

China GIS conference, Shanghai Aug 2001



Interoperability and Distributed GIS Models

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AUSTRALIA





ECAI – the Electronic Cultural Atlas Initiative



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Electronic Cultural Atlas Initiative

Activities Community Projects Technology Participating

The Electronic Cultural Atlas Initiative is a collaborative project which combines global mapping, imagery, and texts. ECAI provides scholars and other users with a research resource based on digital technology which presents complex combinations of data from multiple disciplines visually and immediately.



2001 ECAI Conference in Sydney, Australia
**Towards an Electronic Cultural Atlas: e-Publishing
in and data interoperability in the Humanities**

**Electronic Cultural Atlas
Initiative**
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University of California,
Berkeley
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2300

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Phone: (510) 643-1529
Fax: (510) 642-9466
URL: ecai.org





Web GIS

- Server-side bitmap generation
- Client-side mapping
 - 2 tier
 - Multi-tier



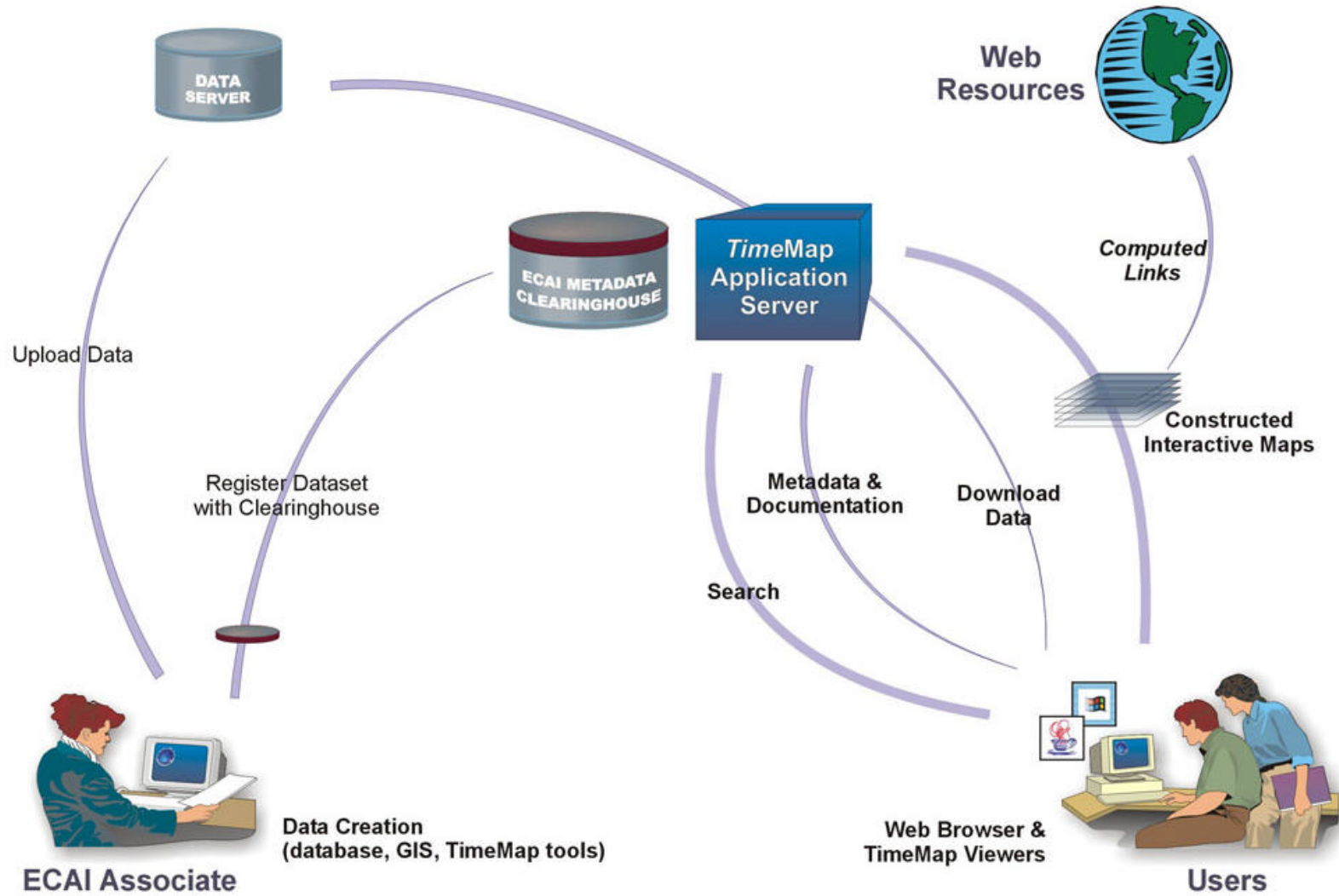


ECAI Metadata clearinghouse

- SQL server database
 - Metadata definitions
 - Descriptive metadata
 - Connection metadata
 - User information
- Advantages
 - Tight data control
 - Extensibility
 - Internet-wide accessibility
 - User authentication



What is a metadata clearinghouse?





Web editing client

The screenshot shows a web browser window displaying a metadata editing interface. At the top left, there is a logo for the 'Electronic Cultural Atlas Initiative' featuring a globe. Below the logo, the page title is 'Edit Metadata'. The main heading is 'Metadata for: Plan of Sydney and Portion of the Harbour, 1866'. On the left side, there are three buttons: 'Cancel', 'Add new