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PRIME MINISTRY  
Disaster and Emergency Management Presidency

## DISASTER PROFILE AND MANAGEMENT SYSTEM OF TURKEY

*Asian Disaster Reduction Center - ADRC*

09 September 2019 – Kobe/ JAPAN



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## CONTENT

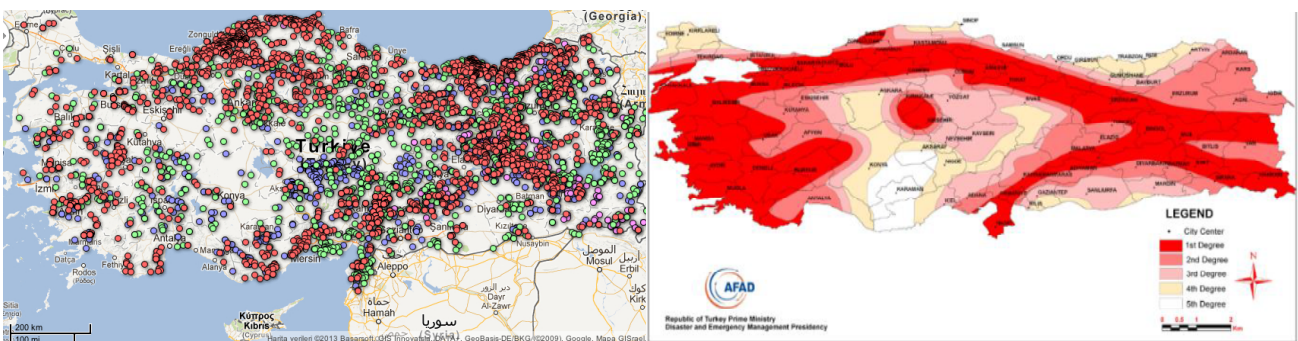
- ✓ **DISASTER PROFILE IN TURKEY**
- ✓ **DISASTER RISK MANAGEMENT MODEL IN TURKEY**
- ✓ **DISASTER RISK REDUCTION MODEL IN TURKEY**
- ✓ **BEST PRACTICES ON DISASTER RISK REDUCTION IN AFAD**
- ✓ **BEST PRACTICES ON DISASTER RISK REDUCTION IN TURKEY**



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# DISASTER PROFILE

## AFAD DISASTER PROFILE IN TURKEY



Earthquake 61%      Flood 15%  
Landslide 16%      Rockfall 5%  
(In terms of damages and fatalities)

- 96% of our country is under the danger of earthquake hazard
- 66% of seismic belt is right on active faultline
- 72% of our population and 75% of industrial plants are under the Earthquake Risk



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### Disaster Ranking in Terms of Economic Damages

Disaster	Date	Cost (US\$)
Earthquake (Marmara)	1999	20,000,000,000
Earthquake (Van)	2011	5,000,000,000
Flood	1998	1,000,000,000
Earthquake (Düzce)	1999	1,000,000,000
Earthquake (Erzincan)	1992	750,000,000
Flood	2009	550,000,000
Earthquake (Adana-Ceyhan)	1998	550,000,000
Flood	2006	317,000,000
Earthquake (Afyon-Dinar)	1995	205,800,000
Earthquake (Kütahya-Simav)	2011	155,000,000
Flood	1990	150,000,000
Earthquake (Bingöl)	2003	135,000,000



