

## Level 1 Rectangular Koch Island

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This page lists the co-ordinates for the level 1 rectangular/quadric Koch island. Chris Brown generated the co-ordinates for various levels of this teragon using the *lsys* program written by John Leech (published in Prusinkiewicz and Lindenmayer, 1990). This data was used by:

1. Visvalingam and Brown (1999) for suggesting that point reduction algorithms, such as those by Douglas-Peucker, Ramer and Visvalingam could be regarded as geometric deconstructors.
2. Visvalingam and Herbert (1999) for studying the behaviour of the Bendsimplify algorithm.
3. Visvalingam, M (1999) for exploring cognitive processes involved in manual generalisation of polylines.
4. Visvalingam (2015) who demonstrated that teragons could be used to test implementations of point reduction algorithms, including Visvalingam's algorithm.

You are free to use the data listed here. Please:

1. Include the statement ***Chris Brown generated the data for the level 1 Koch island using the lsys program written by John Leech (published in Prusinkiewicz and Lindenmayer, 1990)*** in the acknowledgement section of any report or publication
2. Include a link to this page for the benefit of others.  
<https://hydra.hull.ac.uk/resources/hull:9040>

### References

Prusinkiewicz, P and Lindenmayer, A (1990) **The Algorithmic Beauty of Plants**, Springer, New York.

Visvalingam, M and Brown, C I, (1999) "The Deconstruction of Teragons into Decogons", **Computers & Graphics** **23** (1), 155 – 167

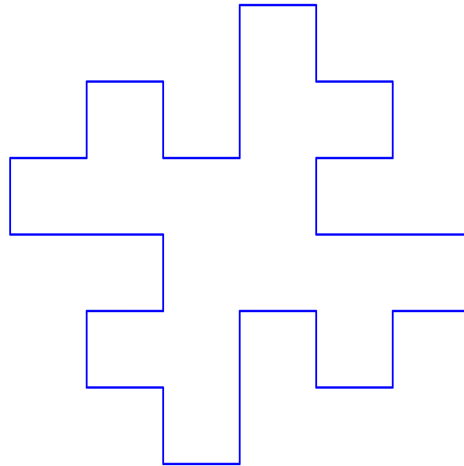
Visvalingam, M and Herbert, S P (1999) "A Computer Science Perspective on the Bendsimplify Algorithm", **Cartography and Geographical Information Systems**, 253 - 270.  
<https://hydra.hull.ac.uk/resources/hull:13652>

Visvalingam, M (1999) "Deconstruction of fractals and its implications for cartographic education", **The Cartographic J** **36** (1), 15 – 29. <https://hydra.hull.ac.uk/resources/hull:11211>

Visvalingam, M (April 2016) "Geometric data for testing implementations of point reduction algorithms : case study using Mapshaper v 0.2.28 and previous versions" , **Explorations in Digital Cartography Discussion Paper 4**, University of Hull, 25 pp.  
<http://hydra.hull.ac.uk/resources/hull:13115>

## Output from Visvalingam's algorithm

Source: Visvalingam (2016)



X	Y	EA
0	0	9.00
0	1	0.50
1	1	-0.50
1	2	-2.00
0	2	0.00
-1	2	2.00
-1	3	0.50
0	3	-0.50
0	4	8.00
1	4	0.50
1	3	-0.50
2	3	-2.00
2	4	0.00
2	5	2.00
3	5	0.50
3	4	-0.50
4	4	8.00
4	3	0.50
3	3	-0.50
3	2	-2.00
4	2	0.00
5	2	2.00
5	1	0.50
4	1	-0.50
4	0	8.00
3	0	0.50
3	1	-0.50
2	1	-2.00
2	0	0.00
2	-1	2.00
1	-1	0.50
1	0	-0.50
0	0	9.00

### KEY

**X & Y** Co-ordinates  
**EA** Visvalingam's Effective Area