**Metadata template**

**Note:** This template is created as part of the “Data management SOP”. Support scientists can use the template to assemble all information needed to submit metadata on Ag Data Commons repository.

1. Title \* [write down the metadata title following directive in SOP Part 2.1.a.ii]
2. **URL [Leave blank]**
3. Description ([summary](https://data.nal.usda.gov/node/add/dataset)) [write down the summary, follow directives in the SOP Part 2.1.a.iii]
4. Tags **[Leave blank]**
5. Groups **[Leave blank]**
6. License **[Leave as default “U.S. public Domain”]**
7. Dataset Information
8. Geographic Coverage [follow directive in SOP Part 2.2.d.i.]

Latitude: \_\_\_\_\_\_\_\_\_\_\_\_ [enter the latitude coordinate of the experimental field/lab]

Longitude: \_\_\_\_\_\_\_\_\_\_\_ [enter the longitude coordinate of the experimental field/lab]

1. Spatial Description [follow directive in SOP Part 2.2.d.ii.]
2. Date time [follow directive in SOP Part 2.2.d.iii.]
3. Contact
4. Contact Name [enter SY name]

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Contact Email [enter SY email]

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Public access level [Leave blank]
2. Resources [Leave blank]
3. Extended Metadata [leave blank if sole SY name is sufficient to cite the metadata, but enter all coauthors if SY indicates so, follow directive in SOP Part 2.2.e.v.]

Co-author 1: \_\_\_\_\_\_\_\_\_\_\_ [First and Last name as it is on published manuscript]

Co-author 2: \_\_\_\_\_\_\_\_\_\_\_ [First and Last name as it is on published manuscript]

Co-author 3: \_\_\_\_\_\_\_\_\_\_\_ [First and Last name as it is on published manuscript]

1. Intended Use [Leave blank]
2. Use Limitations [Leave blank]
3. Equipment or Software Used [Leave blank]
4. Citations
5. Add Primary Article citation [enter citation for article related to the metadata]
6. Add Primary Article DOI [enter the DOI for article that directly describes the metadata]
7. Add funding source [enter information about the project related to the metadata]
8. Dataset DOI [enter the DOI of published dataset, follow directive in SOP Part 2.2.f.iii.]
9. ARIS log number [enter ARIS log number of the approved ARS 115 form for dataset submission]

**Metadata template example**

1. Title \* [write down the metadata title following directive in SOP Part 2.1.a.ii]

Metadata for: Climate-driven prediction of land water storage anomalies: An outlook for water resources monitoring across the conterminous United States

1. **URL [Leave blank]**
2. Description ([summary](https://data.nal.usda.gov/node/add/dataset)) [write down the summary, follow directives in the SOP Part 2.1.a.iii]

Data reported in the csv files are gridded monthly time-series used in the article “Sohoulande, C.D., Martin, J., Szogi, A. and Stone, K., 2020. Climate-Driven Prediction of Land Water Storage Anomalies: An Outlook for Water Resources Monitoring Across the Conterminous United States. Journal of Hydrology, p.125053”.

The study focused on the conterminous United States (CONUS) which extends over a region of contrasting climates with an uneven distribution of freshwater resources. Under climate change, an exacerbation of the contrast between dry and wet regions is expected across the CONUS and could drastically affect local ecosystems, agriculture practices, and communities. Hence, efforts to better understand long-term spatial and temporal patterns of freshwater resources are needed to plan and anticipate responses. Since 2002, the Gravity Recovery and Climate Experiment (GRACE) and GRACE Follow-On (GRACE-FO) satellite observations provide estimates of large-scale land water storage changes with an unprecedented accuracy. However, the limited lifetime and observation gaps of the GRACE mission have sparked research interest for GRACE-like data reconstruction. The study developed a predictive modeling approach to quantify monthly land liquid water equivalence thickness anomaly (LWE) using climate variables including total precipitation (PRE), number of wet day (WET), air temperature (TMP), and potential evapotranspiration (PET). The approach builds on the achievements of the GRACE mission by determining LWE footprints using a multivariate regression on principal components model with lag signals. Methods are described in the manuscript <https://doi.org/10.1016/j.jhydrol.2020.125053>. Descriptions corresponding to each figure and table in the manuscript are placed in the Read Me.docx file that is included as part of the Dryad dataset.

1. Tags **[Leave blank]**
2. Groups **[Leave blank]**
3. License **[Leave as default “U.S. public Domain”]**
4. Dataset Information
5. Geographic Coverage [follow directive in SOP Part 2.2.d.i.]

Latitude: \_\_\_\_\_\_\_\_\_\_\_\_ [enter the latitude coordinate of the experimental field/lab]

Longitude: \_\_\_\_\_\_\_\_\_\_\_ [enter the longitude coordinate of the experimental field/lab]

1. Spatial Description [follow directive in SOP Part 2.2.d.ii.]

Conterminous US

1. Date time [follow directive in SOP Part 2.2.d.iii.]

January 1, 2002 to July 1, 2017

1. Contact
2. Contact Name [enter SY name]

\_\_\_\_\_\_\_\_Clement Sohoulande\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Contact Email [enter SY email]

\_\_\_\_\_\_\_\_\_clement.sohoulane@usda.gov \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Public access level [Leave blank]
2. Resources [Leave blank]
3. Extended Metadata [leave blank if sole SY name is sufficient to cite the metadata, but enter all coauthors if SY indicates so, follow directive in SOP Part 2.2.e.v.]

Co-author 1: \_A. Szogi\_\_ [First and Last name as it is on published manuscript]

Co-author 2: \_K. Stone\_\_ [First and Last name as it is on published manuscript]

Co-author 3: \_J. martin\_\_ [First and Last name as it is on published manuscript]

1. Intended Use [Leave blank]
2. Use Limitations [Leave blank]
3. Equipment or Software Used [Leave blank]
4. Citations
5. Add Primary Article citation [enter citation for article related to the metadata]

Sohoulande, C. D., Martin, J., Szogi, A., & Stone, K. (2020). Climate-driven prediction of land water storage anomalies: An outlook for water resources monitoring across the conterminous United States. *Journal of Hydrology*, *588*, 125053.

1. Add Primary Article DOI [enter the DOI for article that directly describes the metadata]

<https://doi.org/10.1016/j.jhydrol.2020.125053>

1. Add funding source [enter information about the project related to the metadata]

Agricultural Research Service 6082-13000-010-00D

1. Dataset DOI [enter the DOI of published dataset, follow directive in SOP Part 2.2.f.iii.]

<https://doi.org/10.5061/dryad.qnk98sfdz>

1. ARIS log number [enter ARIS log number of the approved ARS 115 form for dataset submission]

380016