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Black Sea CROSS BORDER COOPERATION

Common borders. Common solutions.

Regional-scale flood hazard modelling in Tekirdağ and Samsun

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1868

In collaboration with
Bogazici University
Kandilli Observatory and Earthquake Research Institute **(KOERI)**

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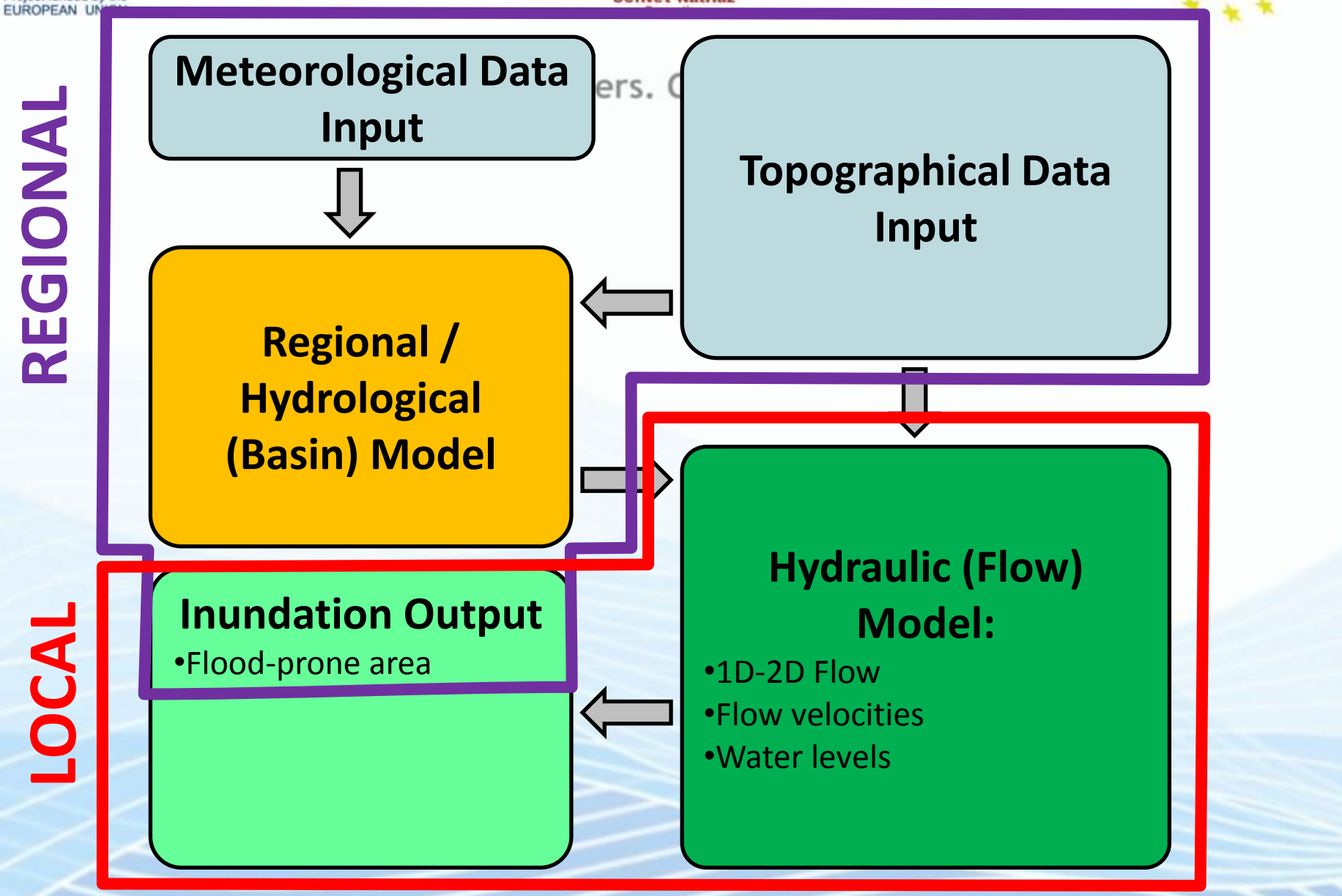
Contents

- Procedure
- Implementation
- Results


REGIONAL
Meteorological Data Input
Topographical Data Input
Regional / Hydrological (Basin) Model
LOCAL
Inundation Output
•Flood-prone area
Hydraulic (Flow) Model:
•1D-2D Flow
•Flow velocities
•Water levels

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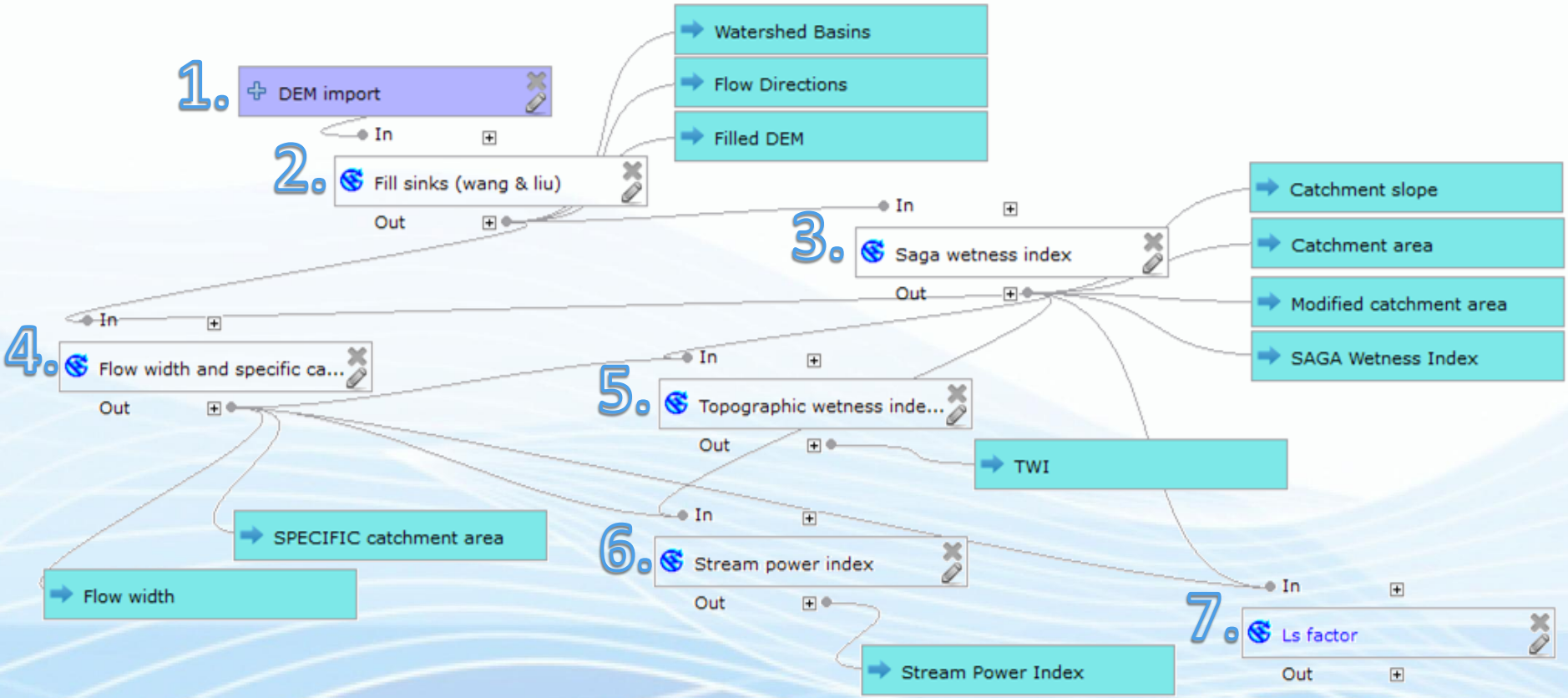
Steps for Wetness Index Calculation in QGIS



