

Getting New Data with Vectorization

SuperMap Software Co., Ltd.



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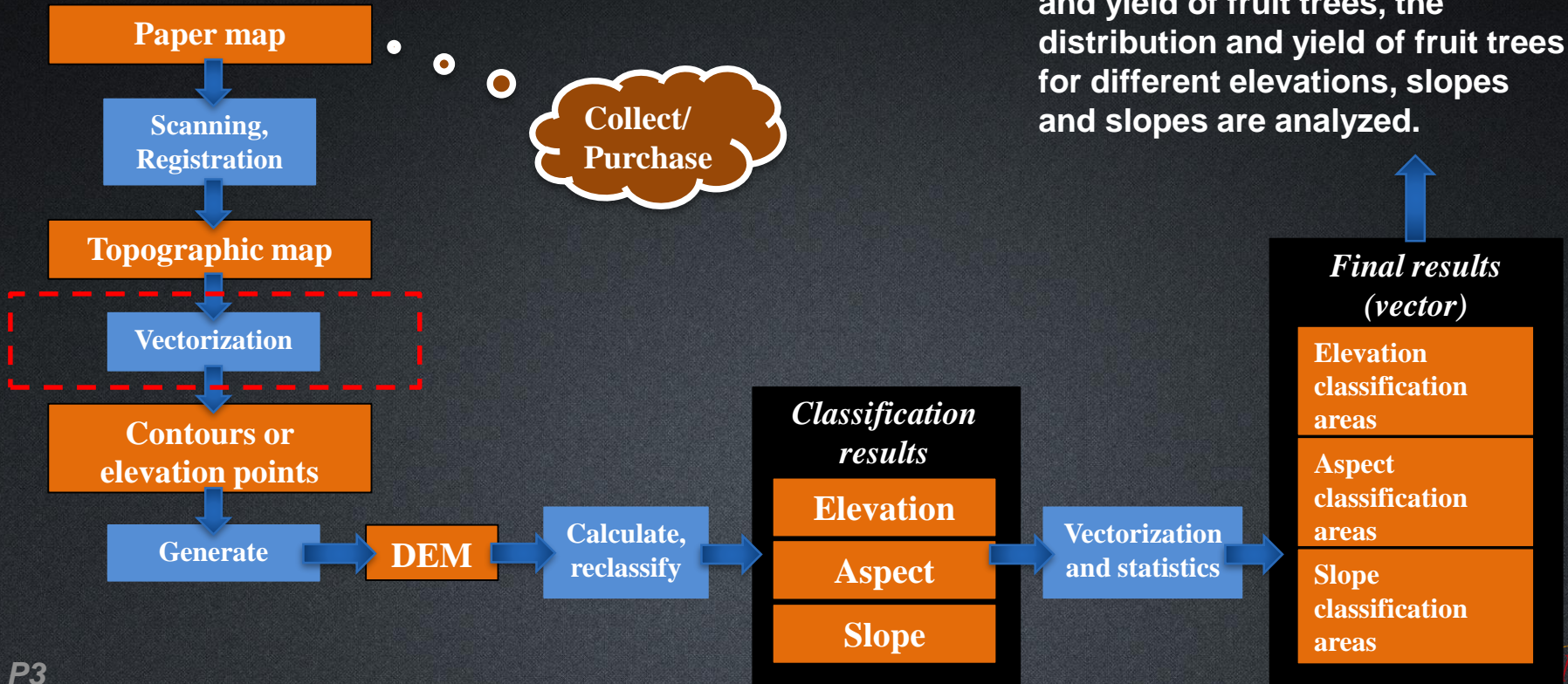
Scenario

A certain fruit grower wants to know the elevation, slope, and aspect distribution of the fruit planting area and the areas of different levels of elevation, slope and aspect, so as to better understand the growth environment of different fruit trees and increase the yield of the fruit trees.

