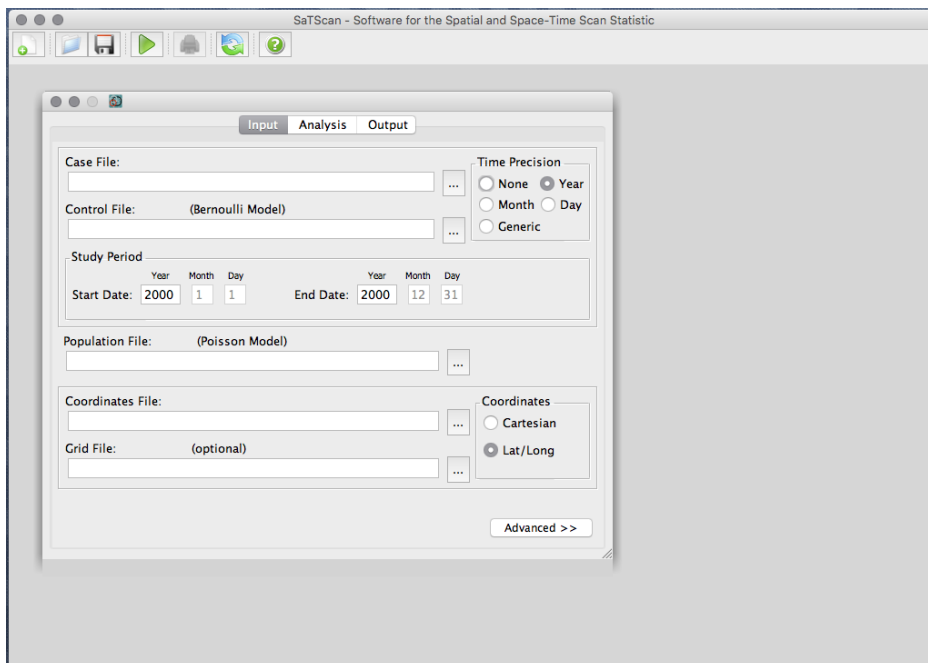
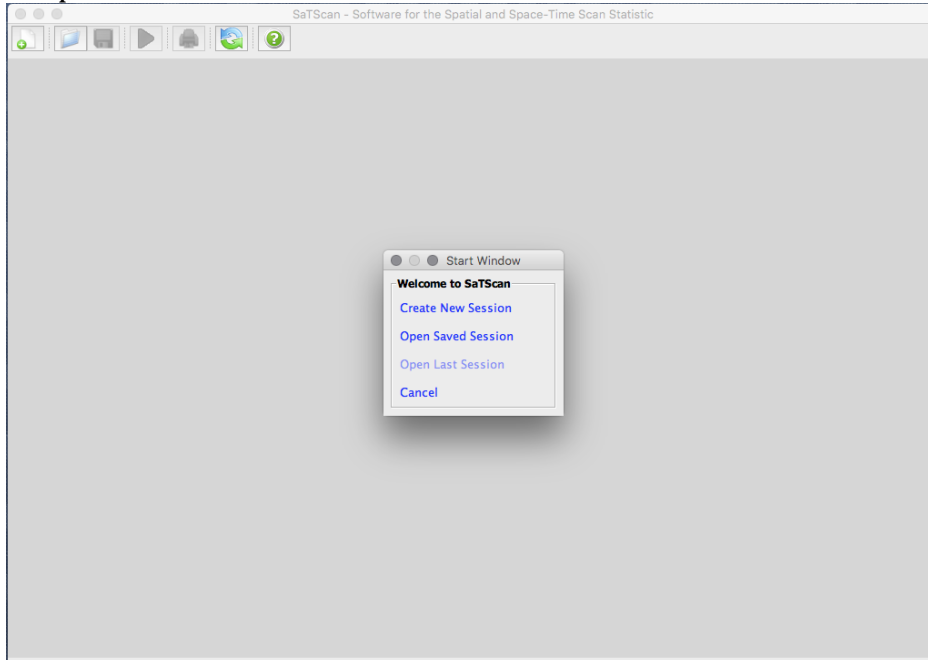


