Thirty-Nine Aegean Sites

T.S.Evans,
Theoretical Physics, Physics Department,
and Complexity and Networks Programme
Imperial College London,
South Kensington campus,
London,
SW7 2AZ,
UK

13th November 2012
DOI: 10.6084/m9.figshare.97395

These are the 39 sites used in a series of papers by T.S.Evans, C.Knappett and R.J.Rivers. They represent major centres in the Middle Bronze age of the Aegean (era of Minoan civilisation). Earlier papers used sites 1 – 34 inclusive in terms of the numbers assigned to the sites in our work and given in these files. There are two files.

aegean39sites.*

Gives the properties of the sites as we have assigned them, including names (upper and lower case, no spaces or commas but some full stops and dashes) positions (used for internal displays) and latitude and longitude. Sizes are a rough estimate with the description being the fundamental source and the numbers given just possible numerical representations of the descriptions.

aegean39sealand.*

This is used to construct the distance tables so the data is largely in the form of tables of source/origin and target/destination sites. The tables are all currently symmetric. The different worksheets contain different distance measurements. We found the best route in our estimation taking account of islands in the way, mountains etc. The raw distances in km along these routes is given in two parts, total sea and total land portions, listed in the separate tables under the aegean39se and aegean39land worksheets. These were estimated by hand and using google maps/earth exploiting any local knowledge we have. I don't imagine they are accurate to more than 5%-10% but we felt this was good enough. A full GIS approach would produce more accurate distances in terms of modern geography but we were unsure all that work would improve any final conclusions in any way. The land and see are combined with frictional coefficients (typically Seas fs=1, Land fl=1,2, or 3, see the S1L1, S1L2, S1L3 worksheets) to produce a final effective distance in km. That is we have effective distance = fs * (sea distance) +fl * (land distance) . Our older papers use the data on the worksheet aegean34old.

Sources

For more details see http://netplexity.org/?page_id=54 .

Some of this data is given in the appendix of supplementary material in

Evans, T.S.; Rivers, R.J. & Knappett, C.
Interactions In Space For Archaeological Models
Advances in Complex Systems, 2012, 15, 1150009 [arXiv:1102.0251]
http://dx.doi.org/10.1142/S021952591100327X

The earliest paper using all 39 sites was:

Knappett, C.; Evans, T.S. & Rivers, R.J.
The Theran eruption and Minoan palatial collapse: new interpretations gained from modelling the maritime network
Antiquity, 2011, 85, 1008-1023
http://antiquity.ac.uk/ant/085/ant0851008.htm

The original papers setting out the programme were

Knappett, C.; Evans, T.S. & Rivers, R.J.
Modelling Maritime Interaction In The Aegean Bronze Age
Antiquity, 2008, 82, 1009-1024
http://antiquity.ac.uk/ant/082/318/default.htm

and

Evans, T.S; Knappett, C. & Rivers, R.J.
Using Statistical Physics To Understand Relational Space: A Case Study From Mediterranean Prehistory in Complexity Perspectives on Innovation and Social Change, Lane, D.; Pumain, D.; van der Leeuw, S. & West, G. (ed.)
Springer, 2009, 7, 451-479
DOI: 10.1007/978-1-4020-9663-1