/4075613#.YJwaHmZKi8o) to increase the applicability and usability of tephra data in an effort to foster scientific collaboration and data reuse. The Tephra community recommends that tephra samples are registered in [SESAR](http://www.geosamples.org). These documents are a product of collaboration between the Tephra Community and SESAR to map Tephra community metadata fields to SESAR’s pre-existing metadata fields to facilitate the registration of tephra samples in SESAR.It is part of the broader recommended data management that includes submission of analytical data to the [EarthChem Library](https://www.earthchem.org/ecl/). It is important that you **do not** submit this template to the EarthChem Library until all samples within this form have been registered in SESAR.

**Choosing a template**

This comprehensive template allows for submission of all of the metadata recommended by the tephra communities best practice guidelines in one file. Metadata fields that exist in SESAR will be added to their database and the full record will be available as part of your EarthChem Library submission. We also provide a set of simplified templates, which capture only those fields from the tephra community best practice that map to the preexisting SESAR metadata fields.

The tephra community highly recommends use of the Comprehensive template to record your metadata. This allows data to be in a standardized format and can be interoperable with other tephra records and form the basis of uniform data reporting. Use the Simplified template if you are looking to make your samples discoverable and plan to maintain your own more detailed metadata records. The Simplified Template can be downloaded [here](https://www.earthchem.org/communities/tephra/#template-sample).

**Key points**

* To register with SESAR you will need a [MySESAR account](https://app.geosamples.org/index.php).
* This template allows for the registration of stations/sites, cores and/or samples. *If you do not plan on registering any of these sample types, you can delete the corresponding tab from the template (SESAR Site, SESAR Core, SESAR Sample-Core Driver, SESAR Sample).*
  + If you register with the Sample\_Simplified file, the [object type](https://www.geosamples.org/vocabularies/sample-type-object) will be set to “Individual Sample” (a sample that is an individual unit, including rock hand samples, such as a tephra sample or individual clast).
* Required fields found in tabs a–g are **bolded**.
  + Non-required fields that do not map to SESAR are still recommended since the entire template will be part of your Earthchem Library Submission, and accessible to the public. This will form the basis of uniform data reporting making them more interoperable
* Tephra Community metadata that map to SESAR metadata fields will have the SESAR metadata definition listed below the Tephra Communitymetadata definition in tabs a–g.
* If you have already submitted a filled out template to SESAR and received IGSNs, and have additional samples you would also like to register, do not add the samples to the original template. Instead submit the additional samples in a new template.
* All batch registrations will use the [SESAR Batch Upload](https://app.geosamples.org/sample_batchupload.php) process. This process requires that the template file extension is .xls (Excel Microsoft Office 2003). The template will be a .xls file when you download it from EarthChem. **Please do not change the file extension.**

**Filling out the template**

1. Fill out the Tephra tabs (a–g). The spreadsheet is programmed to auto-populate fields in the three SESAR tabs (SESAR Site, SESAR Core, and SESAR Sample) as you input values in the Tephra tabs. The Tephra tabs (a–g) are the best practice recommended metadata for tephra studies.
2. Review the applicable SESAR tabs to ensure that metadata were populated correctly. There are also some metadata fields in the SESAR tabs that do not auto populate, these optional fields are colored yellow and metadata can be manually added if you so choose.
3. Once you have reviewed and input all necessary fields all cells that do not contain metadata must be deleted \*\*EXCEPT\*\* for IGSN and Parent IGSN in these steps:
   1. Delete any columns for metadata fields that do not contain any values
   2. Select the Column A cell in the first empty row under your samples.
   3. Click CMD+Shift+Right, CMD+Shift+Down, Delete for Mac or CTRL+Shift+Right, CTRL+Shift+Down, Delete for a PC.

**Submitting multiple sample types at once or “all in one go”**

1. The template includes a “Sample Relation Mapping” tab that records the relationship of the four levels of samples that are being registered. This identifies the parent/child relationship for all SESAR Sites, Cores, Core Drivers, and Samples. You must review this page to ensure that all parent child relationships are correct.
2. Save the Tephra Submission Template with the SESAR\_Site tab open.
3. Then upload the file through the [MySESAR Batch Uplo](https://app.geosamples.org/sample_batchupload.php)ad. The SESAR curator will process your submissions and return your updated template. IGSNs will be found in Column B of the “SESAR Site”, “SESAR Core” and “SESAR Sample” tabs.

**Submitting one sample type or “one level at a time”**

**To Register Sites**

1. Save the Tephra Submission Template with the SESAR\_Site tab open.
2. Upload the entire file through the [MySESAR Batch Uplo](https://app.geosamples.org/sample_batchupload.php)ad. Once your sites have been assigned IGSNs, your template will be returned to you with the newly assigned IGSNs found in the “SESAR Site” tab in Column B.