Build GRID with elevation/topo data → Clip it! (to the watershed) → Fill the SINKS! → Calculate SAGA WI → Calculate TWI → Calculate LS-factor → RUSLE

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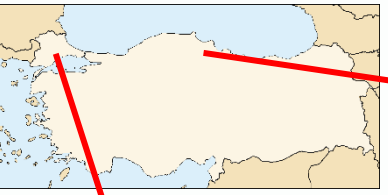
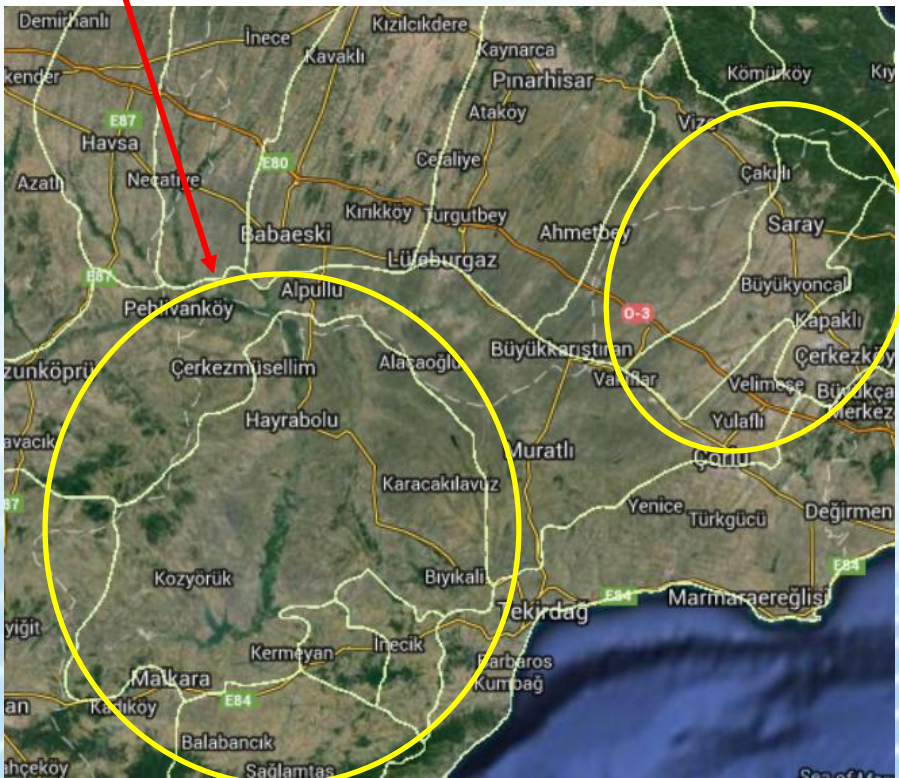
RESULTS OF REGIONAL SCALE MODELS

TEKIRDAG and SAMSUN





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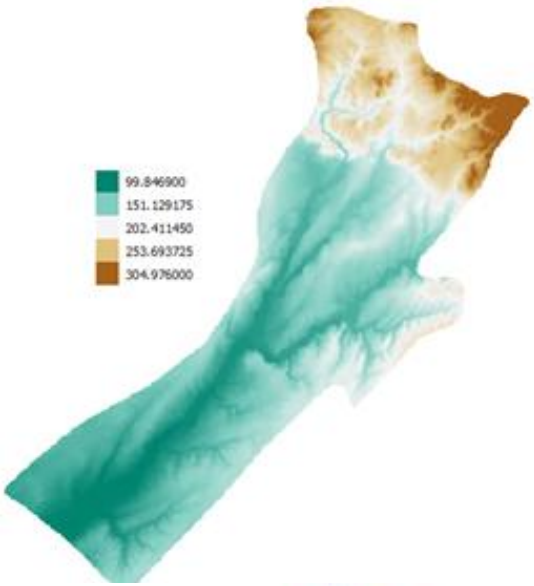

