Dynamic Segmentation

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Monterey Peninsula College

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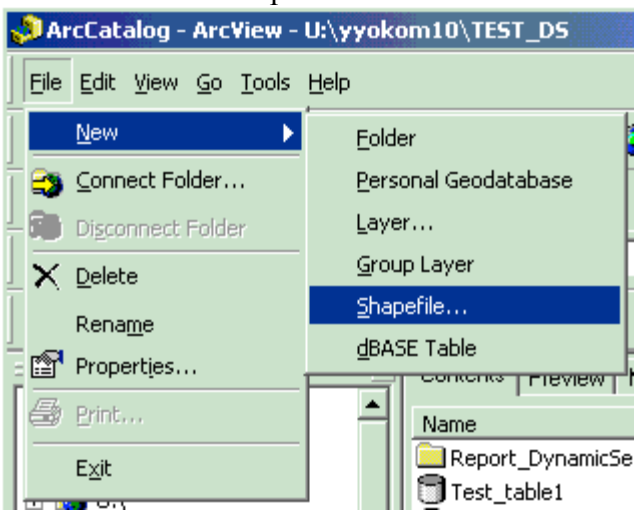
(Based on procedures developed in D. Wright's Davey Jones' Locker Lab,
Oregon State University)

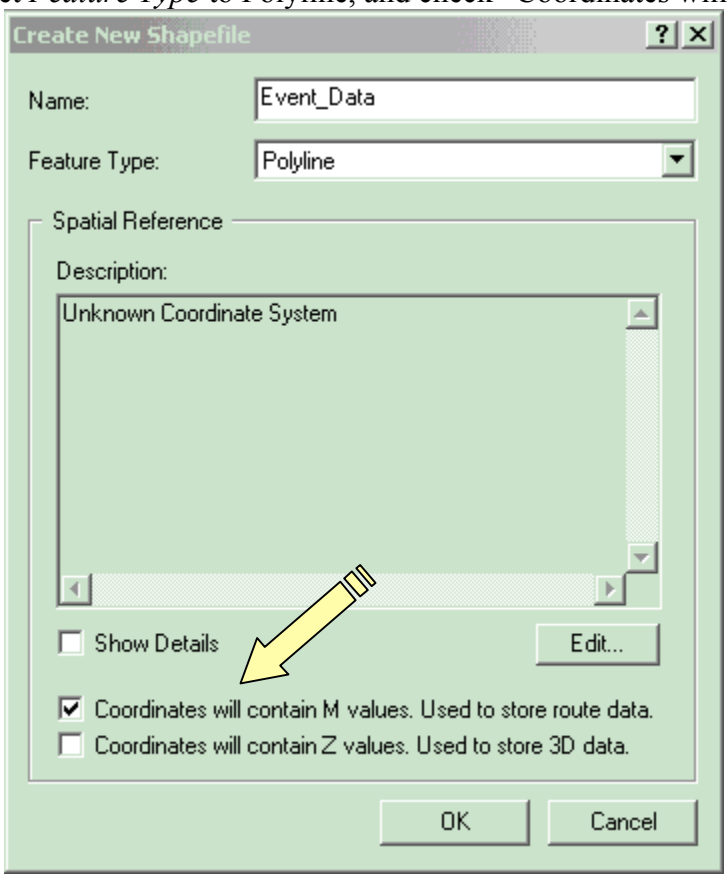
1. How to make a line feature (PolylineM) to use for Dynamic Segmentation

   a) Go to ArcCatalog

   b) "File" – "New" – "Shapefile"

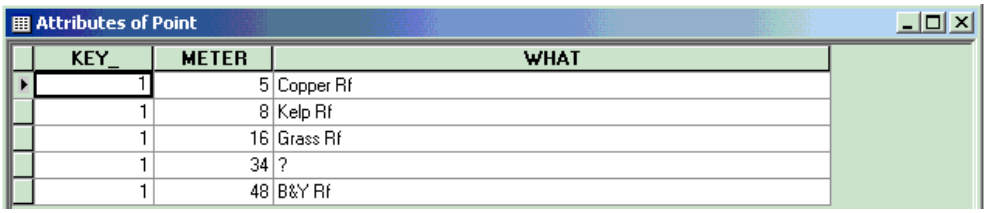


   c) Set *Feature Type* to Polyline, and check "Coordinates will contain M values…"



