

CLIMATE CHANGE –Transboundary Maritsa River Basin Case /GENEVA –UNECE Meeting 14-15 Feb 2019

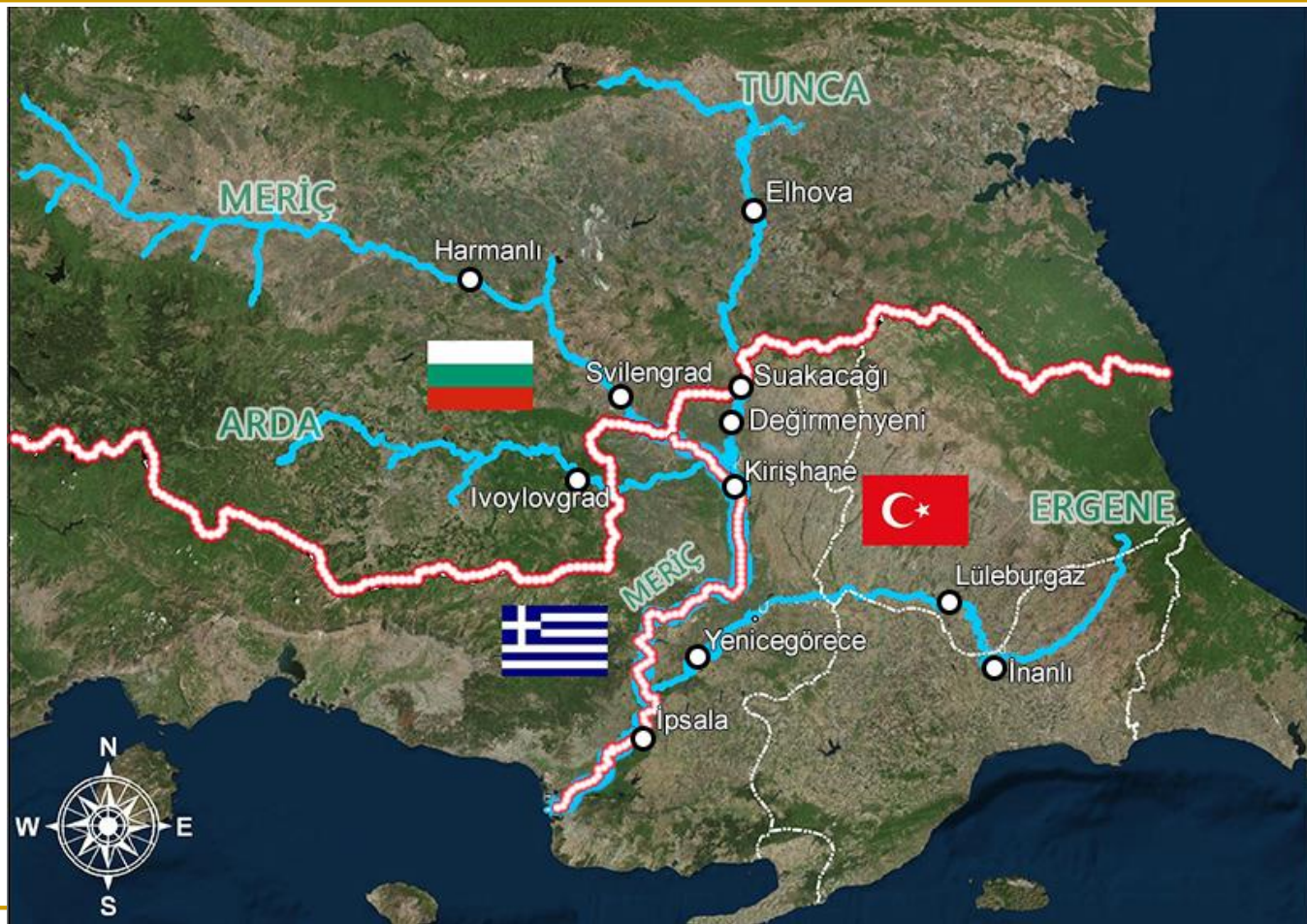
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Director
Hydropolitics Academy



Maritsa River Basin

- The Maritsa/Meriç River is the largest river in the Balkan Peninsula. It originates in Bulgaria, and marks the border between Turkey and Greece.
- Intensive agriculture is widespread within the Maritsa basin. The basin is also highly industrialised and densely populated with the largest cities.
- Close to Edirne, the Maritsa's two largest tributaries, the Tundzha and Arda, join the main flow of the Maritsa.