# GEOG 498N/788L: Using SaTScan for Hotspot Detection

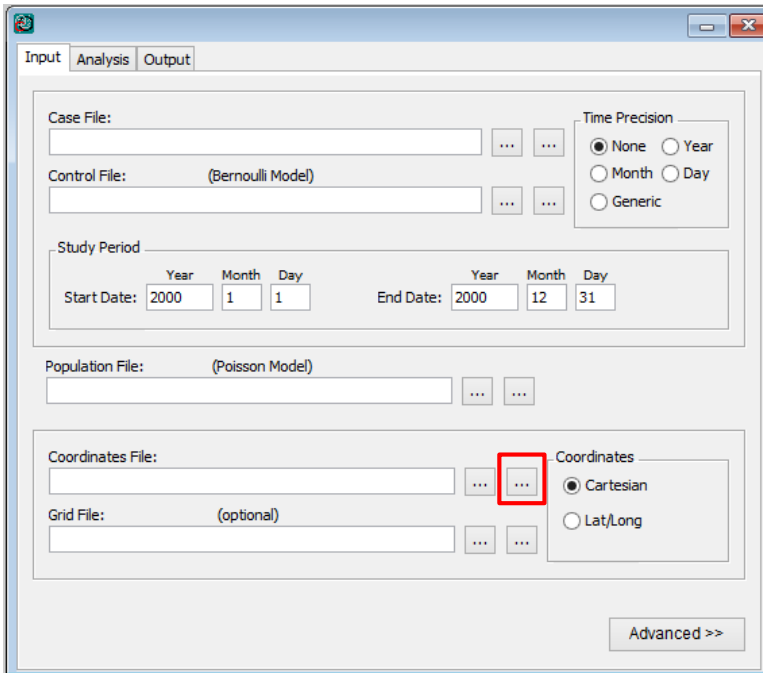
1. Download SaTScan from: <http://www.satscan.org/download.html>

Note that you need to register for one time in order to download and use it.  
(Choose the correct version according to your operating system)

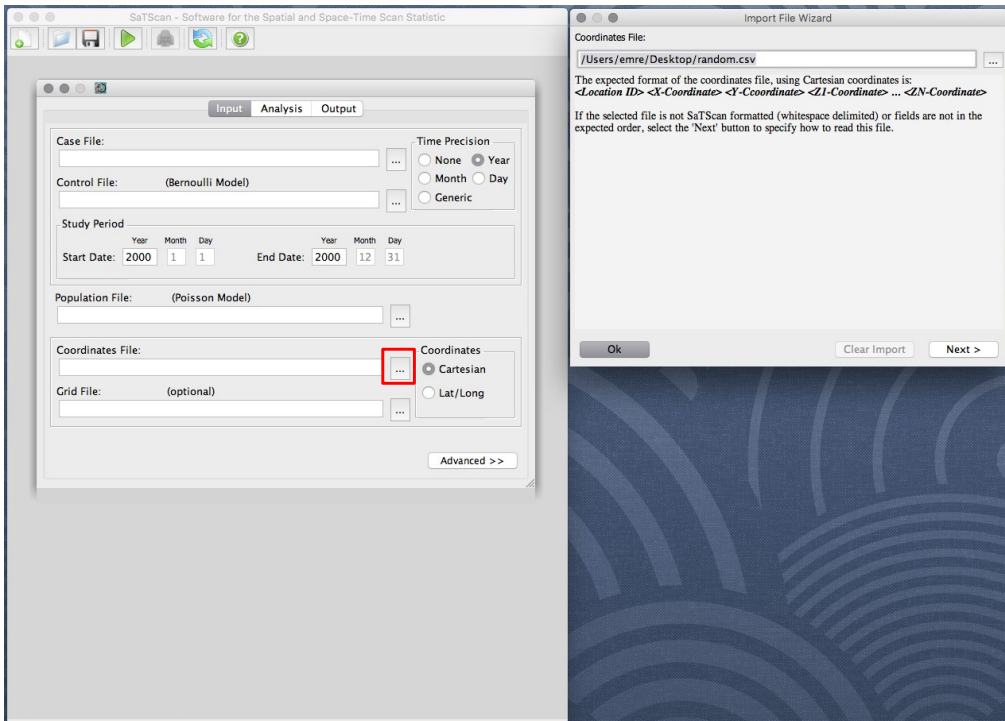
2. Open SaTScan and start a new session:



3. Import the **coordinates file** “random.csv” which is given in the lab datasets. **For Windows, use the “...” button on the right as highlighted in the following picture in order to use the import wizard. Choose Cartesian coordinates.**

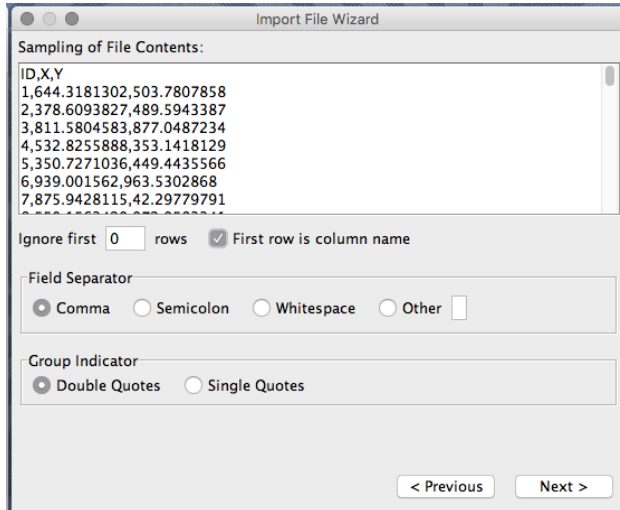


**For Linux, use the import wizard by clicking the “...” button highlighted by the red box in the following picture.**



The numbers you see might now match the ones in the following picture but should be similar.

**Check “First row is column name”.** Click “Next”.



Import File Wizard

Sampling of File Contents:

```
ID,X,Y
1,644.3181302,503.7807858
2,378.6093827,489.5943387
3,811.5804583,877.0487234
4,532.8255888,353.1418129
5,350.7271036,449.4435566
6,939.001562,963.5302868
7,875.9428115,42.29779791
```

Ignore first  rows ☒ First row is column name

Field Separator

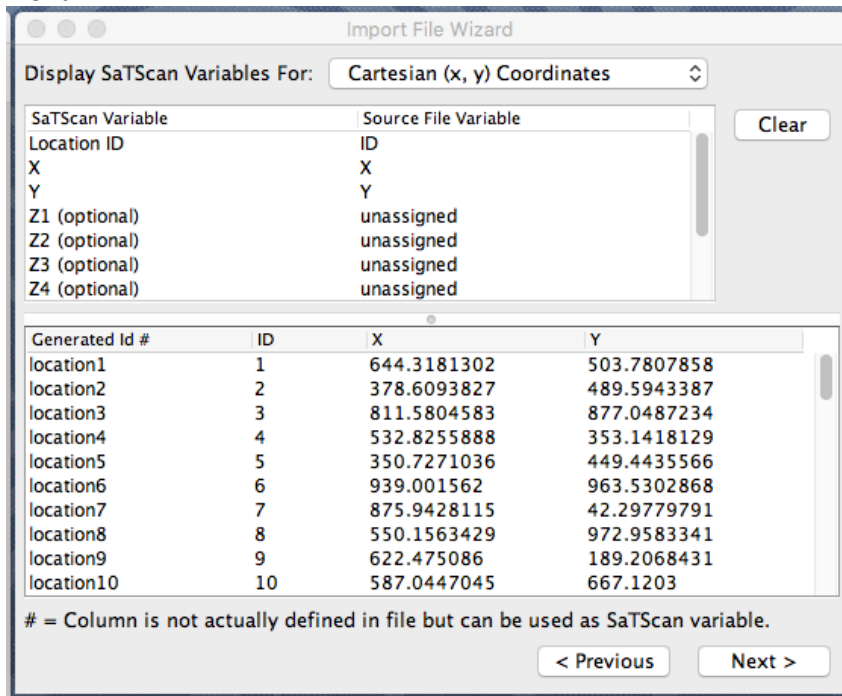
☒ Comma ☐ Semicolon ☐ Whitespace ☐ Other

Group Indicator

☒ Double Quotes ☐ Single Quotes

< Previous Next >

Choose “Cartesian (x, y) Coordinates” for “Display SatScan Variables For”. Choose “ID”, “X” and “Y” for “Location ID”, “X” and “Y” in the “Source File Variable”. Click Next.



