


**Demand and the actual consumption of
water is far beyond
the annual rate of replenishment!**

**Water Consumption is exceeding the
safe yield.**

**Annual renewable amount to about 1,400 m³
per person per year - *less than 20%-25% of the global average.***

**Water in the
Middle East
is a scarce commodity**



All major water resources in
the region are transboundary
—
Cross-Borders Water Resources

Cross-Borders Water Basins in the Middle East:

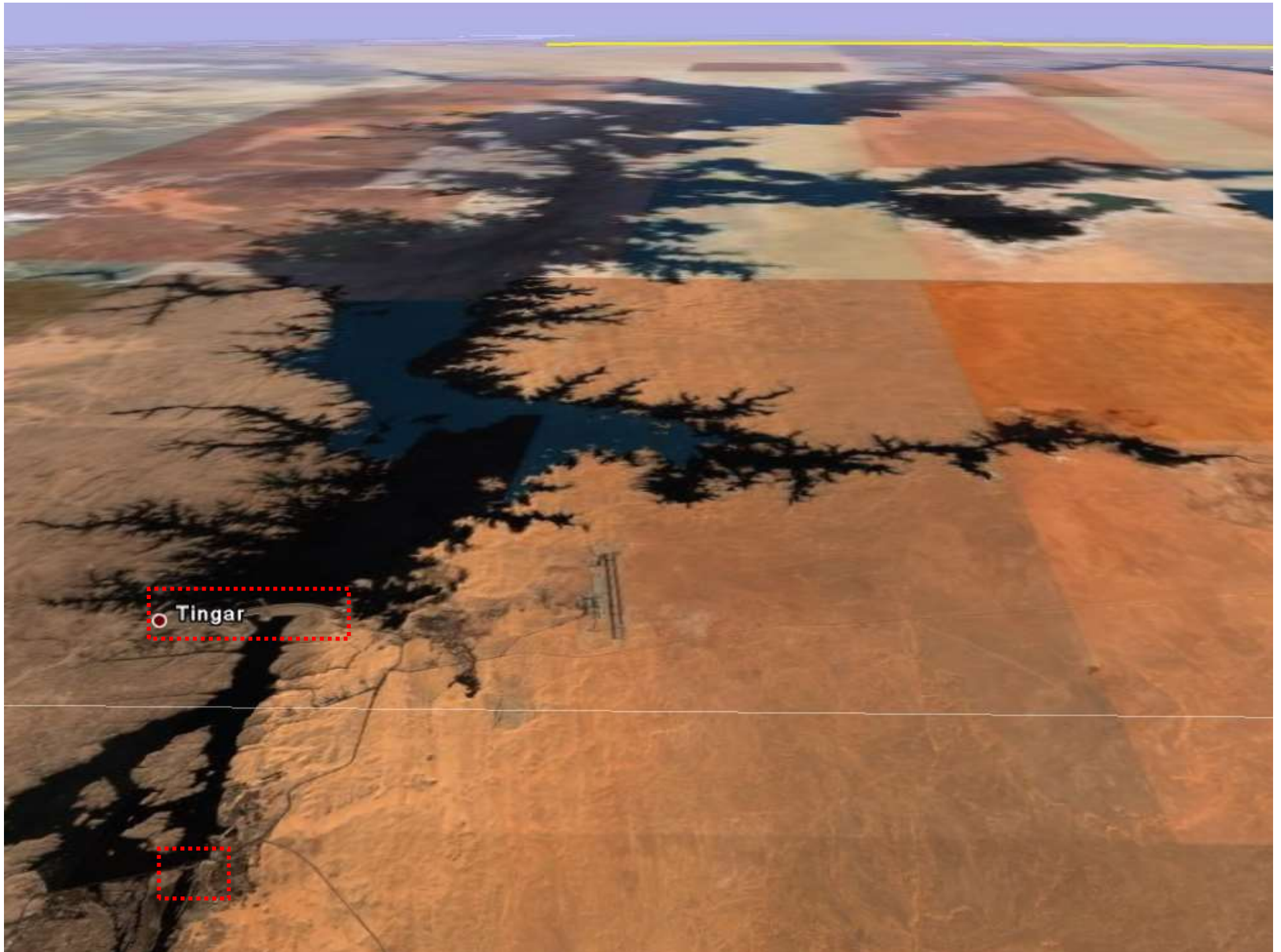
Potential trigger for
conflicts ?

or
Catalyst for regional
collaboration ?