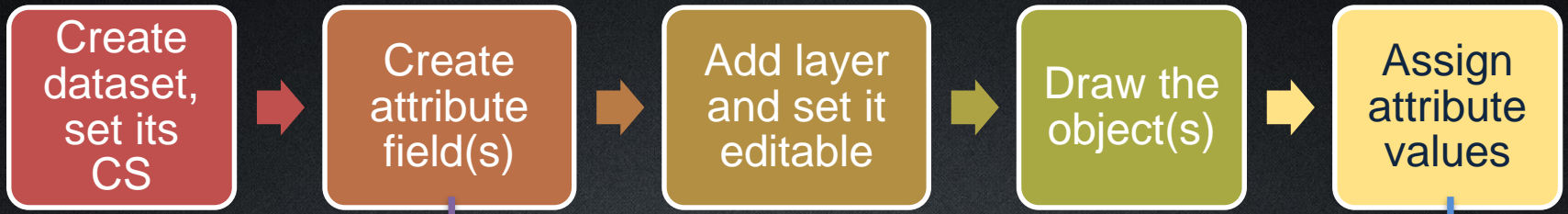
If this project is handed over to you, how can you solve it?



Tackling the Scenario



Vectorization Steps

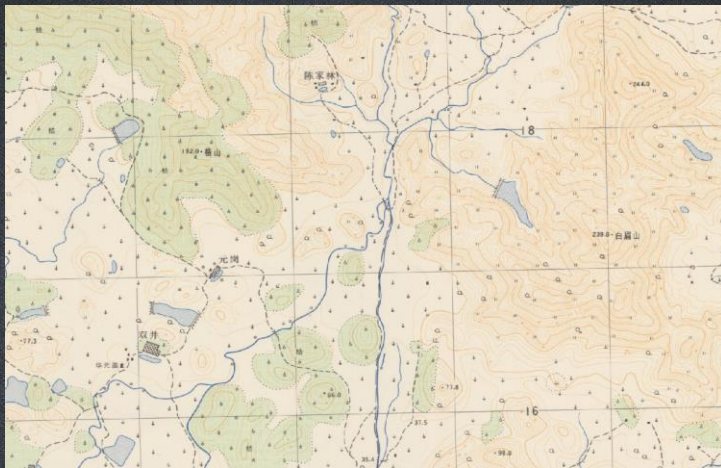


	Name	Alias	Type	Length	Default	Requi...
1	*SmID	SmID	Int	4		Yes
2	*SmX	SmX	Double	8	0	Yes
3	*SmY	SmY	Double	8	0	Yes
4	*SmLibTileID	SmLibTileID	Int	4	1	No
5	SmUserID	SmUserID	Int	4	0	Yes
6	*SmGeomet...	SmGeometr...	Int	4	0	No
7	*SmGeoPosi...	SmGeoPosit...	Long	8	-1	Yes
8	Altitude	Altitude	Single	4		No

Field Alias	Value
SmUserID	0
Altitude	244.0

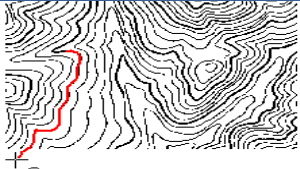
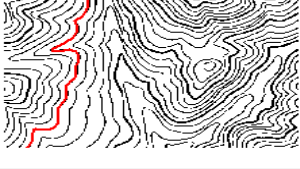
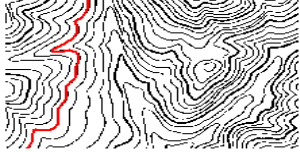
Contour Line Characteristics

- The elevation values of all points on the same contour line are the same;
- The contour interval is the same for the entire map;
- Contour lines are closed curves, but not necessarily completely closed on one map;
- Except steep cliffs, contours of different altitudes do not intersect, coincide, branch, nor interrupt in the figure.