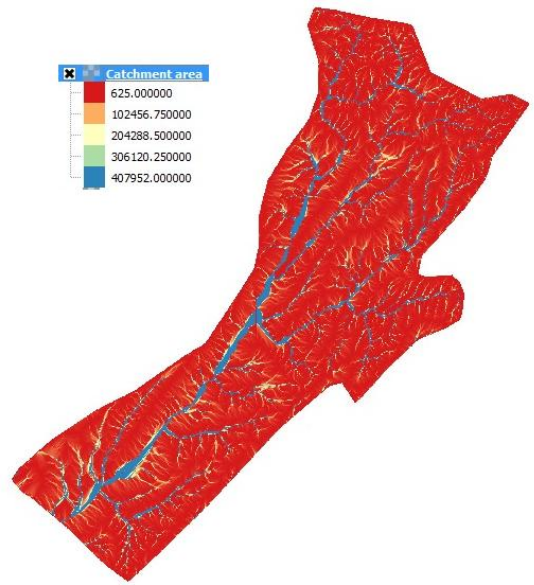

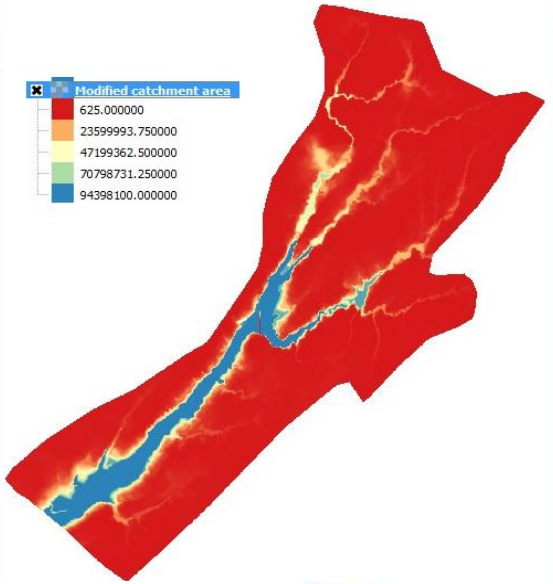

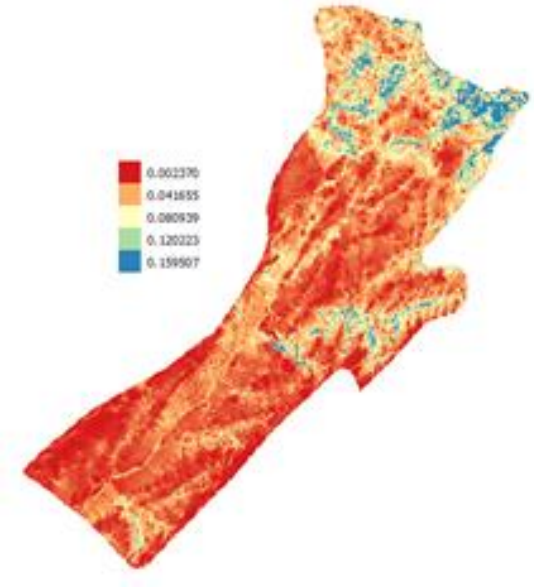

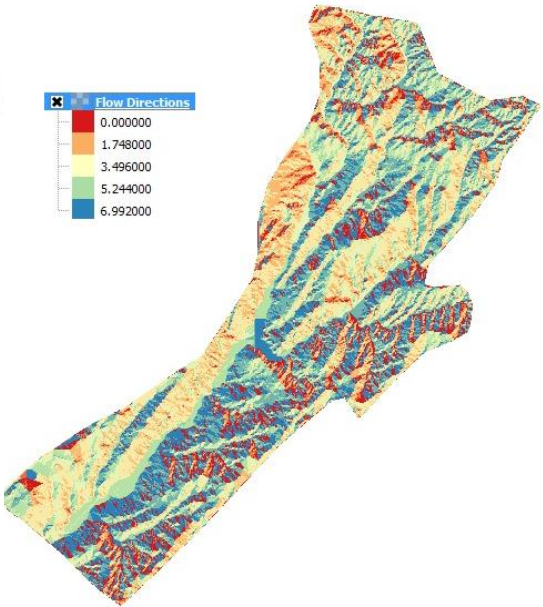

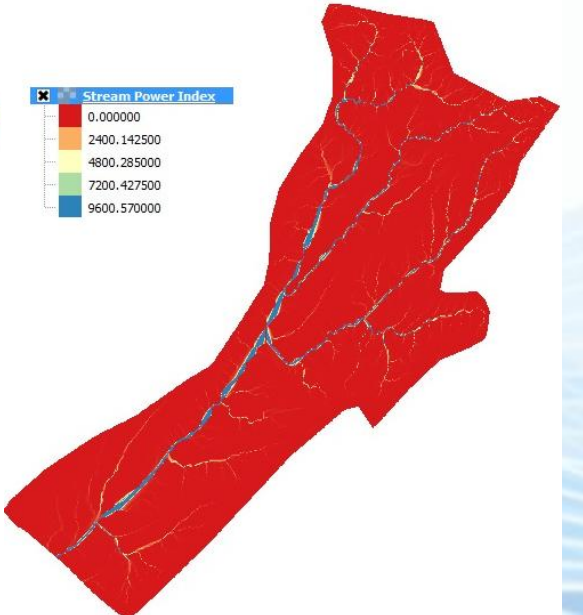

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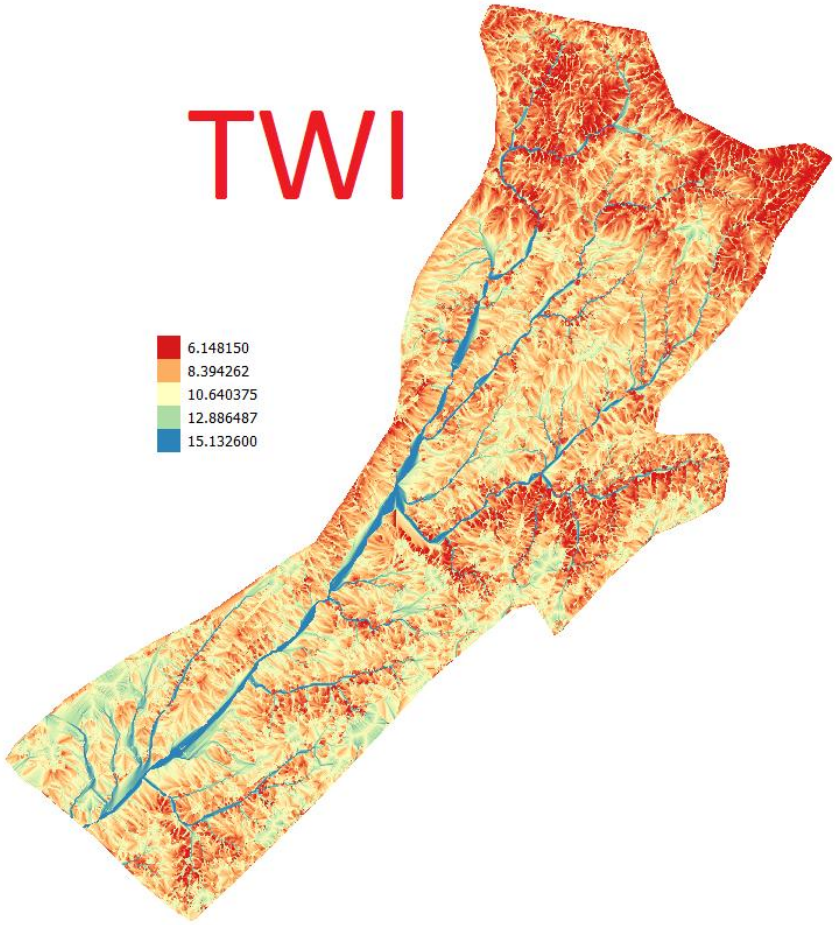
Black Sea CROSS BORDER COOPERATION

