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Integrated knowledge for temporal analysis - Base chronological tables, index of events and calendar conversion.

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Although studies based on spatiotemporal data require not only spatial analysis but also temporal analysis, resources for the temporal analysis are insufficient. Lack of available basic knowledge about temporal information is particularly serious. Base maps, gazetteers and geodetic system conversion are essential for spatial analysis. In the same way, base chronological tables, index of events and calendar conversion should be essential for temporal analysis. Base chronological table characterizes range and scale of temporal axis, and includes basic information such as important events and era like base map of GIS which includes shoreline and border. Index of events will be used to translate event name to position of a temporal axis. For example, Great East Japan Earthquake which is an event name translates to “2011-03-11T14:46:18+09:00” which is a position on temporal axis. Calendar conversion will be used to convert date or time between different calendar systems. For example, date of the Gregorian calendar “2011-03-11” is translated to date of the Buddhist calendar “2554-03-11”. This integrated knowledge will be supplied through clearinghouse system, and used by temporal analysis tools such as HuTime developed by H-GIS Research Group, Japan and other GIS software.