

The past, present, and future of Turkey:historical analysis and current urban planning for safety-"rahat(anshin)" city based on the case study of spatial-temporal GIS(DiMSIS-EX) application in Duzce city

**The Importance of Interdisciplinary
Research Connecting Historical,
Information, and Engineering Science of
Current Urban planning for Comfortable
and Safety “Rahat(Anshin)” City**

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ŞAHİN**

Background: On the way to Duzce Project

- 1) Develop Spatial Temporal Information System for assisting recovery process of Kobe municipality after Kobe earthquake 1995.
- 2) Brought the system to Duzce and started assist recovery process after Duzce earthquake 1999.
- 3) Found We (Japanese) could have good friendship with Turkish people
- 4) Turkish move to west from central Asia while Japanese went east
- 5) Collaborative activities has been continued 10 years
- 6) Aim of research for disaster prevention seems realization of happiness and safety “Rahat” city

History of Duzce region (area) (1)

Greek period

Name: Prusias ad Hypium (Konuralp area) at BC3 ~
Lycia associatin (BC 2)

Roman period

Name: Prusias ad Hypium
Roman Emperor Hadrian and Emperor Caracalla visited

Byzantine

Name: Prusias ad Hypium

Osman and after

Name: Changed to Konuralp

Konuralp museum



Lycia coin

Theater and Water bridge



Traianus coin

History of Duzce region (area) (2)