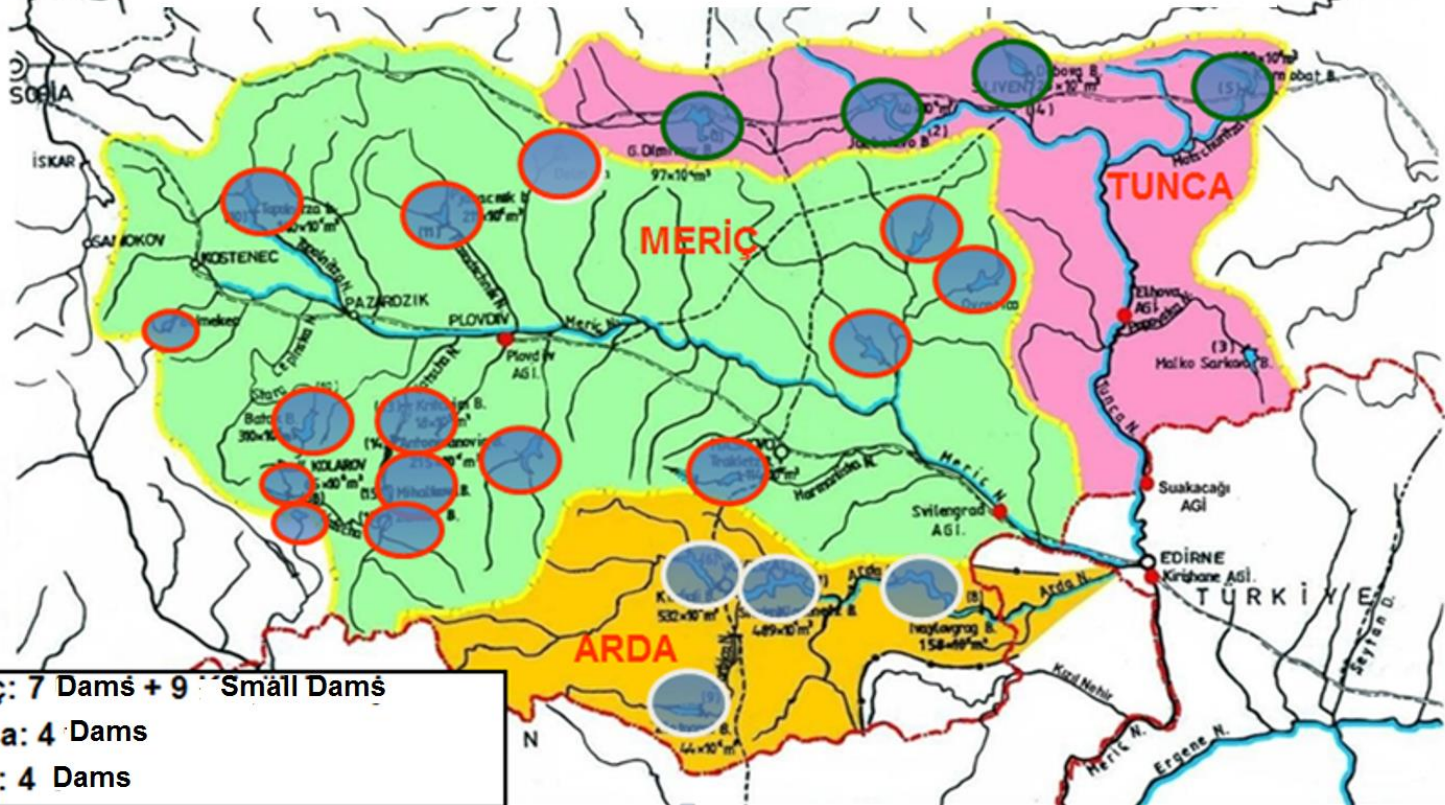


Maritsa River Basin

- Throughout the Maritsa catchment area a significant number of reservoirs and weirs have been constructed for irrigation and hydroelectricity production purposes.