entries', and 'Save and finish'. To the right of these buttons, there are instructions: 'To delete an entry: leave text fields blank; select "DELETE THIS ENTRY" in pulldown menus. Inserting a pipe symbol (|) in text will split it into multiple entries when the data is saved. To change scheme, add a new entry, and leave existing entry blank. We recommend completing as much of this form as possible before adding any extra entries needed.' Below the instructions, a message says 'Please wait while data loads.' The form contains three fields: 1. 'dc.title' with a value of 'Plan of Sydney and Portion of Harbour, 1866'. 2. 'dc.creator.CorporateName' with a value of 'Illustrated Sydney News'. 3. 'dc.subject' with a value of 'Historical Map | Sydney | 19th Century|'. Each field has a 'Help' and 'Add' button to its left.



ECAI Clearinghouse - search

- Web Browser & TMView



ECAI Clearinghouse Search Results

To draw a map, check boxes to indicate the datasets to include, then click Make Map button. Click on the name of a dataset for information about the dataset, or "www" to go to the web site, or "tpr" to download the associated TimeMap project file..

Key (🔑) indicates password required.

- [www](#) 2: [Electronic Cultural Atlas Initiative \(ECAI\) Home Page](#)
- [www](#) 3: [University of Sydney School of Archaeology, Home Page](#)
- [www](#) 6: [Australian Centre for the Asian Spatial Information and Analysis Network \(ACASTAN\)](#)
- 8: [Historic photos \(20th C\) of Sydney including many oblique air photos from 1930s](#)
- [www](#) 9: [Chinese Biographical Database maintained by Marilyn Levine](#)
- [www](#) 26: [National Archaeological Database \(NADB\) Reports \[USA\]](#)
- [🔑](#) 45: [Household data for The Rocks 1865](#)
- [🔑](#) 48: [Stein's photographs of archaeological sites, early 1900s](#)
- [🔑](#) 60: [Getty Thesaurus of Geographic Names \(TGN\)](#)
- 61: [Sydney local government areas](#)