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Water Security

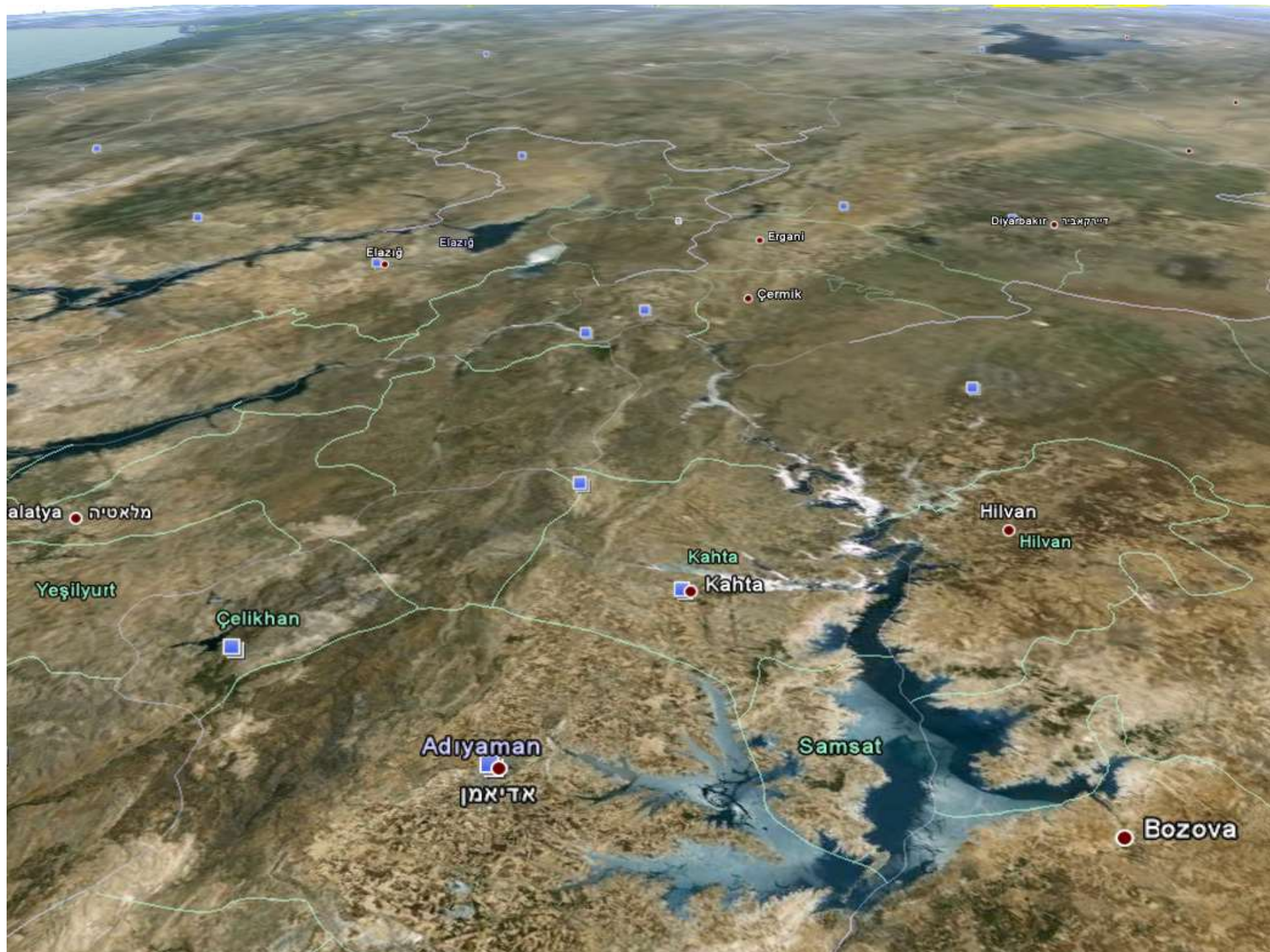


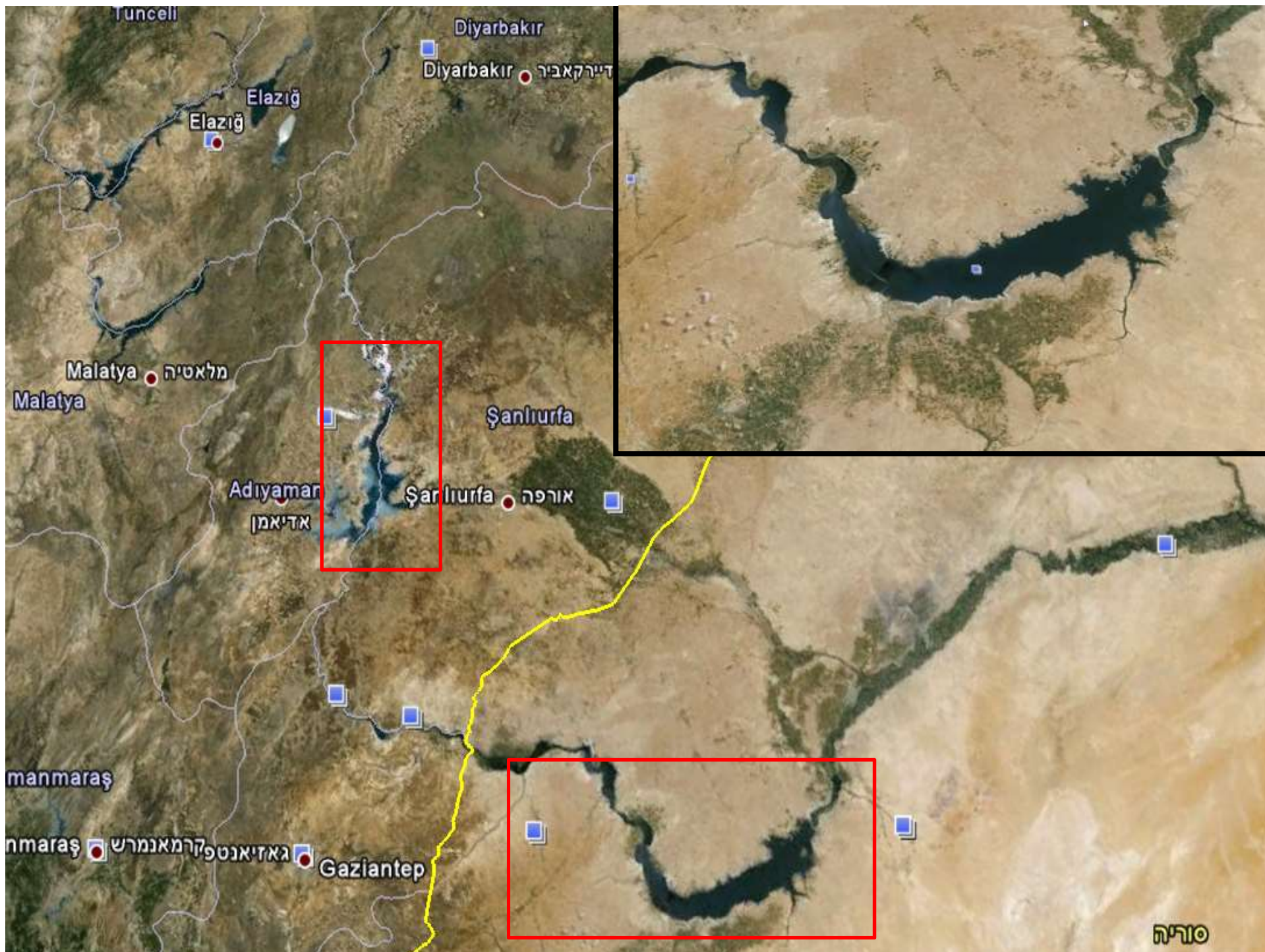
The Nile River Basin

**A Cross-Desert
River Among 11
States**

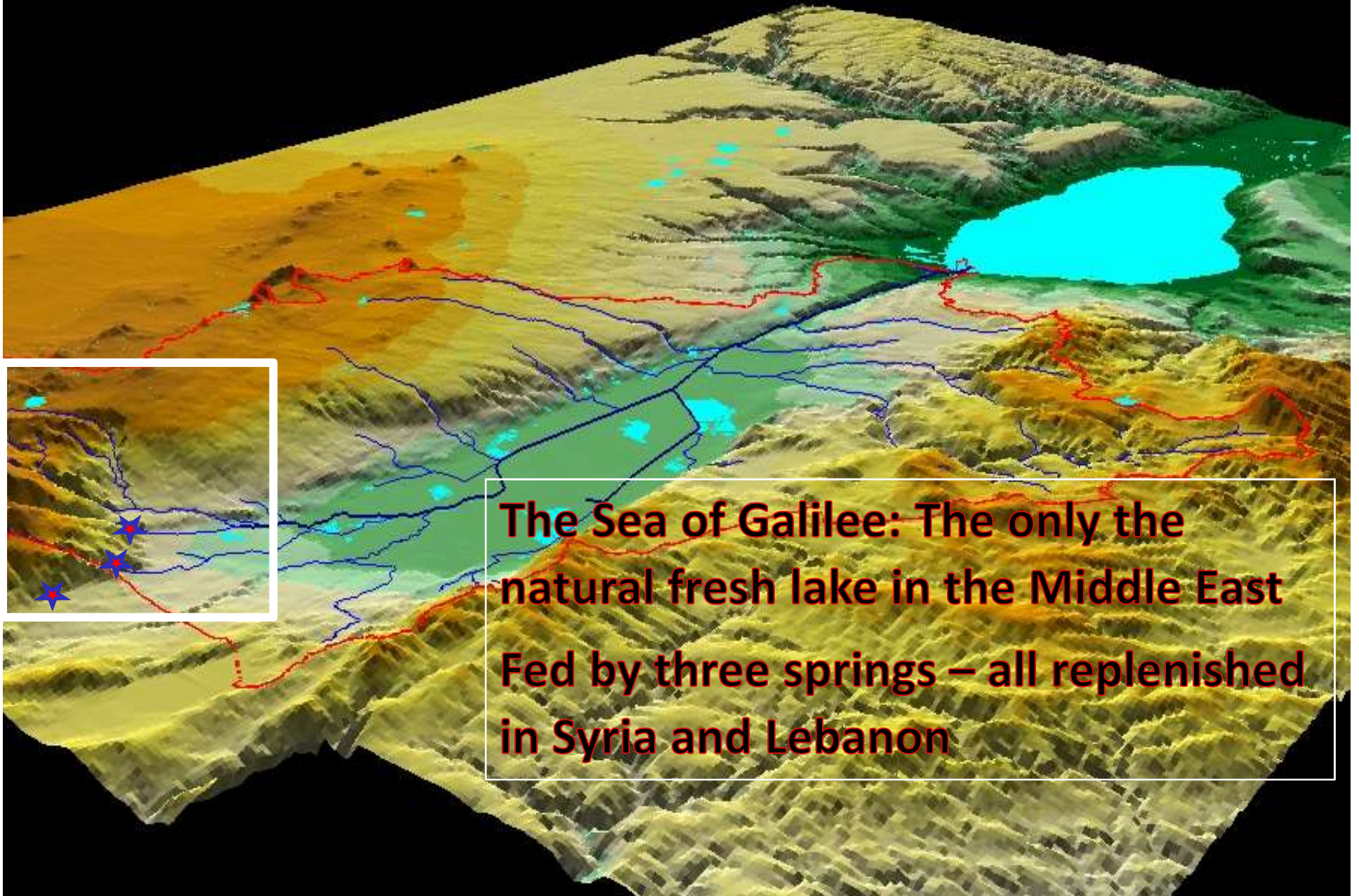