**To Register Cores**

**\*\***Metadata for Core registration also allows for the optional fields of Platform type, Platform name, Platform description, Collection date (end) and Collection time (end). If you wish to enter these metadata you must manually enter them in the “SESAR Core” tab, columns W, X, AA, AB**\*\***

1. If applicable, take Site IGSNs and input them in the "Parent IGSN" field of the "SESAR Core" tab for all cores that came from those sites
2. Save the Tephra Submission Template with the “SESAR Core” tab open
3. Upload the entire file to the [Batch Upload on MySES](https://app.geosamples.org/sample_batchupload.php)AR. Once your cores have been assigned IGSNs, your template will be returned to you with the newly assigned IGSNs found in the “SESAR Core” tab in Column B.

**To Register Core Drivers**

1. If applicable, take Core IGSNs and input them in the "Parent IGSN" field of the "SESAR Sample-Core Driver" tab for all core drivers that came from those cores
2. Save the Tephra Submission Template with the “SESAR Sample-Core Driver” tab open
3. Upload the entire file to the [Batch Upload on MySES](https://app.geosamples.org/sample_batchupload.php)AR. Once your core drivers have been assigned IGSNs, your template will be returned to you with the newly assigned IGSNs found in the “SESAR Sample-Core Driver” tab in Column B.

**To Register Samples**

1. If applicable, take Site IGSNs and input them in the “Parent IGSN” field for all **non-core** samples that came from these sites (i.e. tephra sample from a subaerial section).
2. If applicable, take Core IGSNs and input them in the “Parent IGSN” field for all samples that were taken from these cores.
3. If applicable, take Core Driver IGSNs and input them in the “Parent IGSN” field for all samples that were taken from these core drivers.
4. Save the Tephra Submission Template with the "SESAR\_Sample" tab open
5. Upload the entire file to the [Batch Upload on MySES](https://app.geosamples.org/sample_batchupload.php)AR. Once your samples have been assigned IGSNs, your template will be returned to you with the newly assigned IGSNs found in the “SESAR Sample” tab in Column B.

Once registered, your samples are now discoverable in the SESAR catalogue! You can also use the SESAR catalogue to search for samples that relate to your research and contact the sample collector or sample archive to learn more about the sample.

**Updating Samples with Multiple URLs**

The initial registration process only allows for one related URL to be added to samples (Project tab Columns P-R). To add additional related URLs:

1. Enter only the sample IGSN, related URL, Related URL type and Related URL description (optional) in the SESAR URLs tab. Including any other metadata fields in the file with overwrite the metadata field’s contents.
   1. The Related URL type is case sensitive and must be either “DOI” or “regular URL”.
   2. Related URL description is a free text field.
   3. Each sample can only have one related URL per update submission.
2. Save the template with the SESAR URLs tab open
3. Upload the file to [SESAR Batch Update on MySESAR](https://app.geosamples.org/sample_batchupload.php)
4. The samples will be automatically updated and ready for view in MySESAR
5. You can repeat this process until a sample has 5 related URLs

**Submission to EarthChem Library**

Now that your samples have been registered in SESAR and been assigned IGSNs you can upload the template returned to you by SESAR curators as your sample metadata template as part of your EarthChem Library Submission.

**Updating and Managing Sample Metadata**

After registering samples with SESAR you have the opportunity to update or add new sample metadata through the “View/Edit my samples” feature of MySESAR or through the “Batch Update'' method. For a tutorial on how to use the “Batch Update” method see [this tutorial](https://www.geosamples.org/sites/geosamples.org/files/SESAR-batch-Update2020.pdf). All metadata fields included in the batch update template will be updated, even if the field is null. Please note, the update process requires you use the contemporary workflow for submissions and is not reviewed by a SESAR Curator and changes are reflected immediately in the database**.** To make any changes, you must upload each type individually (Station/site, core, or sample). Contact the SESAR Curators for additional assistance (info@geosamples.org).

**Registering Historic or extraordinary samples**

If you are registering Historic samples, we recommend the use of the “all at once” submission workflow. If the archive of the samples or cores has changed over their lifespan you can manually input the original archive and original archive contact in Columns AA and AB of the “SESAR Core” tab and Columns Y and Z of the “SESAR Sample” tab. If you have any questions regarding the registration of historic samples or extraordinary samples not captured within the scope of these instructions please contact [info@geosamples.org](mailto:info@geosamples.org)

**Reference**

Abbott, Peter, Bonadonna, Costanza, Bursik, Marcus, Cashman, Katherine, Davies, Siwan, Jensen, Britta, … Wallace, Kristi. (2020). Community Established Best Practice Recommendations for Tephra Studies-from Collection through Analysis (Version 2.0.0) [Data set]. Zenodo. <http://doi.org/10.5281/zenodo.4075613>