RESULTS OF REGIONAL SCALE MODELS

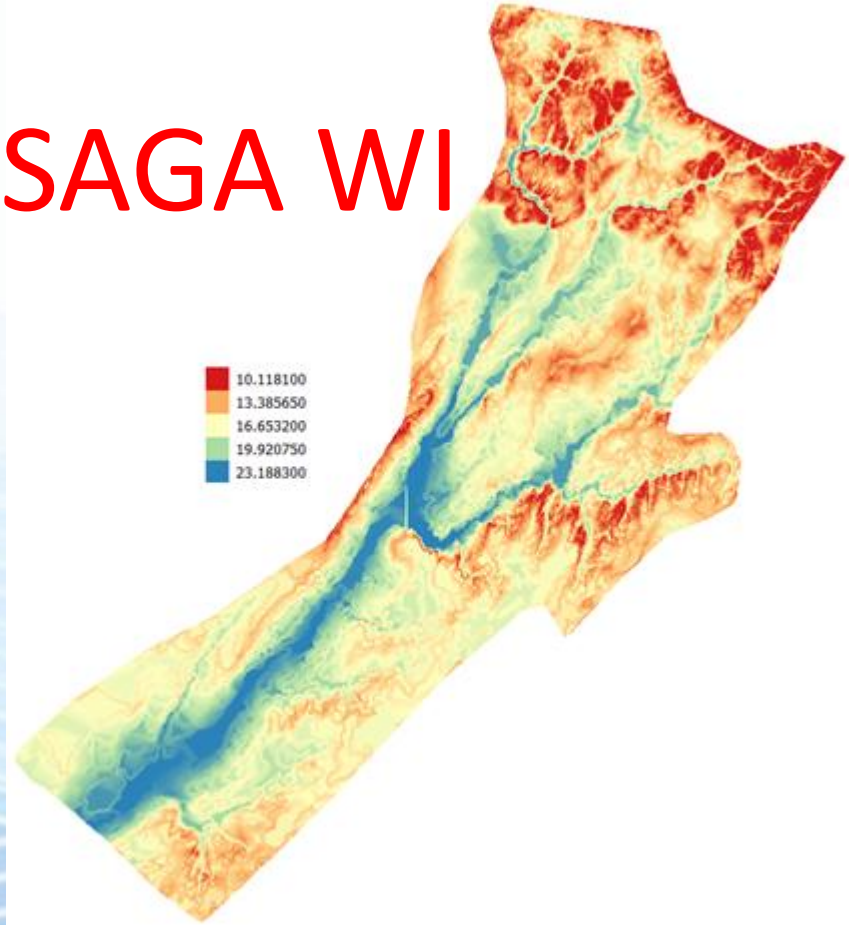
TEKIRDAG SARAY SUBBASIN

Area	454 km^2

TWI



SAGA WI



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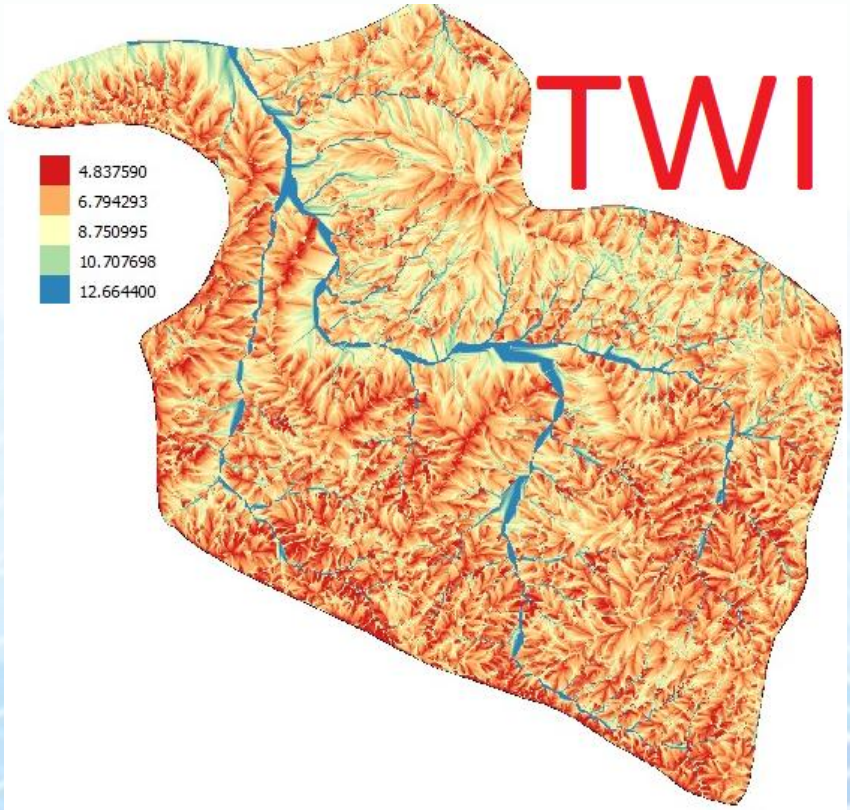
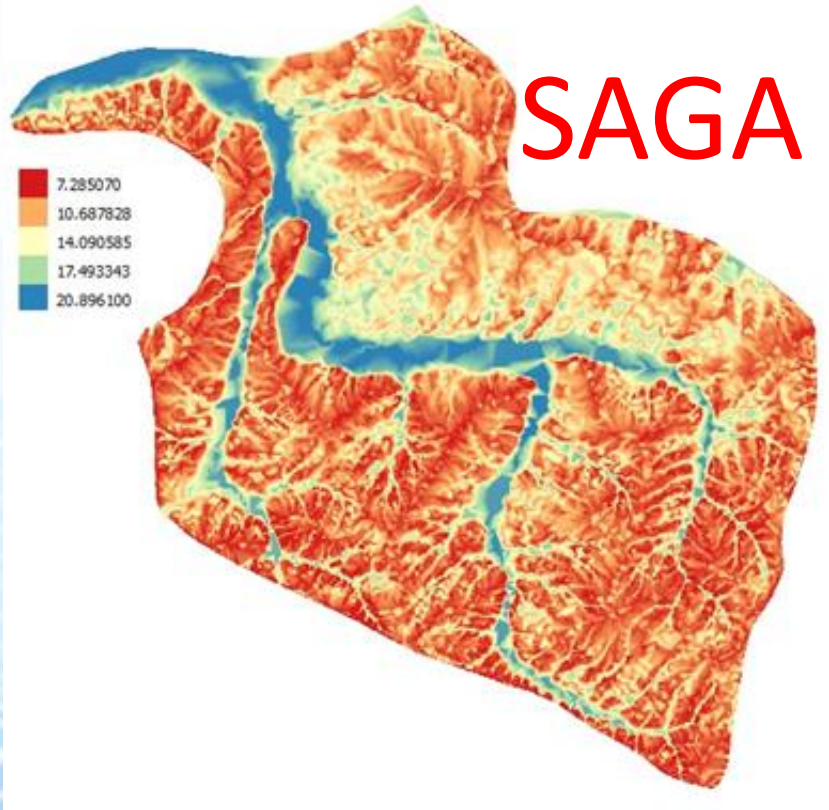
Black Sea CROSS BORDER COOPERATION