The Jordan River Valley, Lebanon, Syria, Israel and Jordan



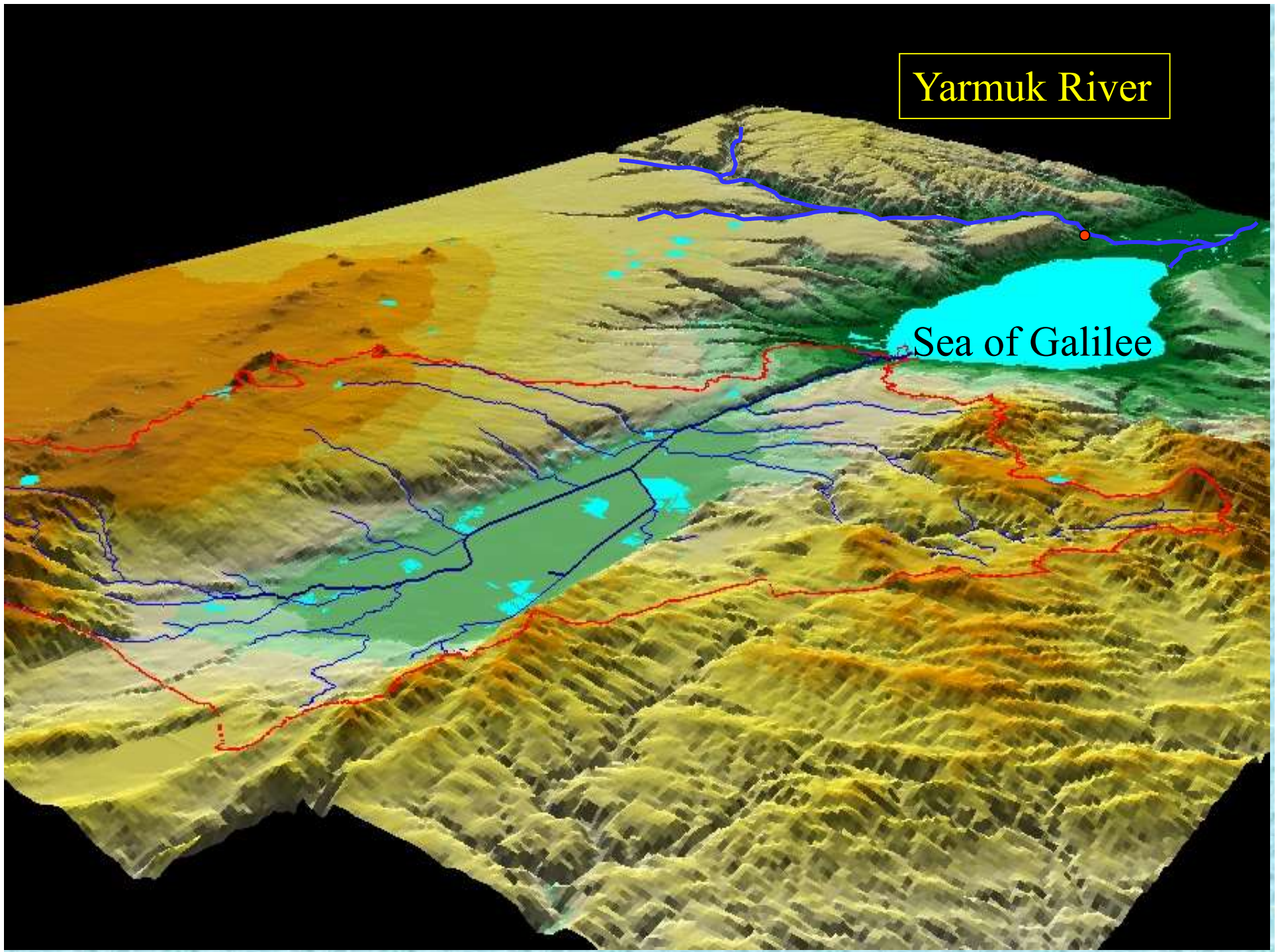
**The Sea of Galilee: The only the natural fresh lake in the Middle East
Fed by three springs – all replenished in Syria and Lebanon**

