

RIVERMORPH

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| Model Uses | RiverMorph is designed to streamline time consuming tasks performed by river restoration professionals. | |
| Major Categories | Geomorphology | <u>Subject Knowledge Level</u> Basic |
| Minor Categories | Erosion | <u>Technical Difficulty Level</u> Intermediate |
| Model Type | Physical Model | <u>Geographic in Nature?</u> Semi |

Abstract

The RIVERMorph software is a database oriented software system geared towards channel measurement data collection/storage, reference reach data collection/storage, river assessment/monitoring and engineering applications including natural channel design. As the field of river restoration is ever changing, it is the goal that the development of RIVERMorph will be flexible enough to meet future needs of the profession.

Currently, there are no database oriented computer programs designed to store geomorphic data that allows the user to query the stored data as part of the design process. The software package has been developed into an expert system for the design of natural channels; will allow the user to store all geomorphic data collected in one easy to access location; will facilitate the development of geomorphically derived data such as regional curves; and will provide a medium through which geomorphically derived data can be shared among the profession.

Future Developments

Enhancements anticipated for future versions of the PATCH model include:

- Simulation of species interactions
- Co-simulation of male and female populations and their interactions
- Scenario-specific life cycle event sequences that are user-defined at run time
- The flexibility to use multiple habitat and stressor maps
- A mechanism for simulating irregular home ranges or territories
- The ability to model wildlife aggregations such as colonies or herds
- Explicit inclusion of density dependence effects

Model Limitations

None noted

Model Features

Tools are provided for stream classification, survey data reduction and plotting, discharge gage analyses, Pfankuch channel stability analyses, bank erosion prediction, natural channel design, regime equations, regional curves and interfacing with engineering software such as HEC-2, HEC-RAS, HEC-HMS, TR-55 and more! RIVERMorph also features a GIS interface to facilitate measurement of plant form features.

Required Data Types

River flows and bathymetric data

Model Outputs

Graphs and tables

Source

RIVERMorph, LLC
1901 Nelson Miller Parkway
Louisville, Kentucky 40223-2177

Source (URL)

<https://www.rivermorph.com>

Hardware Requirements

Intel Based PC or compatible machine with Pentium processor or higher
A hard disk with at least 130 megabytes of free space
A CD ROM, CD-R, CD-RW, or DVD drive
64 megabytes of RAM
Windows 98 w/Y2K Update 2 & Internet Explorer 4.0.1 SP2 or later, 98 Second Edition, NT 4.0 SP5, ME, 2000, or XP Operating System
Mouse
As large a monitor as possible running in Super VGA (1024 x 768 minimum resolution is recommended)

Software Requirements

None noted

Cost, Licensing and Availability

\$4,495 + Shipping. 15% discount for students.
Special pricing available for governmental agencies.

| | Supported Platforms | |
|---------|-------------------------------------|------------------------------------|
| DOS | <input type="checkbox"/> | UNIX <input type="checkbox"/> |
| Windows | <input checked="" type="checkbox"/> | Macintosh <input type="checkbox"/> |