



## **Flood Management Planning in Turkey**

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**General Directorate of Water Management**

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# Content



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**Introduction**

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**Completed Projects**

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**Ongoing Projects**

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**Other Studies**

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**Objectives**



**Flood;** is a natural phenomenon that occurs when a river overflows from it's bed for various reasons damaging nearby settlements, infrastructure, economic and social activities and in general human life.

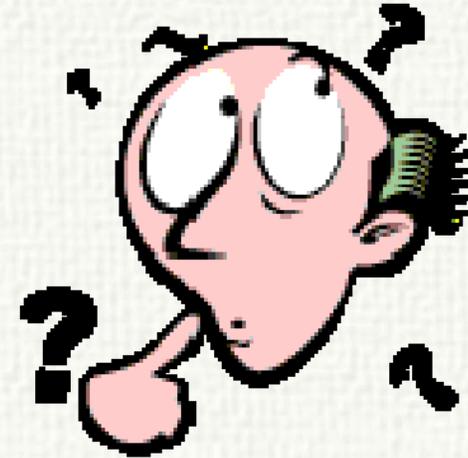


# GENERAL INFORMANTION



- In our country among natural disasters, floods are second only to earthquakes in terms of economic losses.
- In our country over the last 60 years (1955-2014) 2563 floods happened and 1496 people lost their lives.
- According to existing data, economic loss caused by floods is approximately 100 million \$ each year.

WHY DO FLOODS HAPPEN?  
WHAT CAN BE DONE IN  
ORDER TO PROTECT  
OURSELVES?





# COMPLETED PROJECTS



# CAPACITY BUILDING TO IMPLEMENT FLOOD DIRECTIVE



- Project Beginning : 01.08.2012
- Project Finalization : 31.12.2014

## Stakeholder Institutions



## Basins that are being worked on



LEGEND	GÖSTERİM
Province Borders	İl Sınırları
Basin Borders	Havza Sınırları
Pilot Basin (Flood Directive will be implemented)	Taşkın Direktifinin Uygulanacağı Pilot Havza
Basins which will be quick scanned	Hızlı Tarama Yapılacak Havzalar

## Project Components

1

Legal, technical and institutional capacity was built.

2

Pilot implementation of the principles of the directive for Western Black Sea Basin

3

National implementation plan has been prepared



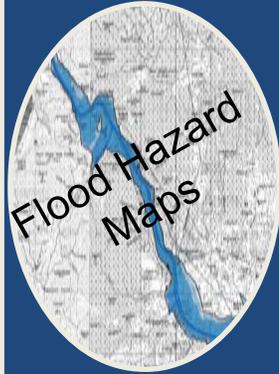
## PROJECT OUTPUTS



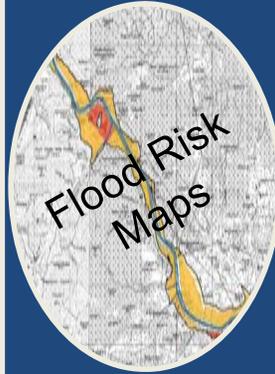
2013

Preliminary  
Flood Risk  
Assessment

Areas under  
high flood risk  
(APFRs) were  
identified.



Flooded areas  
for different  
return periods  
were found and  
shown on map.



Flood risk was  
classified and  
shown on flood  
hazard maps.

2014

Draft Flood Risk  
Management  
Plan

Flood Risk  
Management Plan  
includes flood  
hazard maps and  
flood risk maps.

Objectives and  
measures needed  
in order to  
decrease flood risk  
were defined.

2014

Draft National  
Implementation  
Plan

By using data  
gathered from  
Western Blacksea  
Basin and three  
quick scan basins,  
National  
Implementation  
Plan was prepared  
in order to  
implement Flood  
Directive in all  
basins of our  
country.



2014

Guidelines for  
Preparation of  
Flood  
Management  
Plans

Guidelines on  
preparation  
steps of Flood  
Management  
Plan was  
prepared.

August 2012

December 2014



# PREPARATION OF FLOOD MANAGEMENT PLANS



## PREPARATION OF FLOOD MANAGEMENT PLANS



### YEŞİLIRMAK BASIN

- Project started at **07.10.2013** and will be completed at **December 2015**.



### ANTALYA BASIN

- Project started at **27.01.2014** and will be completed at **June 2016**.





# PROJECT STUDIES



## PRELIMINARY FLOOD RISK ASSESSMENT

Areas under possible  
flood risk were  
assessed.



Flooded areas for  
different return  
periods were shown  
on map.



Flood risk was  
classified and shown  
on flood hazard  
maps.