Sea of Galilee-Negev National Water Carrier



Yarmuk River

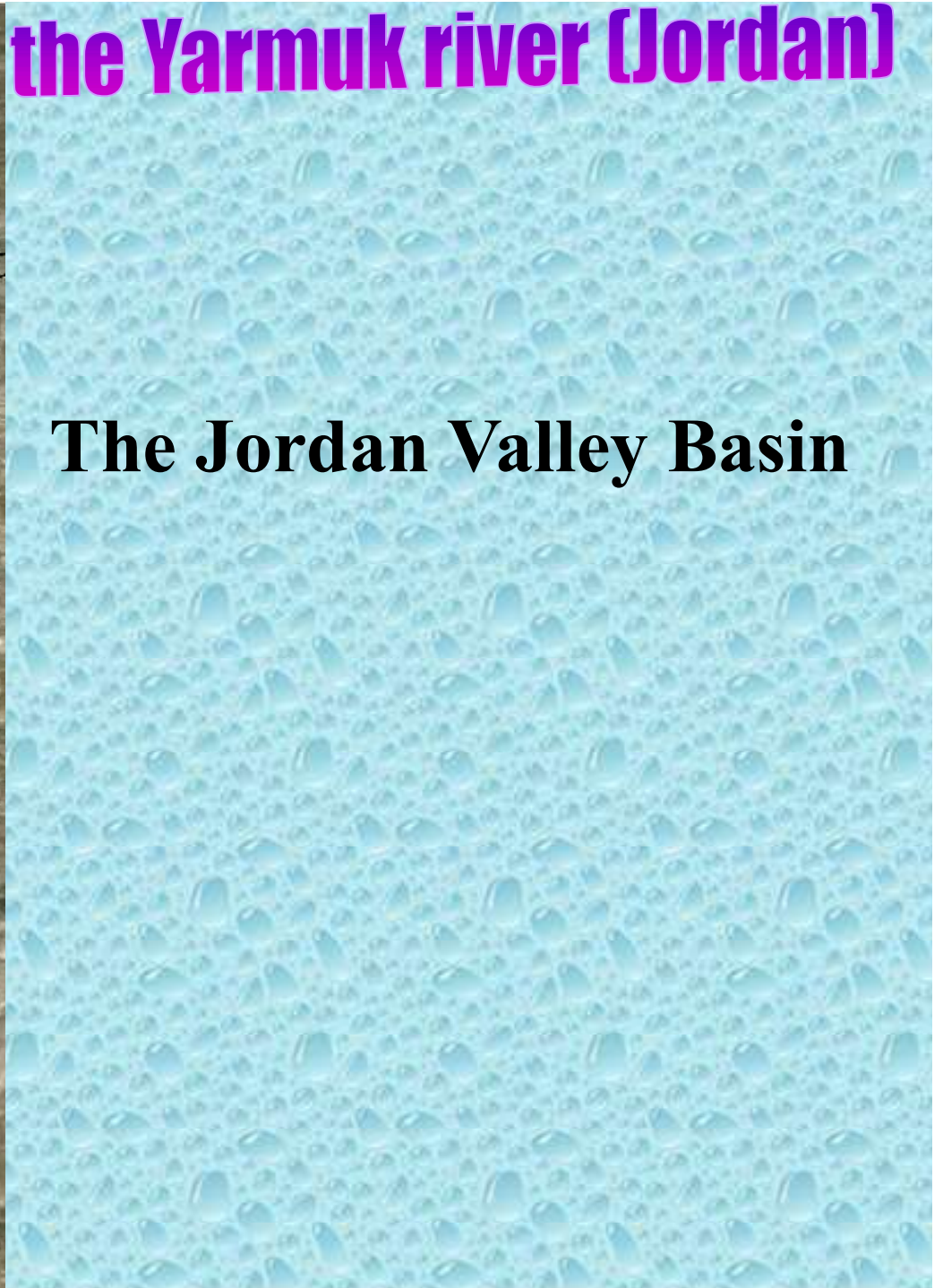
Sea of Galilee



Water Diversion from the Yarmuk river (Jordan)