Drill-down into data

ECAI/TimeMap Clearinghouse Browser

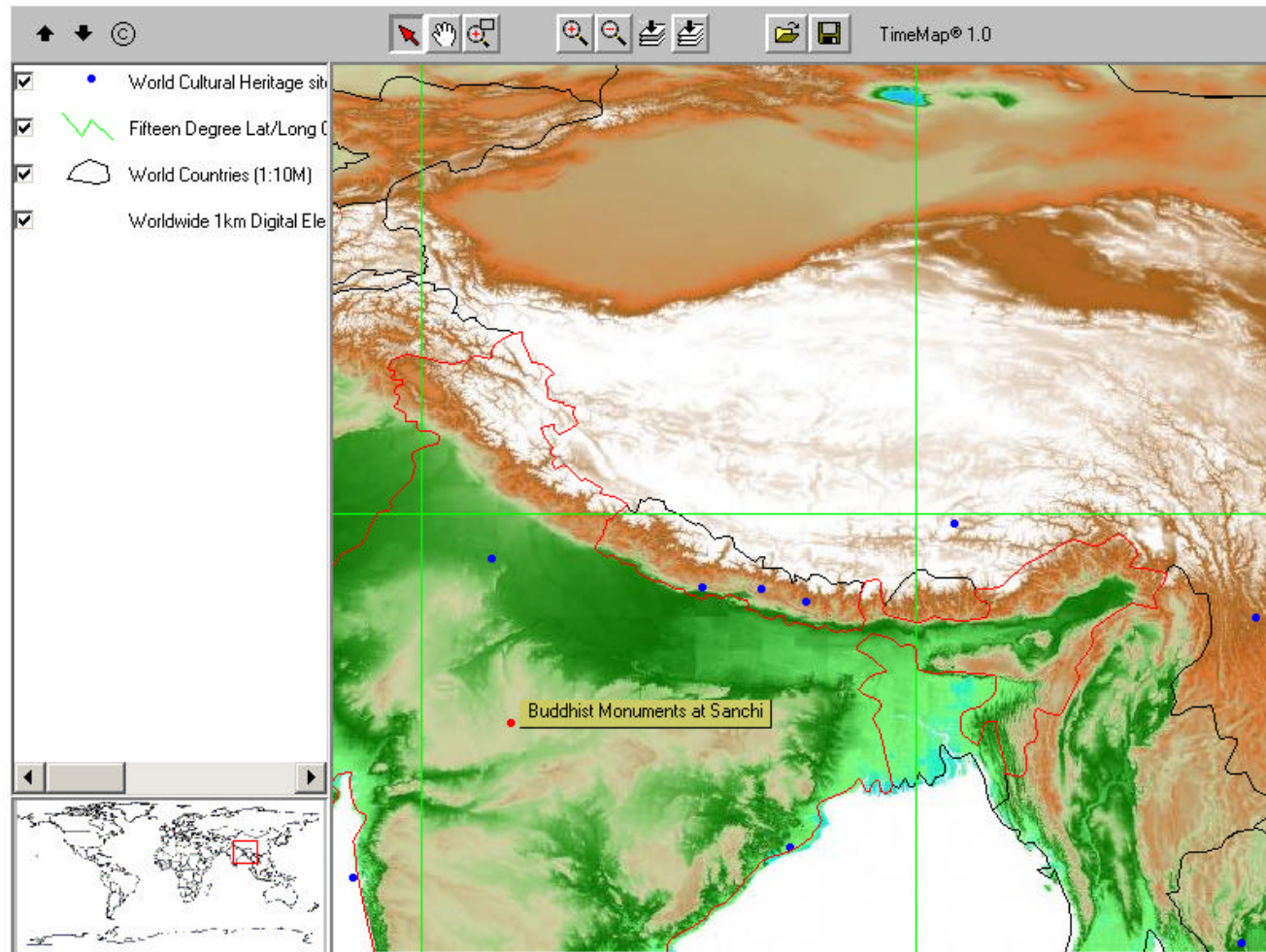
1. Dataset filter 2. Dataset browser 3. Location map 4. Metadata 5. Thumbnail 6. Sample Close ?

Sort list by:
Clearinghouse ID Show Documentation CHANGE FILTER Attach Dataset

ID	ECAI Dataset title	Doc	Smp	Thn	Updated
198	Provincial Boundaries of China (Modern – ACASIAN)				6/6/01 1:28:06 AM
199	Municipal and Prefectural Boundaries of China (Modern –				6/5/01 11:38:32 PM
200	Municipal Boundaries of China (Modern – ACASIAN)				6/5/01 11:39:08 PM
201	Major Rivers of Southeast Asia (ACASIAN)				6/5/01 11:39:43 PM
202	Map of Mainland Southeast Asia (Modern –ACASIAN)				6/5/01 11:40:18 PM
203	International Boundaries of Modern Southeast Asia (ACAS				6/5/01 11:40:50 PM
204	Digital Elevation Model, China (ACASIAN)				6/5/01 11:41:34 PM
205	The Holmes-Welch Monastic Census of China	✓	✓	✓	6/5/01 5:46:51 PM
206	Photography of Sir Marc Aurel Stein's travels, early 1900's	✓	✓	✓	6/5/01 11:42:35 PM
207	Administrative Zones of Cambodia (CGP)				6/5/01 11:43:22 PM
212	China Digital Elevation Model (test JPG)				6/6/01 8:47:00 AM
218	The McMahon Line, China (ACASIAN)				6/9/01 2:25:21 PM
219	Tributary Rivers of China (ACASIAN)				6/9/01 2:25:40 PM
220	Major Rivers of China (ACASIAN)				6/9/01 2:25:59 PM
221	Major Rivers of China and Their Tributaries (ACASIAN)				6/9/01 2:26:17 PM
222	Rivers Near the Chinese Border (ACASIAN)				6/9/01 2:26:41 PM
223	The McMahon Boundary of China (ACASIAN)				6/9/01 2:26:59 PM
224	Main Lakes of China (ACASIAN)				6/9/01 2:27:21 PM
225	Great Wall of China (ACASIAN)				6/9/01 2:27:39 PM