## FLOOD MANAGEMENT PLAN

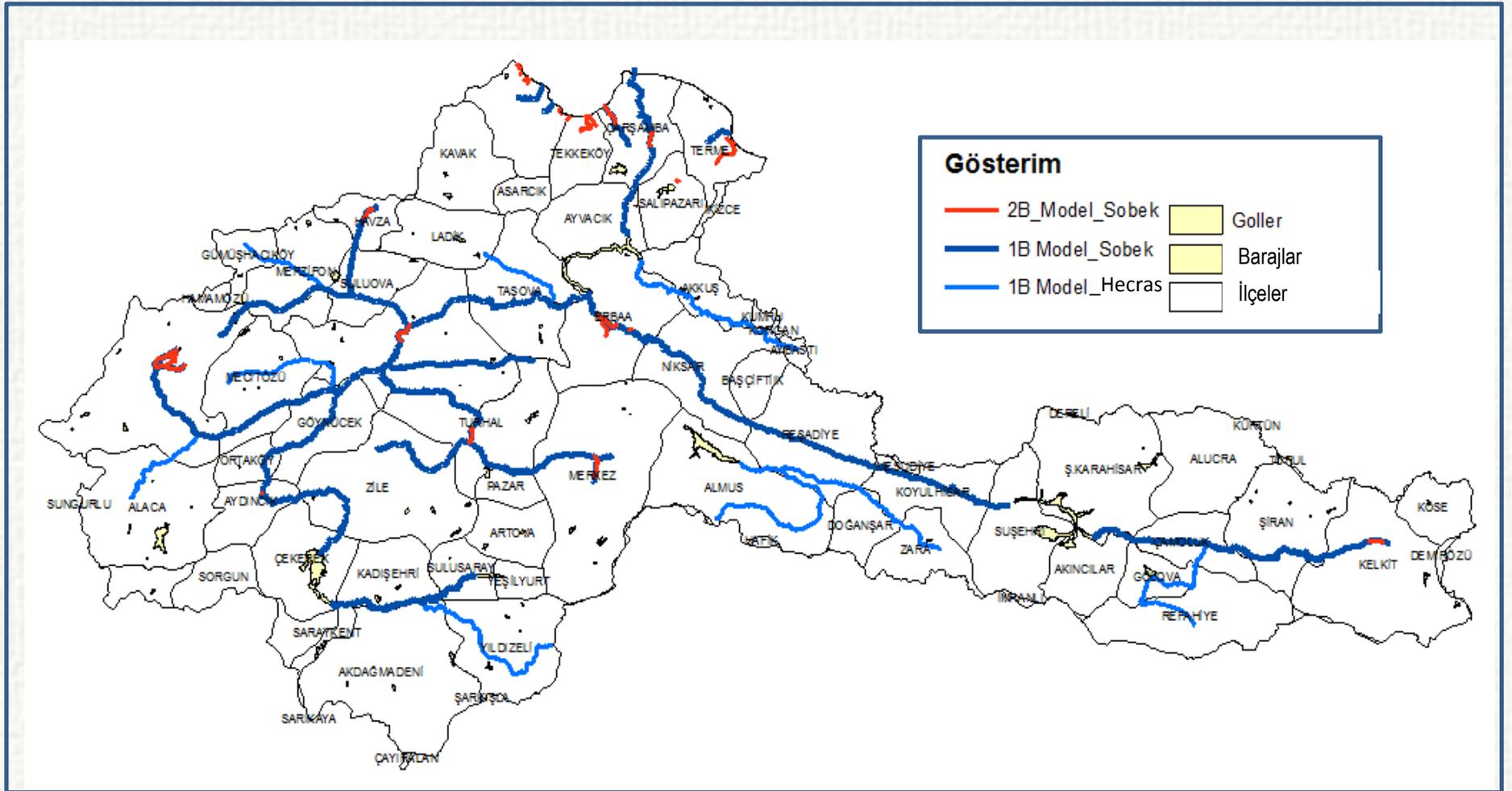
Flood Management Plan  
that defines the  
objectives and measures  
before, during and after  
the flood was prepared.