Central part of Duzce now was Swamp and too many mosquitoes to live

“Duzce” means flat area

Duzce established 1881

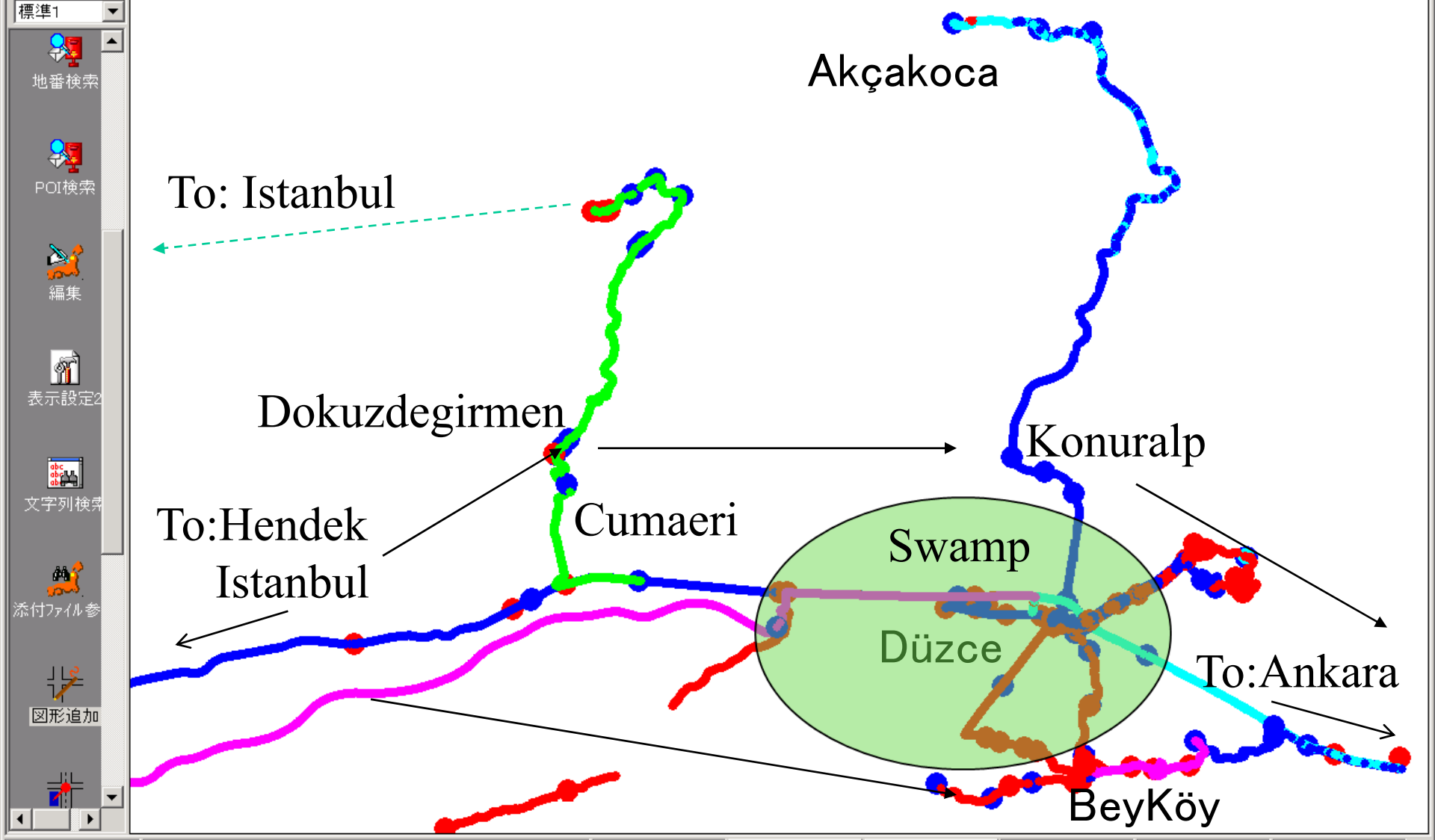