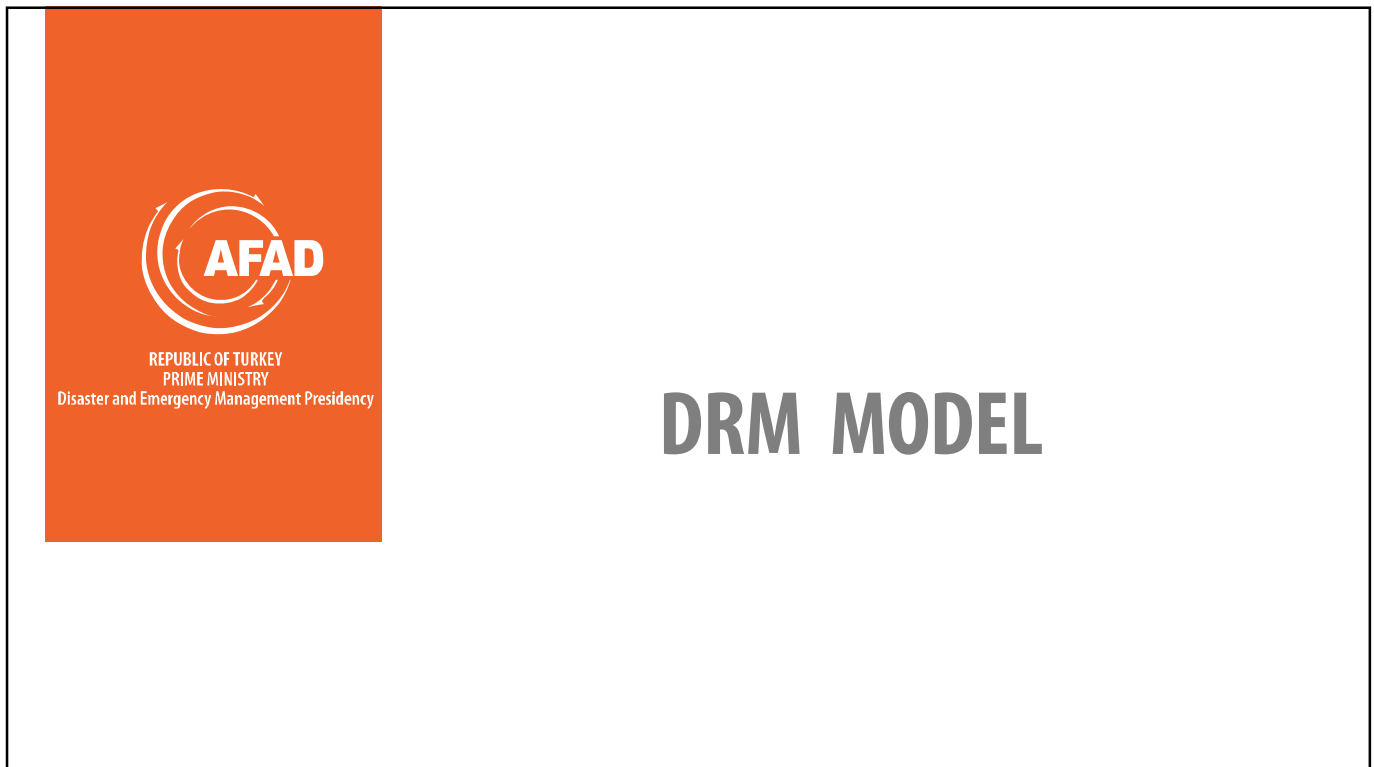
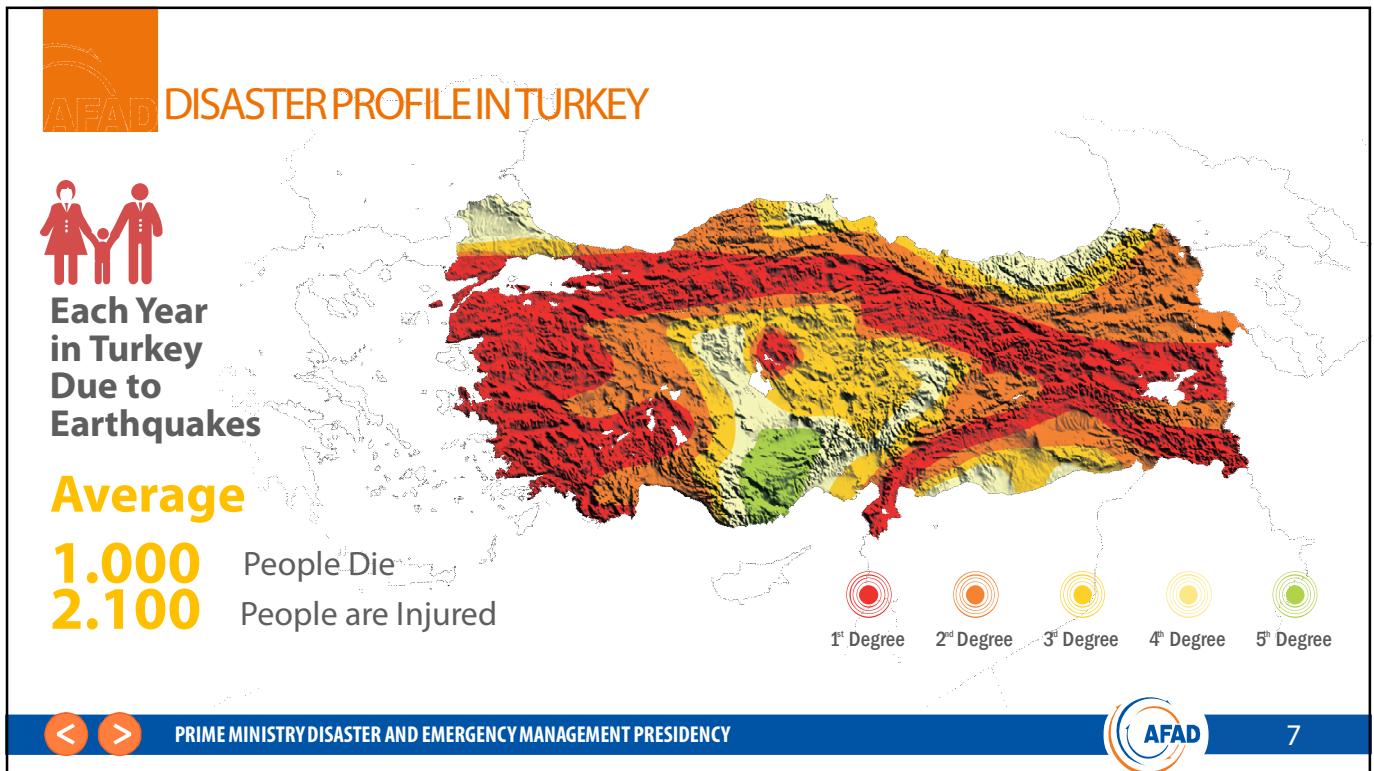
## DISASTER PROFILE IN TURKEY

