

Creating an IGCP 509 / 648 Time-Space Correlation Chart

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Contents

Introduction	2
Software required	2
Creating a Time-Space Correlation Chart in ArcGIS	2

Introduction

The procedures, general methodology and symbology used for correlation charts was initially developed for the IGCP 509 project and continues for the IGCP 648 project. Similar symbology is applied in the latter project for the construction of GIS maps which illustrate geodynamic or depositional settings.

Software required

Data for the construction of time-space correlation charts may be downloaded from the StratDB web interface. Output is currently in the form of formatted Excel spreadsheets for semi-automatic importing into ARCGIS.

Users will need a licensed copy of MicroSoft Access and of ESRI ArcGIS. The free ArcGIS plugin component [ET Geo Wizards](#) should be installed in ArcGIS if you plan to follow the specific procedures in this document although equivalent routines are available in the ESRI ArcToolbox.

Alternative formats for more automated importing to GIS packages are planned for the future, so as to avoid the need for MicroSoft Access and ArcGIS.

Creating a Time-Space Correlation Chart in ArcGIS

1. Download a copy on an existing ESRI-compatible correlation chart project file from the StratDB or IGCP 648 website and store it in an appropriate folder. This file provides a standardized layout for charts which you may modify to suite your own preferences.
2. Download a copy of the IGCP 648 style sheet from the StratDB or IGCP 648 website and store it in an appropriate folder. This style sheet defines the colours and patterns to symbolize the charts in a uniform manner.

3. Download a copy of an existing ESRI personal geodatabase file (a specialized version of a Microsoft Access .MDB database) and store it in a new \Data sub-folder under the previously defined folder.
4. Download the various spreadsheets needed for your chart, depending on what you plan to illustrate on the chart.
5. Using Microsoft Access, import each spreadsheet into the .MDB database, overwriting the appropriate pre-existing tables (names should be obvious).
6. Using ESRI ArcCatalog, convert various of the tables in the personal geodatabase to point featureclasses. By convention, these have XY preceding the previously defined table name. Ensure that all featureclasses are defined as World Mercator so as to ensure that X and Y dimensions have the same units (effectively these would be in metres).
7. Start a new, temporary ESRI ArcMap project and add all the point featureclasses that need to be converted to polygon or polyline featureclasses. Using ET GeoWizards, convert various of the point featureclasses to polygon or polyline featureclasses.
8. Once completed, close the temporary ArcMap project file and open the correlation chart project file. Depending on the number of domains in the chart and the age range on the Y axis, one may need to either zoom in or zoom out to fit. One may also need to change the X and Y page dimensions to match the printer/plotter and the chart dimensions.
9. Check that all featureclasses that should be visible are visible. Some versions of ArcMap seem to have problems in creating polygon or polyline featureclasses from point featureclasses, in which case they often do not display at all. If this problem is encountered, run a geometry check and repair, using the appropriate ArcToolbox menu item.
10. Iterate through each of the featureclasses in your project, updating the styles used. Note that ArcMap does not automatically update the implemented definitions. At any stage when new data are imported to the correlation chart project one needs to check that all attribute values in the source featureclasses are in fact symbolized.
11. At this stage one should have a useable time-space correlation chart which may be further refined to meet individual user needs. All featureclasses may be switched on or off in the same way as on any standard GIS map and may be interrogated in the same way as for maps. The only