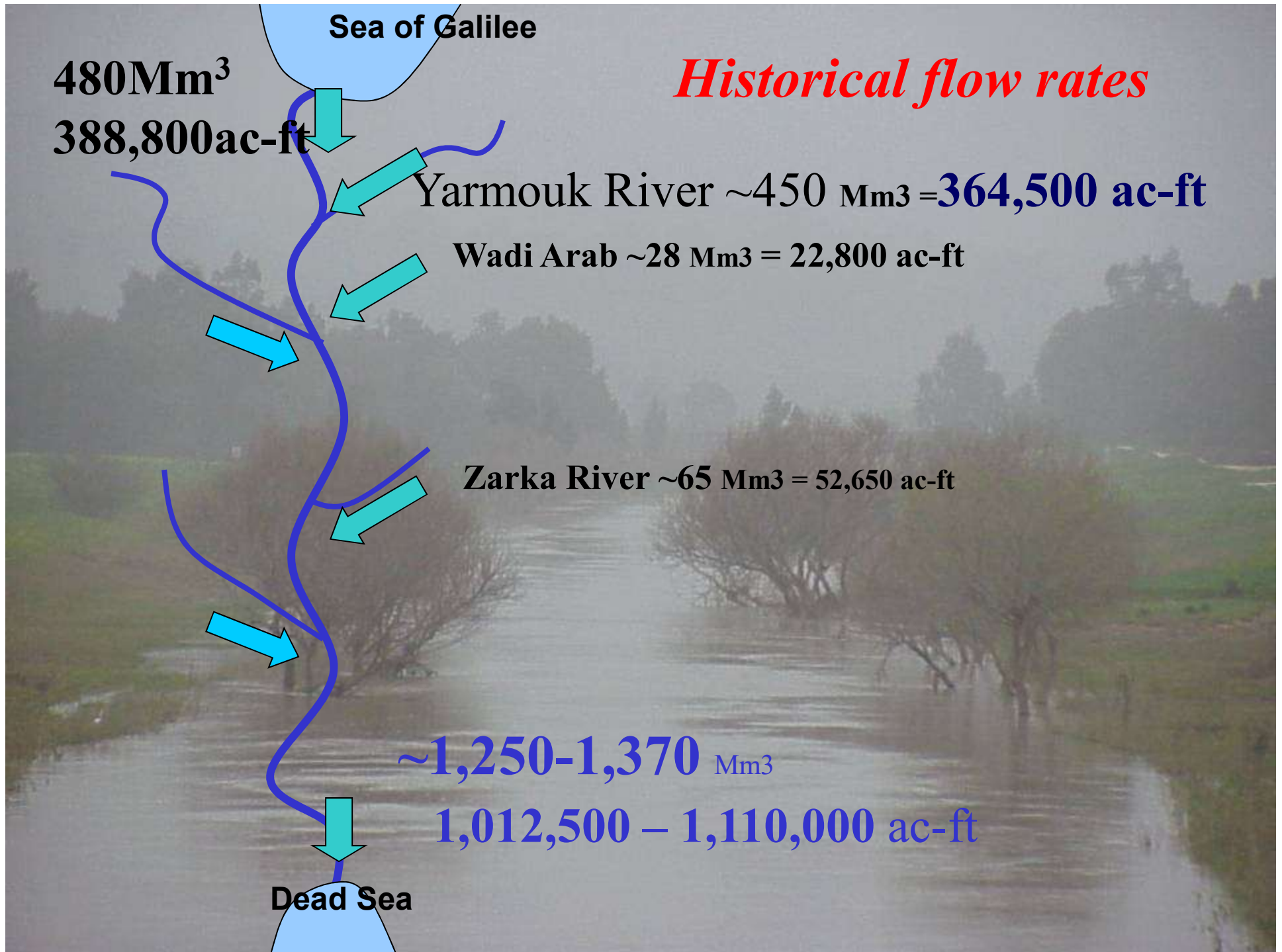
The Jordan Valley Basin



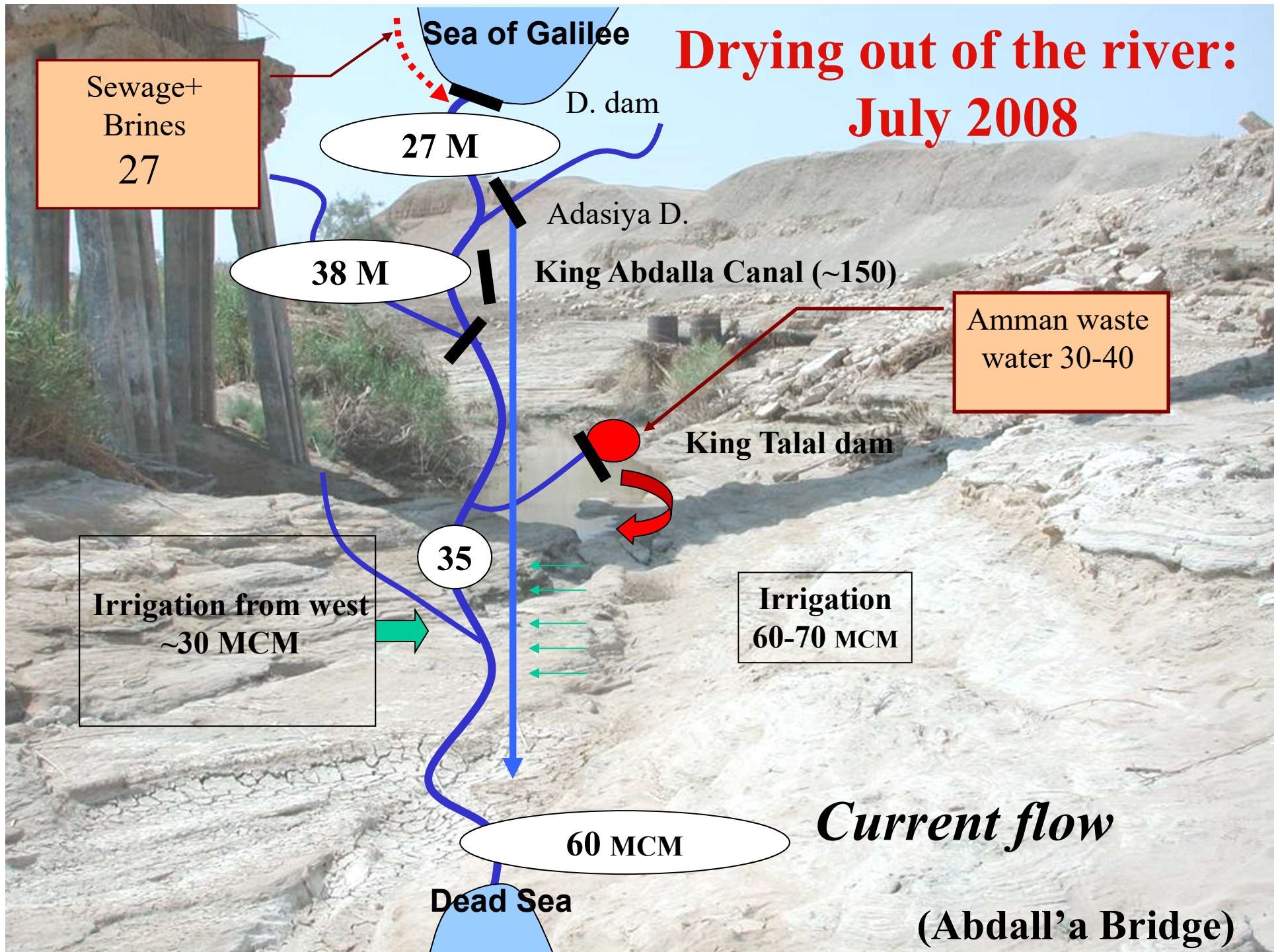
Israel