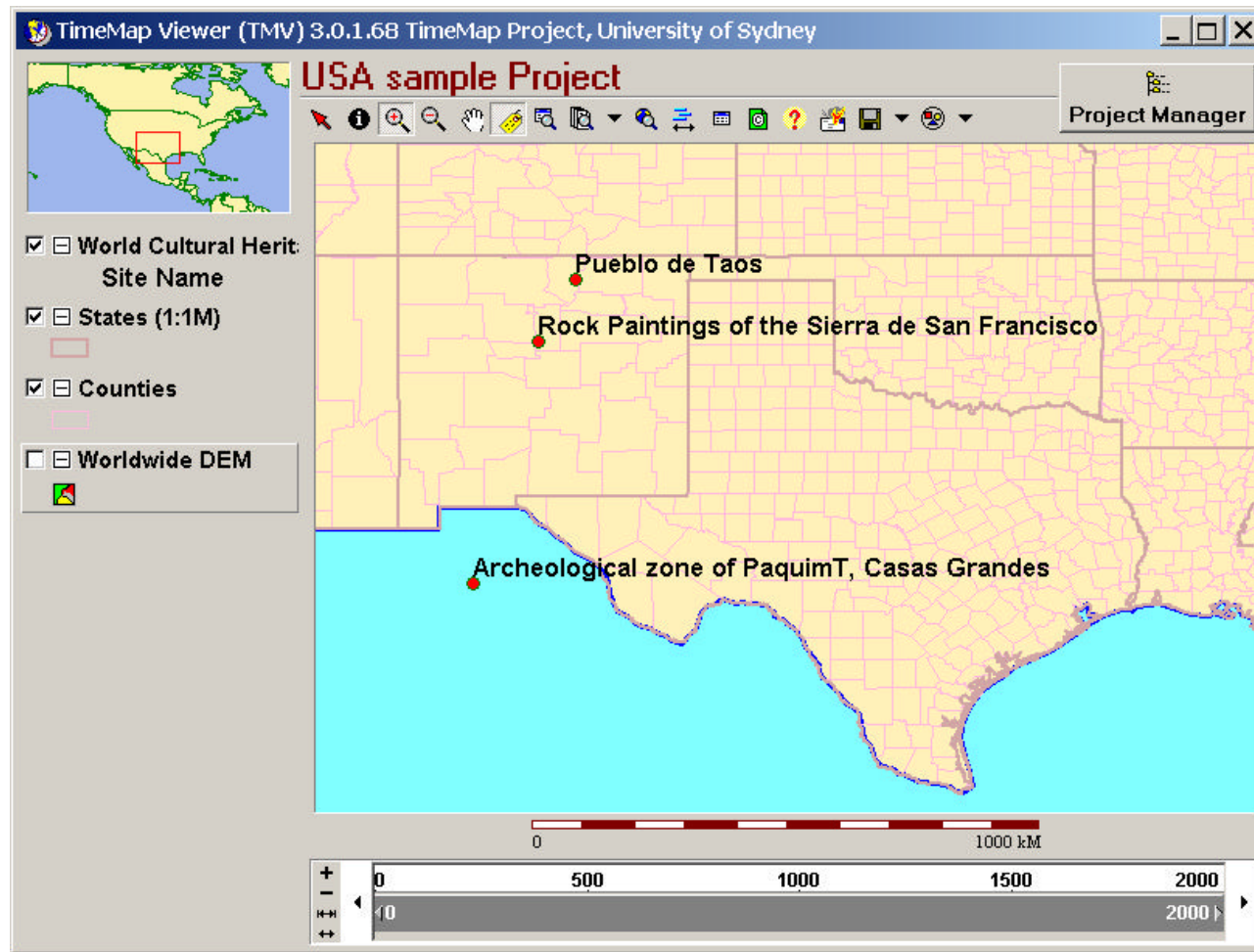


■ Java applet & TMView

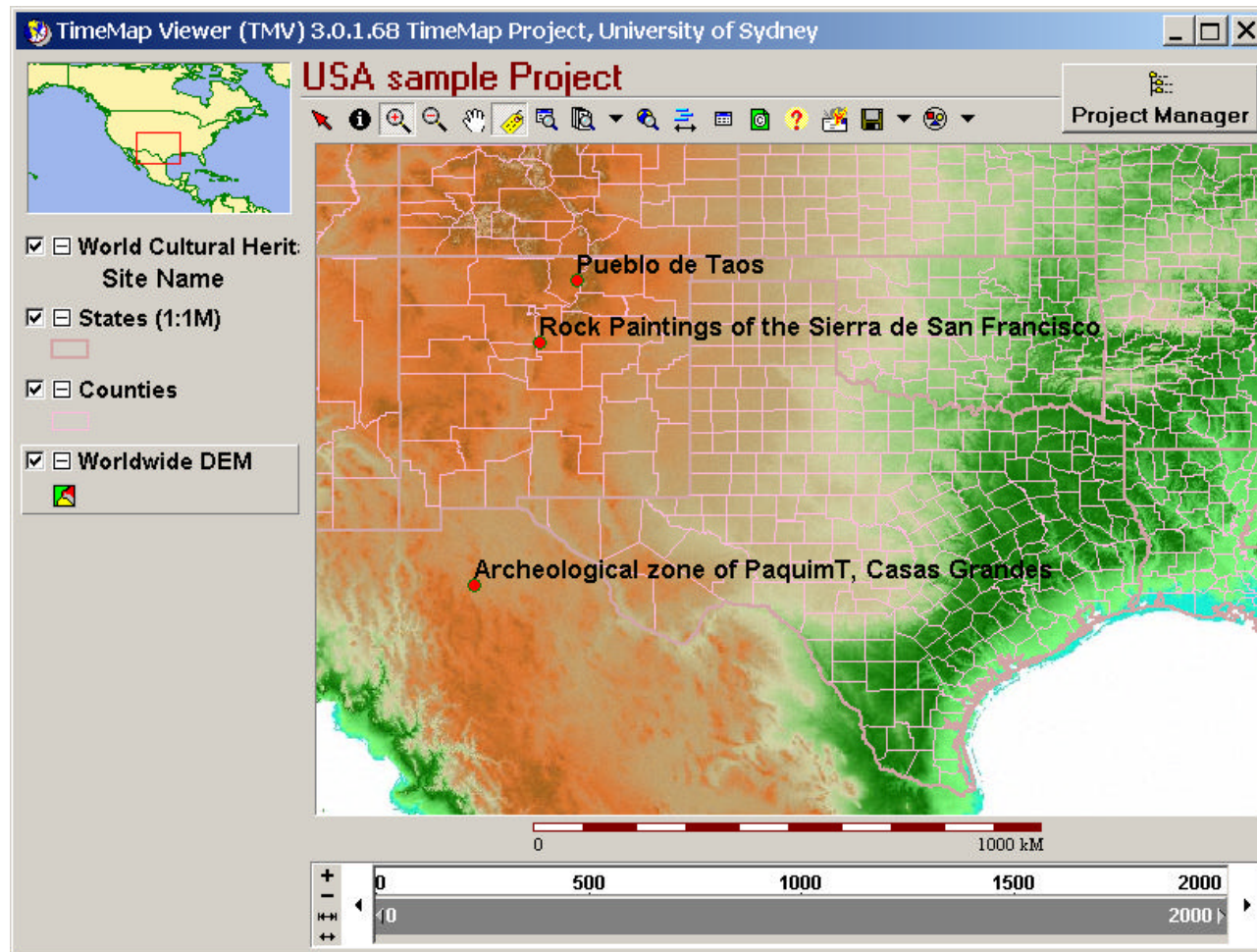




■ Java applet & TMView



■ Java applet & TMView





WWW data sources

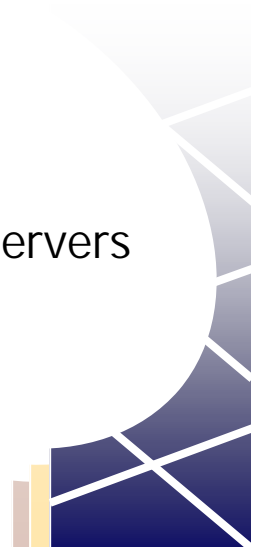
- MrSID image server
- URL data sources
 - Shapefiles
 - GIF & JPG files
 - Independent geographic registration
 - Automatic unzip
- Easy registration through web browser





