



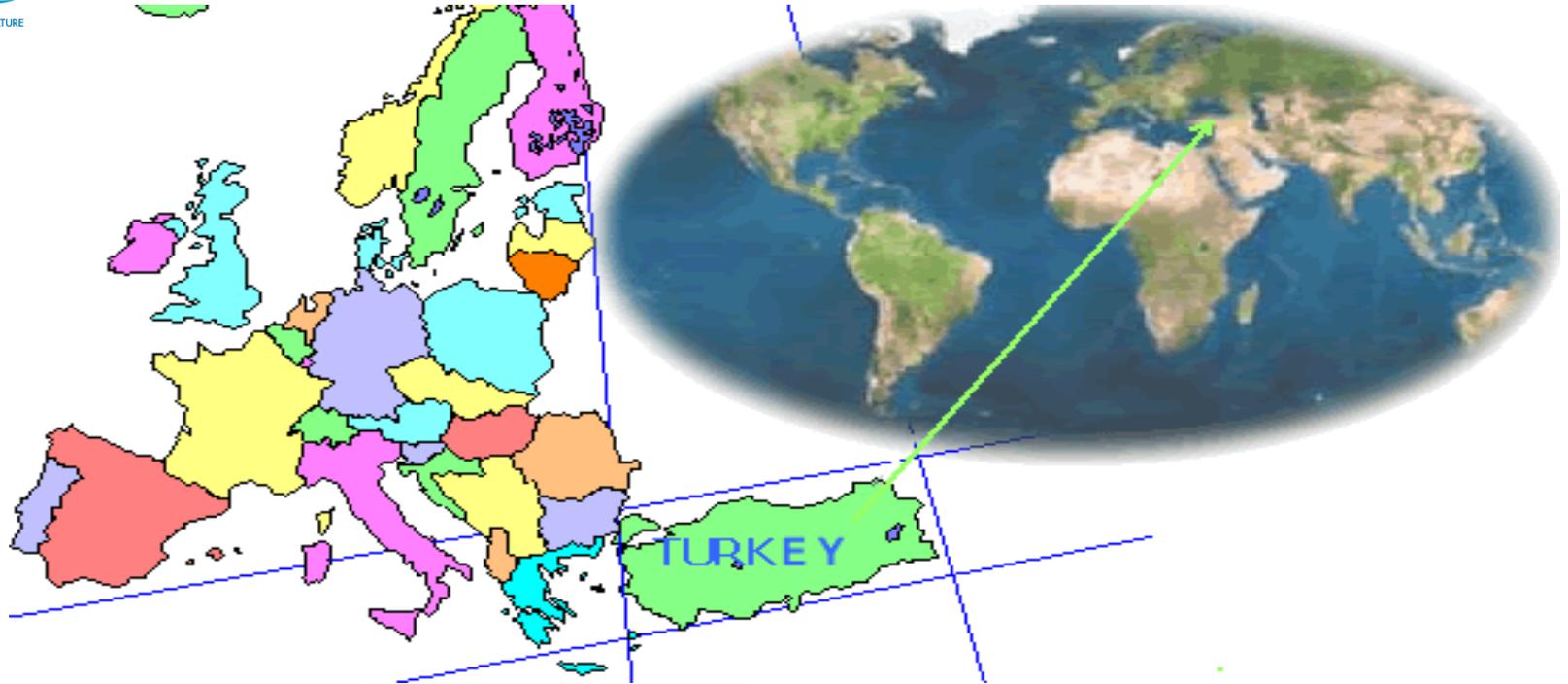
Drought Strategy and Action Plan for Combating Agricultural Drought in Turkey

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Workshop on “Capacity Development to support National Drought Management Policy”

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1. Introduction



Land Usage	Mha	%
Agricultural Land	38,2	49,1
Cultivated land	24,5	31,5
Natural grass land	14,6	18,8
Forest Land	21,5	27,6
Settlement and others	3,5	5,0
Toplam	77,8	100,0

- ❖ Total Population 75 Million
- ❖ Rural Population 17 Million (23%)
- ❖ Urban Population 58 Million (75%)
- ❖ **81 - Province**
- ❖ **900 - City**
- ❖ **40.000 - Village and districts**

2. Land And Water Resources

Land

- ❖ Total area : 78 million ha
- ❖ Cultivated area : 24.5 million ha
- ❖ Arable land : 18,4 million ha
- ❖ Fallow land : 4,5 milyon ha
- ❖ Economically Irrigable area : 8.5 million ha
- ❖ Irrigated area (2012) : 5.5 million ha
- ❖ Rate : 65 %

