

Designing Provincial Level Emergency and Disaster Management System for Turkey

Arif Çağdaş AYDINOĞLU & Elif DEMİR (ITU – Turkey)

presented by
Elif DEMİR



Overview

- Introduction
 - Geo-data issues on disaster management
 - Current situation in Turkey
- Developing Disaster Management Information System for a province of Turkey
- Case Study
- Conclusion

Elif DEMİR

Introduction

- **Emergency and Disaster Management** is to conduct preparedness, mitigation, response and recovery activities in a cycle on natural and human-made disasters.
- **Geographic Information Systems** provides a powerful decision support in disaster and emergency management.
- **Geographic Information Infrastructure (GII)** enables effective collection and management of geo-data in disaster and emergency management.

Elif DEMİR

Introduction

Geo-Data Issues on Disaster Management

Effective information management helps to control damage, to save lives and resources, and to reduce consequences of a crisis...

Various geo-data sets are needed on emergency response and management...



Existing data were produced by different organizations in a heterogeneous environment.

- topographic maps, administrative units, risk objects like gas stations, ...
- vulnerable objects like schools, government buildings, hospitals ...
- the location of emergency response teams...

Dynamic data is collected during the disaster from the activities of emergency management.

- incident data includes location, nature, and scale.
- damaged objects, buildings, affected and threatened areas.
- wounded and trapped people.
- meteorological data

Elif DEMİR

Current Situation in Turkey

Until 2009: Disaster Management activities in Turkey are defined by 3 actors.

The law N.5902 in 2009; Disaster and Emergency Management Presidency

Central Service Groups (Actors)

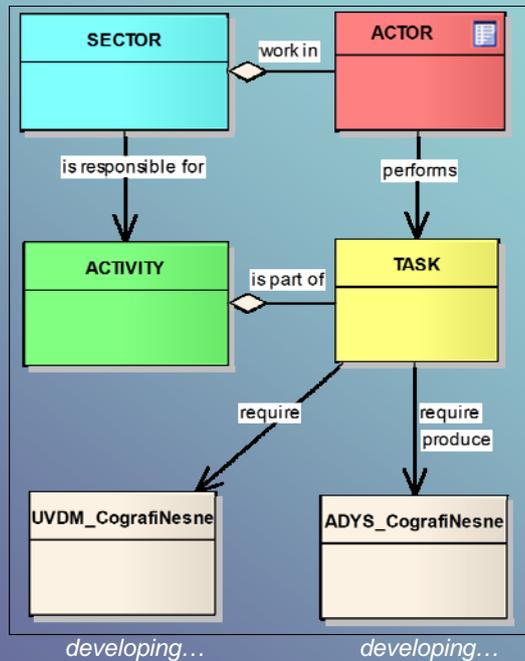
- Planning and Mitigation Department
- Response Department
- Recovery Department
- Civil Defense Department
- Earthquake Department
- Department of Administrative Affairs

Provincial Directorate for Disaster and Emergency Management should be built in each province.

Management Center for Disaster and Emergency is managed by Provincial Directorate for Disaster and Emergency Management.

Elif DEMİR

UVDM: ADYS Overview

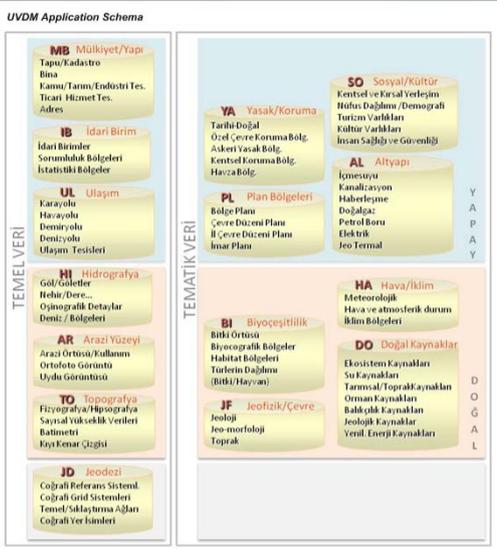


Turkey GII:
Geo-data
Exchange.
model

Emergency Man.
Geo-data model

(Aydinoglu, vd., 2009)