2. Make a tabular file for the events (Text, Database file, etc…)

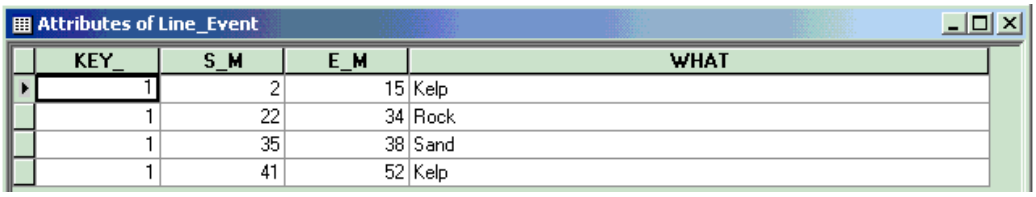
   a) If you want to add Point data to the line you will need an ID field and 1 measurement field



Attributes of Point

KEY_	METER	WHAT
1	5	Copper Rf
1	8	Kelp Rf
1	16	Grass Rf
1	34	?
1	48	B&Y Rf

   b) If you want to code events along a line you will need an ID field and 2 measurement fields with the start and end measure for that event.



Attributes of Line_Event

KEY_	S_M	E_M	WHAT
1	2	15	Kelp
1	22	34	Rock
1	35	38	Sand
1	41	52	Kelp

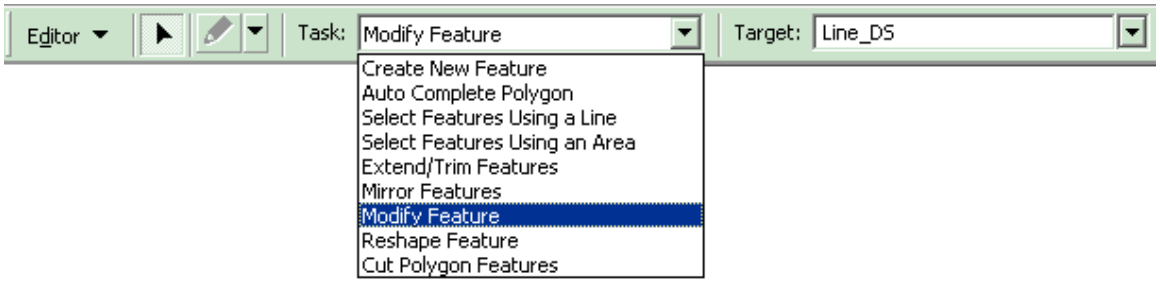
3. Add the PolylineM shapefile to the map document and draw in the new line features.

