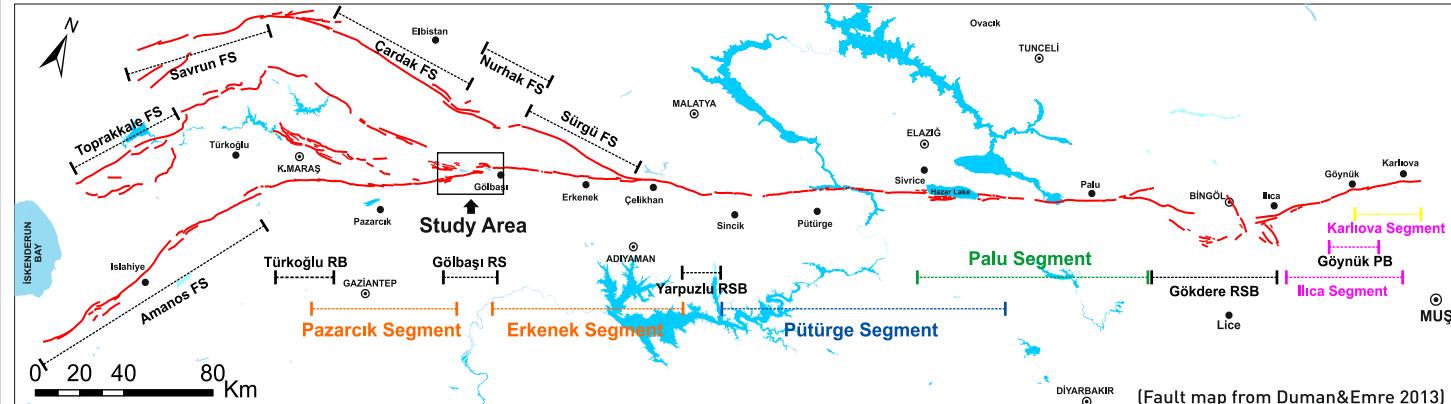


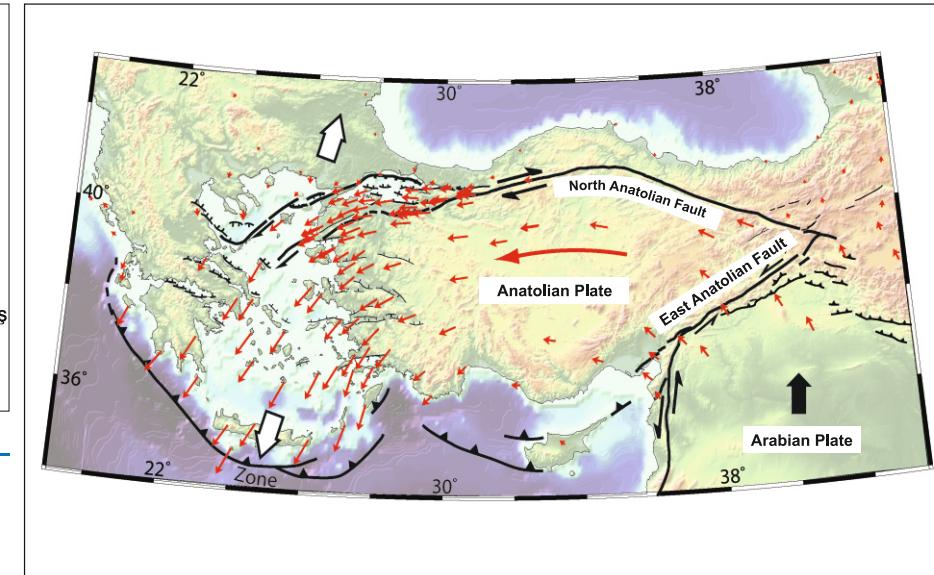
## East Anatolian Fault System (EAFS)



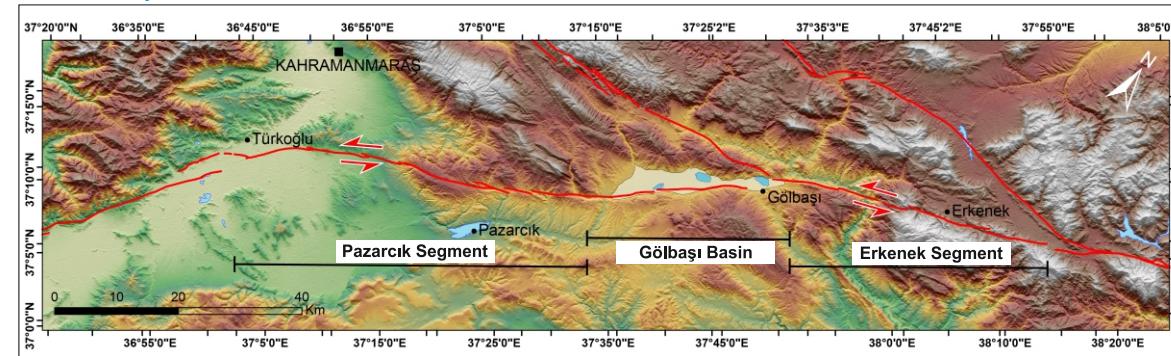
(Fault map from Duman&Emre 2013)