Dams in the Maritza Basin



Meriç: 7 Dams + 9 Small Dams
Tunca: 4 Dams
Arda: 4 Dams

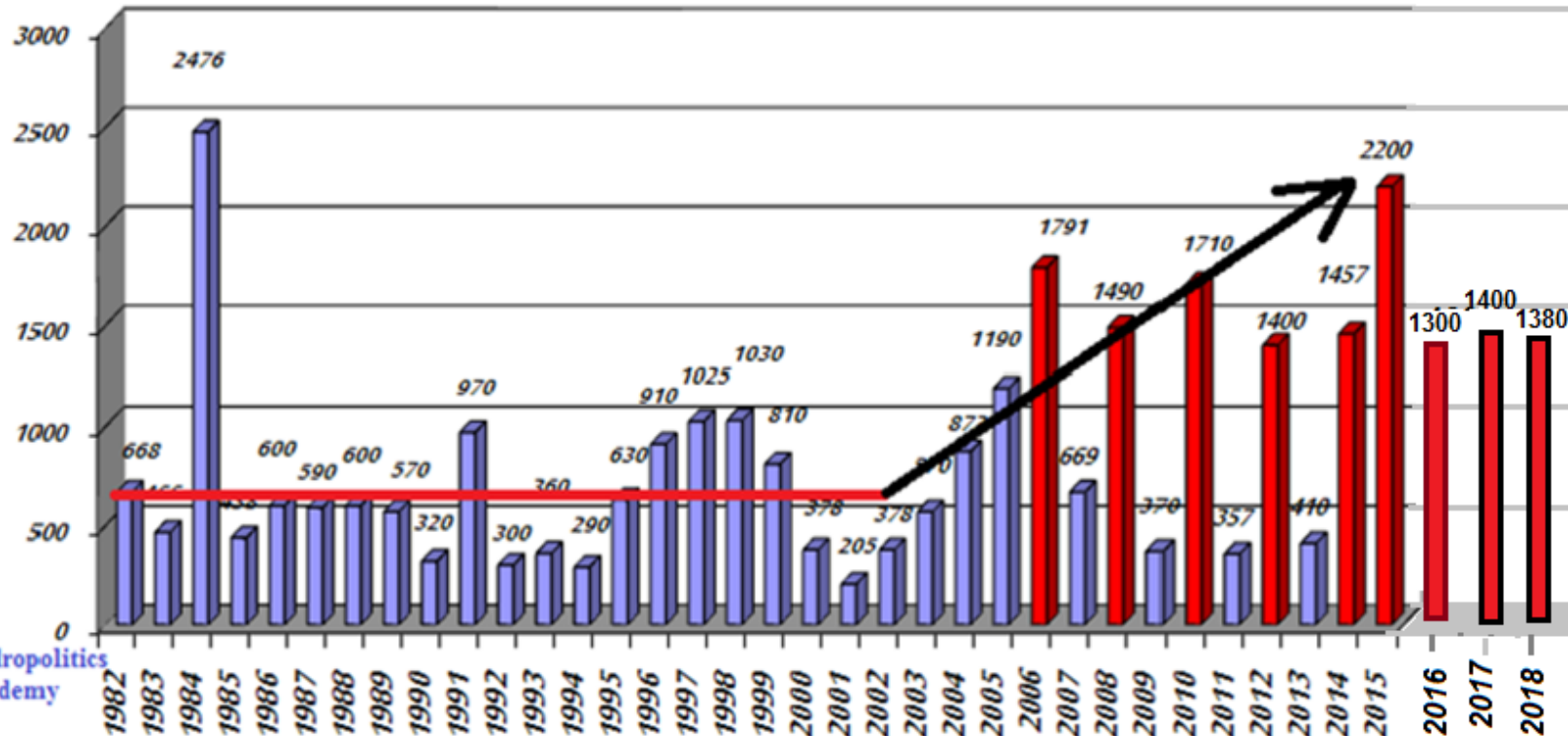
Floods in the Maritsa River

- Floods in the Maritsa River over the last 12 years have caused significant damages.
- Total economic loss calculated at € more that 300 million Euro
- Extreme precipitation, snowmelt and water released from Bulgarian dams are the most frequent causes of flooding in the downstream city of Edirne.