Due to Earthquakes  
in Turkey  
**in the Past 58 years**

More than  
**400,000**  
**Buildings**  
Were Destroyed or  
Damaged

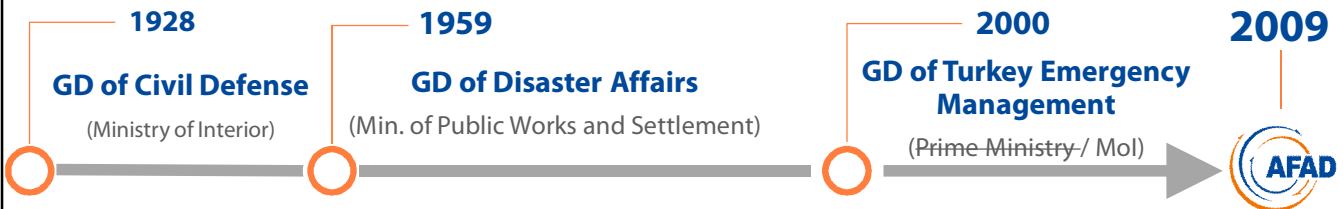








## DEVELOPMENT OF DISASTER MANAGEMENT



### Weaknesses:

- ✓ SEVERAL INSTITUTIONS
- ✓ LACK OF EFFECTIVE AND EFFICIENT COORDINATION
- ✓ FOCALITY ON CRISIS MANAGEMENT
- ✓ LACK OF SYSTEM APPROACH



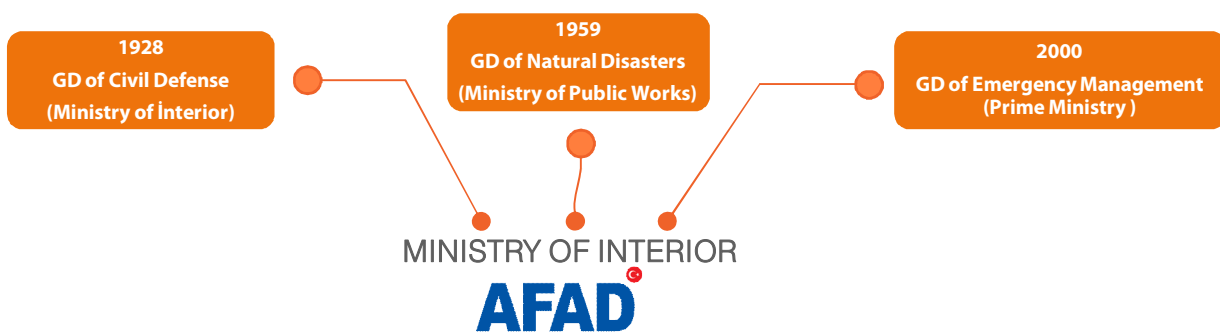
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## TRANSFORMATION OF DISASTER MANAGEMENT



### BEFORE

- ✓ SEVERAL INSTITUTIONS
- ✓ LACK OF EFFECTIVE AND EFFICIENT COORDINATION
- ✓ CRISIS MANAGEMENT
- ✓ LACK OF SYSTEMS APPROACH