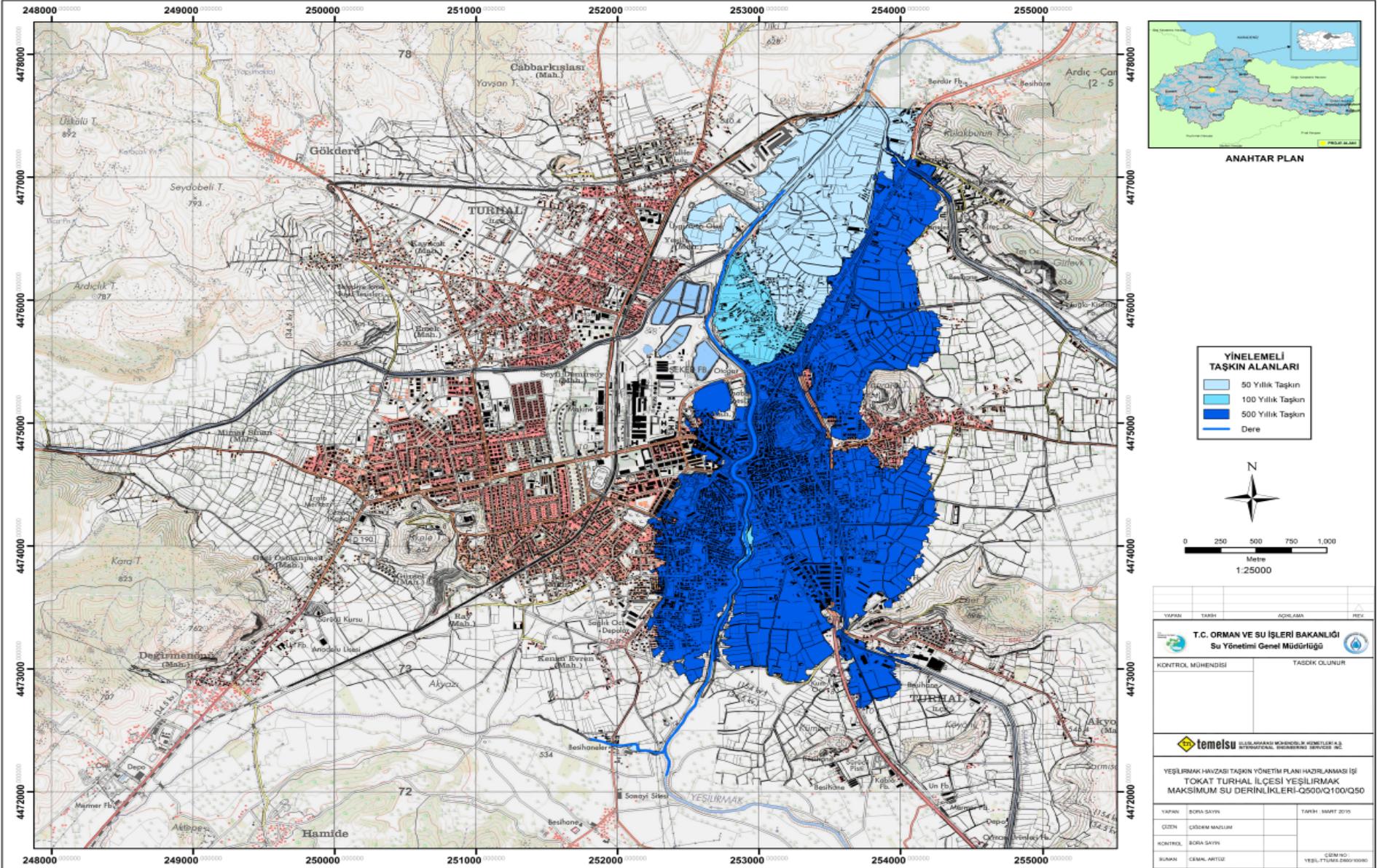


# FLOOD HAZARD MAPS





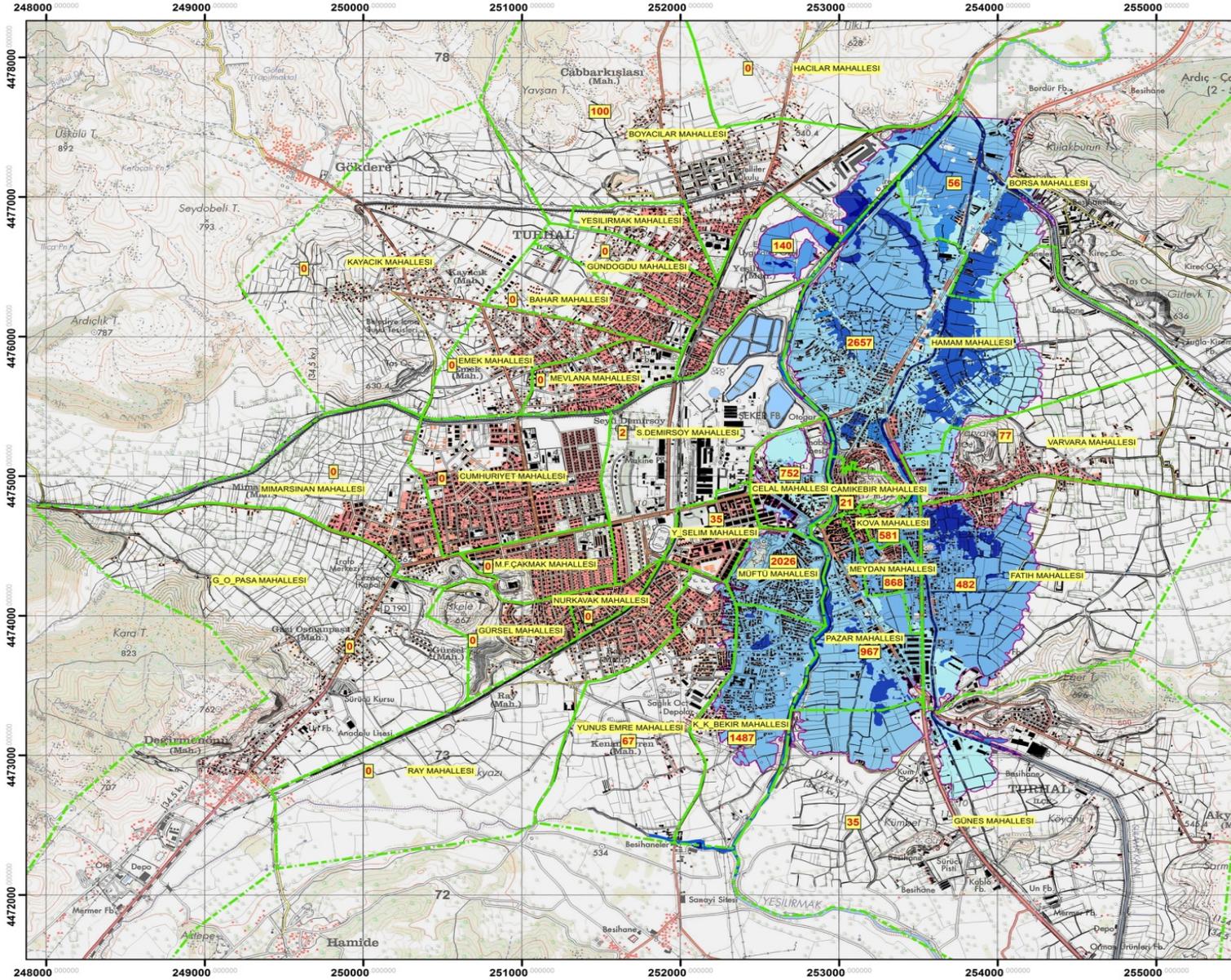
# PREPARATION OF FLOOD HAZARD MAPS





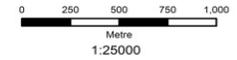
# PREPARATION OF FLOOD RISK MAPS

## Population Affected From Flood (Q500)



ANAHTAR PLAN

GÖSTERİM	
	Mahalle Sınırı
	Etkilenen İnsan Sayısı
	Taşkın Sınırı
	Dere

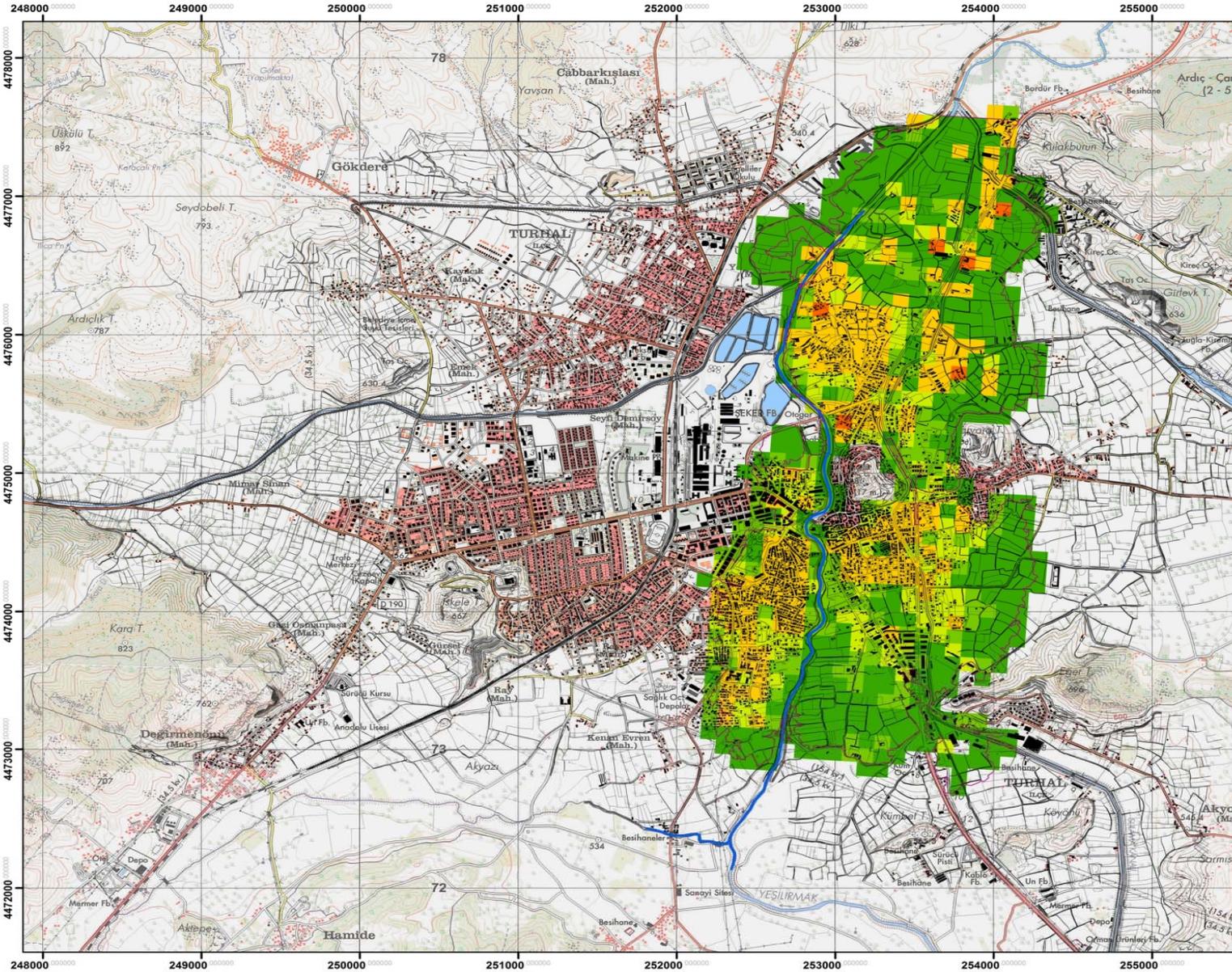


YAPAN	TARİH	AÇIKLAMA	REV
<b>T.C. ORMAN VE SU İŞLERİ BAKANLIĞI</b> Su Yönetimi Genel Müdürlüğü			
KONTROL MÜHENDİSİ		TASDİK OLUNUR	
<b>temelsu</b> ULUSLARARASI MÜHENDİSLİK HİZMETLERİ A.Ş. INTERNATIONAL ENGINEERING SERVICES INC.			
YESİLIRMAK HAVZASI TAŞKIN YÖNETİM PLANI HAZIRLANMASI İŞİ TOKAT TURHAL İLÇESİ YESİLIRMAK TAŞKINDAN ETKİLENEN NÜFUS HARİTASI-Q500			
YAPAN	MEHMET ERAYCI	TARİH	HAZİRAN 2015
ÇİZEN	ÇİĞDEM MAZLUM		
KONTROL	MEHMET ERAYCI		
SUNAN	CEMAL ARTIÇ	ÇİZİM NO	YESİL-TRUTEN-0008