4. Add the event tabular data files to the map

5. Put measurement to the lines

   a) Manual method

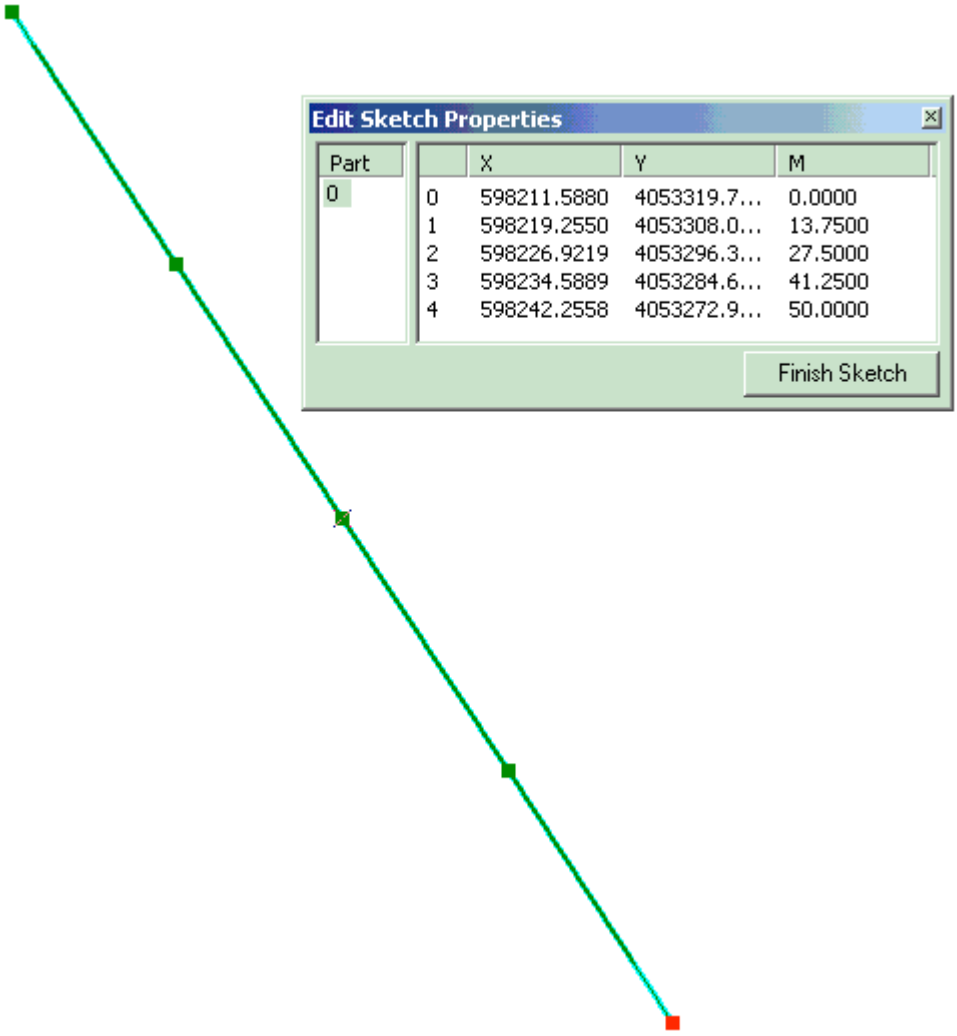
      i. Start Editing and change the task to “Modify Feature”



      ii. Select the line you drew in the PolylineM layer then right click on the line you selected. Then you see this menu.

iii. Open the Properties dialog box

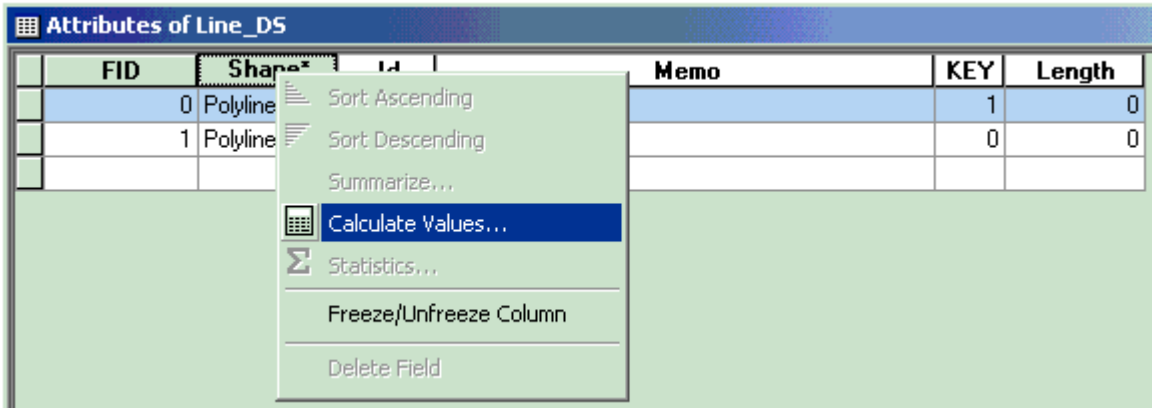
Now, you see the properties for each vertex. You should have “NaN” in your M field initially. Then you can assign the M value in the properties by yourself.