## Measured offsets along EAF

Segment Name	Offset (km)	Offset Type	Reference
Karlıova Segment	22	Geological Offset	Arpat, 1971; Arpat & Şaroğlu, 1972;
	15	Geological Offset	Seymen ve Aydın, 1972,
	13	Geological Offset	Hercece & Akay, 1992
	17	Geological Offset	Şaroğlu et al., 1992
	15	Geological Offset	Hercece, 2003
Palu Segment	27	Geological Offset	Arpat, 1971; Arpat & Şaroğlu, 1972
	21	Geological Offset	Hempton, 1985
	9	Geological Offset	Hercece & Akay, 1992
	22	Geological Offset	Koçyiğit et al., 2001
	15	Hazar Lake	Hercece, 2003
Pütürge Segment	25	Morphological Offset	Çetin et al., 2003
	15	Fırat River	Arpat & Şaroğlu, 1975; Dewey et al., 1986; Hempton, 1987; Koçyiğit et al., 2001
	12	Fırat River	Perinçek & Çemen, 1990
	13	Fırat River	Muehlberger&Gordon, 1987
	21	Bitlis Sutur	Hempton, 1985
	25	Bitlis Sutur	Gülen et al., 1987
	13	Geological Offset	Şaroğlu et al., 1987
	10	Geological Offset	Hercece ve Akay, 1992
Erkenek Segment Pazarcık Segment	11	Morphological Offset	Turan, 1993
	9	Geological Offset	Aksoy ve et al., 2007
	17-20	Geologic Offset	Erdoğan, 1975; Perinçek et al., 1987
	4-13	Göksu, Koca and Kısık River	Şaroğlu et al., 1992
	4.75	Göksu River	İmamoğlu, 1993
Erkenek Segment Pazarcık Segment	18	Geologic Offset	Chorowicz et al., 1994
	30	Geologic Offset	Westaway & Arger, 1996
	16	Geologic Offset	Westaway & Arger, 2001

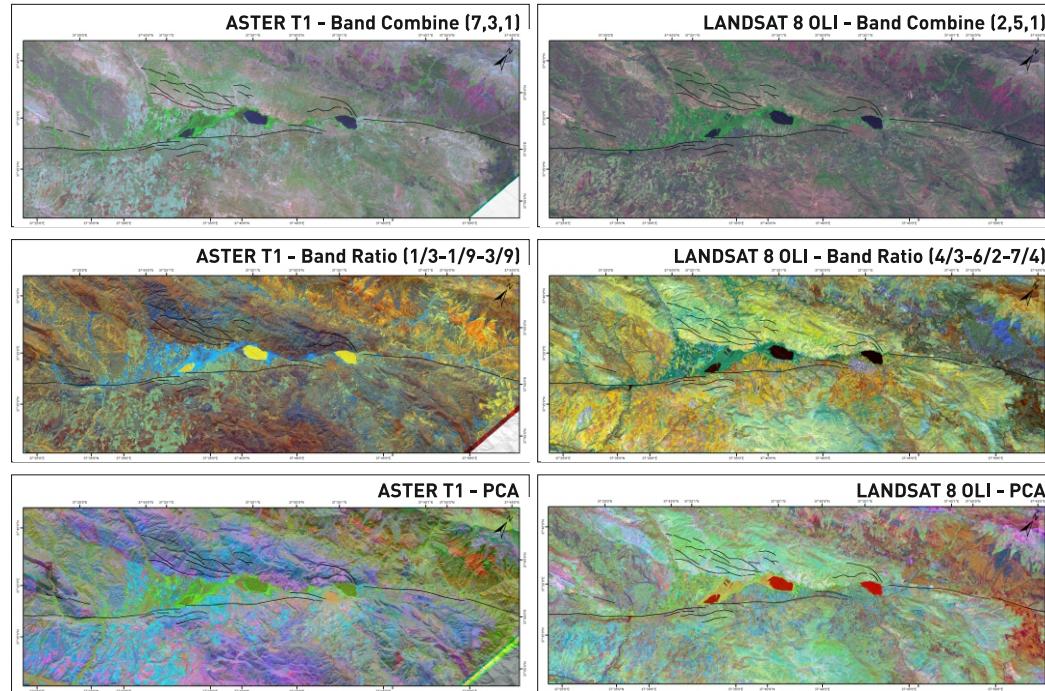
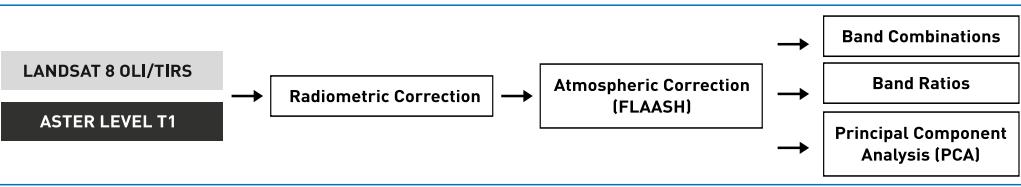