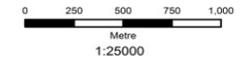


# PREPARATION OF FLOOD RISK MAPS

## Economic Damage (Q500)



ANAHAHTAR PLAN



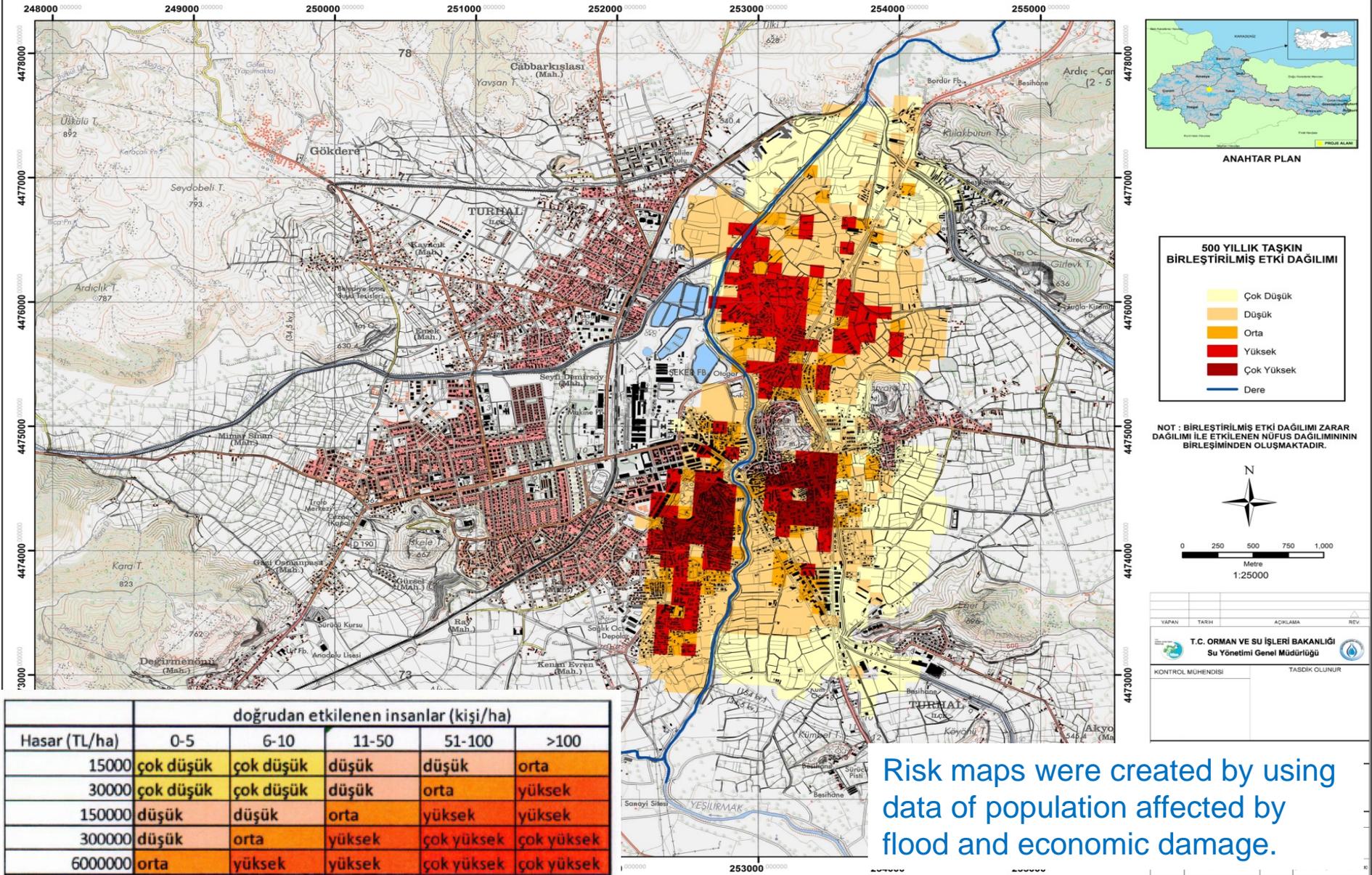
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YAPAN	TARİH	AÇIKLAMA	REV.
<b>T.C. ORMAN VE SU İŞLERİ BAKANLIĞI</b> Su Yönetimi Genel Müdürlüğü			
KONTROL MÜHENDİSİ		TASDİK OLUNUR	
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YEŞİLIRMAK HAVZASI TAŞKIN YÖNETİM PLANI HAZIRLANMASI İŞİ TOKAT TURHAL İLÇESİ YEŞİLIRMAK TAŞKIN ZARAR HARİTASI-Q500			
YAPAN	BORA BAYIN	TARİH:	HAZİRAN 2015
ÇİZEN	ÇİĞDEM MAZLUM		
KONTROL	BORA BAYIN		
SUNAN	CEMAL ARTUZ	ÇİZİM NO:	YESIL-TU2124-0500



# PREPARATION OF FLOOD RISK MAPS

## Risk Maps (Q500)





# FLOOD MANAGEMENT PLANS (Content)



Executive Summary

Basin Profile

Coordination and Responsible authorities

Flood Hazard and Flood Risk Maps

Before Flood / Risk / Damage Reduction

During Flood / Response

After Flood / Recovery

Implementation, Monitoring and Updating

With Flood Management Plan objectives and measures before the flood, during the flood and after the flood are determined. :