Water

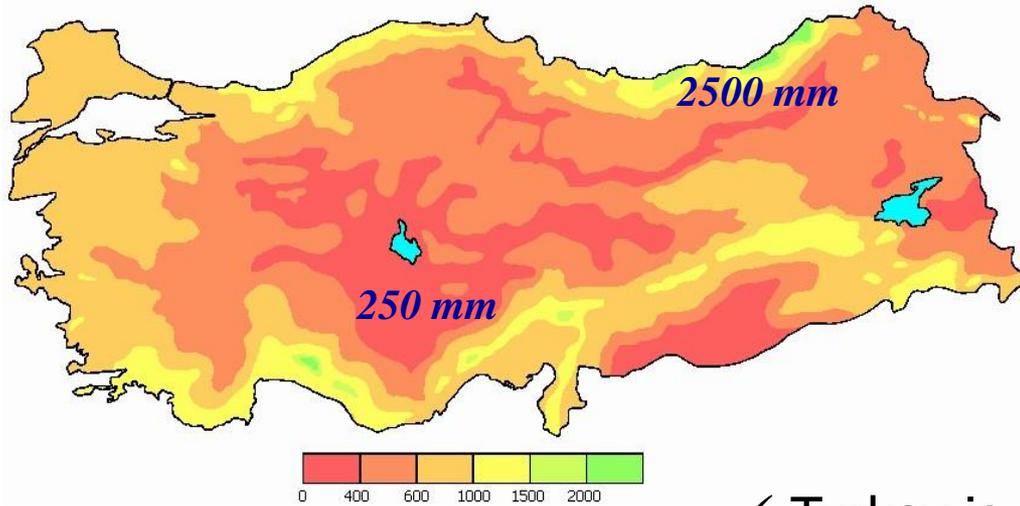
- ❖ Surface water : 98 Billion m³
- ❖ Groundwater : 14 Billion m³
- ❖ Total available Water (net): 112 Billion m³

72 % of available water is used agriculture,



Turkey is not a water-rich country.

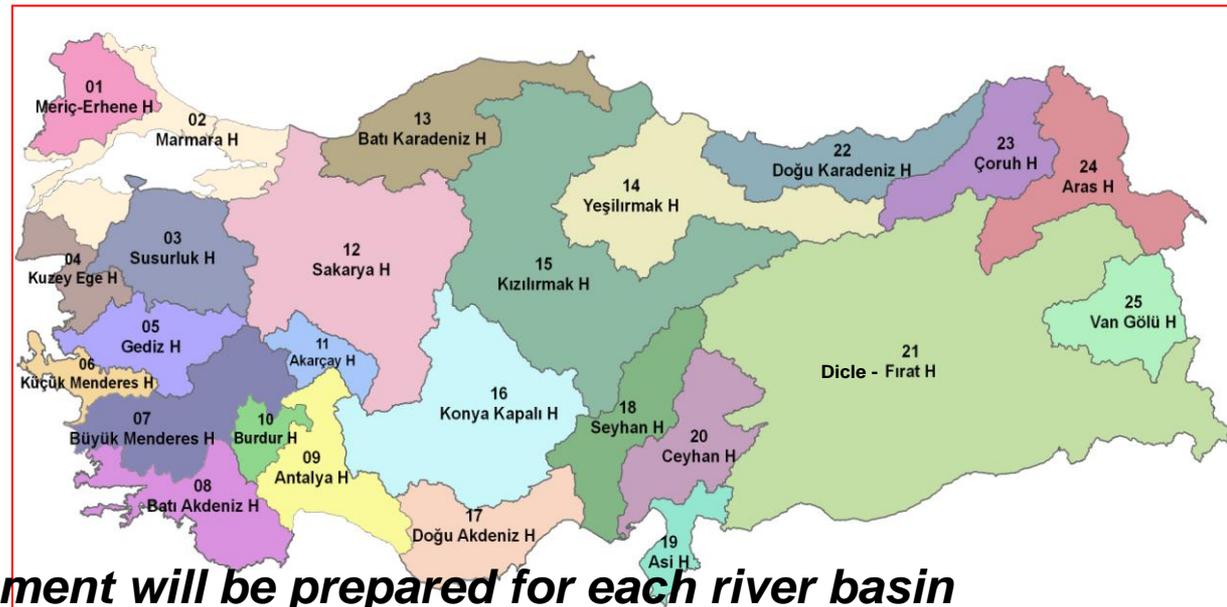
Precipitation and Water Resources



The annual average precipitation is 643 mm, but it varies from 250 mm at the central Anatolia to over 2 500 mm at the eastern Black Sea region