TimeMap[™]

- A methodology for handling time-enabled spatial data (particularly applied to cultural data)
 - **Time-enabled map viewer**
 - Map layers constructed through SQL queries on local datasets
 - Data-driven links to URLs
 - Intelligent layer visibility
 - Time selection bar
 - Map animation
 - **Extensible metadata clearinghouse**
 - Access through clearinghouse to heterogeneous data servers
 - Digital library vs data access





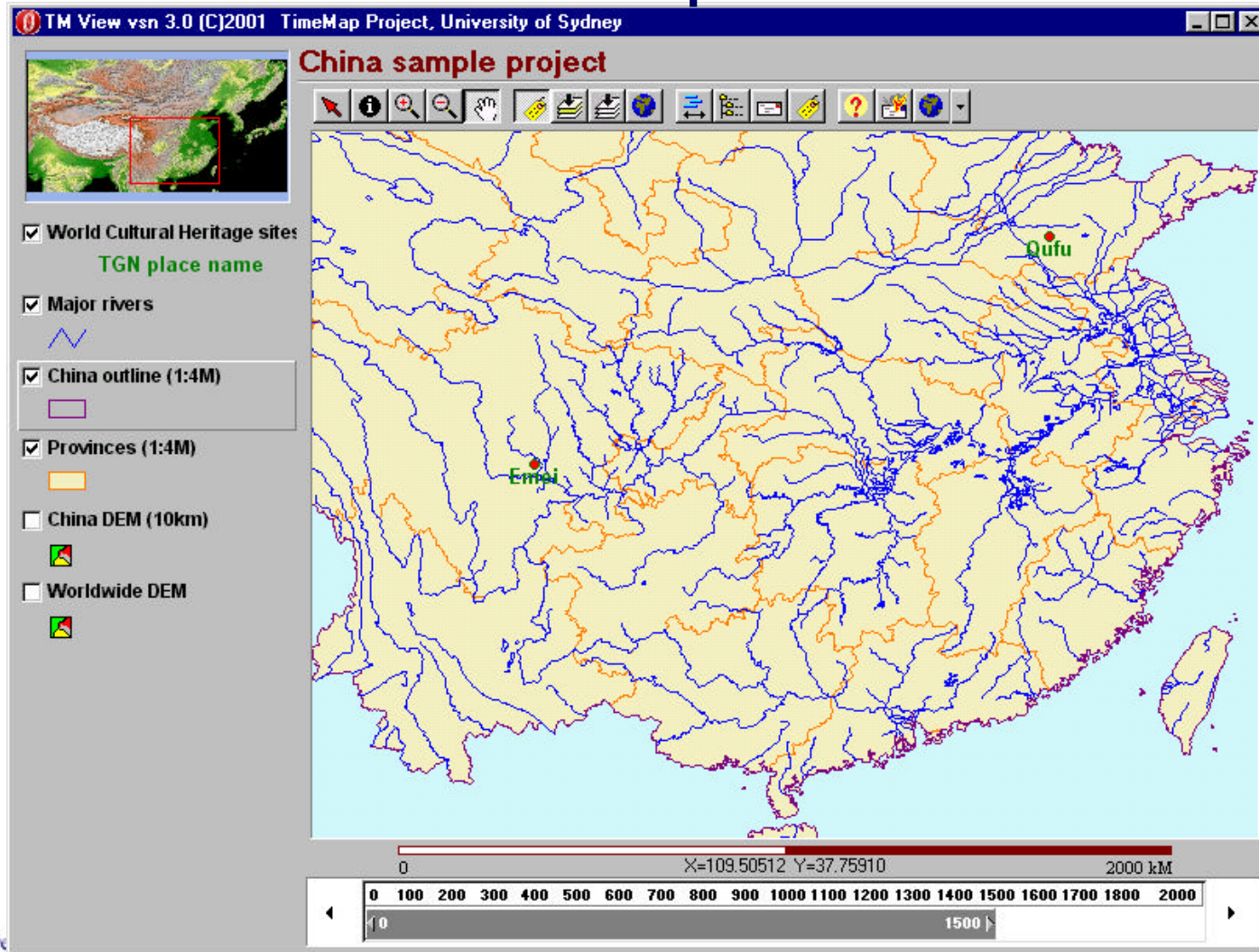
TMView MapSpace manager

The screenshot shows the TM View Vsn 3.00 software interface. The title bar reads "TM View Vsn 3.00 (C)2000 TimeMap Project, University of Sydney". The menu bar includes "Projects", "Datasets", "Layers", "View", and "Help". The directory path is "Q:\timemap\MOS_final\TPR_Project_Files\". The left sidebar shows a tree view of project layers, with "1801 - 1820" selected. The main panel