Flood discharge measured at Edirne Flow Measurement Station

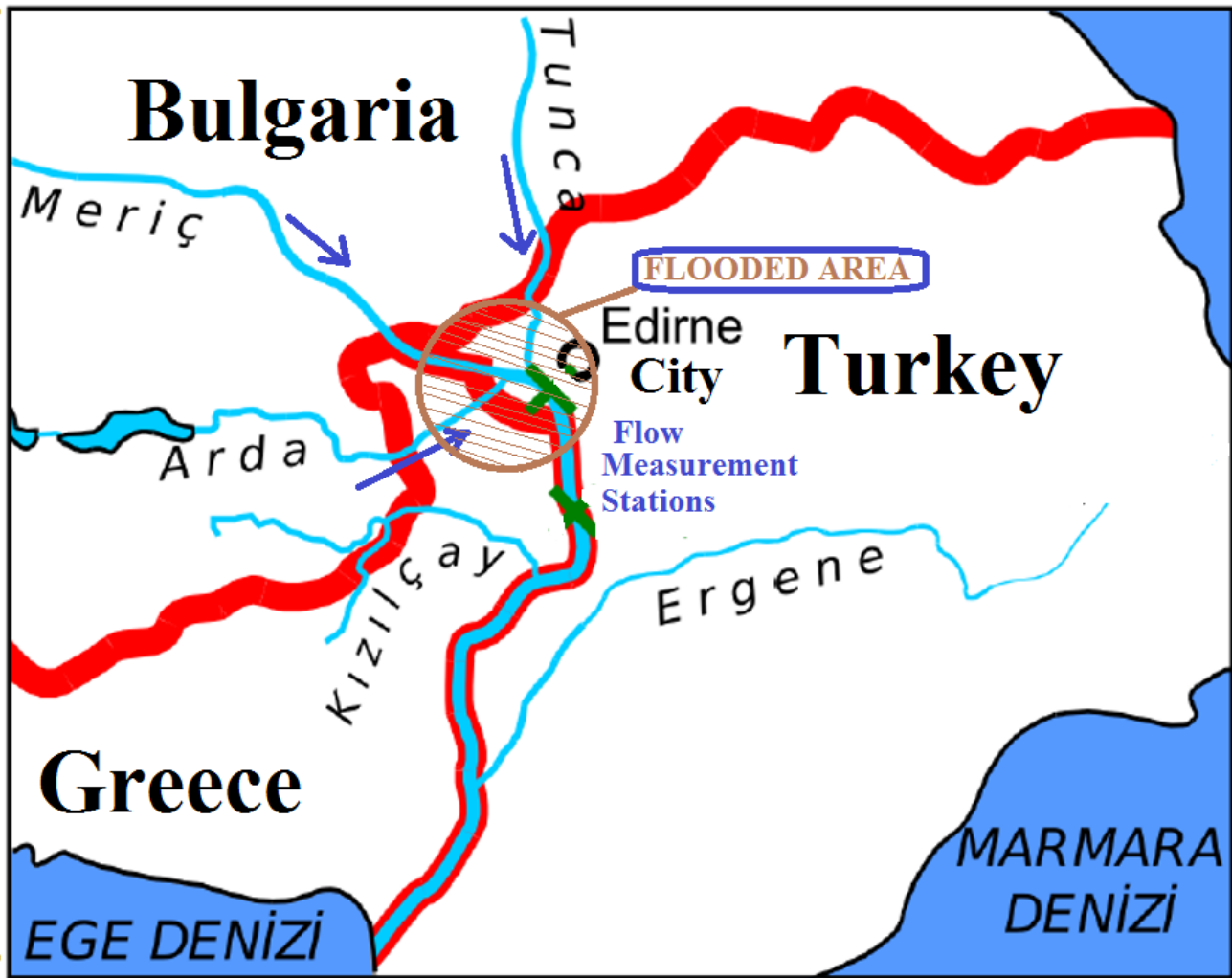
m³/sec.



Edirne City -Flooded



Flooded Edirne City /Turkey



No serious progress

- It is unfortunate that the three riparian state (two of which are currently members of the EU) have not taken any measure to prevent the floods collaboratively.
 - A basin-wide flood protection cooperation between the riparian states hasn't been achieved.
 - So far, the three countries have only been able to establish a 'flood early warning system' in the basin through a recent EU project. This system has allowed the reduction of casualties but has not prevented very serious economic losses and social problems resulting from large floods.
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How to prevent ?