Import File Wizard

Display SaTScan Variables For: Cartesian (x, y) Coordinates

SaTScan Variable	Source File Variable
Location ID	ID
X	X
Y	Y
Z1 (optional)	unassigned
Z2 (optional)	unassigned
Z3 (optional)	unassigned
Z4 (optional)	unassigned

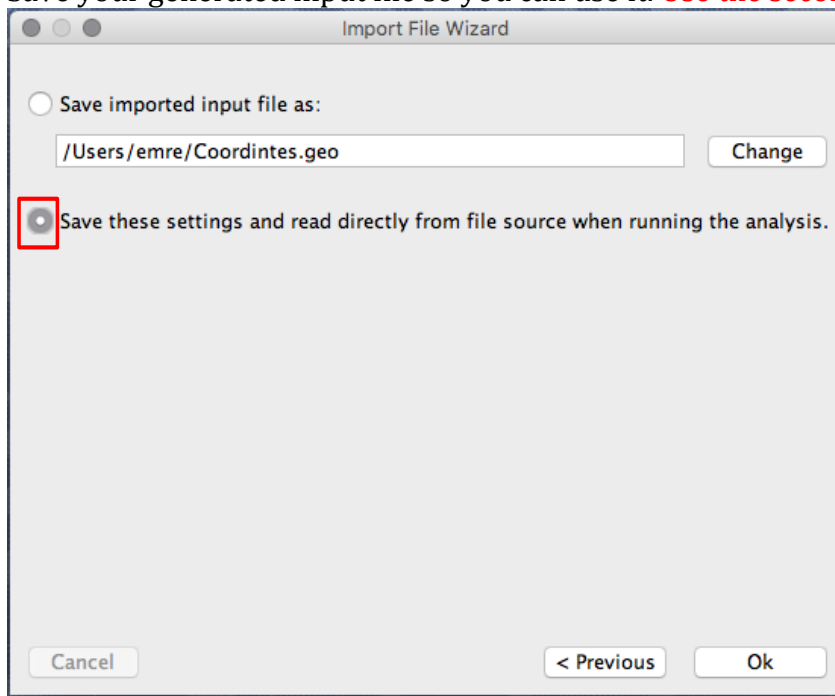
Clear

Generated Id #	ID	X	Y
location1	1	644.3181302	503.7807858
location2	2	378.6093827	489.5943387
location3	3	811.5804583	877.0487234
location4	4	532.8255888	353.1418129
location5	5	350.7271036	449.4435566
location6	6	939.001562	963.5302868
location7	7	875.9428115	42.29779791
location8	8	550.1563429	972.9583341
location9	9	622.475086	189.2068431
location10	10	587.0447045	667.1203

# = Column is not actually defined in file but can be used as SaTScan variable.

< Previous Next >

Save your generated input file so you can use it. Use the second option (in red box).



The image shows a 'Import File Wizard' dialog box with a light gray background and a dark gray title bar. The title bar contains three window control buttons (red, yellow, green) on the left and the text 'Import File Wizard' in the center. The main area of the dialog contains two radio button options. The first option is 'Save imported input file as:', followed by a text field containing the path '/Users/emre/Coordintes.geo' and a 'Change' button to its right. The second option is 'Save these settings and read directly from file source when running the analysis.', which is highlighted by a red rectangular box. At the bottom of the dialog, there are three buttons: 'Cancel' on the left, '< Previous' in the center, and 'Ok' on the right.

Import File Wizard

☐ Save imported input file as:

/Users/emre/Coordintes.geo Change

☒ Save these settings and read directly from file source when running the analysis.

Cancel < Previous Ok

4. For Analysis Tab, choose continuous Poisson distribution and click the “...” button highlighted by the red box to add geographical boundaries (polygon) which defines your study area. Use the values given in the screen shot to create the polygon.

The image shows two windows from a software application. The top window is the 'Analysis' tab, and the bottom window is the 'Polygons' dialog box.

