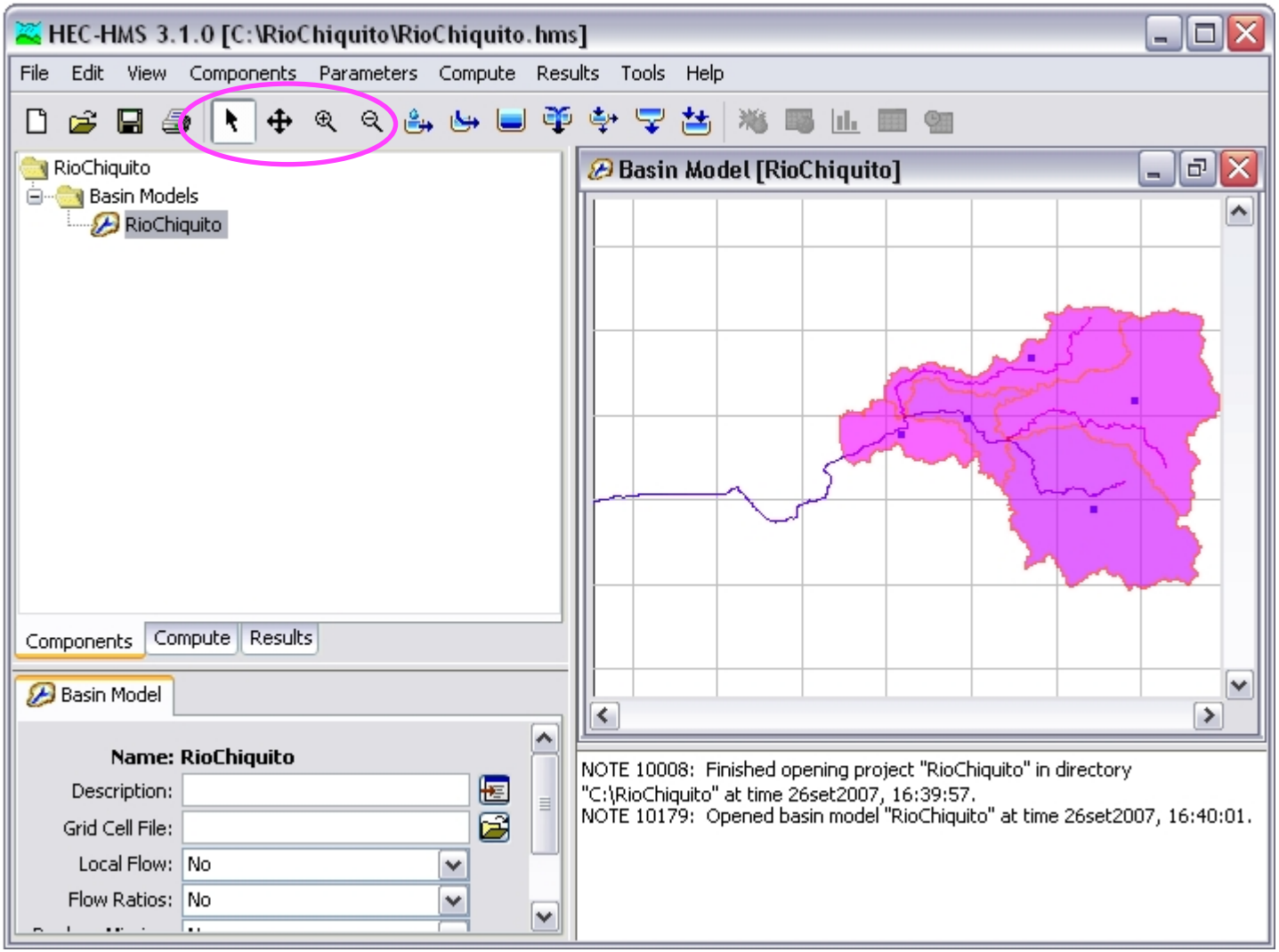
The HEC-HMS platform

- **The Hydrologic Engineering Center's Hydrologic Modeling System (HEC-HMS), developed by Army Corp Engineers**
- **A library of various runoff and routing methods**
- **Capable of making both event-based and continuous predictions**
- **Free to download: http://www.hec.usace.army.mil/software/software_distrib/hec-hms/hechmsprogram.html**


HEC-HMS 3.1.0 [C:\RioChiquito\RioChiquito.hms]
File Edit View Components Parameters Compute Results Tools Help
RioChiquito
Basin Models
RioChiquito
Components Compute Results
Basin Model
Name: RioChiquito
Description:
Grid Cell File:
Local Flow: No
Flow Ratios: No
Basin Model [RioChiquito]
NOTE 10008: Finished opening project "RioChiquito" in directory "C:\RioChiquito" at time 26set2007, 16:39:57.
NOTE 10179: Opened basin model "RioChiquito" at time 26set2007, 16:40:01.

Basin Model elements

- **subbasins**- contains data for subbasins (losses, UH transform, and baseflow)

- **reaches**- connects elements together and contains flood routing data

- **junctions**- connection point between elements

- **reservoirs**- stores runoff and releases runoff at a specified rate (storage-discharge relation)

- **sinks**- has an inflow but no outflow

- **sources**- has an outflow but no inflow

- **diversions**- diverts a specified amount of runoff to an element based on a rating curve - used for detention storage elements or overflows

The HEC-HMS matrix for runoff and routing

Precipitation (synthetic):

- **Frequency storm**
- **Standard project storm**
- **SCS hypothetical storm**
- ***User-specified hyetograph**
- **And more….**

Infiltration (Losses):

- ***SCS curve number**
- **Initial and Constant**
- **Gridded SCS curve number**
- **Green and Ampt**
- **And more….**

Surface Runoff (Transform) :

- **Clark Unit Hydrograph (UH)**
- **Snyder UH**
- ***SCS CN**
- **ModClark**
- **Kinematic Wave**
- **And more….**

Open-Channel Routing:

- ***SCS Lag**
- **Muskingum**
- **Modified Puls**
- ***Kinematic Wave**
- **Muskingum-Cunge 8-Point**
- **And more….**

(MSGT, 2006)

Elements Creation Tools