By the law no 5902

### AFTER

- ONE INSTITUTION MULTI-DISCIPLINARY APPROACH ✓
- EFFECTIVE AND EFFICIENT COORDINATION ✓
- RISK MANAGEMENT ✓
- SYSTEMS & PROACTIVE SYSTEMATIC APPROACH ✓



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## TRANSFORMATION OF DISASTER MANAGEMENT

- ✓ From crisis management to risk management
- ✓ Multi-disciplinary sense
- ✓ Proactive approach for preparedness and response
- ✓ Strengthened IT



## NATIONAL DISASTER MANAGEMENT FRAMEWORK



**Public Private  
Organizations  
NGOs and  
others**

**Provincial  
Directorates of  
Disaster and  
Emergency  
Management**

- ✓ All disaster management related organisations unified
- ✓ Effective coordination
- ✓ Efficient use of capacity and capability in disaster management
- ✓ Central authority to make policies, set standards, finance projects and disasters
- ✓ Local authorities to take responsibilities and manage disasters by their own
- ✓ Integration with stakeholders





## NATIONAL AND LOCAL LEVEL



### NATIONAL LEVEL

Creating policies  
Specifying standards  
Implementing projects  
Coordination between relevant organizations  
Monitoring practices  
Capacity building  
Financing operations

### BRIGADES OF CIVIL DEFENSE SEARCH AND RESCUE

In 11 provinces  
SAR operations in Regional  
Settlement  
Operational Staff

### LOCAL LEVEL

### AFAD PROVINCIAL DIRECTORATES

81 provinces  
Management of disaster and  
emergency actions  
Engineering activities  
SAR operations  
Coordination between  
institutions



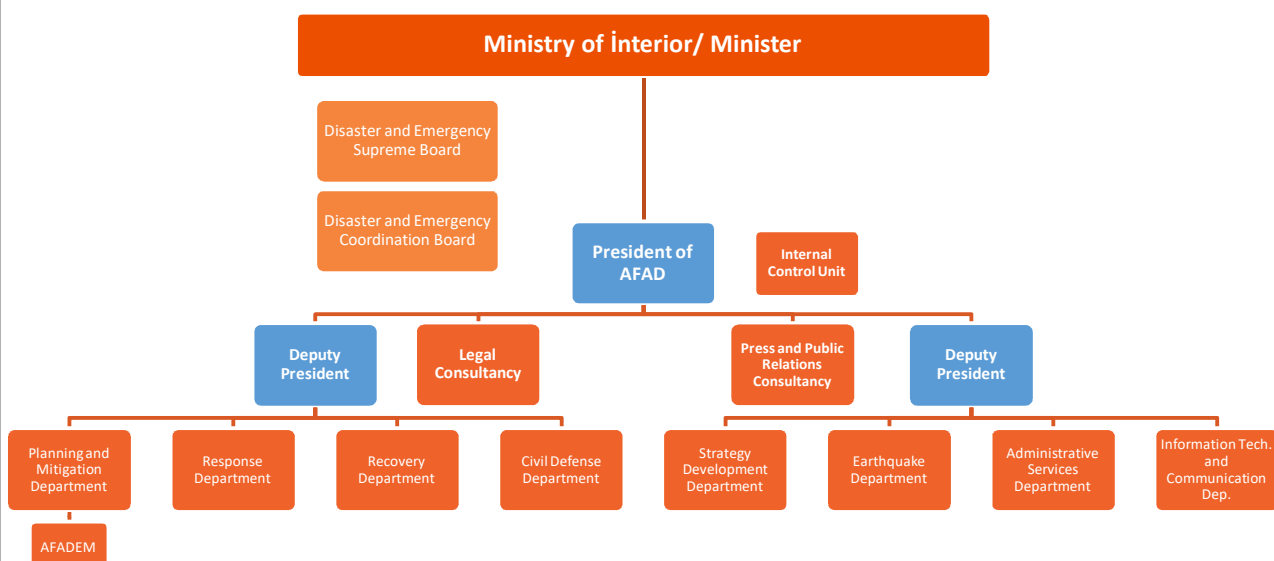
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## NATIONAL AND LOCAL LEVEL