RESULTS OF REGIONAL SCALE MODELS

TEKIRDAG YENICE SUBBASIN

Area	118 km²





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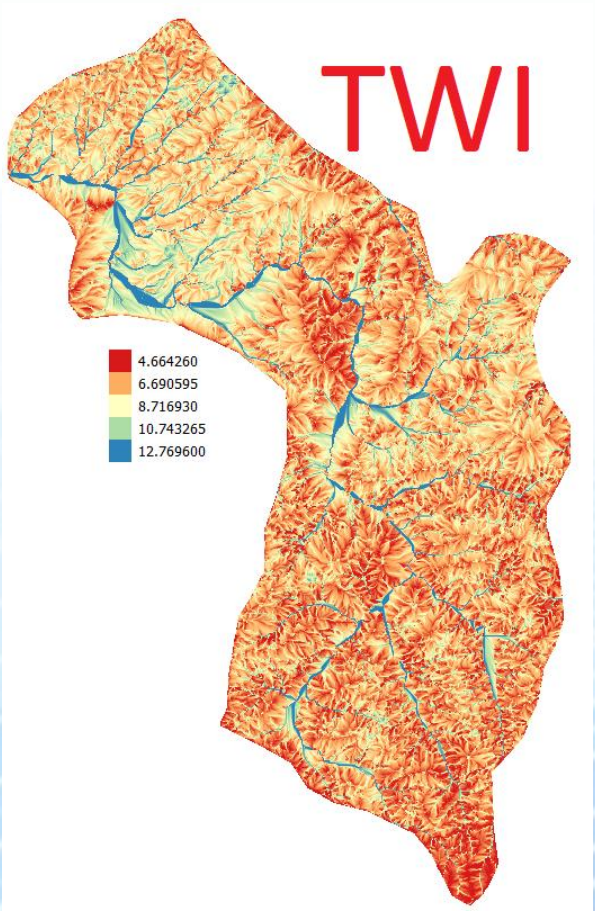
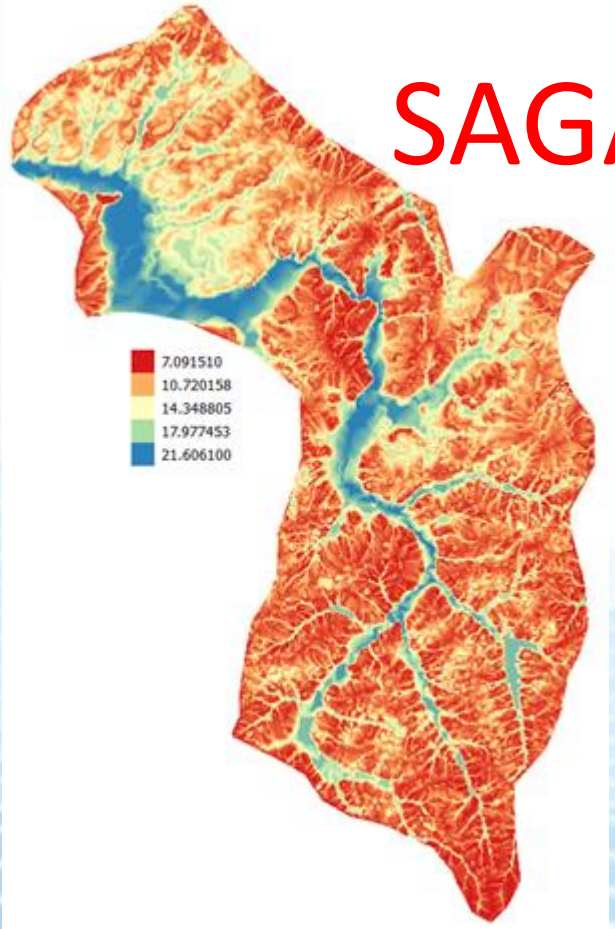
Black Sea CROSS BORDER COOPERATION