## Fault map of Gölbaşı Basin



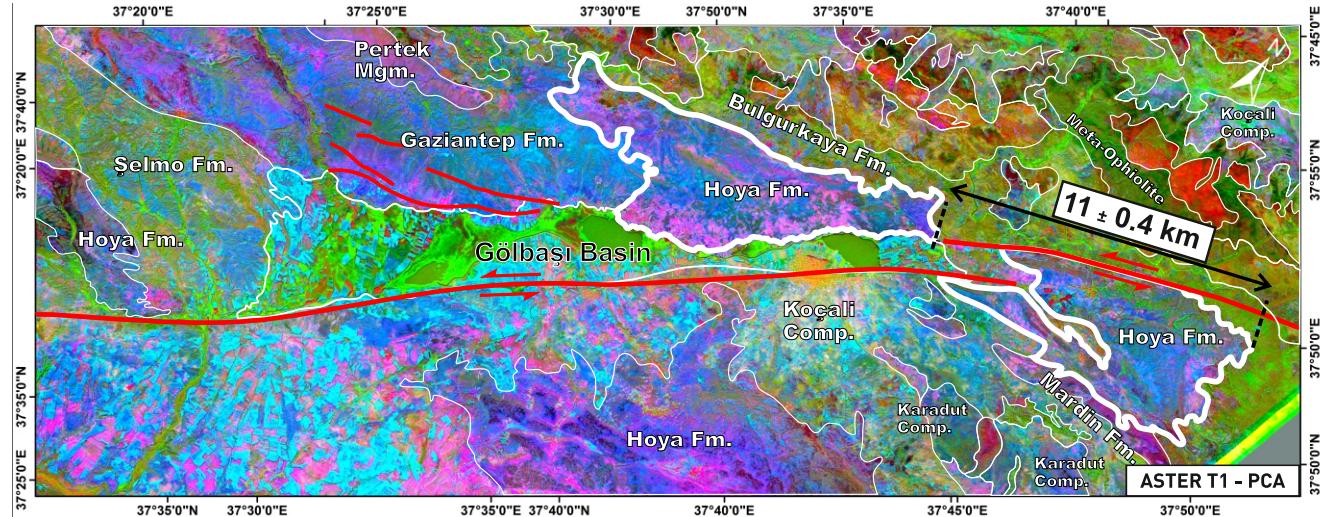
- The seismically active left-lateral East Anatolian Fault (EAF) is one of the major intra-continental transform faults in the Eastern Mediterranean region.
- The Gölbaşı Basin is the largest basin along the EAF and its located near the junction of Erkenek and Pazarcık segments of the EAF. Pazarcık segment is recognized as the seismic gap along the EAF based on historical and instrumental earthquake data.

## Material & Methods



- PCA image analysis highlight a left-lateral geological offset of ~11 km is measured along the Erkenek Fault Segment at the Golbasi Lake side of the Hoya Formation.
- Northern part of the Golbasi basin which hosts the Golbasi Lake, presents a rhomboidal geometry whereas the southern part is divided from the north with a wedge-shaped basin geometry.
- Towards southwest of the Pazarcık Segment, the Kisik River is left-laterally offset about ~4.8 km which is detectable on the band ratio images.

## Geologic & Morphologic Results



- Principal Component Analysis (PCA), which provided a richer colour spectrum than the Band Combination and Band Ratio methods.
- More successful results are obtained in creating contrast between units and determining morphological structures by using the Band Ratio method.

