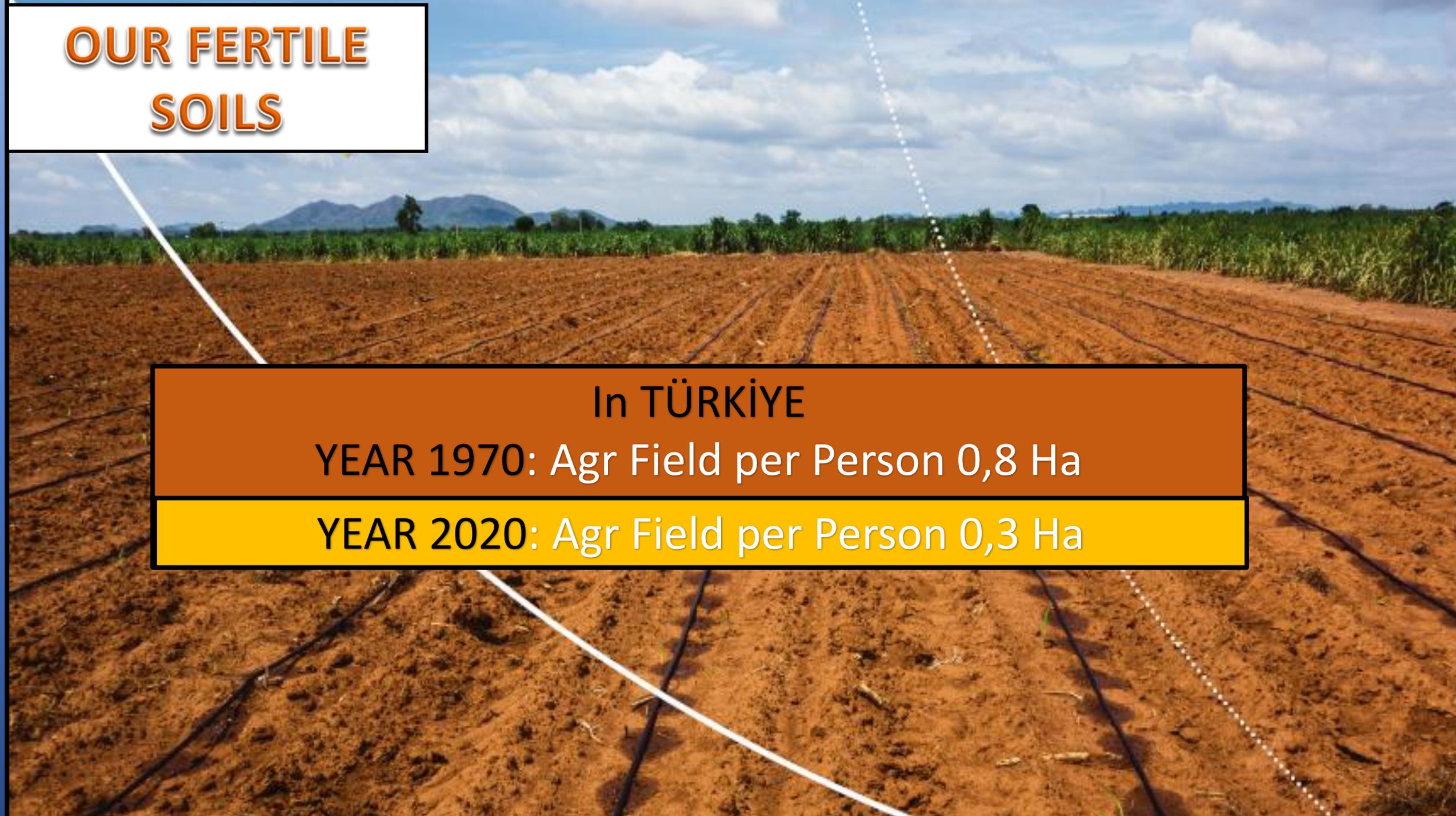


Possible effects on productivity during the duration of drought and global warming