Alluvium : not stable to earthquake

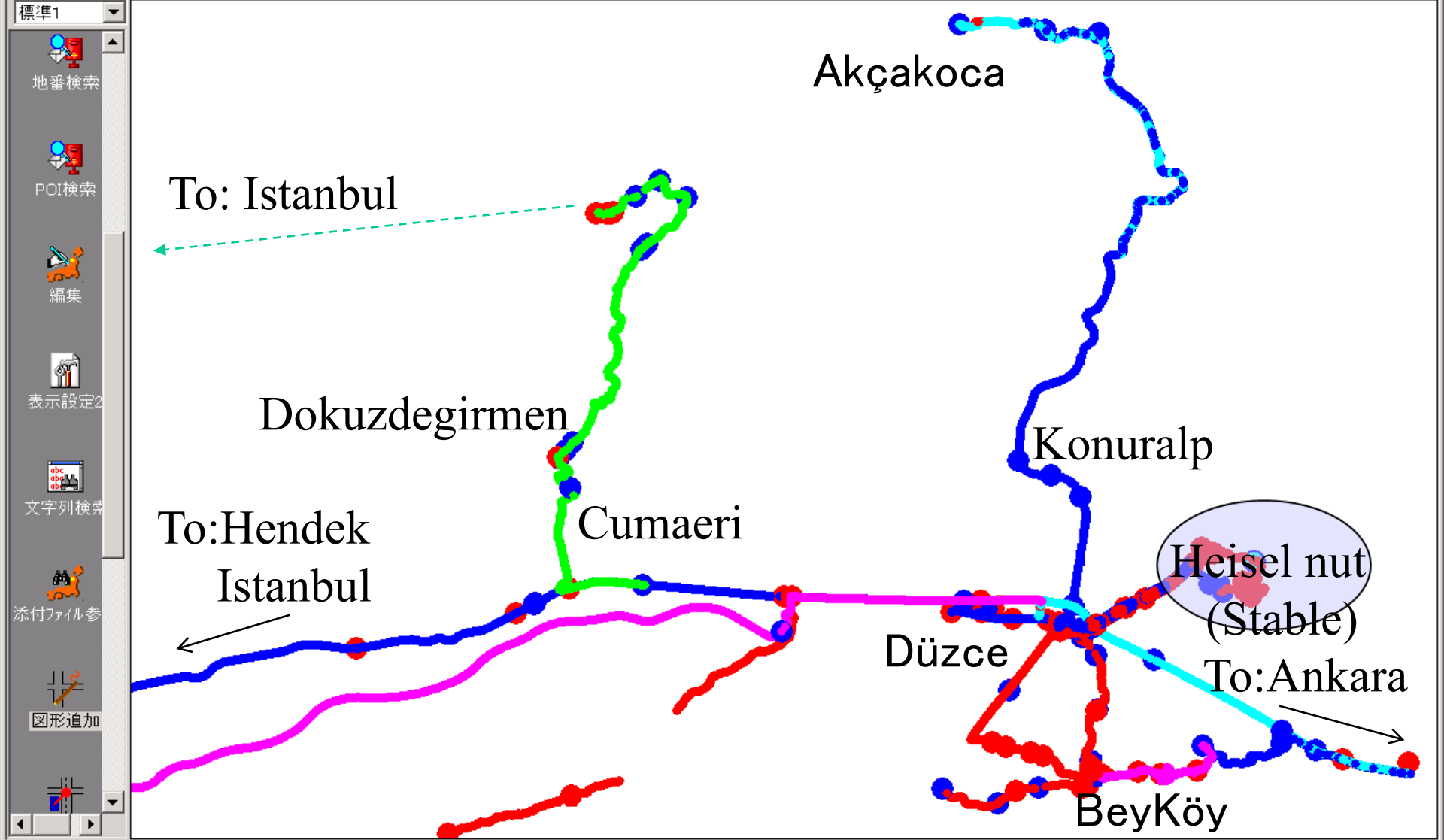
2 earthquakes in 1999

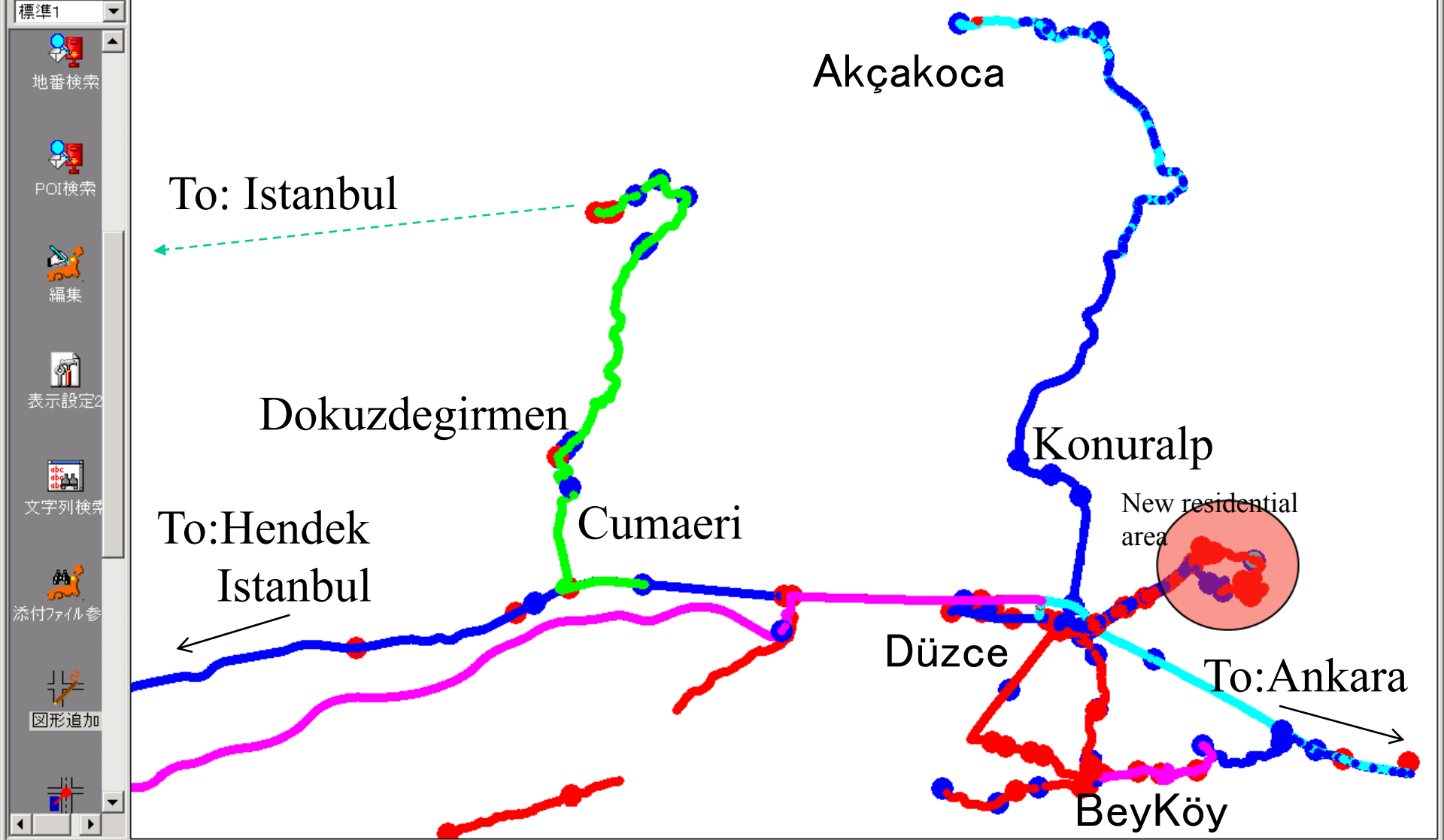
Population before earthquake: 75000, now: 125000

