



SoS v1.0

First global version of the SWORD
of Science (SoS)



Scope

- Organized by continent following SWORD structure and naming conventions
- Result data is only available for the hydraulic simulation module domain of the Sacramento River
 - <https://swotdawg.wordpress.com/2021/08/19/sacramento-dataset-description-version-nov-2020/>
 - "na_apriori_rivers_v07_SOS.nc"



Structure

- Constrained and unconstrained versions
 - Constrained version contains GRADES data alongside GRDC and USGS gauge data
 - Unconstrained contains WBM data
- Global attributes and dimensions apply to all data stored in file
- Groups separate data into logical areas and can contain their own attributes and dimensions



Global data

ATTRIBUTES

- name: Name of the file (continent)
- version: The current version of the SoS (4-digit numeric ID)
- production_date: When the file was created
- run_type: Either "constrained" or unconstrained"

DIMENSIONS

- num_reaches
- num_nodes
- time_steps

VARIABLE

- time (YYYYMMDD)



Groups

- **reaches**: Contains "reach_id" data*
- **nodes**: Contains "node_id" and "reach_id" data*
- **model**: Contains *either* constrained GRADES data *or* unconstrained WBM data
 - Dimensions: num_months, probability

* How you locate data in the SoS



Groups

'model' subgroups (GRADES data only)

- **grdc**: GRDC gauge data
 - Dimensions: num_days, num_grdc_reaches
- **usgs**: USGS gauge data
 - Dimensions: num_days, num_usgs_reaches
- GRDC and USGS data are *only* stored for the reach identifiers that gauge data is present for
- Index on either 'grdc_reach_id' or 'usgs_reach_id' (SWORD reach identifier format)



Groups

reach-level FLPE (discharge algos)

- **geobam**: subgroups for each variable type (mean and standard deviation chains)
- **hivdi**
- **metroman**
- **momma**



Groups

- **moi**: subgroups for reach-level FLPE
- **postdiagnostics**: subgroups for reach (discharge algorithms) and basin (MOI)
 - Dimensions: num_algos, nchar
- **offline**
- **validation**
 - Dimensions: num_algos, nchar



Amazon Simple Cloud Storage (S3)

constrained

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na_apriori_rivers_v07_SOS.nc

0001

na_apriori_rivers_v07_SOS.nc

unconstrained

0000

na_apriori_rivers_v07_SOS.nc

0001

na_apriori_rivers_v07_SOS.nc