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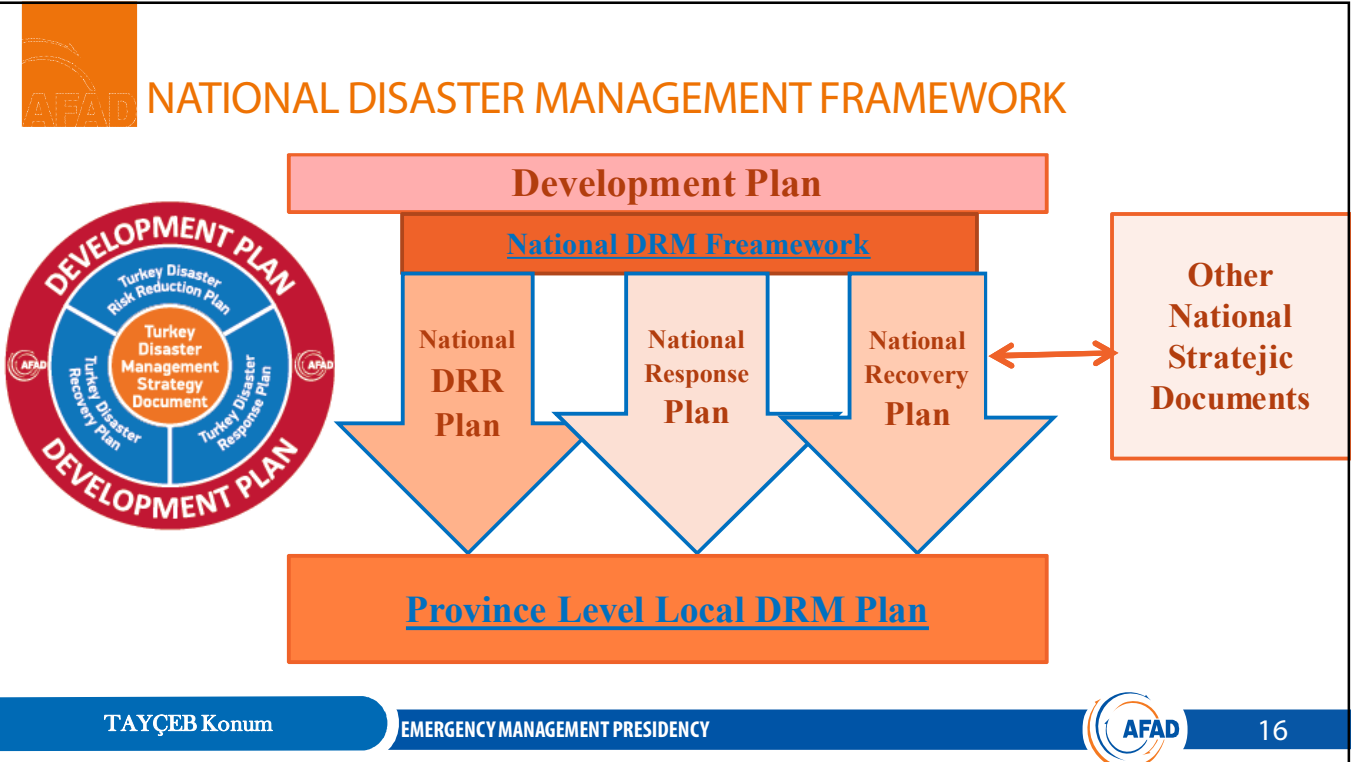


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## DRR MODEL





## NATIONAL DISASTER MANAGEMENT FRAMEWORK



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## NATIONAL DISASTER MANAGEMENT FRAMEWORK

### LAWS AND REGULATIONS

**Law No. 5902** on the Organization Structure and Duties of the Disaster and Emergency Management Presidency

**Law No. 7269** on Measures to be Taken Due to Disasters and Assistance to be Made due to disasters

**Law No. 4123** on the Execution of Services for Damages Caused by a Natural Disaster

**Law No. 7126** Civil Protection

**Law No. 6305** Disaster Insurance

**Law No. 6306** on the Transformation of Areas Under Disaster Risk



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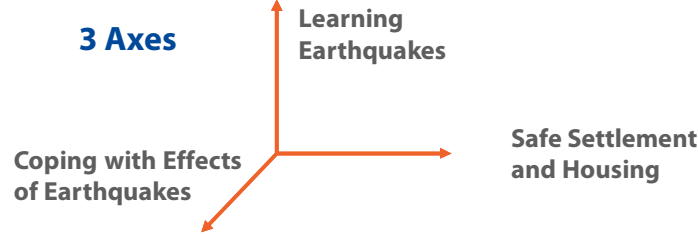


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## UDSEP

### National Earthquake Strategy and Action Plan - UDSEP



#### Completed Actions:

- ✓ Disaster Insurance Law (Turkish Catastrophe Insurance Pool)
- ✓ Active Fault Map (Ministry of Energy and Natural Resources)
- ✓ Earthquake Research Program (AFAD)
- ✓ National Platform on Disaster Risk Reduction (AFAD)
- ✓ Integrated Disaster Hazard Maps (AFAD)