RESULTS OF REGIONAL SCALE MODELS

TEKIRDAG INECIK SUBBASIN

Area	165 km^2





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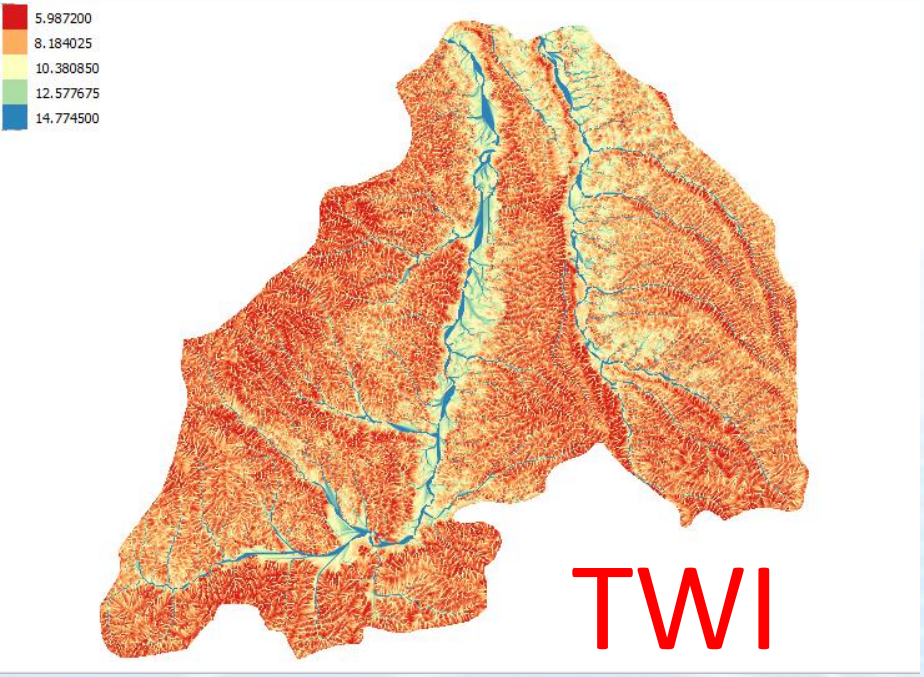
Black Sea CROSS BORDER COOPERATION

RESULTS OF REGIONAL SCALE MODELS

TEKIRDAG HAYRABOLU SUBBASIN

Area	1800 km^2



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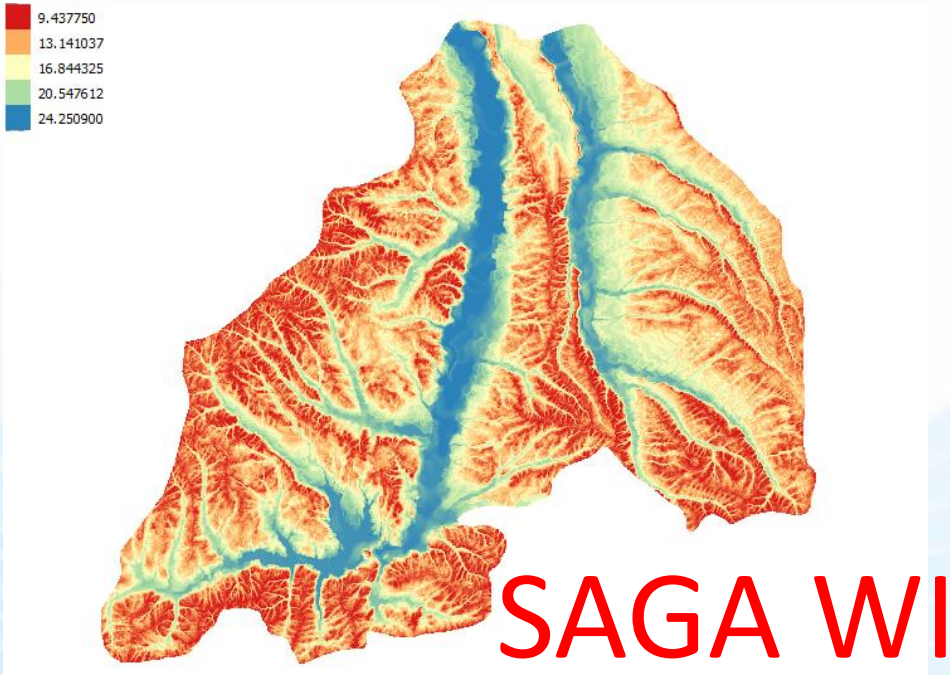

SAGA WI

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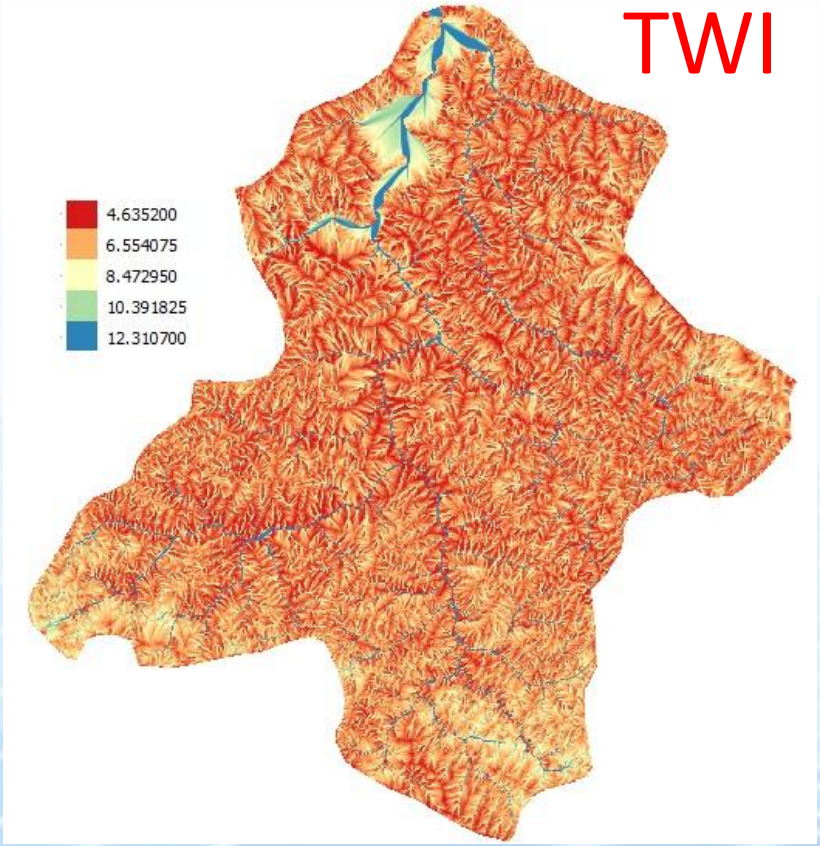
Black Sea CROSS BORDER COOPERATION