displays "Project Information" for the selected project, including fields for Project Name, Descriptive Title, Institution, Creators, Team, and Web links template. Below this is the "Project domain" section, which includes "Spatial" settings (Limits, Initial, Allow zoom beyond domain, Regions, Countries, Maximum Zoom In) and "Temporal limits" (No Temporal Limits, Temporal Limits, Set Temporal Limits, Start At, End At, Init start at, Init end at). At the bottom, there are checkboxes for "Main Map back", "Key Map back", "KeyMap Box", and a "Legend width" field set to 180.





TMView Map Viewer





TMView Map Viewer

TM View vsn 3.0 (C)2001 TimeMap Project, University of Sydney

China sample project

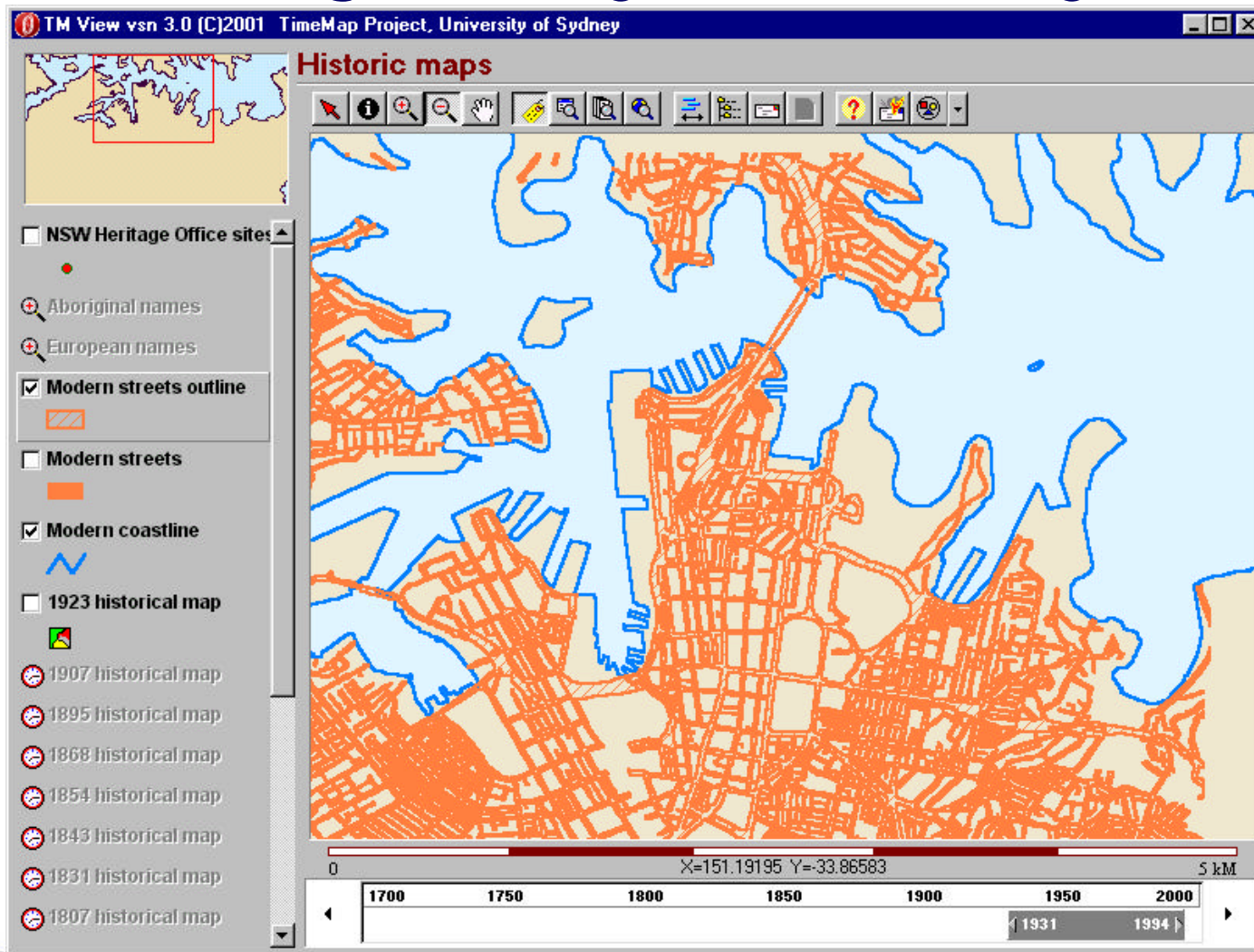
- World Cultural Heritage sites
- TGN place name
- Major rivers
- Provinces (1:4M)
- China outline (1:4M)
- China DEM (10km)
- Worldwide DEM