- There has been very detailed scientific studies for the Basin
 - Scientific researches showed that floods might have been prevented with proper implementation and operation of Bulgarian dams.
 - The same research also indicates that improper operation of the dams resulted in artificial floods or overflows.
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PREVENTIVE and PROTECTIVE

- It is essential for Bulgaria, Greece and Turkey to cooperate in the planning of flood prevention and protection measures together
- Dredging in the Maritsa River is also important
- We need basin wide preventive and protective measures



Why a basin wide approach is needed for flood prevention measures

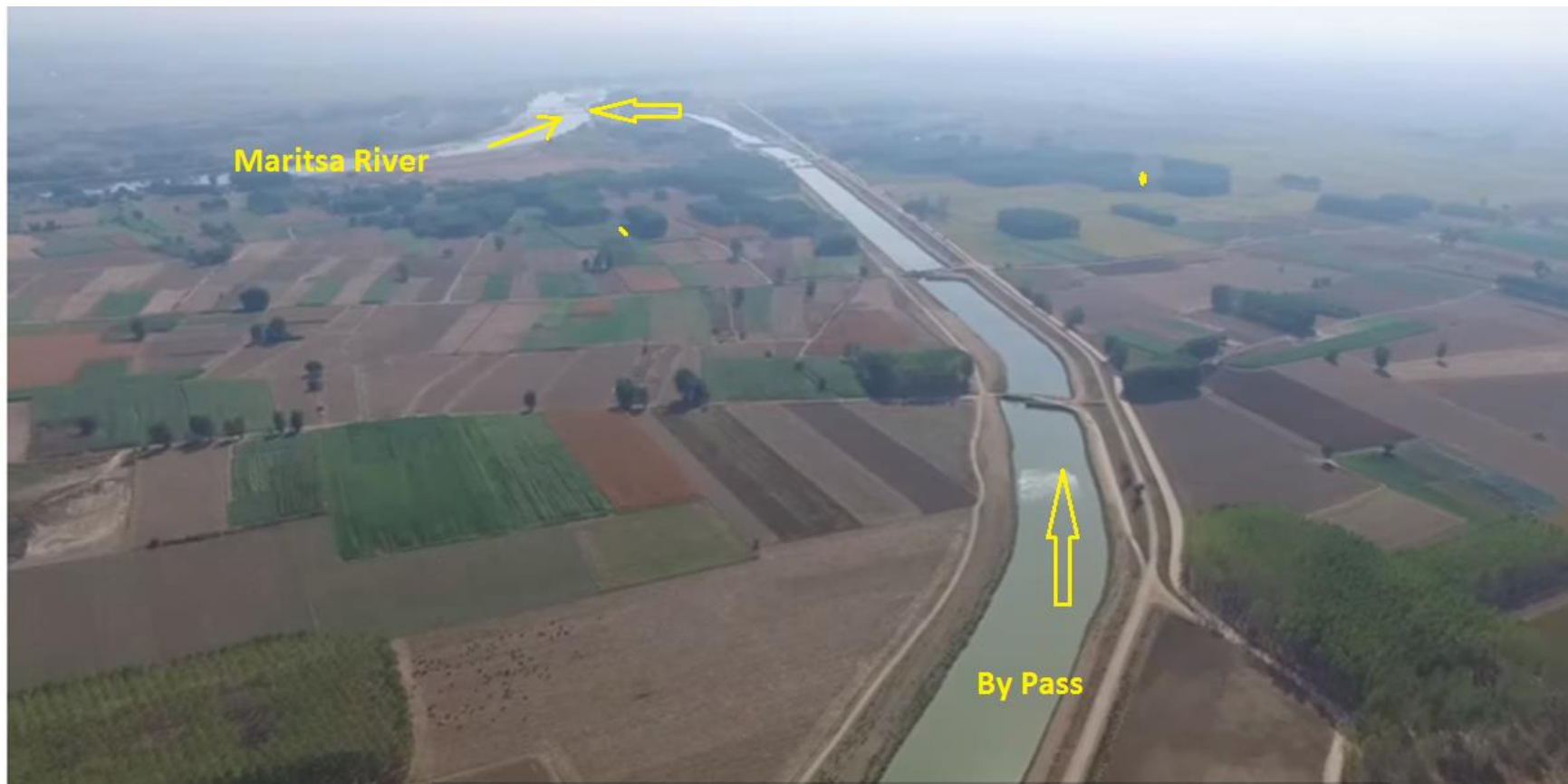
- The Turkish and Greek reaches of the river basin are located almost at sea level,
- Therefore they are not suitable for efficient engineering measures for flood prevention.
- Flood control measures in the lower basin may be insufficient,



BY PASS CHANELL SOLUTION !!!!