New residential area opened after the earthquake (2002)

for 10000 families(= for more than 40000)



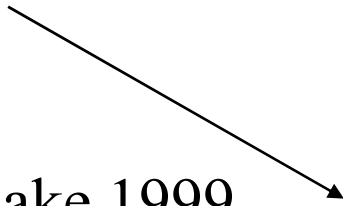




From Heisel nut field to new residential area



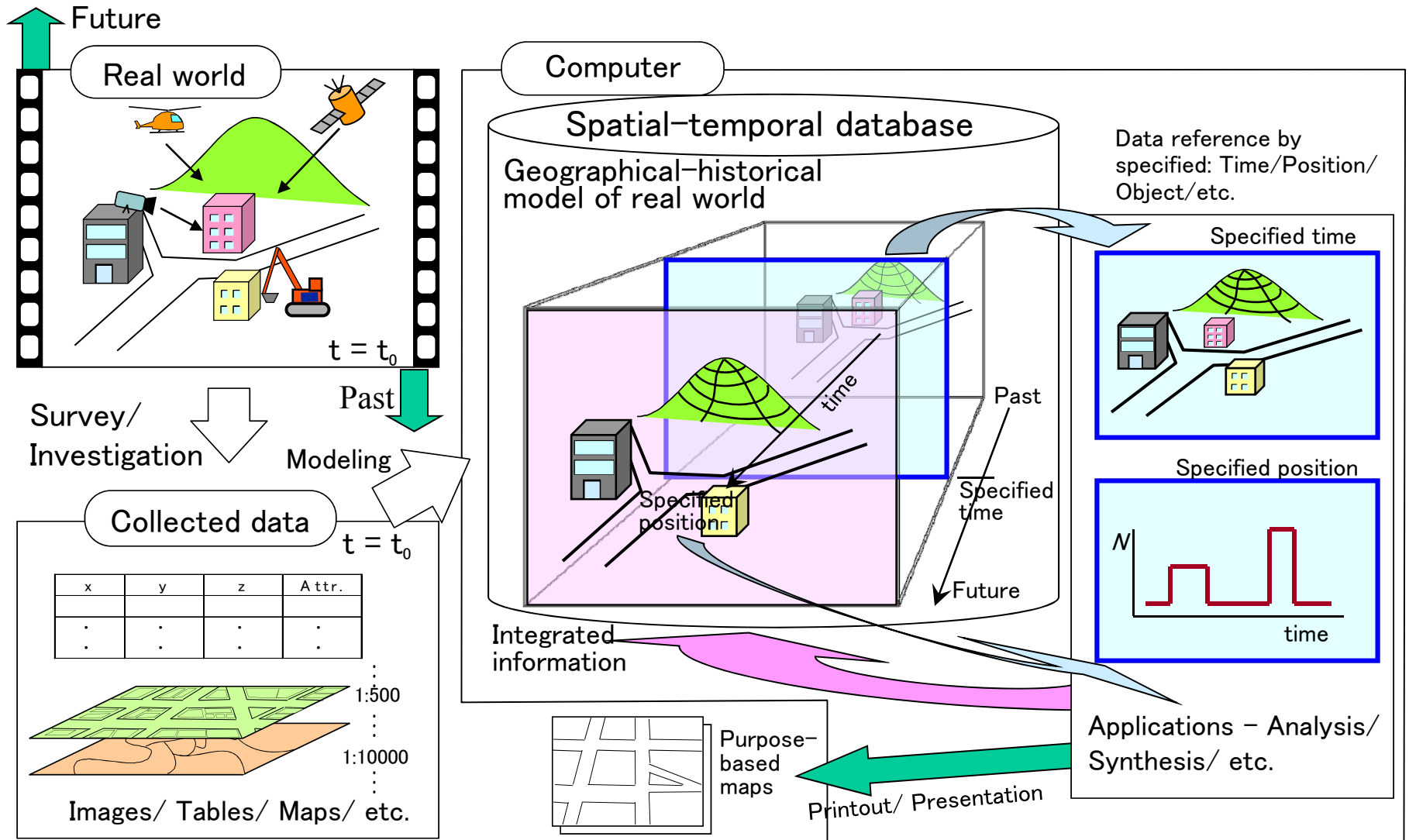
Earthquake 1999



Spatial temporal information system

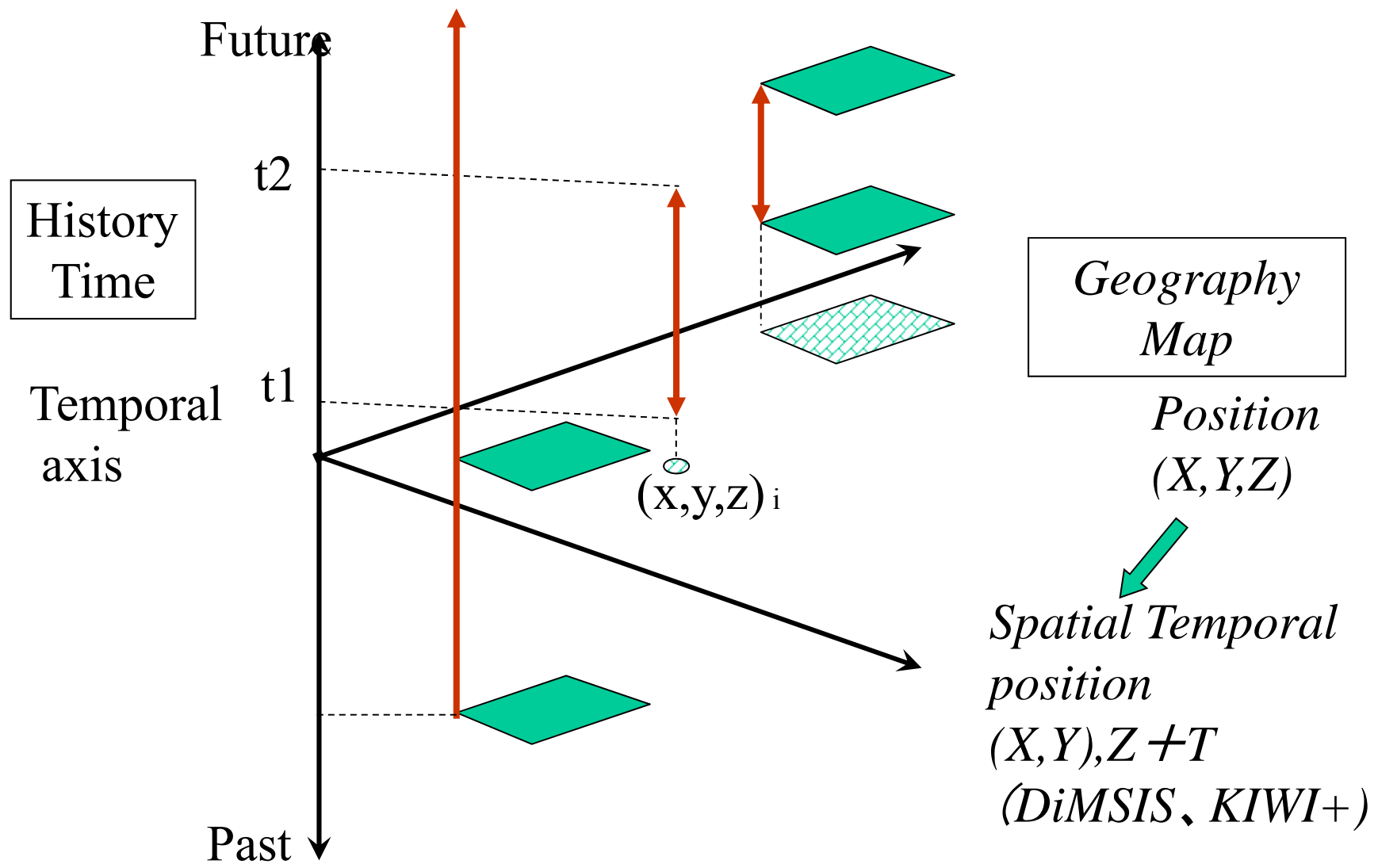
DiMSIS: Disaster Management Spatial Information System