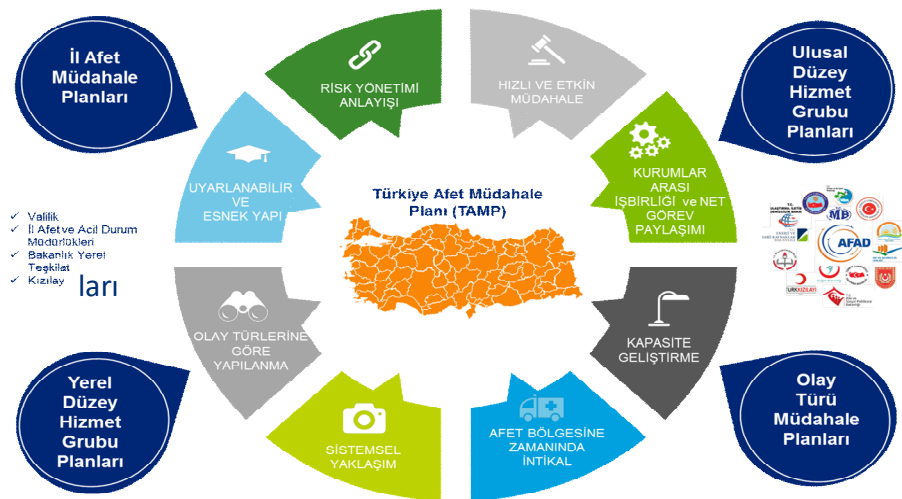
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## TURKEY NATIONAL DISASTER RESPONSE PLAN Operational Plans - TAMP



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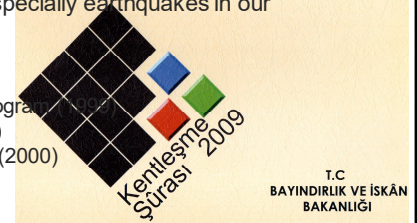
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## STRATEGIC DOCUMENTS ON DRR

Some documents have been prepared for prevent or reduce losses of natural disasters, especially earthquakes in our country . Some of these reports are as follows;

- ✓ Turkey National Union of Geodesy and Geophysics (TUJJB) National Earthquake Research Program (1999)
- ✓ Turkish Grand National Assembly (TBMM) Commission Report on Earthquake Research (2000)
- ✓ State Planning Agency of Turkey (DPT) Specialization Commission Report on Natural Disaster (2000)
- ✓ TUBITAK National Earthquake Council, National Earthquake Strategy Report (2002)
- ✓ Turkish Court of Accounts (TCA) Disaster Reports (2002)
- ✓ Turkey Economy Congress Earthquake Working Group Report (2004)
- ✓ Ministry of Public Works and Settlement Earthquake Forum Reports (2004)
- ✓ Natural Disaster Country Report, JICA (2004)
- ✓ TUBITAK National Earthquake Commission, National Earthquake Research Programme Report (2005)
- ✓ Science and Technology High Commission 11th Meeting Report (2005)
- ✓ Prime Ministry Inspection Board, Emergency and Disaster Management Review Report (2008)
- ✓ Ministry of Public Works and Settlement, Urbanization Forum Report
- ✓ Ministry of Agriculture and Rural Affairs Rural Development Plan (2010-2013)
- ✓ Integrated Urban Development Strategy and Action Plan (2010-2023)
- ✓ Turkish Grand National Assembly, Determination of Precautions to be Taken in Earthquake Management by Investigating Earthquake Risks Report of the Parliamentary Research Commission (2011)
- ✓ Union of Chambers of Turkish Engineers And Architects and related Union Reports (2000-2011)
- ✓ Prepared reports of International organization like UN, OECD, UNDP, etc.