- ✓ Turkey is divided into 25 drainage basins
- ✓ 30 Agricultural basin

- The rivers often have irregular regimes.
- *irrigation is compulsory.*
- *More than 9.000 irrigation networks have been consructed by State and transferred WUO'*



Integrated drought management will be prepared for each river basin

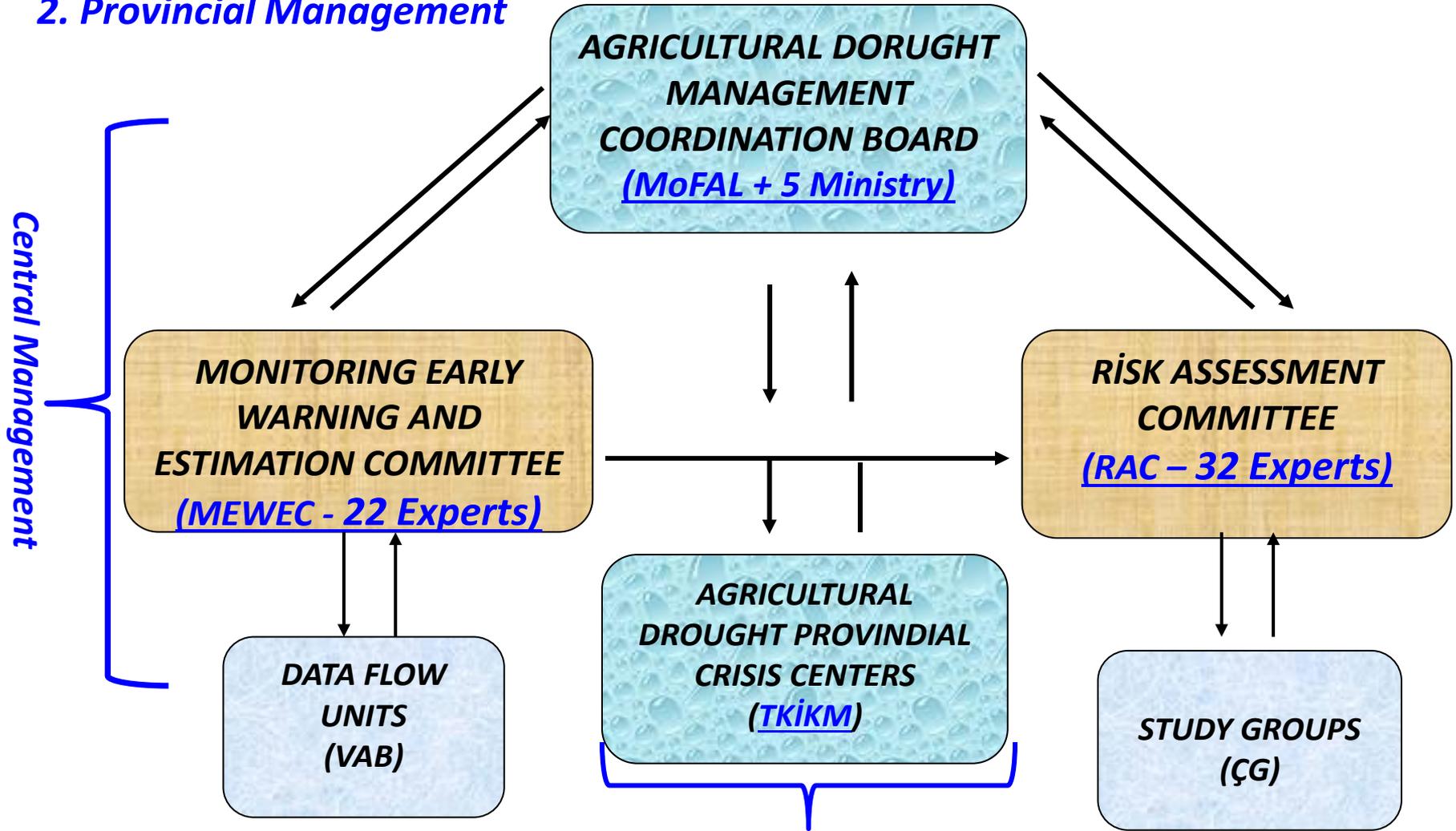
5. Agricultural Drought Policy and Action Plan