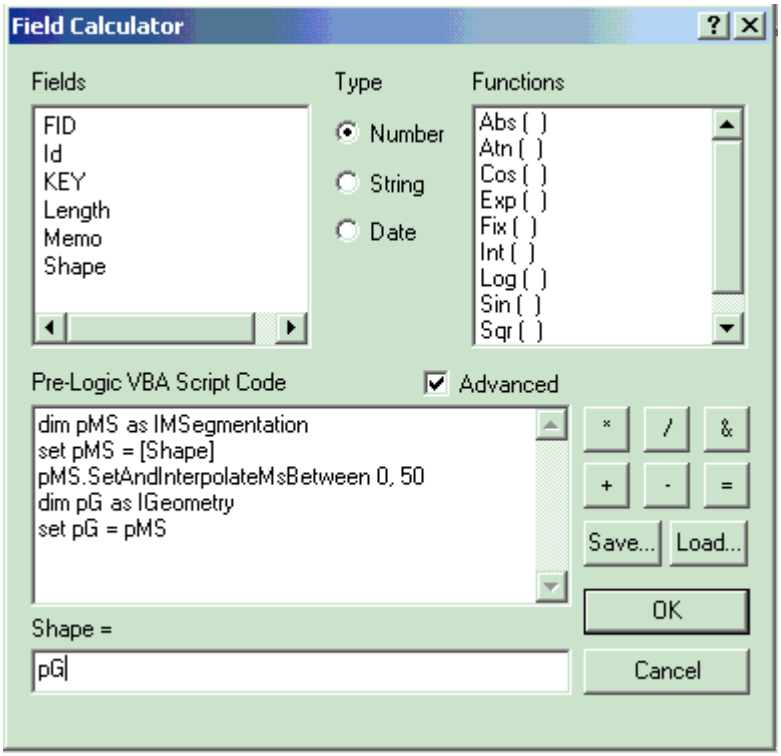
b) Auto

If you have many lines and lots of vertexes, and you don't know the measurements for each vertex, you can use "Field calculator" to assign the measurements automatically.

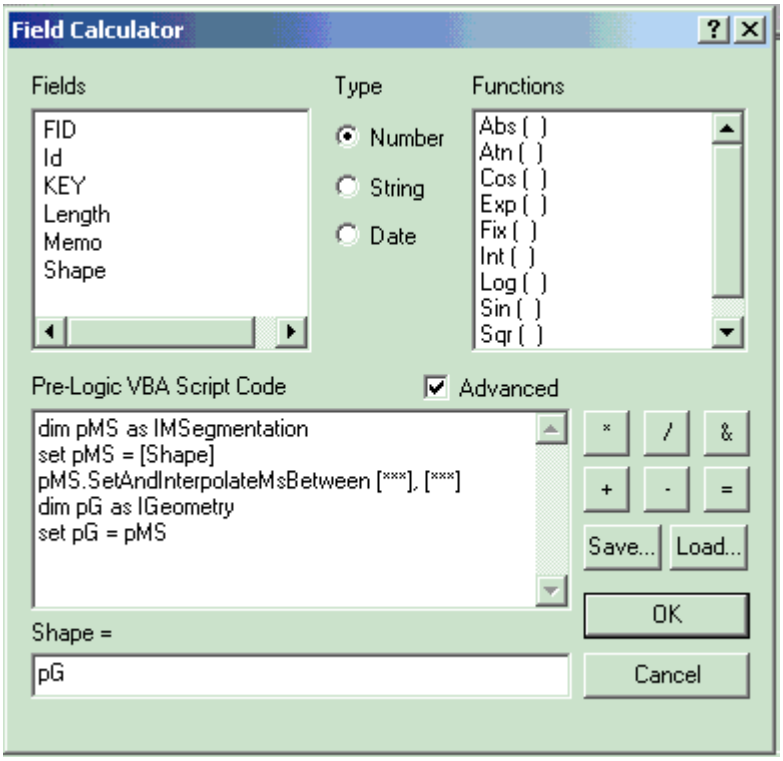
i. Open the polylineM attribute table. And right click on the field of "Shape". Then chose "Calculate Values".



ii. In this "Field Calculator", put a check on the "Advanced" box. Then type the VBA statements as shown in the example. The two numbers after the sentence "SetAndInterpolateMsBetween" are the measurements. You can change to any number you want. However, in this case, you will assign the same measurement to all the lines. If you want to put a different measurement to the lines, you should change the sentence. (go to iii)



iii. If your lines have a variety of lengths, then you should change the sentence to this.