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## DRR ACTIVITIES IN AFAD



## INTEGRATED DISASTER HAZARD MAPS



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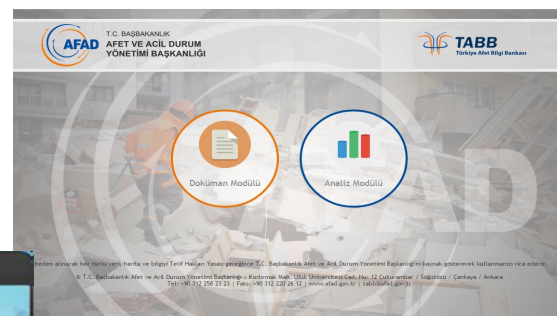


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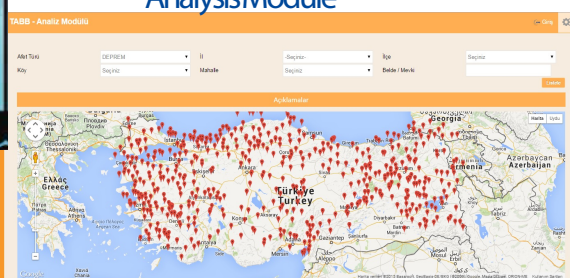
## Turkey Disaster Database-TABB

- ✓ Reliable source of information
- ✓ User friendly website
- ✓ Useful modules
- ✓ Improvable software
- ✓ Sustainable system

### Documentation Module



### Analysis Module



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## TECHNOLOGICAL DISASTERS ROAD MAP DOCUMENTS

Within the scope of AFAD's capacity and duty, "Technological Disasters Guideline Document 2015 - 2023" has been prepared with the aim of the coordination of organizations and institutions and effective management of technological disasters.



2014-2023  
TECHNOLOGICAL DISASTERS  
Roadmap Document

The road maps on,

- Industrial accidents,
- Mining and mining waste accidents,
- Nuclear and biological accidents
- Protection of critical infrastructure
- Transportation of hazardous materials accidents
- Accidents causing marine pollution
- Biosafety of genetically modified organisms
- Climate change and associated disasters, are prepared and published.



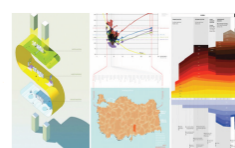
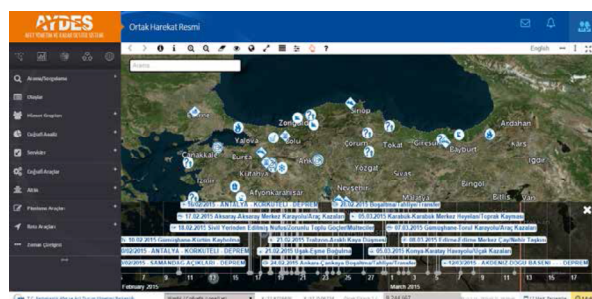
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## DISASTER MANAGEMENT AND DECISION SUPPORT SYSTEM (AYDES SOFTWARE)



REPORT  
RISK MODELLING SYSTEM



MODELING AND FORECAST  
AFAD-RAPID EARTHQUAKE DAMAGE  
CBRN DISSEMINATION SYSTEM

OBSERVATION  
SATELLITES  
AIRCRAFT  
MOTOR VEHICLES  
INSTITUTIONS (TAMP)

DATA INTERPRETATION

DATA COLLECTION

RESOURCES

MAPS

GIS BASED DATA



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## DISASTER - PREPARED TURKEY

**DISASTER PREPARED  
FAMILY**



**DISASTER PREPARED  
YOUTH**



**DISASTER PREPARED  
SCHOOL**



**DISASTER PREPARED  
WORKPLACE**



DISASTER PREPARED  
TÜRKİYE



DISASTER AWARENESS  
TRAINING  
FOR INDIVIDUALS AND FAMILIES

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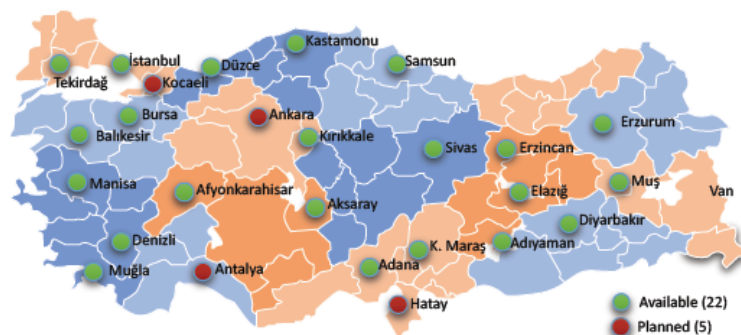
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## ESTABLISHMENT OF HUMANITARIAN LOGISTICS WAREHOUSES