- Flood **protection measures** in Turkey have become an urgent matter and Turkey has decided to take its own measures
 - Turkey built a by pass channell to protect Edirne City and agricultural lands
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Maritsa River

By Pass



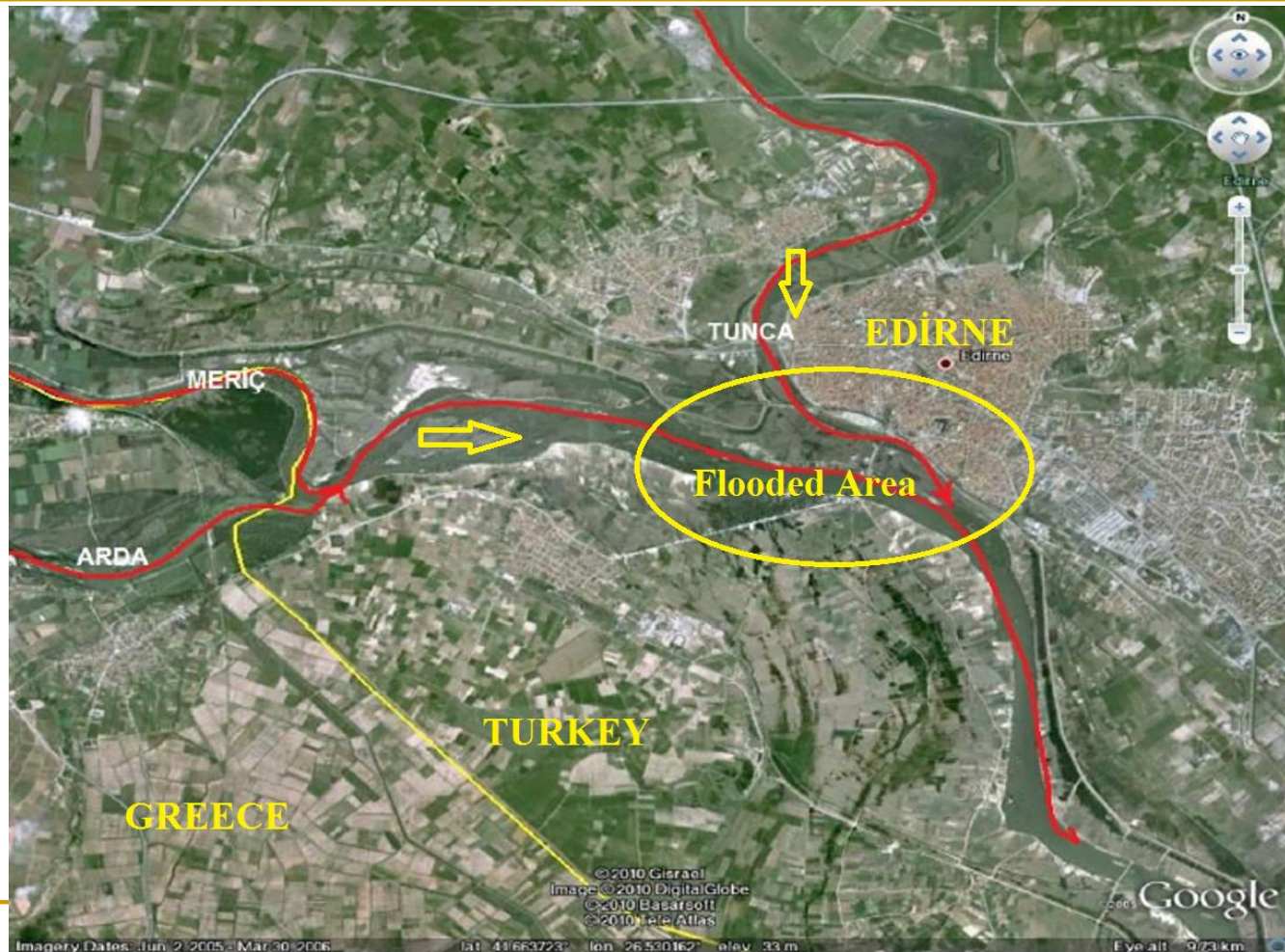
An aerial photograph showing a river bypass channel and a dam. The bypass channel is a straight, narrow waterway that runs parallel to the main river. It is bordered by earthen embankments. The main river, the Maritsa River, is wider and has a more natural, winding course. A dam structure is visible across the river, with water flowing through it. The surrounding landscape is a mix of green fields and brownish soil, suggesting a rural or agricultural area. The sky is clear and blue.