=Geographical Historical information (database) system



General description of local information management

Connected graphical data and attribute by ID number →
Database description with connecting All information to the spatial temporal position



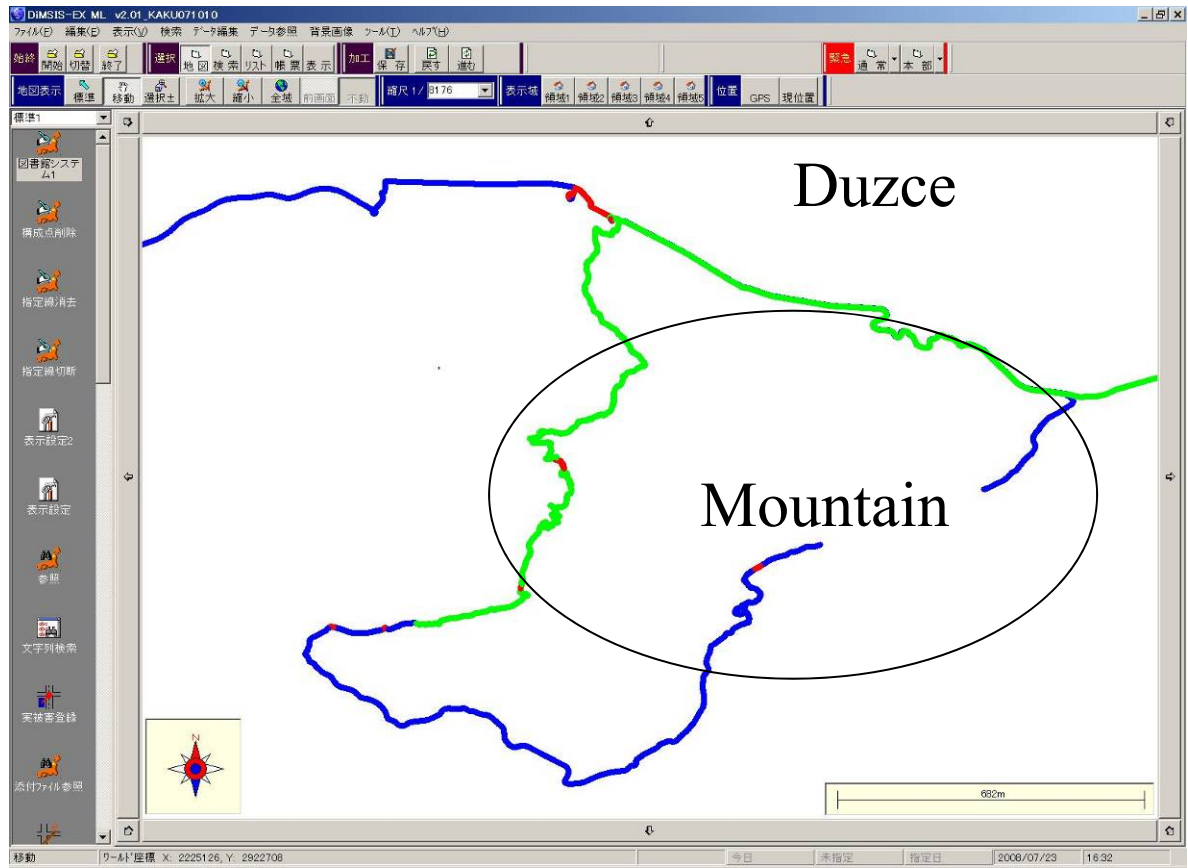
Specific points of Duzce area

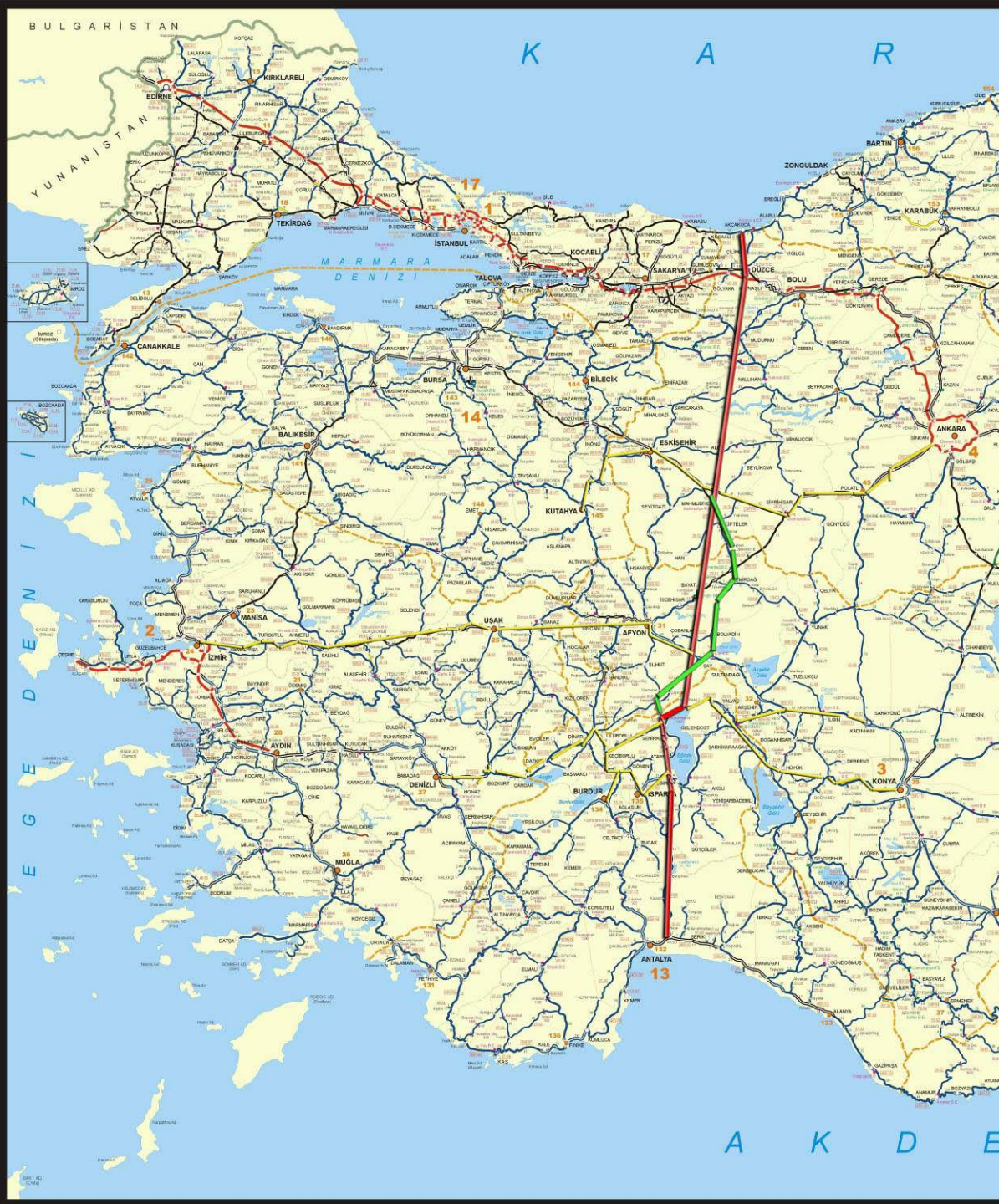
- Important place for transportation
South and north routes of Duzce were mainly used while swamp
- Central Duzce city area used to be not good place to live
- Heisel nut field was changed to residential area after the earthquake
= Make new residential area on a geologically stable area

Japan: Live same place with more stable building by new construction method and regulation of construction
- New technology change possibility
Bolu tunnel was completed 2007(?) (took more than 10 years)
→ Bosphorus tunnel
- water is supplied to Istanbul from Cumayeri(Duzce area)

Water supply system







ADA conection

Akcakoca-
Duzce-
Antalya

Technology to make tunnel

→Duzce south tunnel : ADA route



Is Historical record useful enough to make happy and safety “Rahat” city

Historical record (data) = (should be) stock of knowledge

Is historical data well used to realize “Rahat” city?

What is historical record (data)

Historian : When and what events happen

(ie. 1000 citizen killed in 1500)

Engineer : Why events happen

(ie. by the crash of RC with mansory infill house)

Future

Corroboration under the consideration of Inevitability and by accident

→ADA project has a possibility to be realized to promote Turkey?