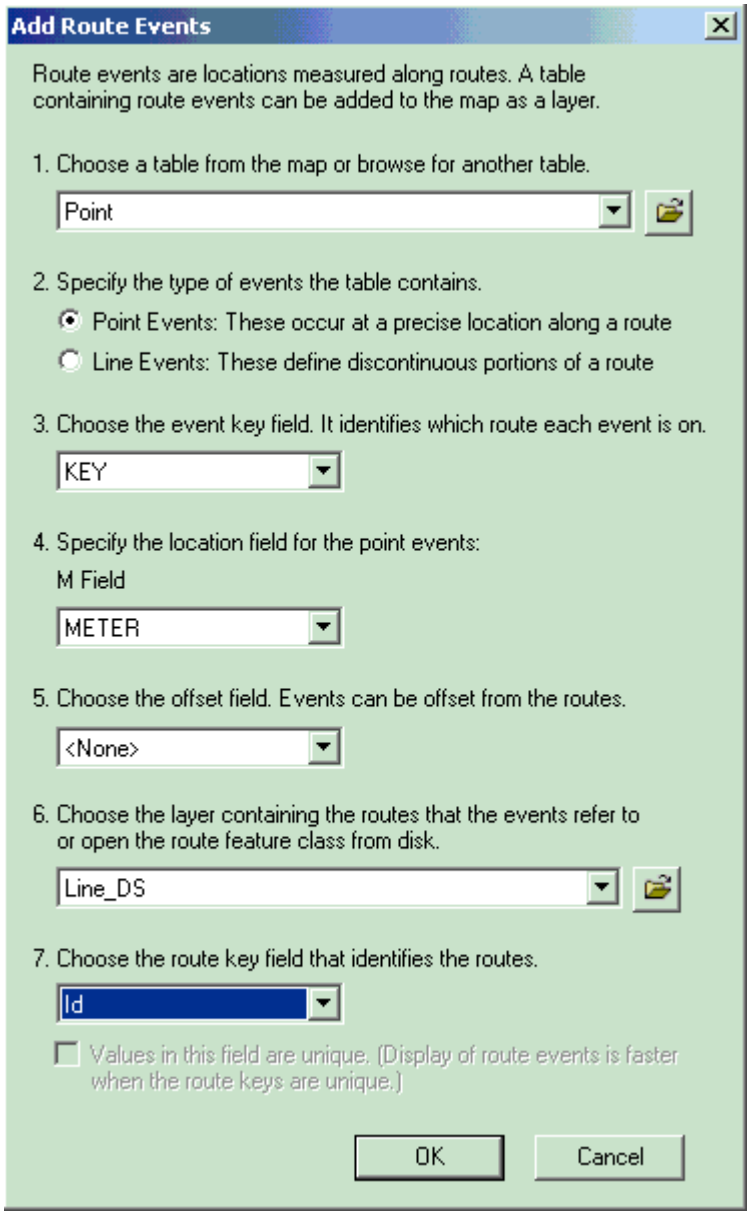


After the sentence “SetAndInterpolateMsBetween”, you should write your field name instead of “***”. The first field must contain the beginning of measurement of the line, and second one must contain the end of measurement of the line. So you should have those data in your attribute table.

