

Resource Summary Report

Generated by NIF on Aug 27, 2026

Community Surface Dynamics Modeling System

RRID:SCR_002196

Type: Tool

Proper Citation

Community Surface Dynamics Modeling System (RRID:SCR_002196)

Resource Information

URL: http://csdms.colorado.edu/wiki/Main_Page

Proper Citation: Community Surface Dynamics Modeling System (RRID:SCR_002196)

Description: Model repository and data related to earth-surface dynamics modeling. The CSDMS Modeling Tool (CMT) allows you to run and couple CSDMS model components on the CSDMS supercomputer in a user-friendly software environment. Components in the CMT are based on models, originally submitted to the CSDMS model repository, and now adapted to communicate with other models. The CMT tool is the environment in which you can link these components together to run new simulations. The CMT software runs on your own computer; but it communicates with the CSDMS HPCC, to perform the simulations. Thus, the CMT also offers you a relatively easy way of using the CSDMS supercomputer for model experiments. CSDMS deals with the Earth's surface - the ever-changing, dynamic interface between lithosphere, hydrosphere, cryosphere, and atmosphere. They are a diverse community of experts promoting the modeling of earth surface processes by developing, supporting, and disseminating integrated software modules that predict the movement of fluids, and the flux (production, erosion, transport, and deposition) of sediment and solutes in landscapes and their sedimentary basins. CSDMS: * Produces protocols for community-generated, continuously evolving, open software * Distributes software tools and models * Provides cyber-infrastructure to promote the quantitative modeling of earth surface processes * Addresses the challenging problems of surface-dynamic systems: self-organization, localization, thresholds, strong linkages, scale invariance, and interwoven biology & geochemistry * Enables the rapid development and application of linked dynamic models tailored to specific landscape basin evolution (LBE) problems at specific temporal and spatial scales * Partners with related computational and scientific programs to eliminate duplication of effort and to provide an intellectually stimulating environment * Supports a strong linkage between what is predicted by CSDMS codes and what is observed, both in nature and in physical experiments * Supports the imperatives in Earth Science research

Abbreviations: CSDMS

Resource Type: computational hosting, data or information resource, data repository, data set, service resource, software resource, storage service resource

Defining Citation: [PMID:17406970](#)

Keywords: model, earth, surface, surface dynamics

Funding: NSF

Availability: Free, Freely available

Resource Name: Community Surface Dynamics Modeling System

Resource ID: SCR_002196

Alternate IDs: r3d100012544, nlx_154705

Alternate URLs: <https://doi.org/10.17616/R3051W>

Record Creation Time: 20220129T080212+0000

Record Last Update: 20260821T193640+0000

Ratings and Alerts

No rating or validation information has been found for Community Surface Dynamics Modeling System.

No alerts have been found for Community Surface Dynamics Modeling System.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We have not found any literature mentions for this resource.