

# **A free graphical modeling tool for geospatial analysis**

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# ***Why a modeling tool***

- Most proprietary GIS include a similar tool (IDRISI MacroModeler, ArcGIS ModelBuilder...)
- No free GIS has such a tool.
- Most analysis operations within a GIS are compound operations
- Scripting languages and command-line interfaces are powerful, but not suitable for every user.

# ***The SEXTANTE library***

- A comprehensive (220+) set of algorithms.
- Formerly a gvSIG-based software, it is now a library that can be called from any application.
- Algorithms can be used with no GUI.
- The library, however, includes graphical elements that can be easily integrated within a Desktop GIS, and make it easy to use all those geoalgorithms.
  - Toolbox, Command-line interface, ***Graphical modeler...***

# ***Fundamental ideas***

- The modeler is based on a well-defined API for geoalgorithms, which defines a suitable grammar for linking processes.
- The output of a geoalgorithm is used as the input to another one.
- Any new algorithm added to SEXTANTE can be incorporated into a model

# ***Fundamental ideas (II)***

- A model is a SEXTANTE geoalgorithm itself
  - It can be run from the toolbox
  - It can be executed as a batch process
  - It can have an associated help file
  - It can be part of a bigger model
  - etc.

# ***Steps to create a model***

- 1) Define the inputs needed
  - 2) Define the workflow adding geoalgorithms and linking them
  - 3) Define the outputs by selecting which elements generated by the algorithms in the workflow should be kept and which are temporary.
- All this is done graphically

# *Demo*

- Creation of a simple model
- An example of a larger model
- Using the model in other elements of SEXTANTE
- Modeller running in different platforms (gvSIG, OpenJUMP, GeoTools-based test application)

# ***What is ahead?***

- Automatic creation of scripting code from the modeler
- Extending the scripting interface, so it can execute models
- Other improvements of the SEXTANTE library (new algorithms, WPS processes...)



# ***More info***

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