# TABLE OF MEASURES (Example From EU Project)



	Name of the under objective	Name of the measure	Type of measure	Location	Geographic coverage of expected effect of the measures	Authorities responsible	Prioritisation for implementation	Status of the measure	Cost and benefits of the measure	Other National Act under which the measure has been implemented (where relevant)	Time of implementation Before, During, After event
1	Ensure the adapted protection against flood in sensitive areas	Kirazlıköprü dam	Structural	Gökırmak river	Gökırmak nehri/bartın-alt havza	DSİ	Very High	Ongoing	Maliyet= 46331000 tl - yıkılma riski - bakım maliyeti de önemli olabilir	law on the establishment of DSI no: 6200	Before flood
2	Managing surface flow at basin scale – appropriate agricultural practices and forest management	Developing good agricultural practices in order to reduce surface flow	Non-structural	Agricultural Areas (Selected)	Downstream of agricultural areas	Ministry of Food, Agriculture and Livestock	Moderate	Not started	+++	(Tarım bakanlığı ilgili kanun)	Before flood
3	Benefiting from natural functions and green infrastructures	Benefiting from some areas for flood propagation or as floodplains	Structural	Selected Areas	Downstream of selected areas	Governors	Moderate	Not started	++++	None	During flood
4	Benefiting from natural functions and green infrastructures	Forest Management and upper basin rehabilitation	Structural	All of the forest land in the basin	All basin	OGM	Moderate	Ongoing	++++	Legislation related to OGM	Before flood
5	Managing construction and landuse in flood prone areas	Providing harmonisation of landuse plans with flood hazard and risk maps	Non-structural	Settlements under risk	Settlements under risk	ÇŞB	Critic	Ongoing	+++++	Law no: 648,2872,3194	Before flood