OUR FERTILE SOILS



In TÜRKİYE

YEAR 1970: Agr Field per Person 0,8 Ha

YEAR 2020: Agr Field per Person 0,3 Ha

1 m of EARTH on the Surface of the Land that Feeds the Humans of the World

1 m

P

Fe

Mg

K

Zn

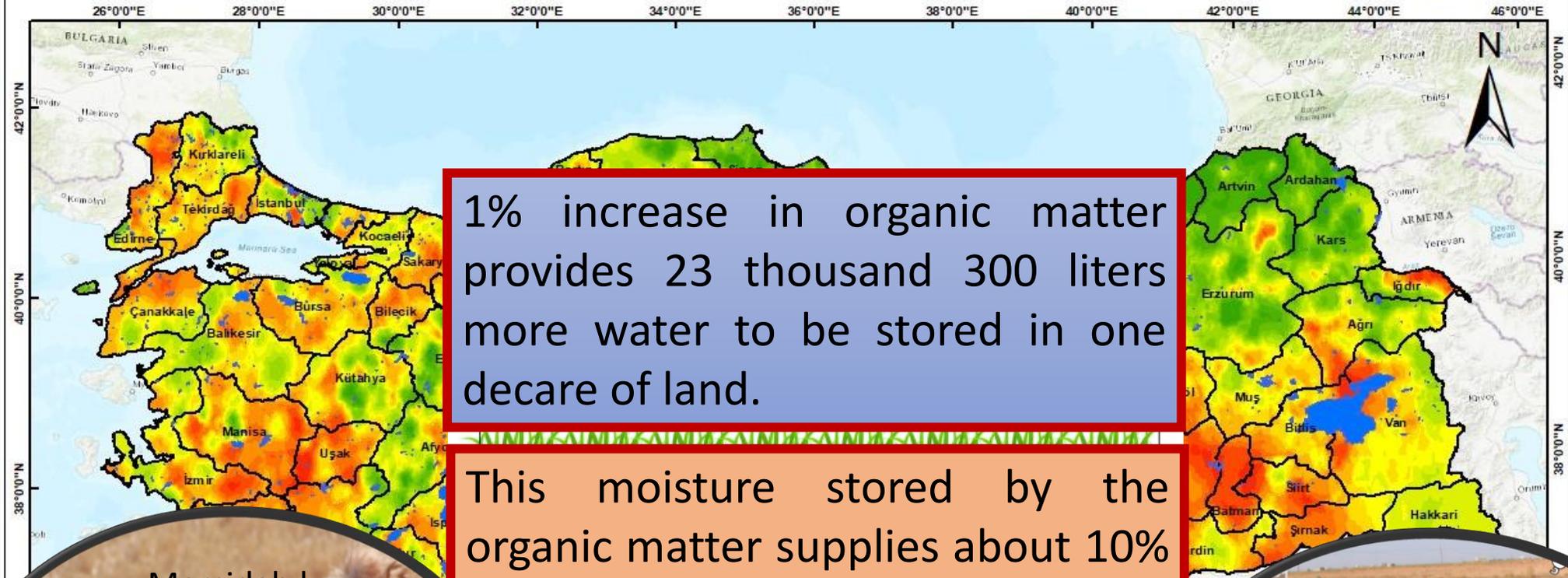




Land
Degradation

This moisture stored by the organic matter supplies about 10% of the water needed by the wheat to the soil.

BILGEM YTE



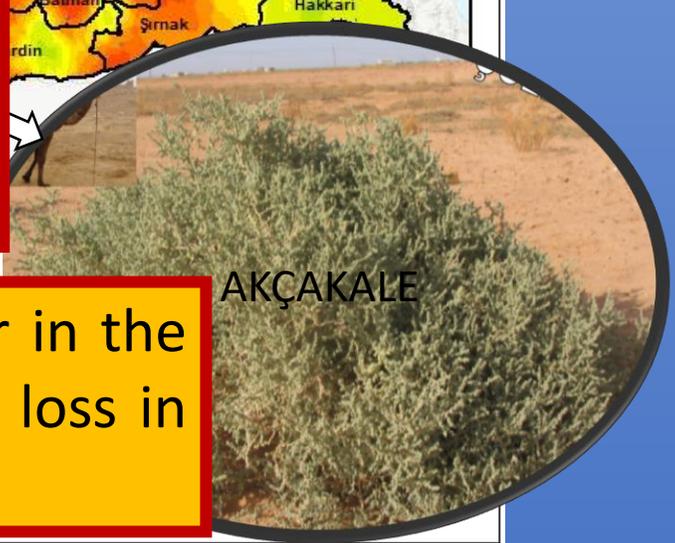
1% increase in organic matter provides 23 thousand 300 liters more water to be stored in one decare of land.

