



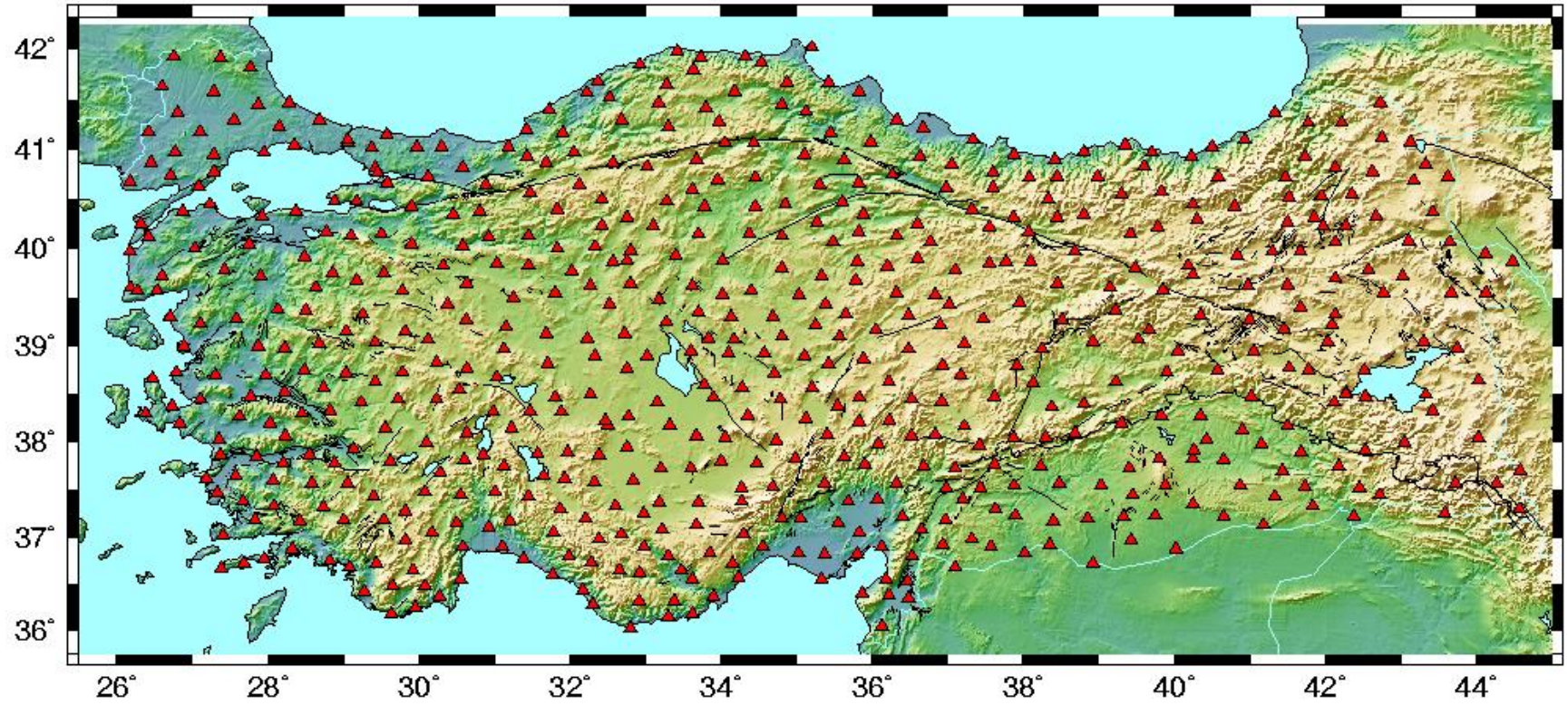
# National Report of Turkey



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# TURKISH NATIONAL FUNDAMENTAL GPS NETWORK

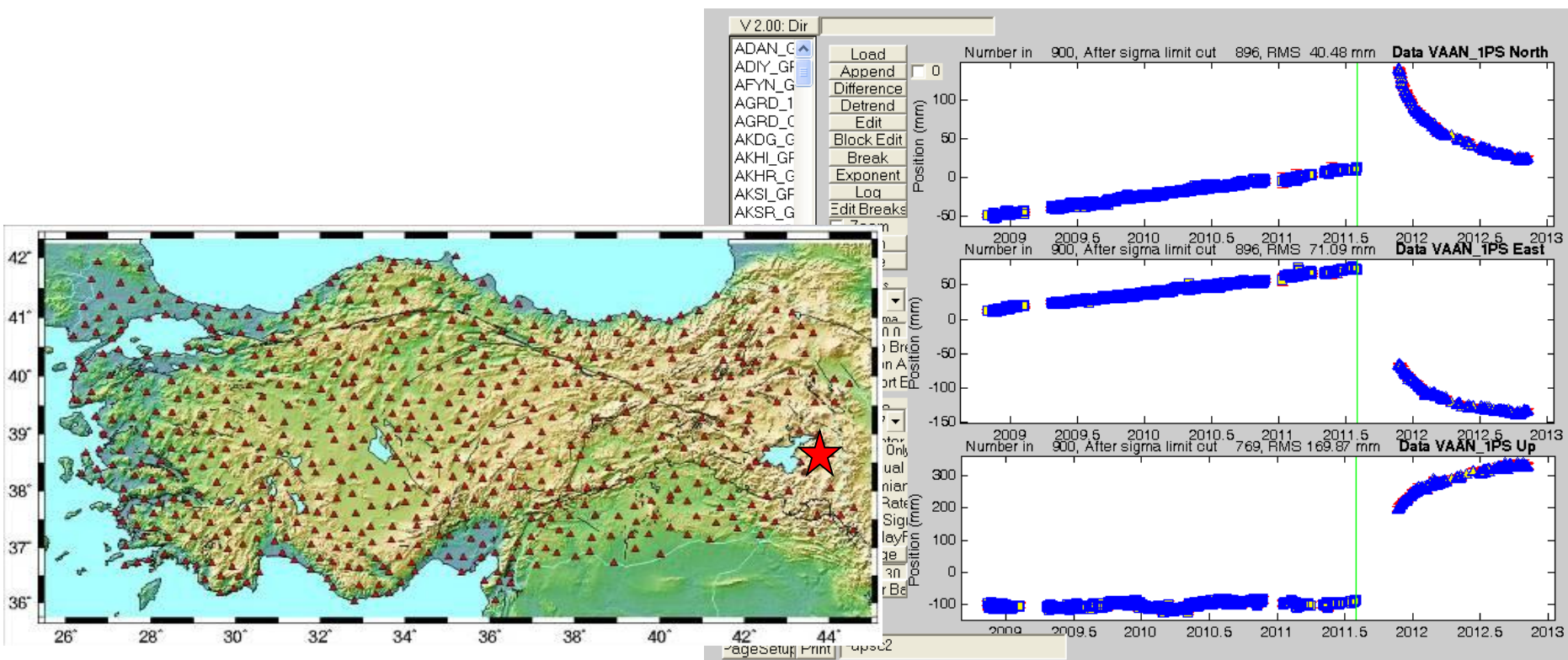