# WEB PAGE



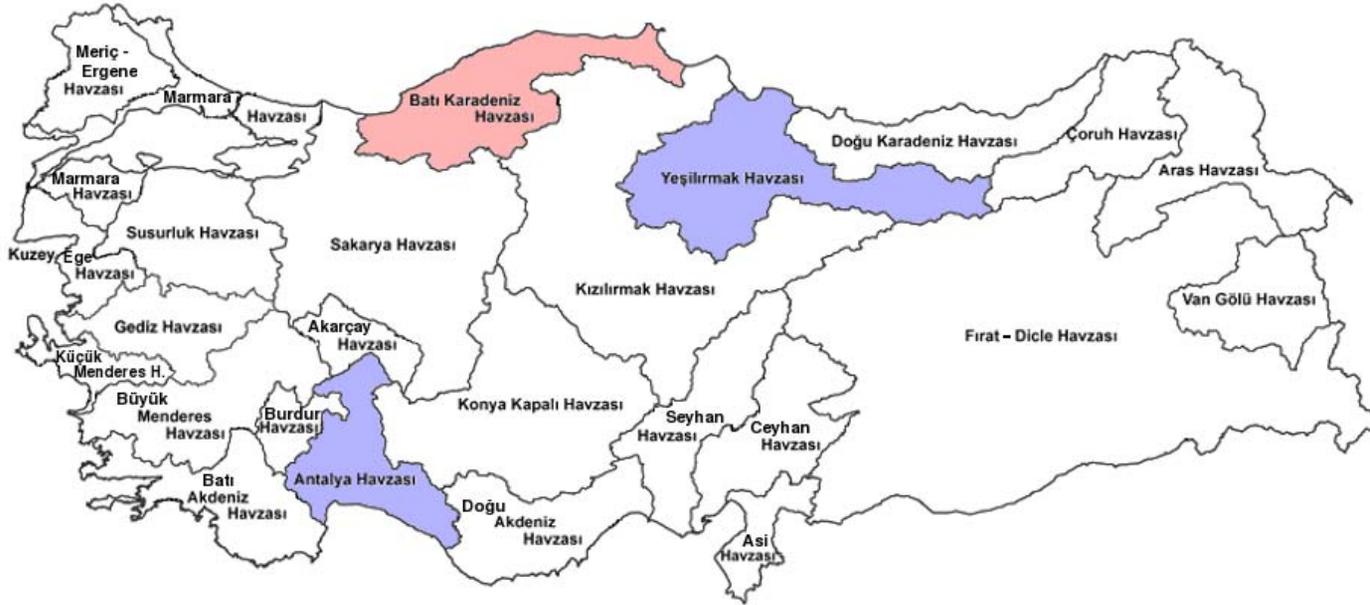
## TAŞKIN YÖNETİMİ



Orman, Su Varsa Hayat Var

Anasayfa Mevzuat İletişim

TR ENG

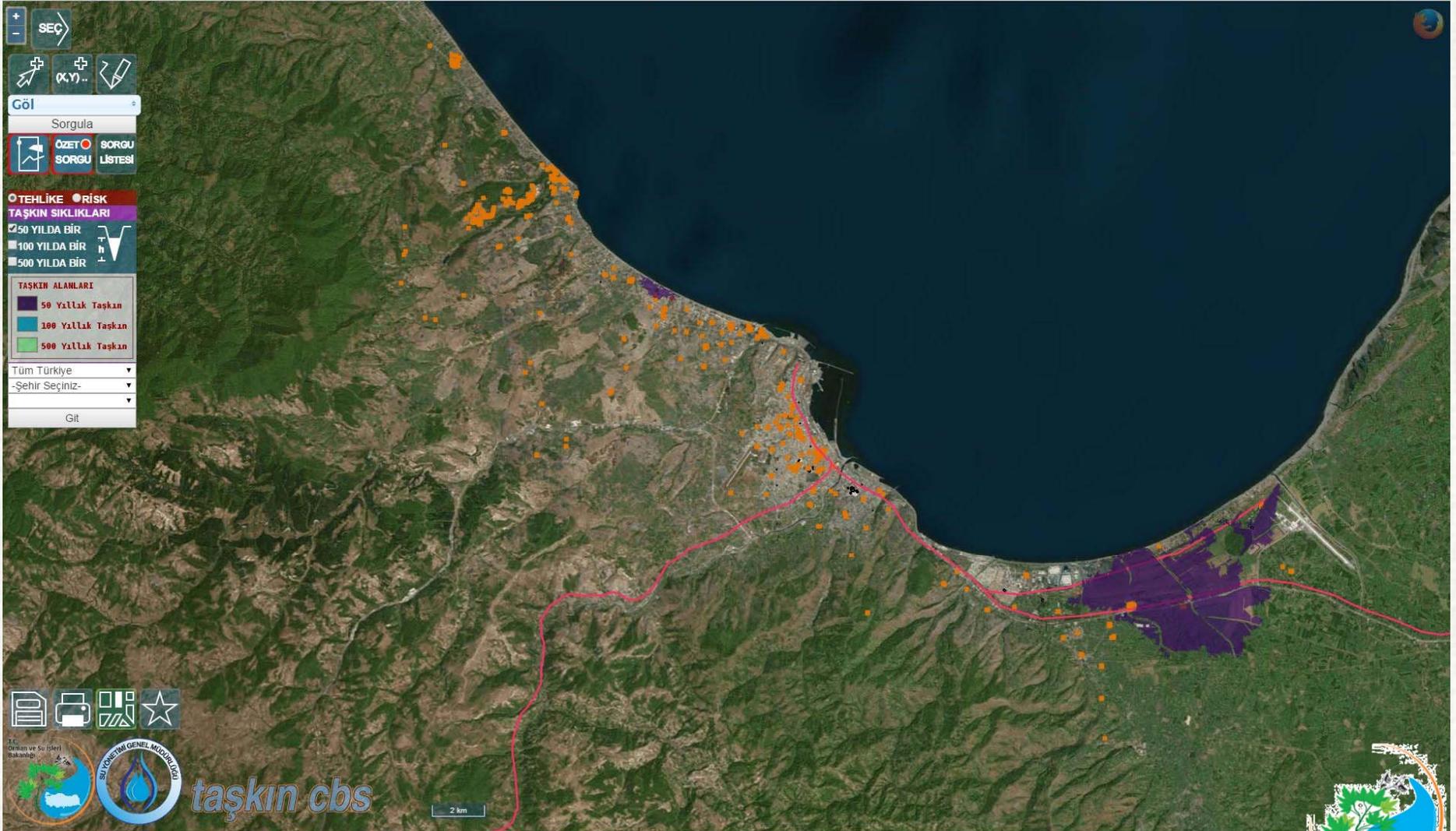


Kapasite Geliştirme Projesi Devam Eden Projeler

[taskinyonetimi.ormansu.gov.tr](http://taskinyonetimi.ormansu.gov.tr)

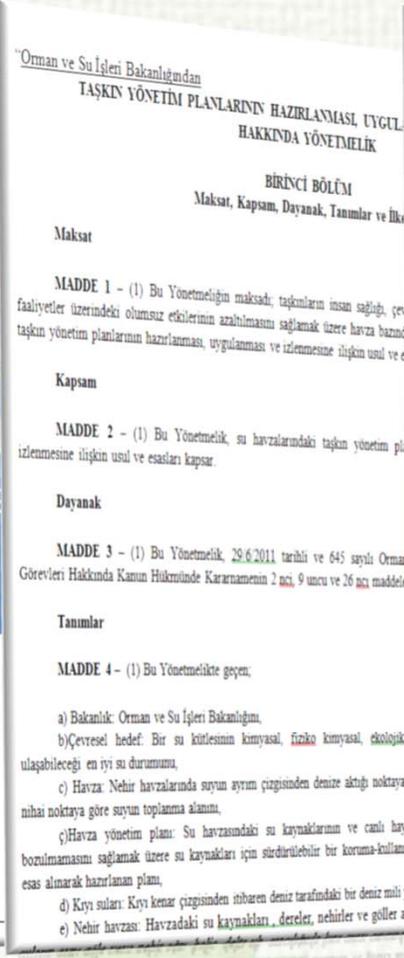


# WEB APPLICATION





# LEGISLATION AND POLICY DEVELOPMENT



T.C.  
ORMAN ve SU İŞLERİ BAKANLIđI

**Taşkın Kayıt Formu**

Formu Dolduran Personelin

Kurumu ve Görevi: \_\_\_\_\_  
Bölge/İli: \_\_\_\_\_  
Adres: \_\_\_\_\_  
Adı / Soyadı: \_\_\_\_\_ E-Posta: \_\_\_\_\_  
Telefon: \_\_\_\_\_ Tarih: \_\_\_\_\_

**Taşkın Meydana Geldiđi Yer**

Havza: \_\_\_\_\_ İl: \_\_\_\_\_ İlçe: \_\_\_\_\_ Mahalle/Köy: \_\_\_\_\_  
Mevki: \_\_\_\_\_ Akarsu/Dere Adı: \_\_\_\_\_ Akarsu Kodu: \_\_\_\_\_

Taşkın Kontrol Yapısı Var mı?  Evet  Tasarım Tekerrür Periyodu: \_\_\_\_\_ Tasarım Esas Yağış Sıdđeti (kg/sa/m2): \_\_\_\_\_ Kesit Karakteristikleri: \_\_\_\_\_  
 Hayır