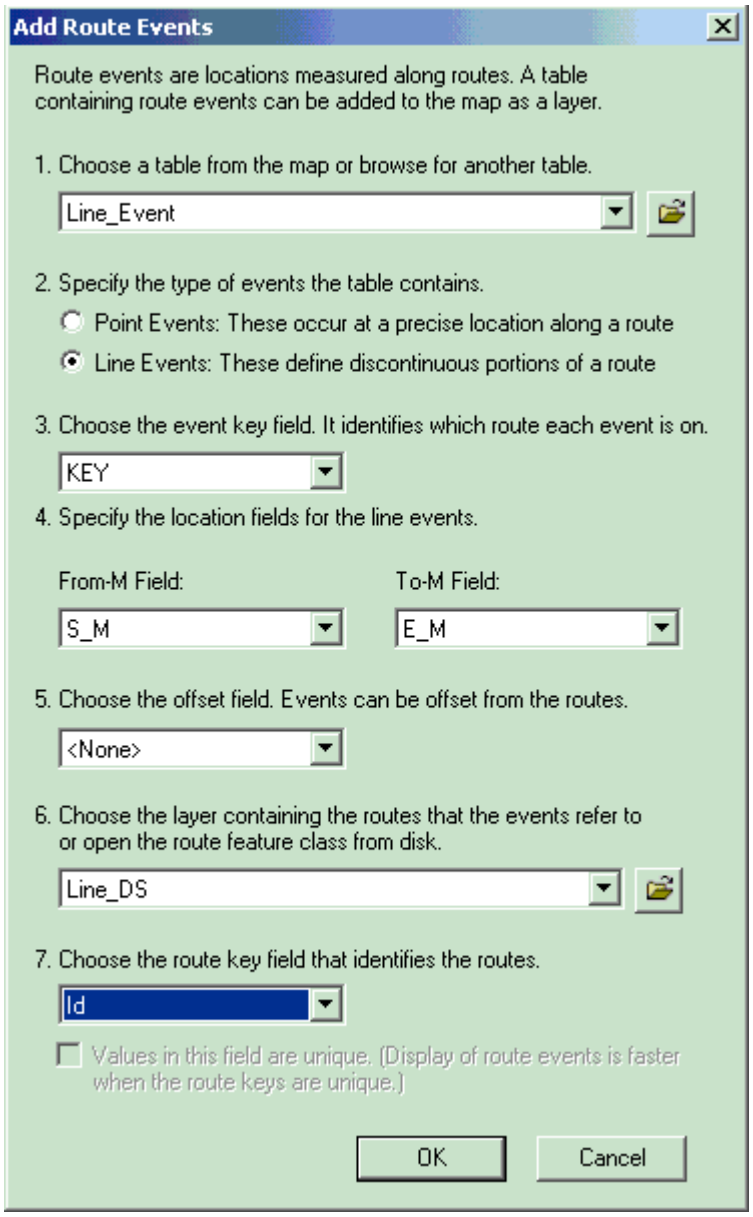
6. Make “Route Event”

a) Finally you can make the “Route Event”. Go to “Tool”- “Add Route Events”