Agr. Drought	Explanation
Challenges/treaths on agriculture	Water scarcity - looses of production, Increase of food prices, Social Unrest, Desertification, Epidemic diseases, fires can not be prevented, Famine caused by insufficient irrigation
Policy	To prepare an action plan with stakeholders, To take short, medium and long-term measures and To manage drought for sustainability in agriculture
Strategy	To form a strong Institutional Capacity (cetral/local level) To carry out combat in integrated way To develop an agricultur el sector that is less effected by droughts.
Action Plan	First Plan has been prapared for 2008-2012 (published) Plan was revised for 2013-2017
Legal Status	Decision of the Council of Ministers, - Drought Regülations
Ministries/ stakeholders (6 ministry...)	Ministries of ; Food Agriculture and Livestock, Forest and Water Affairs, Finance, Development, Interior, Environment, University and NGO's - Head of Coordination Board is Undersectry of MoFAL

6. AGRICULTURAL DROUGHT MANAGEMENT

consists of two parts:

1. Central Management
2. Provincial Management



Provincial Management (81)

Main Objective of Combatting Agricultural Drought

- ✓ *To create awareness to the public,*
- ✓ *To include all shareholders in the process,*
- ✓ *To ensure the sustainable use of agricultural water,*
- ✓ *Take a necessary measures before the drought,*
- ✓ *To minimize the effects of drought by applying effective combatting program during crisis.*
- ✓ *To develop an institutional structure that has reached to sufficient capacity,*
- ✓ *To realize combatting under an integrated and comprehensive plan,*
- ✓ *To achieve a structure in which agriculture sector is affected by drought at minimum level.*

Data (mountly);

Province - Fenrologic data

Observational data

Cl. Station Climatological data

DSİ – Hidrological data



Activities of Monitoring, Early Warning and Estimation Committee

Comitte;

- collects data
- evaluates

Percent of Normal Index (PNI)

Standart Precipitation Ind. Meth (SPI)

Palmer drought severity index

- prepares maps and reports
- offers reports to

«Risk Assesment Committee»

650 meteorology Station

In addition, 200 agro-meteorology station

Works with Monitoring and Early Warning System



Anasayfa

Entegre Projeler

Literatür

Etkinlikler

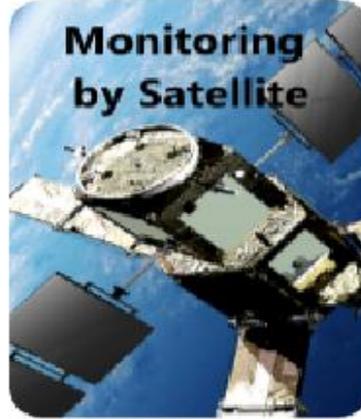
Hakkında

Abon

**Monitoring
Field**



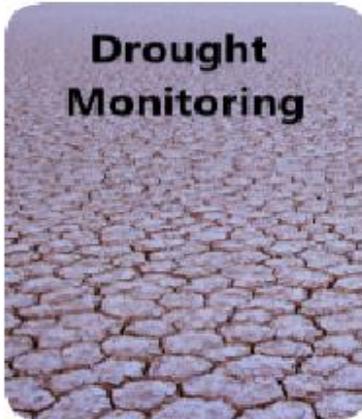
**Monitoring
by Satellite**



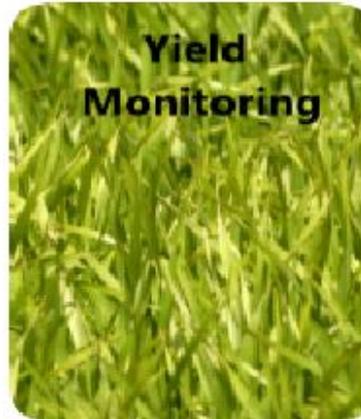
**Crop Yield
Forecast**



**Drought
Monitoring**



**Yield
Monitoring**



**Agricultural
Warnings**



Activities of Risk Assessment Committee

This committee makes semi-annual predictions for future by assessing report of Monitoring, Early Warning and Estimation Committee and by using various meteorological data. While preparing scenario, precipitation's being 20 % more or less than average is taken into consideration. 3 scenarios are prepared.