Satellite Map

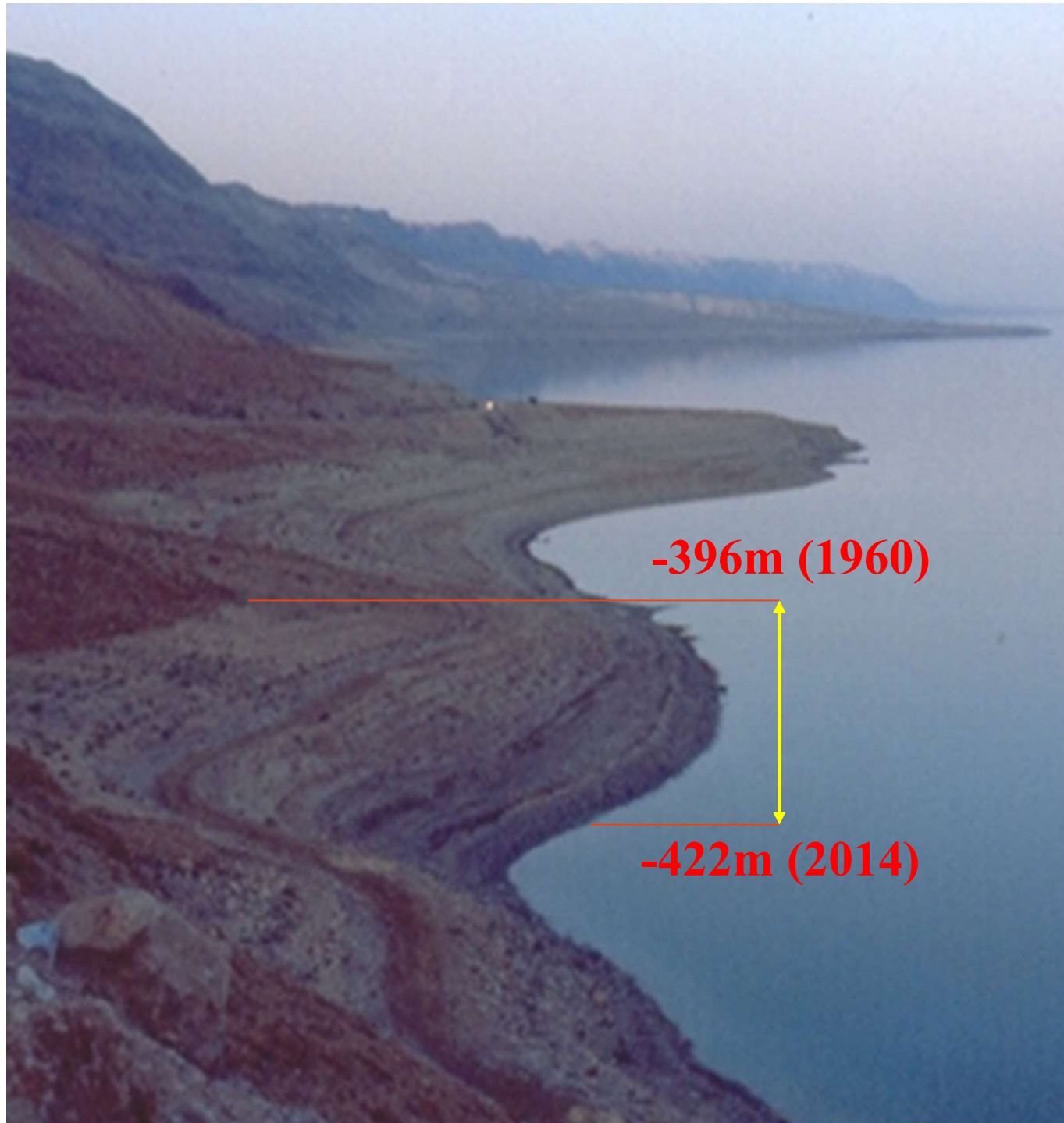




Drying out of the river: July 2008

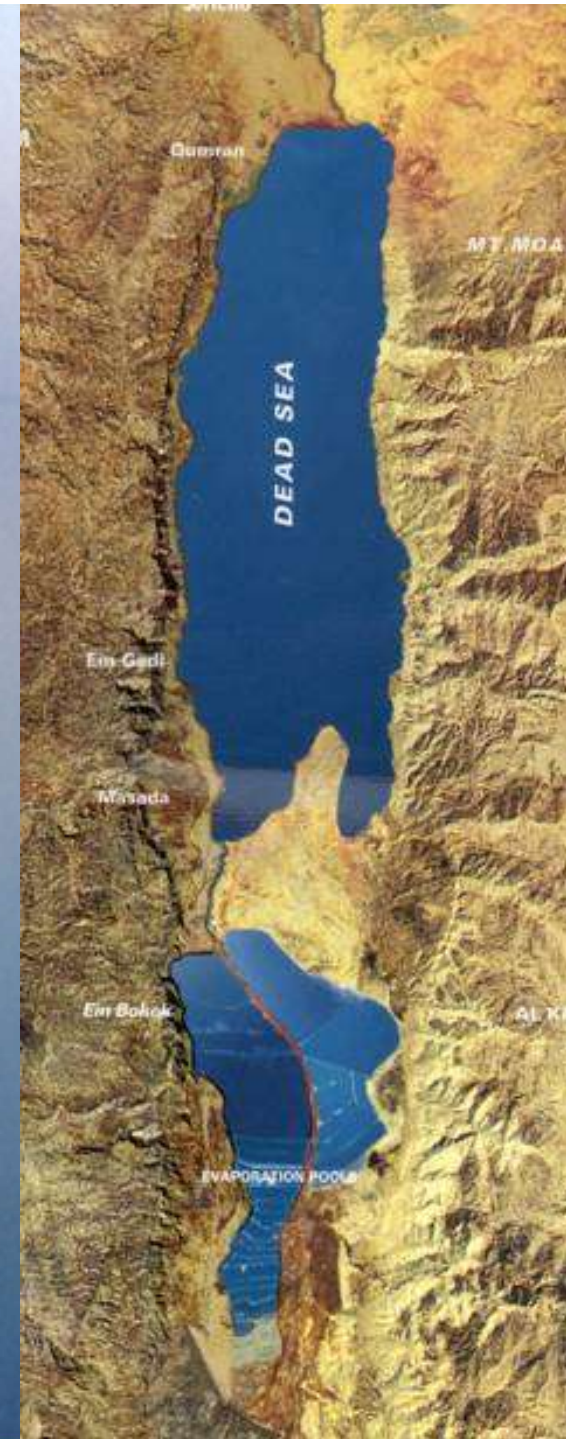