TURKVA:UVDM Conceptual Model Components



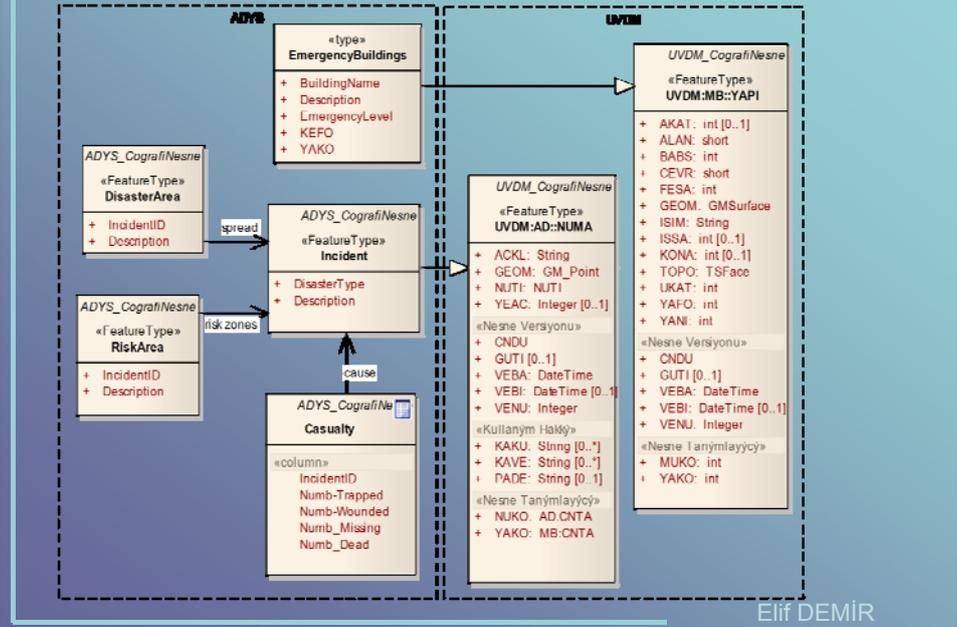
- UVDM Generic Conceptual Model**
- Scope / Application Area Components**
- * Standard Hierarchy
 - * Scale-Resolution&Applications
 - * Generalization Approach
 - * Building Province Level SDI in Turkey
 - * Horizontal/Vertical Relationship
- Technical Components**
- * Principles
 - * Reference Model
 - * Application Schema Rules
 - General Feature Model -Modeling
 - Application Schema -Feature Catalog -
 - Data Dictionary -Registers -Null Value
 - Identification - Spatial Schema
 - * Spatial Object Identifier
 - * Spatial Object Versioning
 - * Metadata
 - * Quality
 - * Multiple Representation

- + National GIS policies
- + INSPIRE standards
- + ISO/TC 211 standards
- + OGC standards

UVDM Conceptual Model specifies the components to determine application schemas of data themes and to harmonize spatial data and to produce application schemas of spatial data themes.

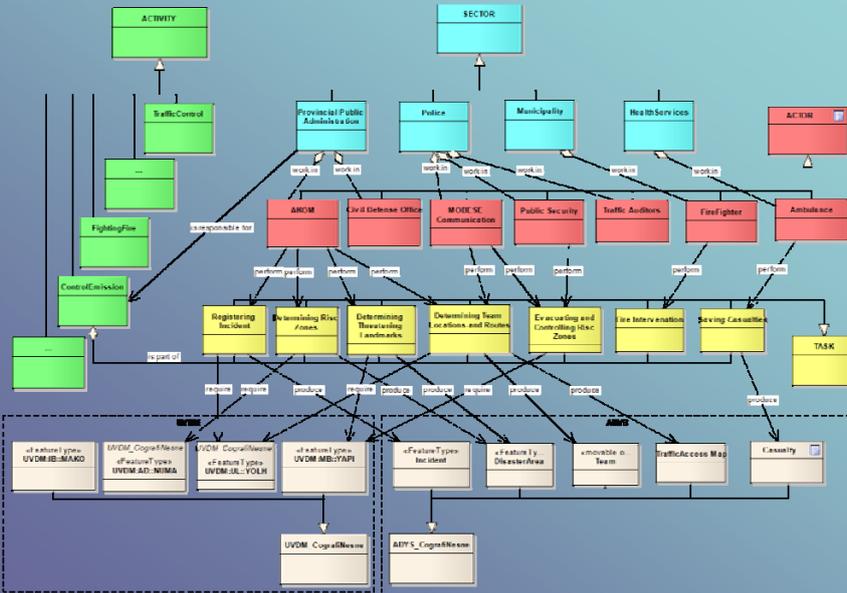
(Aydino)glu, vd., 2009)

TURKVA:ADYS ADYS extension of UVDM



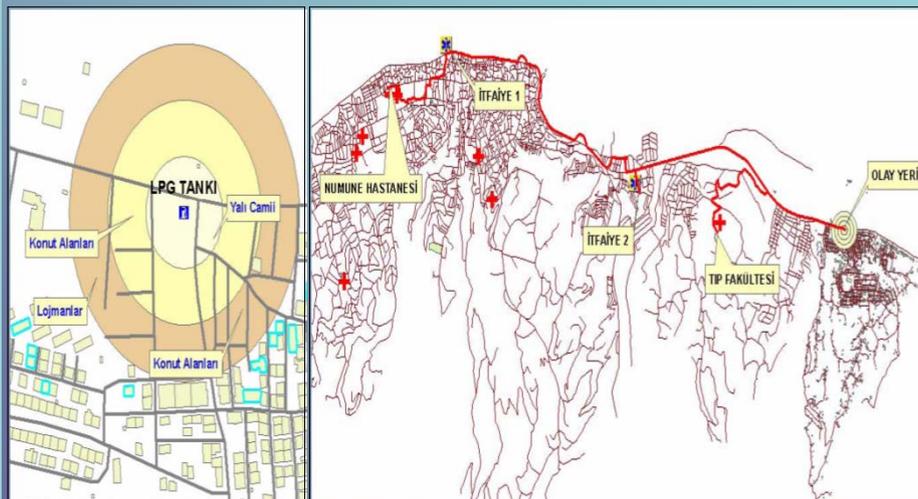
Elif DEMİR

Case Study the activity "Controlling Emission"



Elif DEMİR

TURKVA:ADYS the activity "Controlling Emission"



Elif DEMİR

Conclusion

- Actor-Sector-Activity-Task-Data classes have been designing for emergency management activities
- ADYS, developed as sector model of UVDM, can solve application-driven geo-data needs of the management center for Emergency and Disaster built in provinces of Turkey

Elif DEMİR

Thanks for your listening...

Dr. Arif Cagdas AYDINOGLU
aaydinoglu@itu.edu.tr

Elif DEMİR
demirelif@itu.edu.tr

Istanbul - Turkey