0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 2000

X=108.01369 Y=30.59196


0 1500 2000

Intelligent layer visibility



Saving MapSpaces

- TMView MapSpace 
 - Saved in clearinghouse or on web site
 - Automatic registration of metadata
 - Editorial control
 - Locatable by searches

- TMJava MapSpace 
 - Temporary (6 months) unless registered
 - Identified by email address or ID#





Embedded maps

- Interactive maps embedded in web pages
- Live download of data from ECAI-registered datasets

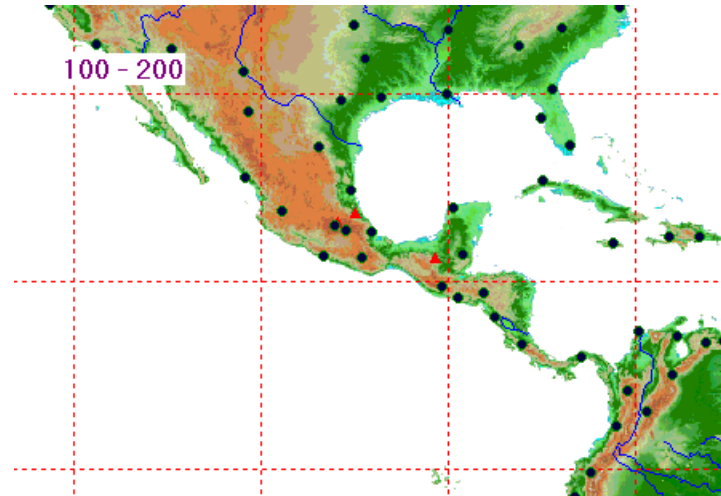
```
<APPLET  
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  ARCHIVE="timemap.jar.geotools.jar.collections.jar"  
  WIDTH="800"  
  HEIGHT="600"  
  ALIGN="absbottom"  
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  <PARAM NAME="ids" VALUE="157,170,189">  
  <PARAM NAME="pws" VALUE=",">  
  <PARAM NAME="north" VALUE="90">  
  <PARAM NAME="south" VALUE="-90">  
  <PARAM NAME="east" VALUE="180">  
  <PARAM NAME="west" VALUE="-180">  
  <PARAM NAME="Default_database_port" VALUE="3306">  
  <PARAM NAME="Default_database_type" VALUE="mysql" >  
  <PARAM NAME="Default_database_host" VALUE="www.ecai.org">  
  <PARAM NAME="Connection_script_name" VALUE="getconnection.cgi">  
  <PARAM NAME="Metadata_script_name" VALUE="getmetadata.cgi">  
  <PARAM NAME="Mapdata_script_name" VALUE="getmapdata.cgi">  
  <PARAM NAME="Raster_script_name" VALUE="getraster.cgi">  
  
</APPLET>
```





Map animation

- AVI files direct from the map





Contact details

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