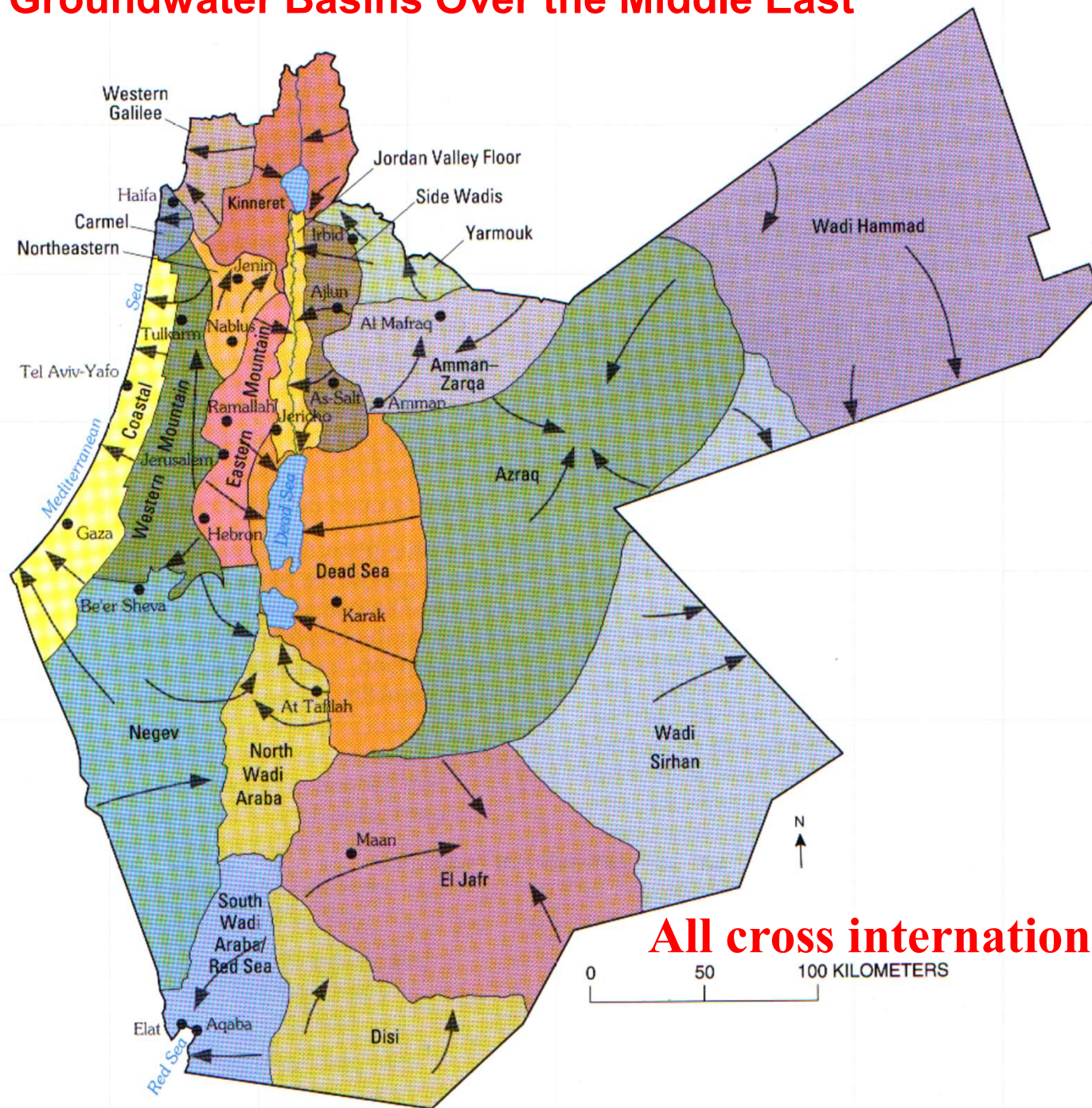


-396m (1960)

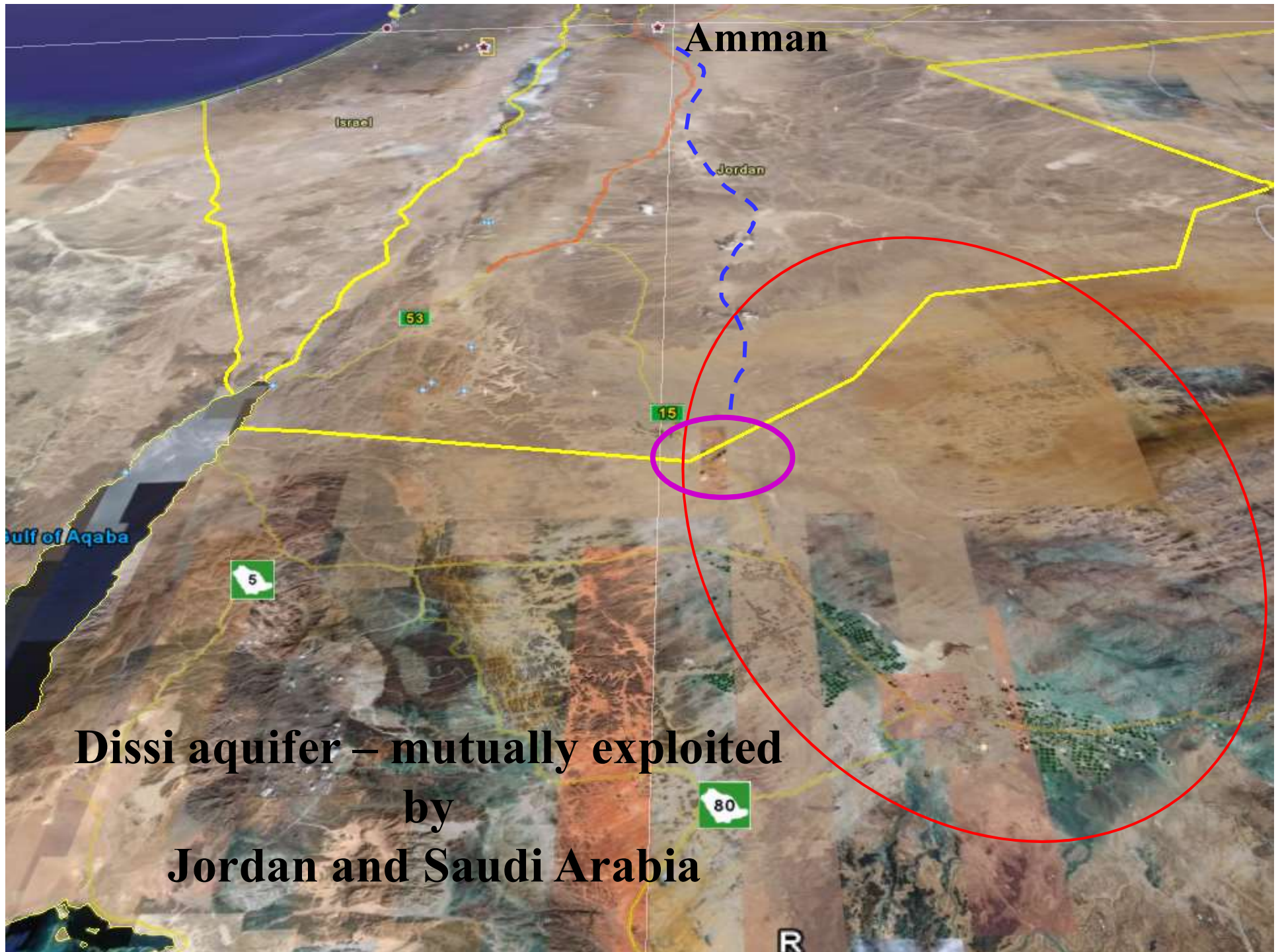
-422m (2014)



