



Scenario Language (.scn files)

General

- **Procedural: step by step sequence of commands**
- **Some commands will *block* until a simulation terminates**
- **Case sensitive**
- **First line: Scenario Information**

Raster Layers

- SELES currently supports GRASS, ERDAS and ARC ASCII formats
- A model has one resolution and extent, so all rasters must have the same dimensions and represent the same landscape
- SELES has support for aligning rasters

Loading Rasters

<Filename>

<Viewname> = <Filename>

Example:

.\gisdata\cell\Elevation

DEM = .\gisdata\Elevation.asc

Loading Real-value Rasters

*<Filename> * #Multiplier*

*<Viewname> = <Filename> * #Multiplier*

- multiplies cell values as they are read

Example:

```
. \gisdata\cell\SiteIndex * 10
```

Saving Rasters

Save <ViewName> <FileName> <Type>

Example:

```
Save DEM .\gisdata\cell\Elevation GRASS
```

```
Save DEM .\Elevation.asc ARC ASCII
```

Saving Rasters

Types:

GRASS COMPRESSED

GRASS

ARC ASCII

ERDAS8

ERDAS16

Saving JPEGs

Save <ViewName> <FileName> JPEG

**Save <ViewName> <FileName> JPEG
#Resolution**

**Save <ViewName> <FileName> JPEG
[#bottom, #left, #top, #right]**

Example:

Save DEM fig1.jpg JPEG

Closing Views

CLOSE ALL

CLOSE <Viewname>

Example:

Close DEM

Scenario Dimensions

Model Width: #NumColumns

Model Height: #NumRows

Model Cols: #NumColumns

Model Rows: #NumRows

Model Dimensions: #NumRows, #NumCols

Model Dimensions: <ViewName>

View commands

Minimize All

Minimize <viewname>

Minimize Initial State

Minimize Static

Minimize

View Commands

*Display Resolution: Number
Tile*

Close <viewname>

Close All

General Commands

cwd <directory> (or cd <directory>)

- Change current working directory
- Will create directory if not present

system "command"

Example:

```
system "copy AAC1.txt AAC.txt"
```

Simulation Control

SimStart #RunLength #Runs

SimStart #RunLength #Runs Priority

Example:

`SimStart 10 100 Low Priority`

Simulation Control

<variable> = *Expression*

**<landscape event filename>
 %UseEvent**

Example:

FireRotation = 100

Logging.lse OFF

Expressions

Expr = #Value

Expr = Expr + Expr

Expr = Expr - Expr

*Expr = Expr * Expr*

Expr = Expr / Expr

Expr = Expr ^ Expr

Expr = Expr % Expr

Expr = (Expr)

Models

- Dynamic models

 - <ModelName.sel>

 - Only last one loaded is kept

- Static models

 - <ModelName.nm>
models

Neutral

 - <ModelName.sm>
models

Site-specific

 - <ModelName.fm>
models

Fractal

 - <ModelName.vm>

Value

Script Variables: Defining

\$VarName\$ = “value”

\$VarName\$ = value

\$VarName\$ = #globalVar#

Example: \$threshold = 10

\$baseDir = “..\output1”

String Temporary Variables: Using

**Put anywhere in an expression except
in quoted text**

Example:

cwd \$baseDir\$\v1

param1 = \$threshold\$ + 10

Iteration

```
FOR($var$ = “filenameExpr”)  
  ... (any commands)  
END
```

Example:

```
FOR($x$ = \outputRasters\ageClass*)
```

Iteration

```
FOR($var$ = #Number : #Number)  
  ... (any commands)  
END
```

Example:

```
FOR($x$ = 1:5)
```

Iteration

```
FOR($var$ = #Number : #Number,  
    #Step)  
    ... (any commands)  
END
```

Example:

```
FOR($x$ = 0:100,10)
```

Iteration

```
WHILE(condition)  
  ... (any commands)  
END
```

Example:

```
WHILE(difference < 0.1)
```

Conditions

```
IF(condition)  
    ... (any commands)  
END
```

Example:

```
IF($x$ EQ 10)
```


Scheduling Commands

```
SCHEDULE(timestep)  
  ... (any commands)  
END
```

Example:

```
SCHEDULE(10)  
  $x$ = #year#  
  waterLevel = .\gisData\waterLevel$x$  
END
```

Command Ordering

- BEFORE Model (.sel) file:
 - Loading rasters
 - Copying files (file specified read when .sel file loaded)
- AFTER Model (.sel) file:
 - Changing variable initial state (loading file will reset values)
 - Changing output directory

Directories

- Starting directory for processing a scenario:
 - Directory of scenario file
- Ending directory after scenario processed
 - Current directory
- Directory for files loaded in .sel file:
 - Directory of .sel file