**By Pass
Channell**

Maritsa River







BUT WE STILL NEED PREVENTIVE FLOOD MANAGEMENT

- Even a flood protection structures built in Turkey,
 - Turkey and Greece still need basin wide preventive flood management
-



Marasia

Edirne

Karaağaç

Kastanies

Rizia

Bosna

GREECE

TURKEY

Nea Vyssa

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A satellite view of the border between Greece and Turkey. A yellow dashed line runs vertically through the center, separating the two countries. To the left of the line is Greece, and to the right is Turkey. The landscape is mostly agricultural fields in shades of green and brown. A road and a railway line are visible on the far left. In the bottom right corner, there is a copyright notice for Basarsofi and Google, and the Google Earth logo. A small 'N' in a circle is in the top right corner.

GREECE

TURKEY

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QUESTIONS ARISE FOR THE BASIN

- Why Mitigation Measures taken are not basin-wide integrated measures ?
 - Why Measures has been protective measures instead of preventive
 - Why the lack of preventive flood management cooperation between Bulgaria, Greece and Turkey in the Maritsa basin ?
 - Does the Classical hydro-diplomacy need to be improved ?????
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Lessons learned

- Climate change and dam operation induced transboundary floods require more attention than before
 - International water management is difficult to implement, even among countries located in one of the world's most developed regions
 - A Paradigm shift from classical hydro-diplomacy needed
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Thank You



HPA
Water for Peace

Hydropolitics Association
of Turkey

A new type of
thinking is essential

if mankind is to survive and move toward higher levels.