This moisture stored by the organic matter supplies about 10% of the water needed by the wheat to the soil.



Merçidabık Ovası; KİLİS

A decrease in the amount of organic matter in the soil from 1.4% to 0.9% can cause 50% yield loss in grain production.



AKÇAKALE



TEZEK



STUBBLE



**Burning stubble
BURNING THE POWER OF THE EARTH**



INCREASING THE ORGANIC MATERIALS OF THE SOIL

Earth's soils hold approximately 2 times more carbon than the atmosphere and 3 times more carbon dioxide than the plant-retained carbon dioxide.

Living things and Microorganisms in the Soil are the POWER of the Soil.

Soil Health



SAĞLIKLI
TOPRAK



Healthy crop

Decreasing Organic
Content

REDUCTION IN THE
WATER HOLDING
CAPACITY OF THE SOIL

Yield loss



Unhealthy Soil



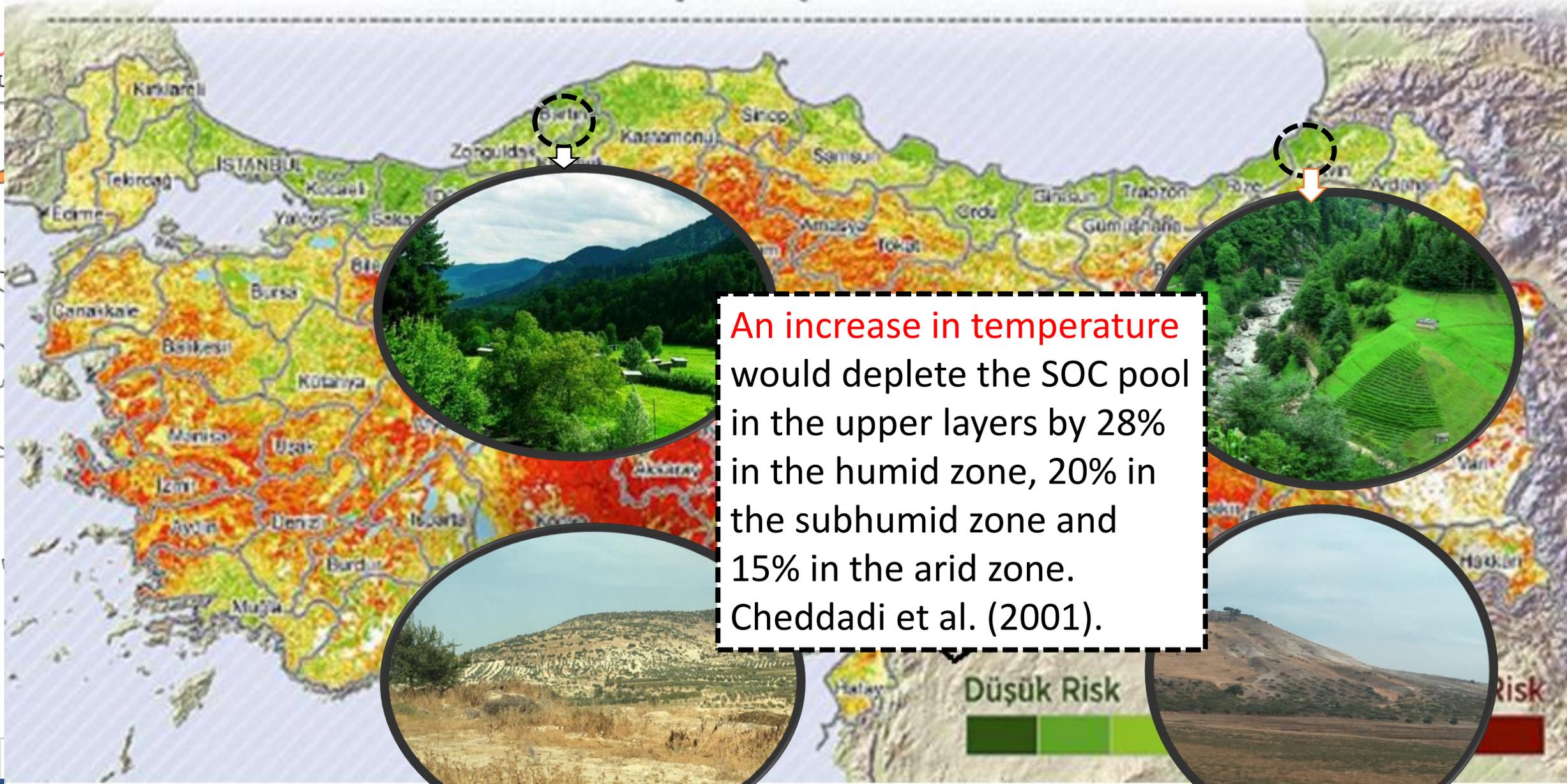
Weak crop

Global
Warming



ÇÖLLEŞME

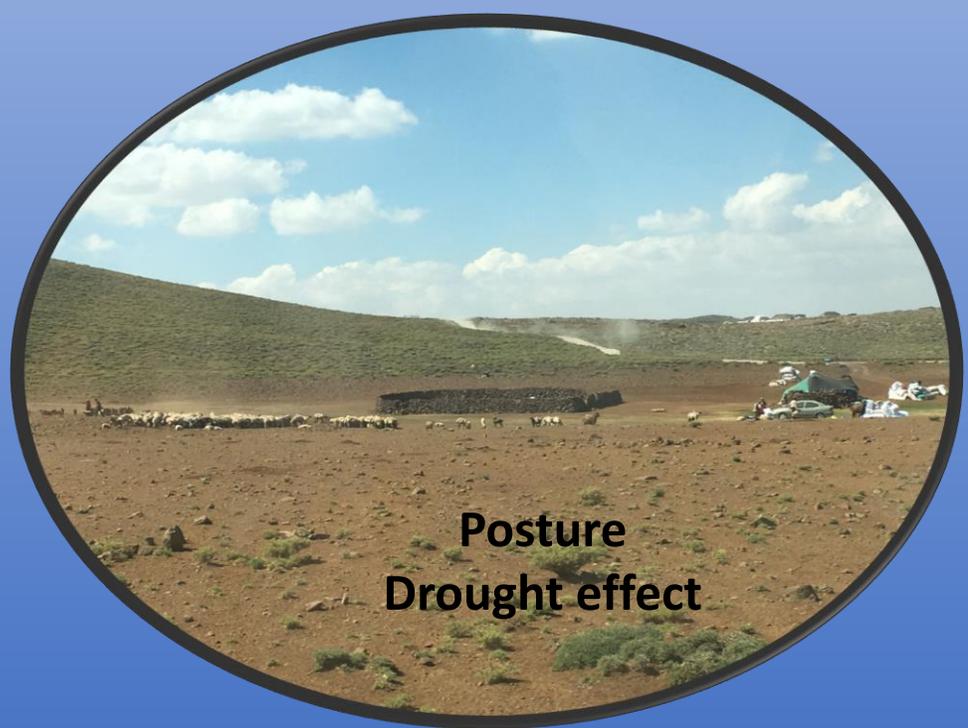
TÜRKİYE'NİN ÇÖLLEŞME RİSK HARİTASI



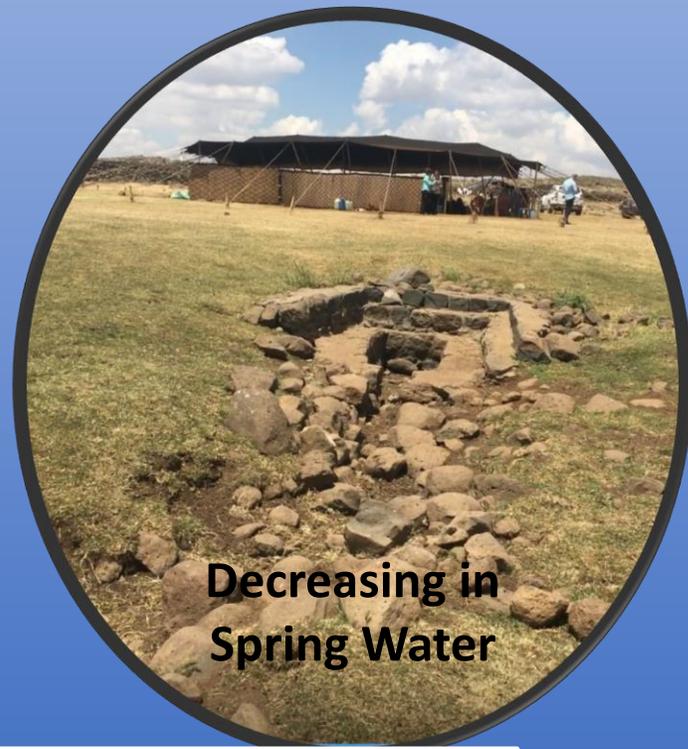
An increase in temperature would deplete the SOC pool in the upper layers by 28% in the humid zone, 20% in the subhumid zone and 15% in the arid zone. Cheddadi et al. (2001).