RESULTS OF REGIONAL SCALE MODELS

SAMSUN DERBENT SUBBASIN

Area	642 km^2

TWI



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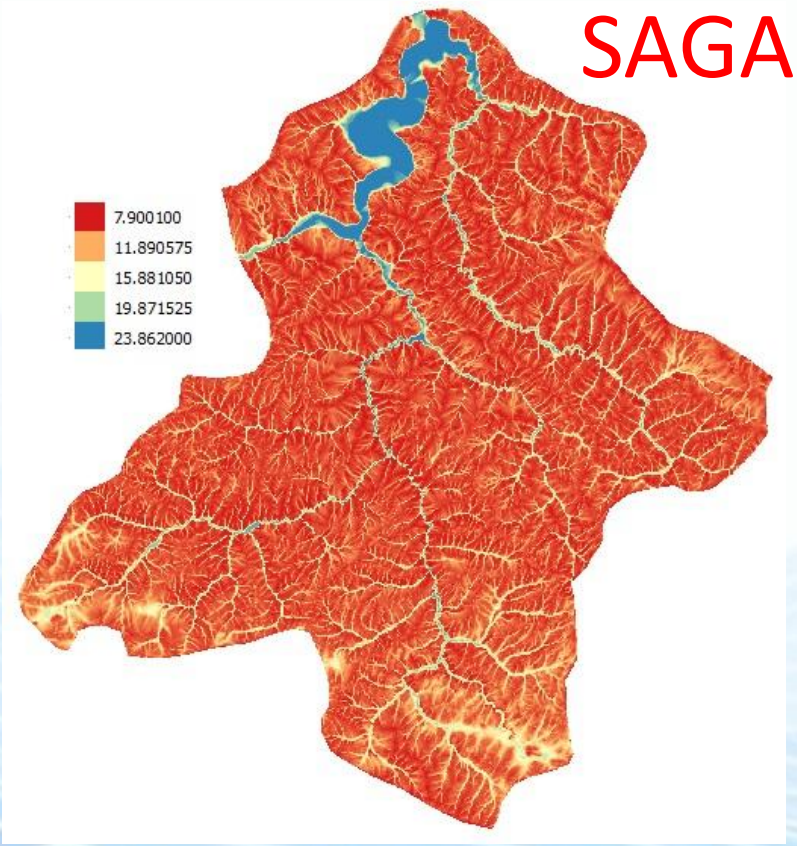

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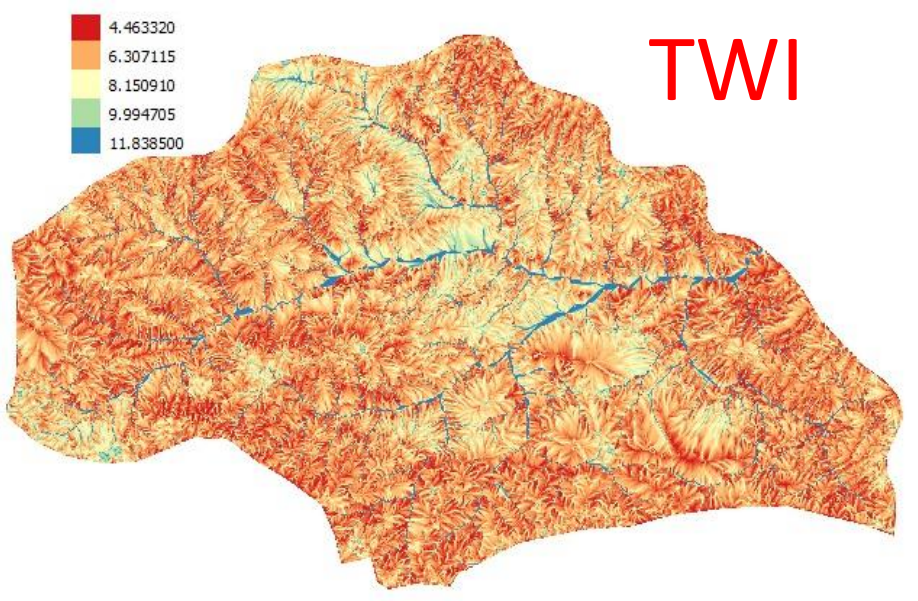
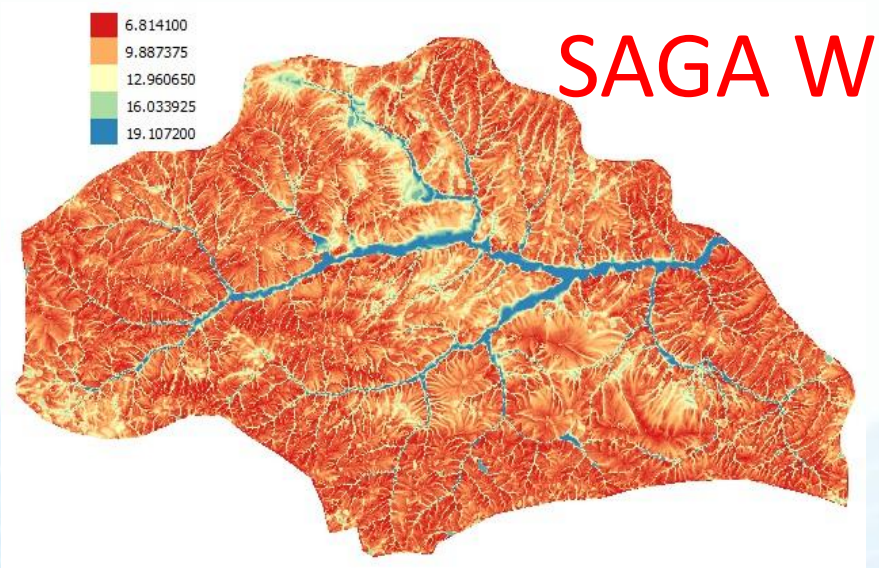
RESULTS OF REGIONAL SCALE MODELS