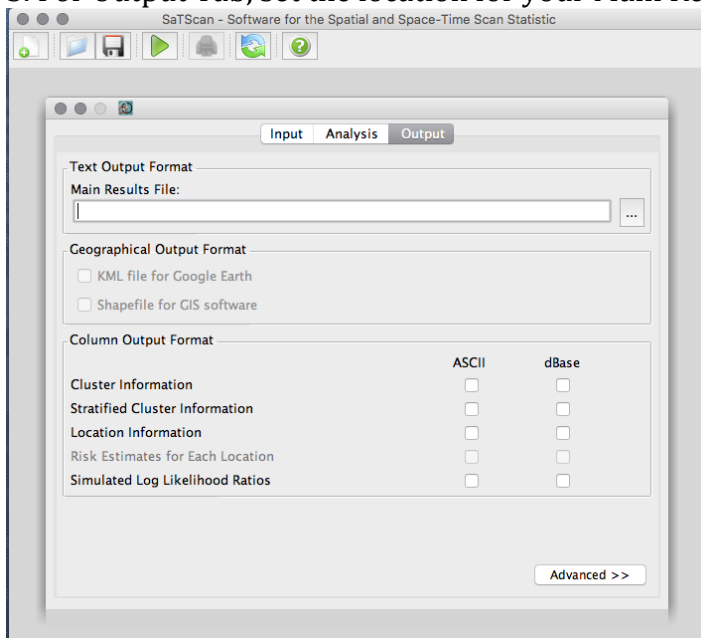
**Analysis Tab:**


- Type of Analysis:**
  - Retrospective Analyses:
    - ☒ Purely Spatial
    - ☐ Purely Temporal
    - ☐ Space-Time
    - ☐ Spatial Variation in Temporal Trends
  - Prospective Analyses:
    - ☐ Purely Temporal
    - ☐ Space-Time
- Probability Model:**
  - Discrete Scan Statistics:
    - ☐ Poisson
    - ☐ Bernoulli
    - ☐ Space-Time Permutation
    - ☐ Multinomial
    - ☐ Ordinal
    - ☐ Exponential
    - ☐ Normal
  - Continuous Scan Statistics:
    - ☒ Poisson
    - ☐ ... (highlighted with a red box)
- Scan For Areas With:**
  - ☒ High Rates
  - ☐ Low Rates
  - ☐ High or Low Rates
- Time Aggregation:**
  - Units: ☒ Year
  - ☐ Month
  - ☐ Day
  - Length: 1 Years

**Polygons Dialog Box:**

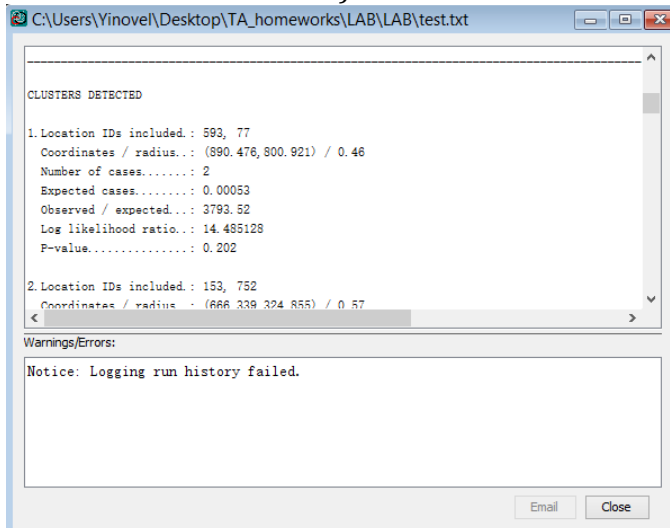
- Bounding Regions:**
  - Polygons:**
    - Polygon 1
    - 
    -
  - Polygon 1 Inequalities:**
    - Y >= 0
    - Y <= 1000
    - X >= 0
    - X <= 1000
    - 
    -
- Inequality Editor:**
  - 1 X <= 0 X + 1000
-

5. For Output Tab, set the location for your Main Result File. Save it as “.txt” file.



6. Now everything should be ready to go. Click the “Execute session”  button to perform the analysis.

After session is completed, you should see a summary like (may not be the same due to different dataset used):



Do not worry about the “Logging run history failed” warning if seen.