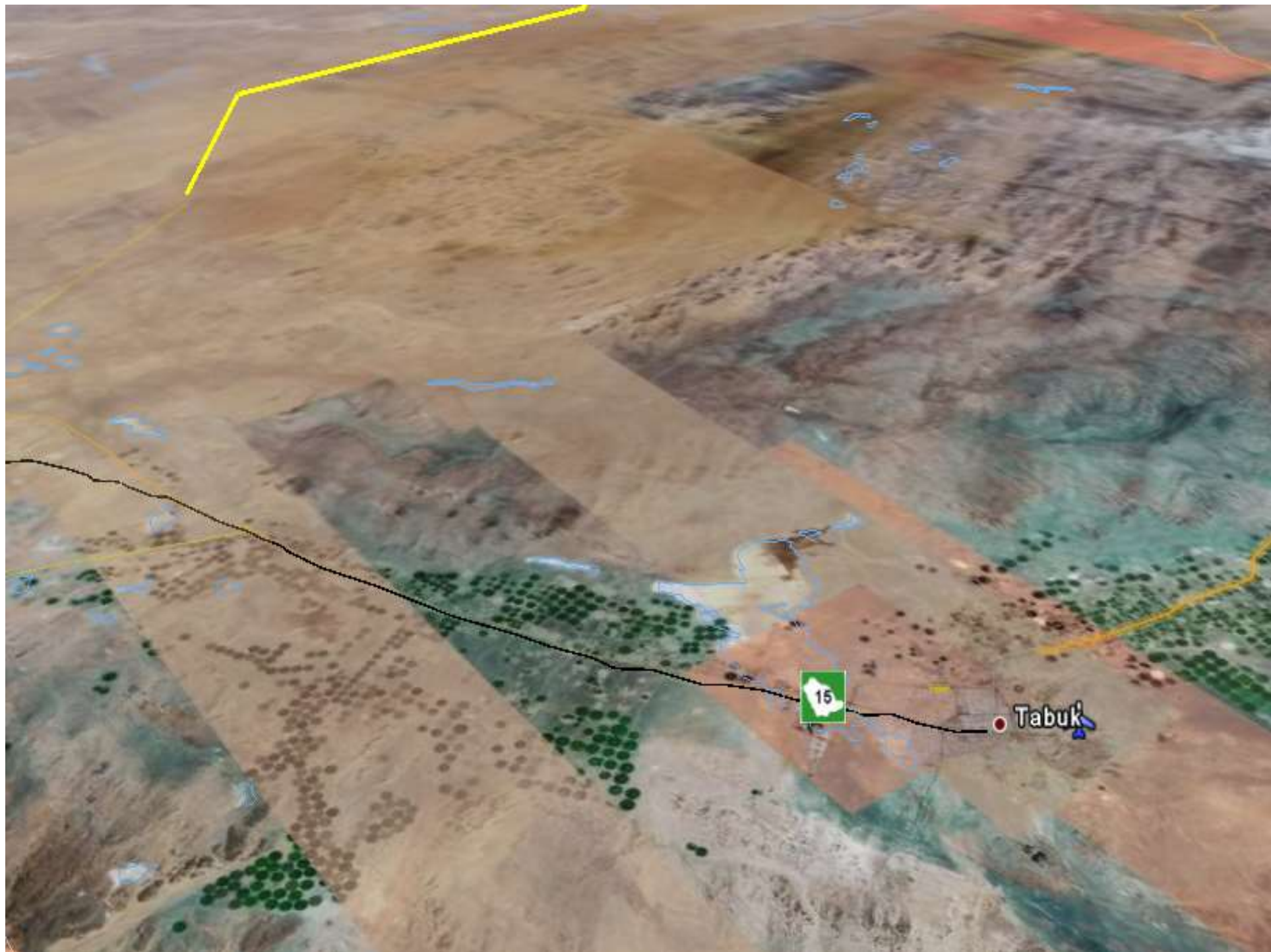
Groundwater Basins Over the Middle East



All cross international borders



**Dissi aquifer – mutually exploited
by
Jordan and Saudi Arabia**







Disi Basin 1985

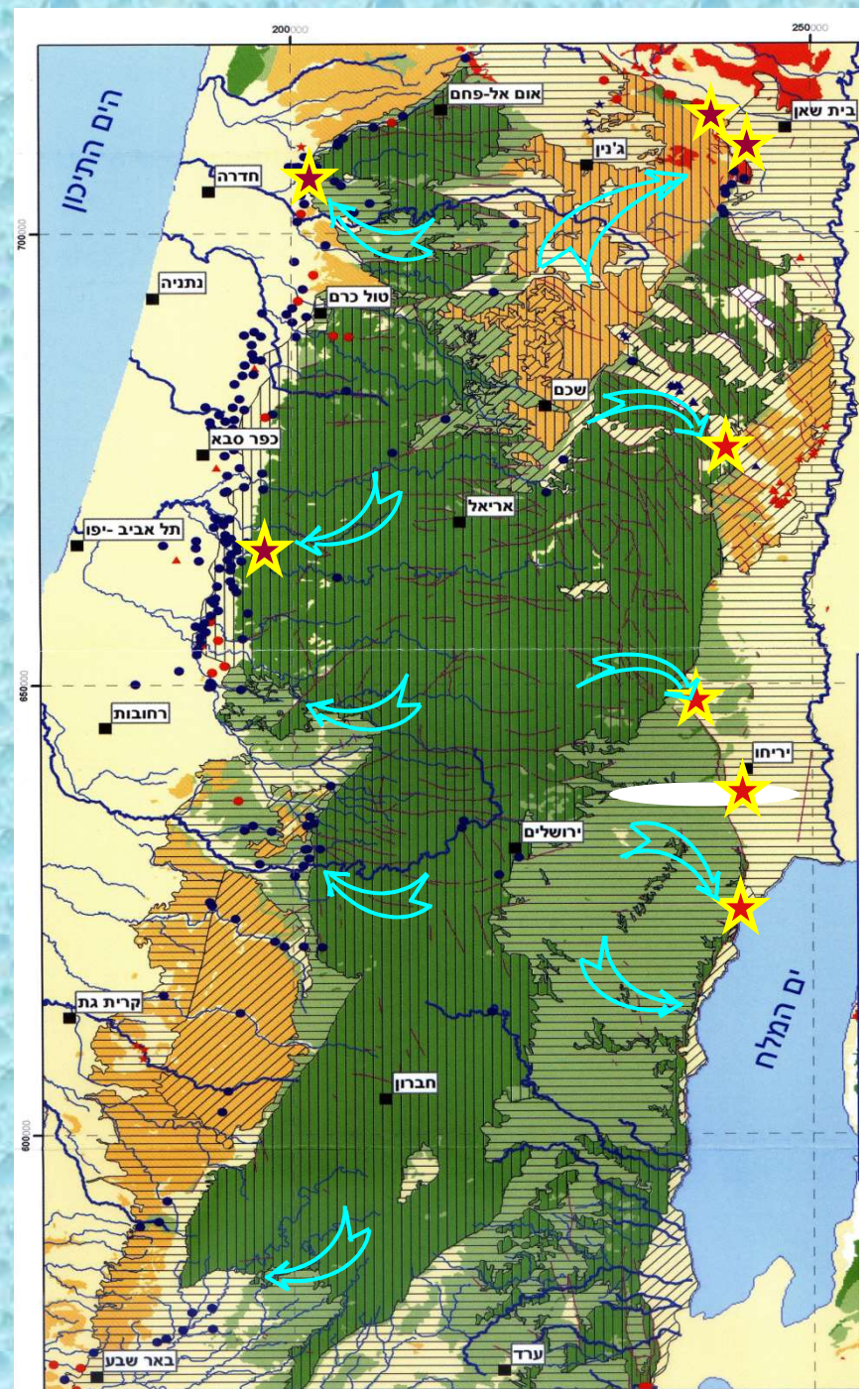


*Recharge zones
and flow pattern
in the mountainous
aquifer*

**Groundwater
Sensitivity to the
use of treated
effluents**

West Bank

Gaza Strip





**Treated water should not be
used over the Samaria,
Judea and Hebron
mountains**

Effluents must be treated to avoid groundwater contamination

Treated water cannot be used over the Coast Area, Samaria, Judea and Hebron mountains

Treated Effluents = Commodity



Trading treated effluents for potable fresh water

Win Win Situation

**Efficient Water
Management**

**Adequate &
Sufficient water
quantity &
quality**

Coordination

**A Catalyst For
Cooperation**

**Development
&
Management
of
Cross-Border
WATER
Resources**

Zero Sum Game

**Non
Coordinated
Management
Competition**

**A Cause For
Conflicts**

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groundwater • wastewater • irrigation • water supply • groundwater • wastewater • irrigation • water supply

**Will shared aquifers trigger
conflict or peace?**

**Water should be kept
beyond conflicts & pave
the road for collaboration!**

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