SAMSUN KAVAK SUBBASIN

Area 296 km²





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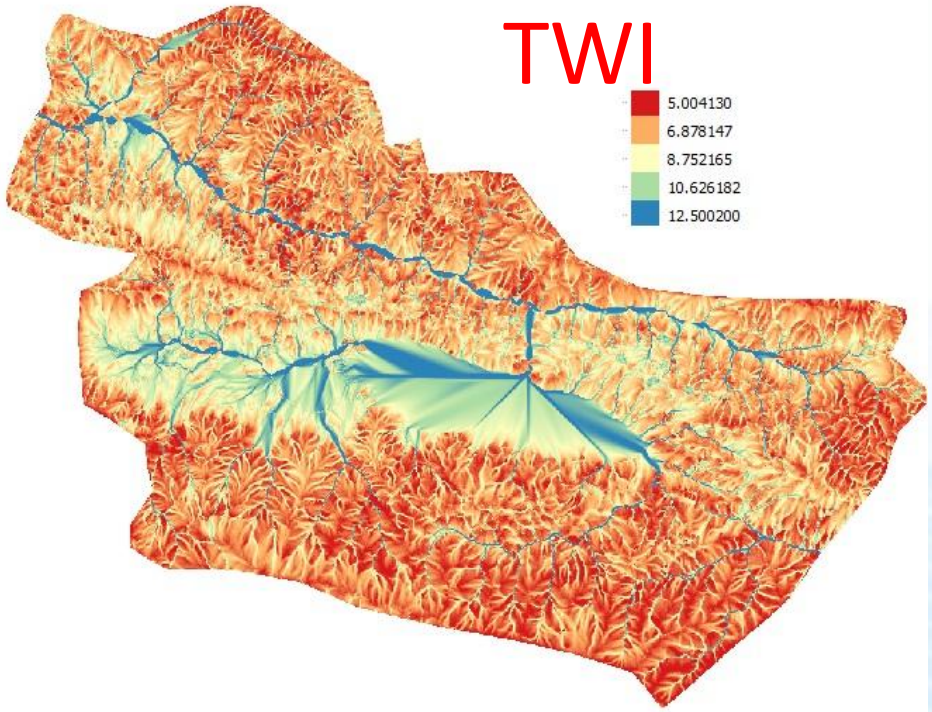
RESULTS OF REGIONAL SCALE MODELS

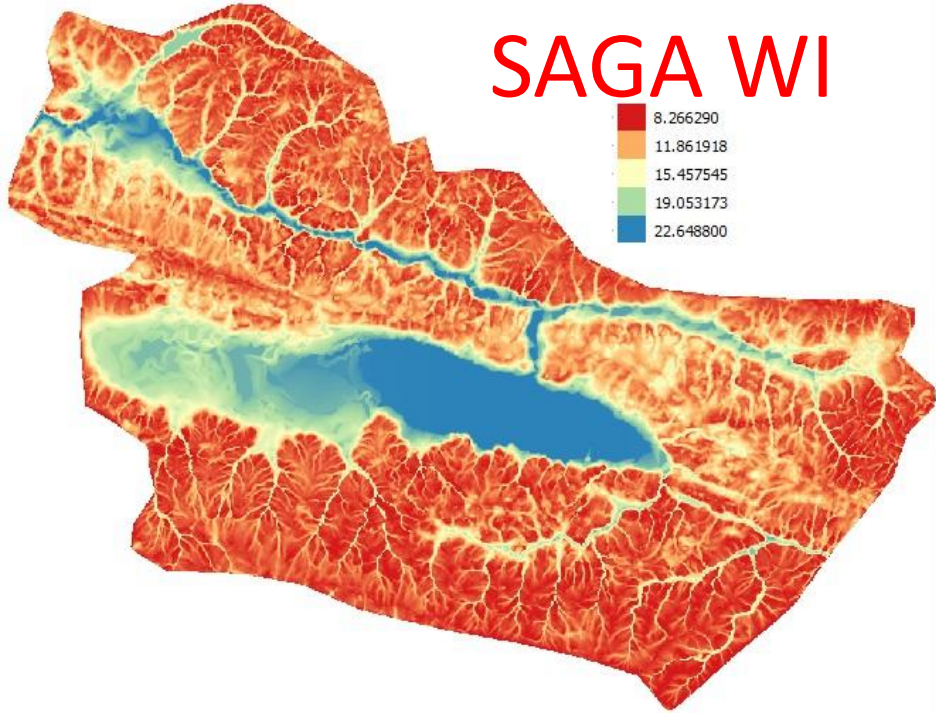
SAMSUN LADIK SUBBASIN

Area	308 km^2

TWI



SAGA WI



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Dissemination

Proceedings of the Mediterranean Meeting on "Monitoring, modelling and early warning of extreme events triggered by heavy rainfalls". PON 01_01503 - MED-FRIEND project
University of Calabria, Cosenza (Italy), June 26th-28th, 2014

FLOOD HAZARD ASSESSMENT AND MODELLING PRACTICES IN TURKEY

H. Aksoy[1], V.S.O. Kirca[1], K. Papatheodorou[2]

[1]Civil Engineering Department, Istanbul Technical University, Maslak, Istanbul, Turkey
[2]Civil, Surveying and Geomatics Engineering Department, Technological Educational Institute of Central Mecedonia, Serres, Greece

Legislative Aspects of Flood Hazard Prevention and Resilience in Non-EU Member European Countries

V.S. Ozgur Kirca[1*], Hafzullah Aksoy[1], Konstantinos Papatheodorou[2] & Katia Stepanova[3]
[1] *Istanbul Technical University, Dept. of Civil Eng., Istanbul, Turkey*
[2] *Technological Edu. Ins. of Kentriki Makedonia, Civil Eng. & Geomatics & Surveying Eng. Dept., Serres, Greece*
[3] *Environmental Academy of Sciences, Black Sea Branch, Odessa, Ukraine*

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İSTANBUL TEKNİK ÜNİVERSİTESİ ★ FEN BİLİMLERİ ENSTİTÜSÜ

AKARSU HAVZALARINDA ZEMİN NEMLİLİK INDEKSLERI ILE TAŞKINA MEYILLI ALANLARIN BELIRLENMESI

DETERMINATION OF FLOOD PRONE AREAS WITH SOIL WETNESS INDICES IN THE RIVER BASINS

YÜKSEK LİSANS TEZİ

Işıtan Selin ERMİŞ

Inşaat Mühendisliği Anabilim Dalı

Hidrolik ve Su Kaynakları Mühendisliği Programı

MAYIS, 2015

What's Next?

- Local-scale modeling