

Code and data availability

All data sets used in this work are archived at the Environmental System Science Data Infrastructure for a Virtual Ecosystem (ESS-DIVE). ERA5 forcing data to run the ELM model can be downloaded from the ECMWF Climate Data Store: <https://cds.climate.copernicus.eu/datasets/reanalysis-era5-single-levels?tab=overview>. ATS forcings data can be retrieved from Daymet version 4 dataset (Thornton et al., 2020). ELM and ATS data sets are archived here: <https://doi.org/10.15485/2550570>. Streamflow data was derived from Bussey et al. (2019): Surface Water: Stage, Temperature and Discharge, Teller Road Mile Marker 27, Seward Peninsula, Alaska, beginning 2016. Next-Generation Ecosystem Experiments (NGEE) Arctic, ESSDIVE repository. Dataset. <https://doi.org/10.5440/1618330>. The description and codes of E3SM v3.0 (including ELM v3.0) are publicly available at <https://www.osti.gov/doecode/biblio/123310> (E3SM Project, 2024).

The screenshot shows the ESS-DIVE dataset interface. At the top, there's a navigation bar with links like DATA, PORTALS, PROJECTS, GET STARTED, ABOUT, SUBMIT DATA, and a KATINA logo. Below the header, the dataset title is 'Data Files for Runoff Evaluation in an Earth System Land Model for Permafrost Regions' by Xiang Huang, Bo Gao, Canus Demir, Rich Fiorella, Scott Painter, and Katrina Bennett. The dataset ID is doi:10.15485/2550570. A table lists the files in the dataset, showing a single file named 'Data Files for Runoff Evaluation in an Earth System Land Model for Permafrost Regions' with a size of 10 KB and type ELM v2.0.0. Below the table, there's a 'General' section with fields for Identifier, Alternate Identifier, and Abstract. The abstract describes the study on runoff evaluation in permafrost regions using the ELM model and ATS data.

Huang X ; Gao B ; Demir C ; Fiorella R ; Painter S ; Bennett K (2025): Data Files for Runoff Evaluation in an Earth System Land Model for Permafrost Regions. Next-Generation Ecosystem Experiments (NGEE) Arctic, ESS-DIVE repository. Dataset. doi:10.15485/2550570 accessed via <https://data.ess-dive.lbl.gov/datasets/doi:10.15485/2550570> on 2025-06-27

Bussey B ; Wales N ; Newman B ; Wilson C ; Bolton B (2019): Surface Water: Stage, Temperature and Discharge, Teller Road Mile Marker 27, Seward Peninsula, Alaska, 2016-2021. Next-Generation Ecosystem Experiments (NGEE) Arctic, ESS-DIVE repository. Dataset. <https://doi.org/10.5440/1618330>.

DOE Code Repository Software Policy

<https://www.osti.gov/doecode/policy>