Contour Line Vectorization -- Vectorize Lines

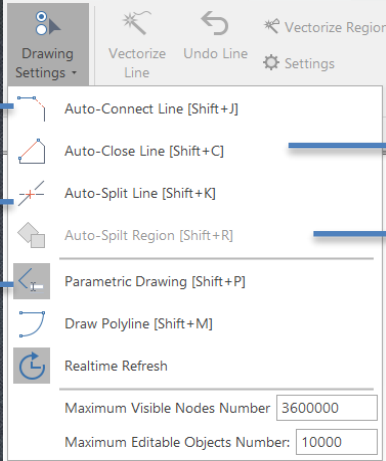
Object Operations → Vectorization → Vectorize Line

Description	Demo graph
<p>1: Move the mouse to the line that needs to be tracked, and click the left mouse button to start drawing the line. Line tracking will stop when the end of the line is reached.</p>	
<p>2: Click the right mouse button to perform reverse vectorization drawing. When another endpoint is encountered, the vectorization will finish.</p>	
<p>3: Click the right mouse button again to exit and get the drawn line object.</p>	

Contour Line Vectorization -- Auto-Close Line

- A contour line is a closed curve, and the Auto-Close Line option can be enabled while drawing contours with the Polyline option.
- When the contours are not closed at frame edges, the Auto-Close Line option needs to be disabled during vectorization.

Object Operations → Drawing Settings



The screenshot shows the 'Drawing Settings' menu with the following items and their corresponding annotations:

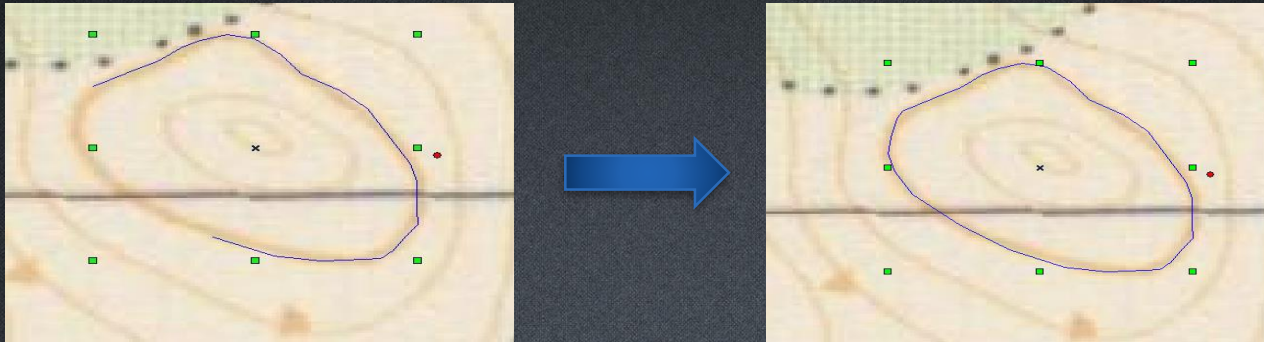
- Auto-Connect Line** (indicated by a blue arrow pointing left to the 'Auto-Connect Line [Shift+J]' option)
- Auto-Close Line** (indicated by a blue arrow pointing right to the 'Auto-Close Line [Shift+C]' option)
- Auto-Split Line** (indicated by a blue arrow pointing left to the 'Auto-Split Line [Shift+K]' option)
- Auto-Split Region** (indicated by a blue arrow pointing right to the 'Auto-Split Region [Shift+R]' option)
- Parametric Drawing** (indicated by a blue arrow pointing left to the 'Parametric Drawing [Shift+P]' option)

At the bottom of the menu, there are two input fields:

- Maximum Visible Nodes Number: 3600000
- Maximum Editable Objects Number: 10000

Contour Line Vectorization -- Auto-Close Line

- While vectorizing contour lines, we can enable the Auto-Close Line option in case the contour lines may be disconnected due to wrong operations.



Notices for Contour Line Vectorization

- Except in special cases, the contours should not be interrupted on the map
- Contour vectorization can start with contour lines with annotations. We can annotate the elevation value after vectorizing a contour line
- When the quality of the terrain map is not good (multiple colors exists for instance), then auto track will not work during vectorization
- Both quality and efficiency should be considered for vectorization

Thank You!



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