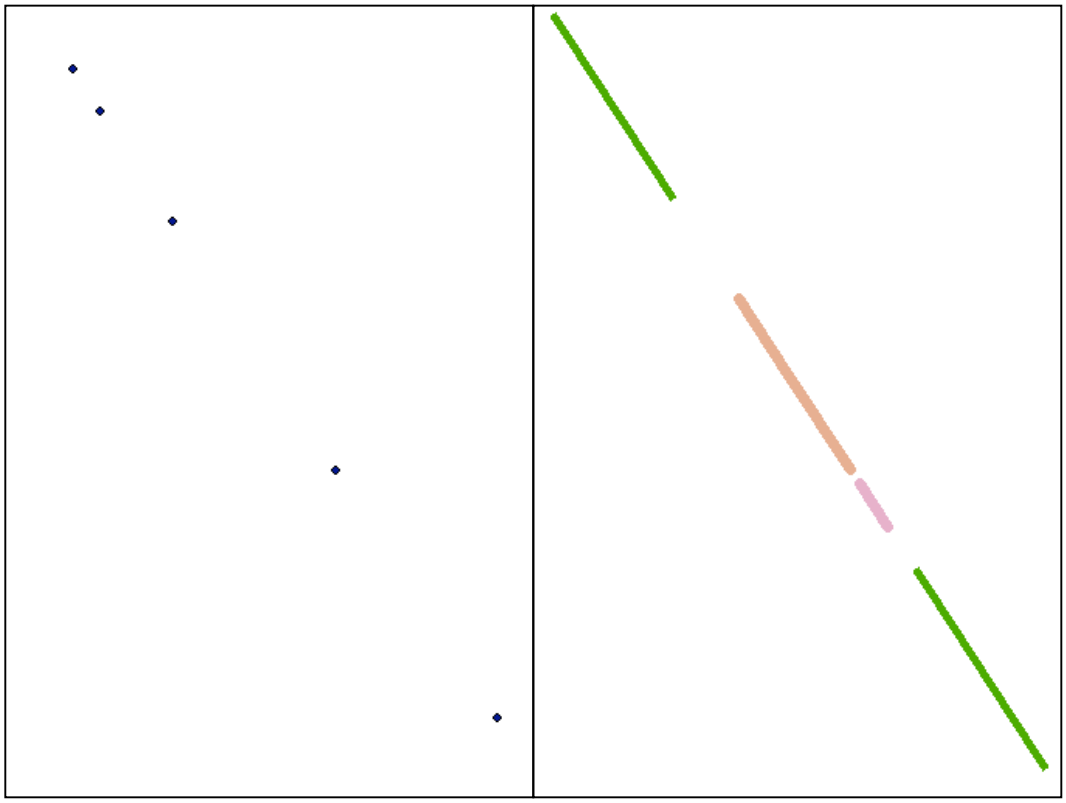
i. This is the example for “Point Events” setting.



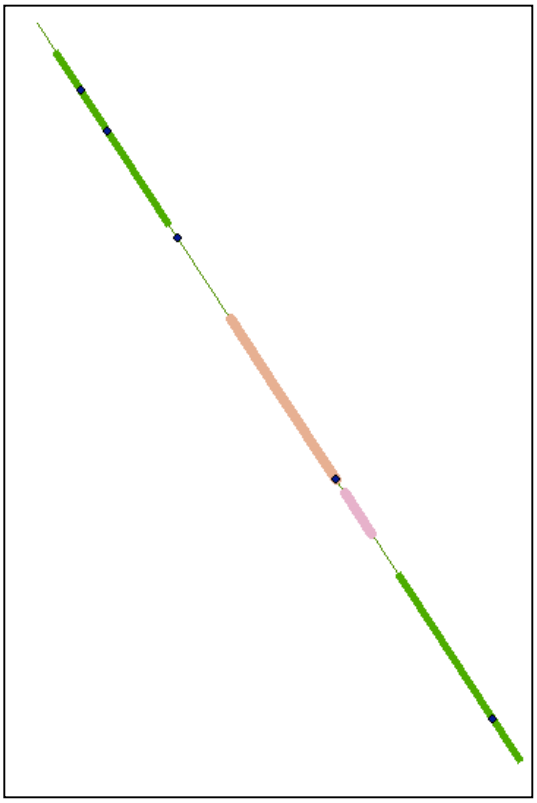
ii. This is the example for “Line Events”



b) The “Route Events” samples

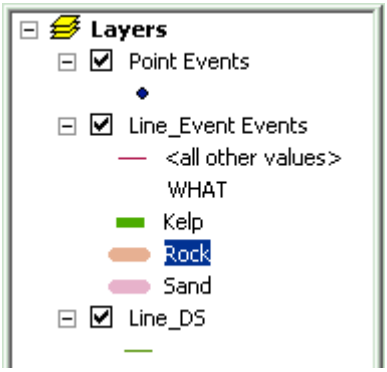


Point Event Line Event



Line and Events

c) When you made the “Route Event”, there is “Events theme” in the Layer bar



You can change symbols.

7. Update the data

   You can update the date using the original data files. Just change the data outside ArcView, and then refresh the map. You can change the event dynamically.