FOR RAPID AND EFFECTIVE  
RESPONSE TO EMERGENCIES



**1652**  
WAREHOUSES



**27**  
LOGISTICAL  
WAREHOUSES



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## PROJECTS



Mobile Disaster Training Centers



Turkey Disaster Data Center



Disaster Response Plan



Establishment of Humanitarian Logistics Warehouse Project



Enhancing the CBRN Capacity



Accreditation System



AFAD Turkey Earthquake Data Center



Continuous and Secure Communication System



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## PROJECTS



AFAD Turkey Earthquake Data Center



Adequate Disaster Tents Tent Design and Creation of Stock



Observation, Mapping & Damage Assessment with Unmanned Air Vehicles



Capacity Building About Disaster Types Knowledge Expertise



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# DRR ACTIVITIES IN TURKEY



## RESTRUCTURING OF AREAS UNDER THE DISASTER RISKS

It is intended to create robust and safe residences based on international standards under the **law No. 6306** on “**Restructuring of Areas Under the Disaster Risks**” that aims to make cities and buildings resilient against disasters in Turkey. Within the scope of local administration reform that was put in force, municipalities have been authorized to make urban transformation.

The Regulation provides that the determination of **risky building**, which have been described as those within or outside the **risky areas** that have been decided in accordance with scientific and technical data to have completed their economic life or bear the risk of collapse or suffer from heavy damage.



**URBAN  
TRANSFORMATION**  
SAME TIME SOCIAL TRANSFORMATION





## CLIMATE CHANGE ADAPTATION

Turkey has to tackle with problems such as desertification, hydro-meteorological disasters and rise of sea level. In accordance with the **National Climate Change Strategy Document (2020-2010)** and within the framework of Turkey's Climate Change National Action Plan (2011-2023), work on climate change is in progress. These works are reported by means of United Nations Framework Convention on Climate Change annually.



**CLIMATE CHANGE**  
STRATEGY  
ACTION  
ADAPTATION



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## ISTANBUL SEISMIC RISK MITIGATION AND PREPAREDNESS PROJECT (ISMEP)

Istanbul is the most vulnerable city because of its seismic-prone location nearby the North Anatolian Fault, and its high population and commercial/industrial densities. ISMEP is a significant attempt to implement essential principles of comprehensive disaster management financed by the World Bank. The main objectives are to improve the city of Istanbul's preparedness for a potential earthquake through enhancing the institutional and technical capacity for disaster management and emergency response, strengthening critical public facilities for earthquake resistance, and supporting measures for better enforcement of building codes and land use plans. In support to the promotion of commitments for safe schools, the Government of Turkey hosted the first meeting of the "Safe School Leaders" on 30-31 October 2014, Istanbul, Turkey



**ISTANBUL IS  
WITH ISMEP STRONGER**



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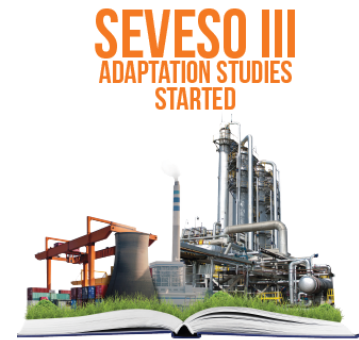
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## MAJOR INDUSTRIAL ACCIDENTS ON CONTROL REGULATIONS

As known industrial activity due to the major industrial accident prevention, accident preparedness, in case of interference with the No of 96/82/EC hazardous materials that contain large risk is Risk Control of the European Union Council Directive (**Seveso II Directive**), our country's legislation to integrate environmental Seveso II Directive in Turkey and our Ministry of Environment and Urbanization Harmonization Project and the project was achieved as the Regulation on the "**Prevention of Major Industrial Accidents and Reducing Effects**" the Regulations were completed on December, 2013 and published. In this context, that in accordance with relevant provisions of the Act and in support of on going activities in all industrial facilities containing hazardous chemicals are required to report to the Ministry.



## INSURANCE

Turkey introduced a requirement for earthquake insurance in 2000 and coverage is provided by the Turkish Natural Catastrophe Insurance Pool (DASK), set up under Law No 6305, which is an example of good practice. Additionally, DASK may cover disasters such as floods, storms, landslides, and hail and snow damage in the event of insurance companies failing to do so.

Insurance companies make use of risk scenarios. At present, insurance has 41 % penetration and there are 7.3 million policies. It is therefore recommended that further efforts be made to increase the penetration of compulsory earthquake insurance.

Another example of good practice in the field of insurance is the Agricultural Insurance Pool (TARSİM), which insures herbal and animal products against the consequences of hail, storm, flood, fire, landslides, tornadoes and frost. ata as provided in May 2016.





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# THANK YOU FOR YOUR ATTENTION

Ozgur Tuna OZMEN  
[otuna.ozmen@afad.gov.tr](mailto:otuna.ozmen@afad.gov.tr)

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