Albert Einstein

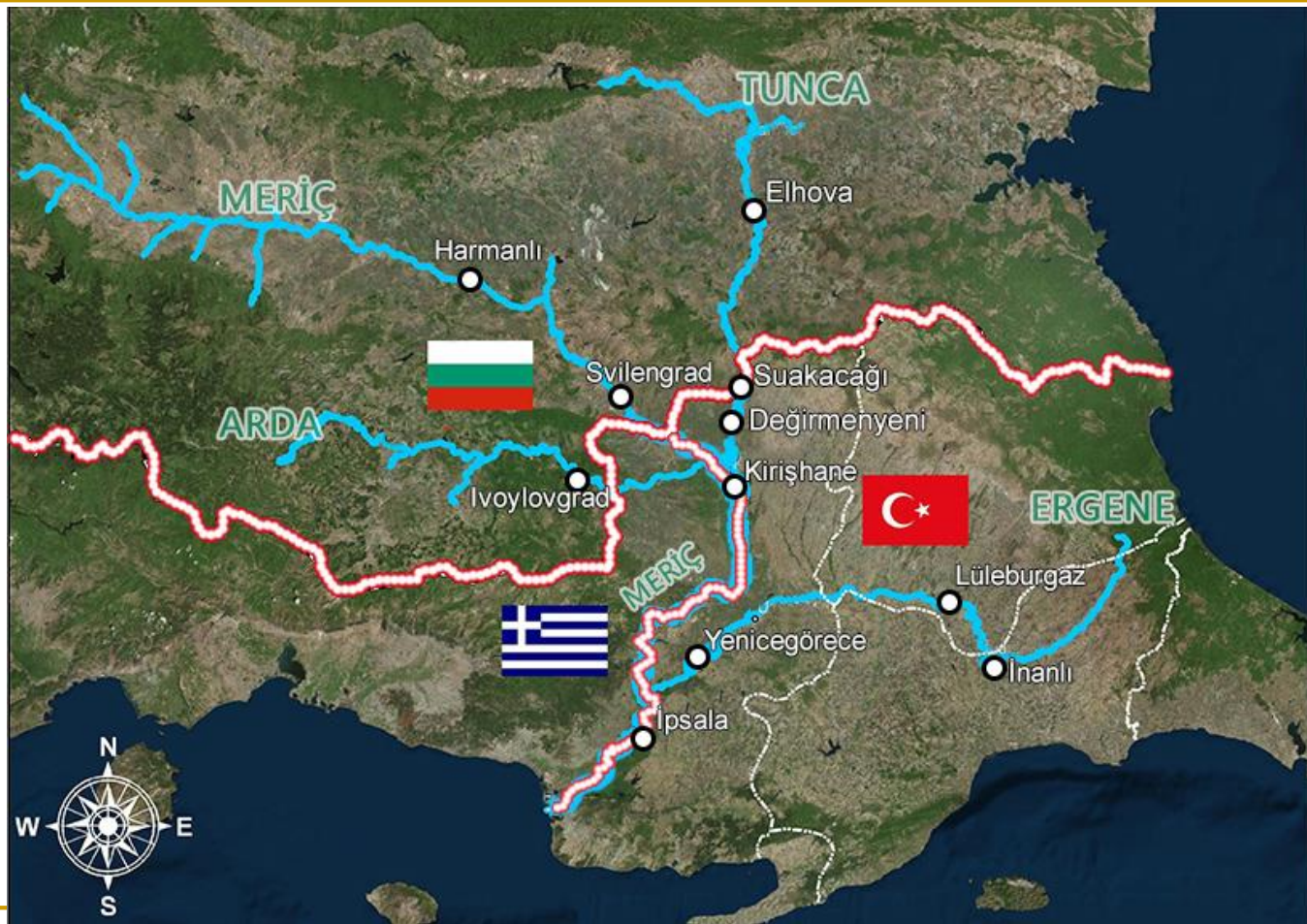


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DSİ 11.BÖLGE MÜDÜRLÜĞÜ NEHİR DEBİLERİ

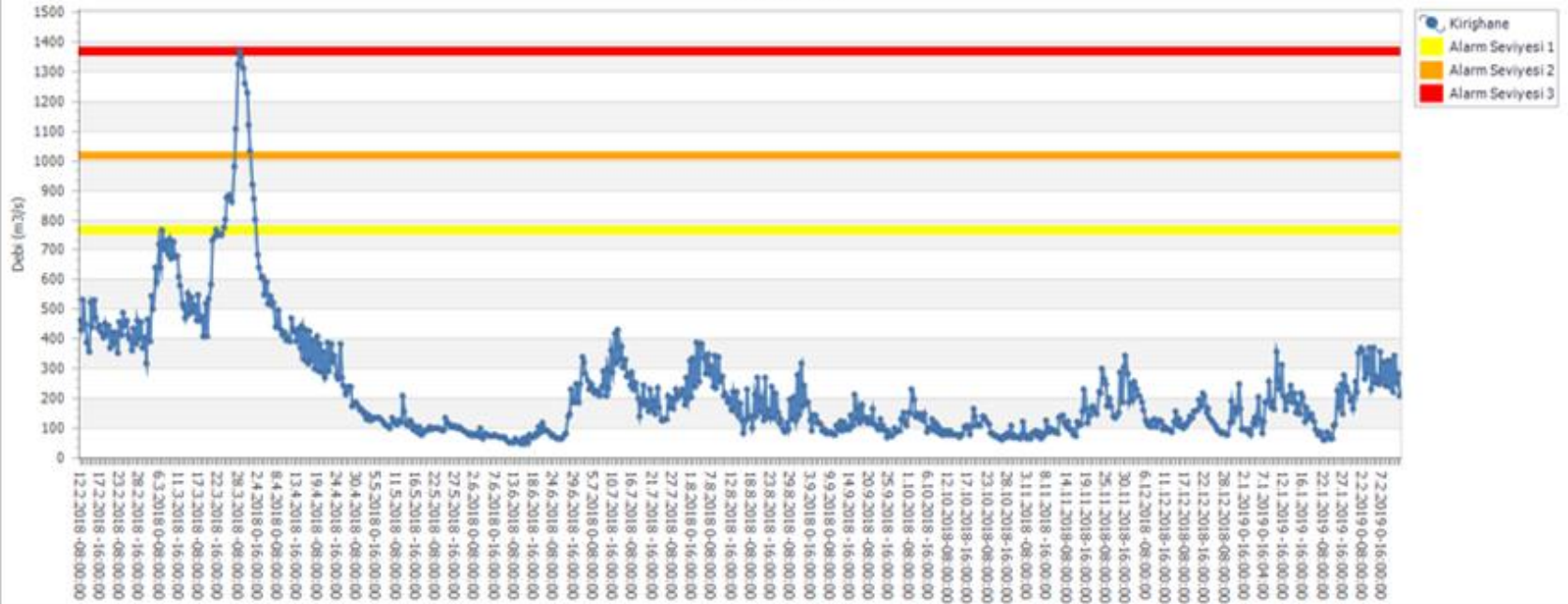
İSTASYONLAR

GRAFİK VERİSİ



1GÜN 1HAFTA 1AY 3AY 6AY 1YIL

MERİÇ-Kirihane





1GÜN

1HAFTA

1AY

3AY

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1YIL

MERİÇ-İpsala