PRECIPITATION SCENARIOS

1- Best scenario

Precipitation is 20% more than normal level,

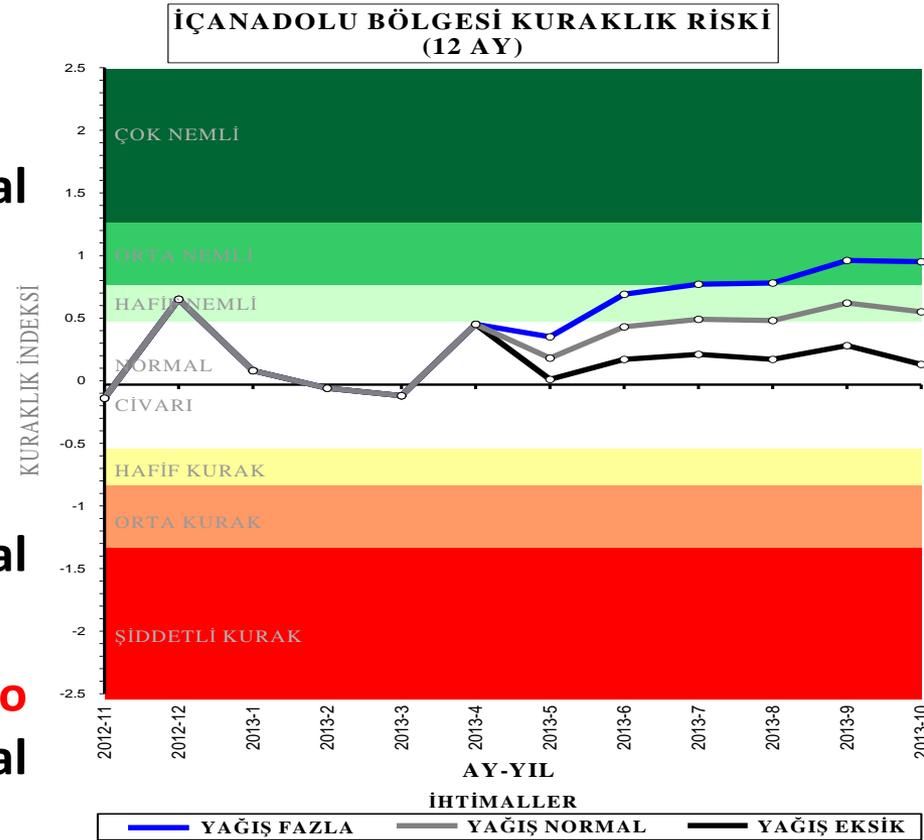
2-Normal scenario

Precipitation is at normal levels

3- Worst scenario

Precipitation is 20% less than normal levels,

Tere is no "DROUGHT" risk according to any of these 3 scenarios in the Central Anatolian Region in next 6 months



Activities of Agricultural Drought Provincial Crisis Centers

- ✓ It consists of provincial representatives of related ministries and representatives from local organizations of general directorates of related ministries under the leadership of Governor or Deputy Governor assigned by the Governor.
- ✓ Agricultural Drought Provincial Action Plans have been prepared in 81 provinces.
- ✓ Product patterns to be applied on dry and irrigated lands in dry periods according to possible drought scenarios under Provincial Action Plans prepared by the Ministry of Food Agriculture and Livestock

Agricultural Researches and Policies

✓ *Drought Test Center was established in Konya.*

✓ *Drought-tolerant wheat and barley varieties have been developed.*

Regions	Value of Tolerance for Drought and Varieties			
	1 (most tolerant)	2 (tolerant)	3 (intermediate sensitive)	4 (most sensitive)
Central Anatolia; West and South Corridor; Sivas, Malatya, Elazığ; Eastern Anatolia	Kıraç 66 Gerek 79 Lancer Doğu 88 Gün 91 İkizce 96 Karahana99 Müfitbey Dağdaş 94	Tosunbey Seval Bağcı 2002 Altay2000 İzgi01 Palandöken Karasu 90	Bezostaya 1 Kınacı 97 Harmankaya99 Demir 2000 Soyer 02 Nenehatun Alpaslan	Sultan 95 Yıldız 98 Çetinel 2000 Alpu 01 Göksu 99 Ahmetağa Konya 2002

7. Risk Management in Agriculture

(Good Experience)

❖ Turkish Agricultural Insurance System (AIS) (Tarsim)

- *Crop Insurance*
- *Greenhouse Insurance*
- *Livestock Insurance*
- *Poultry Insurance*
- *Aquaculture Insurance*

- *Hail*
- *Storm*
- *Flood*
- *Fire, EQ*
- *Landslide*
- *Quality Loss*
- *Frost (fruits)*

❖ *Drought may be covered by insurance?*



THANK YOU FOR YOUR ATTENTION

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