Taşkın Kodu: \_\_\_\_\_ Başlangıç Tarihi: \_\_\_\_\_ Taşkın Sıdđeti: \_\_\_\_\_  
Taşkın Debişi: \_\_\_\_\_ Taşkın Teberrür Periyodu: \_\_\_\_\_ Yağış Sıdđeti (kg/sa/m2): \_\_\_\_\_

**Taşkın Çeşidi**

Nehir Taşkını  Ani Taşkın  
 Kıyı Taşkını  Yeraltı Sularından Kaynaklanan Taşkın  
 Şehir Selleri  Depolamalı Tesislerin Yıkılması  
 Diğer \_\_\_\_\_

**Taşkın Sebepleri**

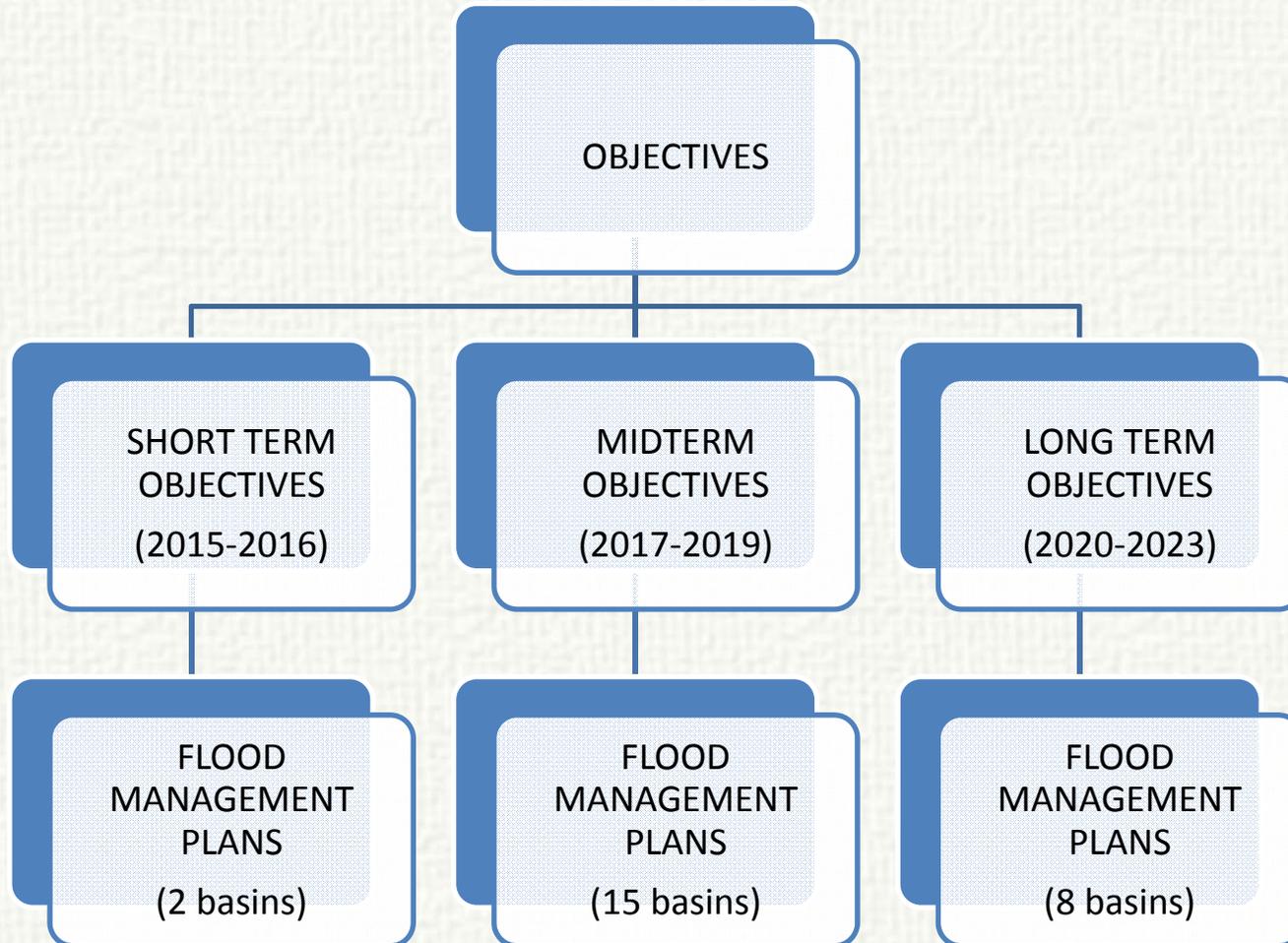
Aşırı Yağışlar  Kesit Yetersizliđi  
 Kar Erimesi  Akarsu Yatađının Dolmuş Olması  
 Sedde, Kanal vs. Yarılması  Akarsu Yatađına Suni Müdahaleler  
 Bend Yıkılması  Köprü, Menfez vs. Yetersizliđi/Tıkanması  
 Kentsel Alt Yapıdan Kaynaklı  Diğer \_\_\_\_\_

**Taşkın Özeti**

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# OBJECTIVES





# MINISTRY OF FORESTRY AND WATER AFFAIRS

## General Directorate of Water Management



**Thank you for your attention**

[serdarozcan@ormansu.gov.tr](mailto:serdarozcan@ormansu.gov.tr)

**Department of Flood and Drought Management**  
**General Directorate of Water Management**