DROUGHT
Almost No Wheat



Posture
Drought effect



Decreasing in
Spring Water

Southeastern Anatolia Region, which is under the threat of desertification and does not have enough water, will be more affected by the increase in temperature. (Türkeş, 1999).

The fact that hotter and less rainy periods will be seen will cause a decrease in water resources and increase the severity of drought; As a result, it is predicted that serious negative effects will be observed especially in dry farming areas.

Due to the drought in 2007-2008, 5 million tons of grain production decreased in the country.

The drought in 2014 went as far as the hydrological drought. Rivers, lakes and dams were affected.

TELE 1

2021
ala

an
f.

PROF. DR. MEHMET ALİ ÇULLU
HARRAN ÜNİVERSİTESİ ÖĞR. ÜYESİ

ana haber

08:50

SU KAYNAKLARI İÇİN ACİL EYLEM PLANI ŞART
SANLIURFA'DA KURAKLIK ÇİFTÇİLERİ ENDİŞELENDİRİYOR

#HalkınYararıİçin

We need to find better ways to feed the world



Today...

**1 in 9 people are
undernourished**



Every day, the world population increases by more than **200,000** people



But **land** available for farming is **limited**



30% of food produced is lost or wasted



T.C.
SANAYİ VE TEKNOLOJİ
BAKANLIĞI

Harran University Digital Agric Center



Conformity with Climate & Higher salary

45% Water Saving

90% Labour Saving

55% Fertilizer Saving

10% More Yield

Robotic
Agriculture

pH



Irrigation Timing and Amount

Thermal Camera

Drone Image
Field Robot

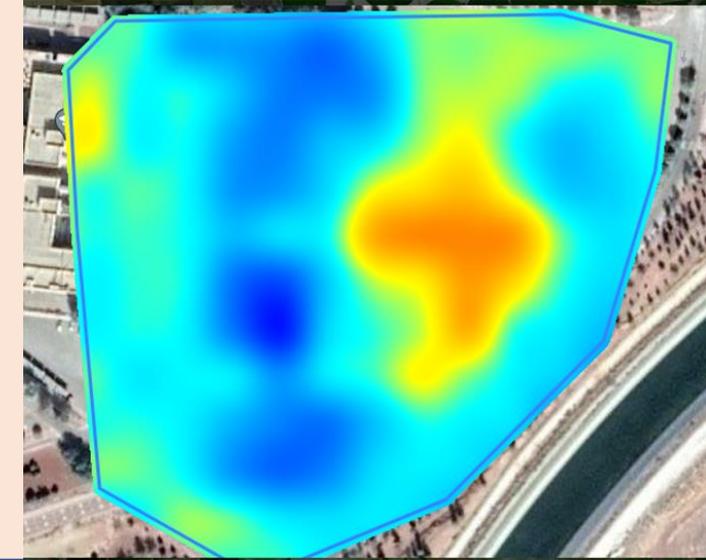


Soil Water Sensor

Data Logger
Irrigation Control Unit
1.2 km Wireless
COmmunication



Satellite Imaginery



Robotic Fertigation Sytem Case Study in Northern Türkiye



Control Tower

Dron and Robot Departure Area

Selenoid Valves

Selenoid Valves

Sensors

Sensors

Sensors

Sensors

Sensors

Sensors

Sensors

Sensors

Sensors

Sensors

Sensors





DIGITAL Farming Farmer Training



SONUÇ VE ÖNERİLER

Gıda Kaynağı Topraklarımız
Her Geçen Gün Alansal Olarak Azalıyor

Topraklarımız Çölleşme Riski Altında (Toprak Sağlığında Bozulma)

Su Kaynaklarındaki Azalma Tarımsal Verimliliği Etkileyecek

Tehdit Altındaki Su ve Toprak Kaynaklarının Daha Doğru Yönetilmesi



Kaynakların Etkin Kullanımı İçin
Dijital Tarım Tekniklerinin Yaygınlaştırılması



Katılımınız İçin Teşekkür Ederim