Distribution of sites



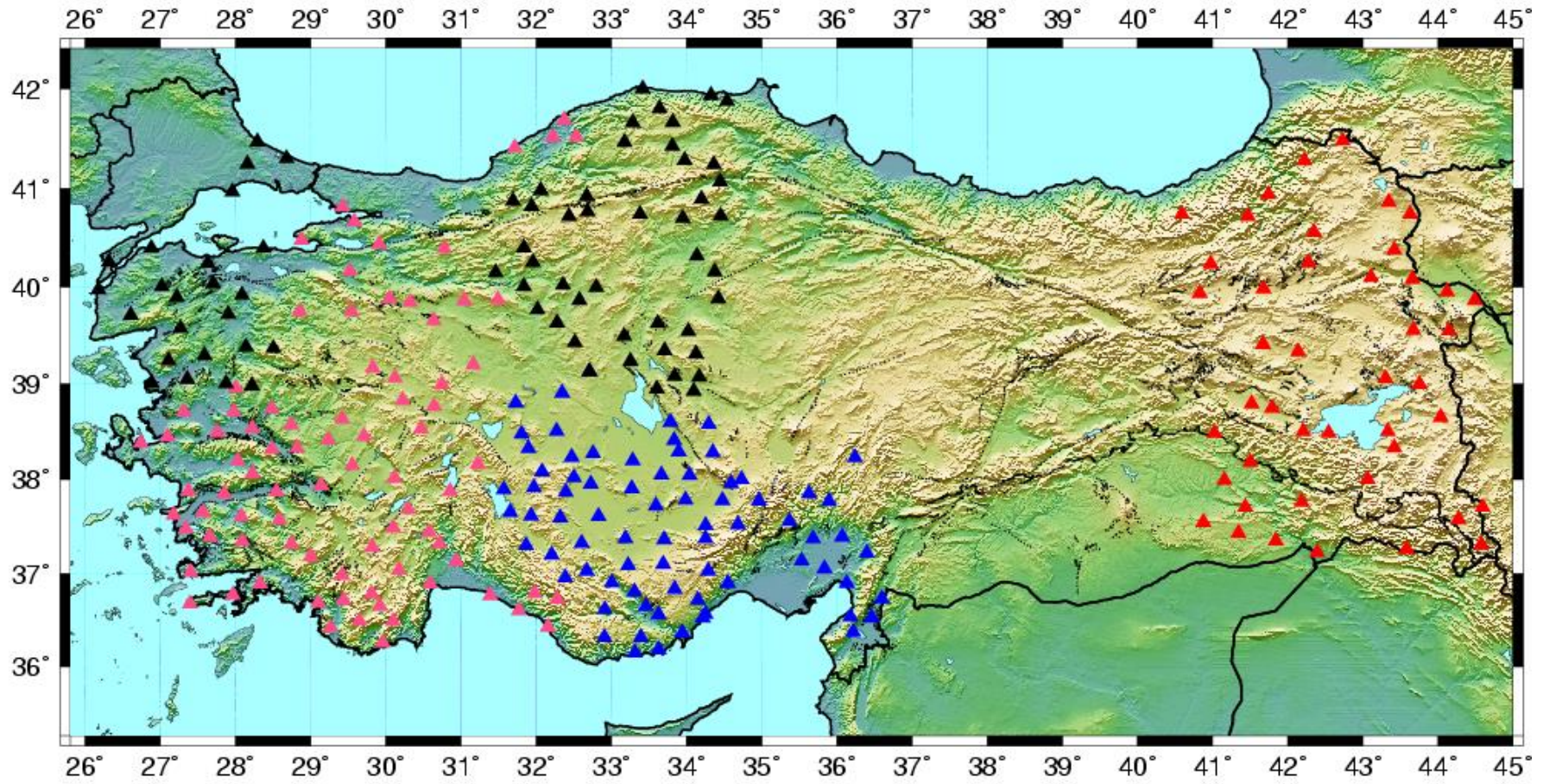
# TURKISH NATIONAL FUNDAMENTAL GPS NETWORK



Earthquake on the 23rd of October 2011, just north of the city of Van (Mw 7.1).





# GPS CAMPAIGNS CONDUCTED IN RECENT YEARS

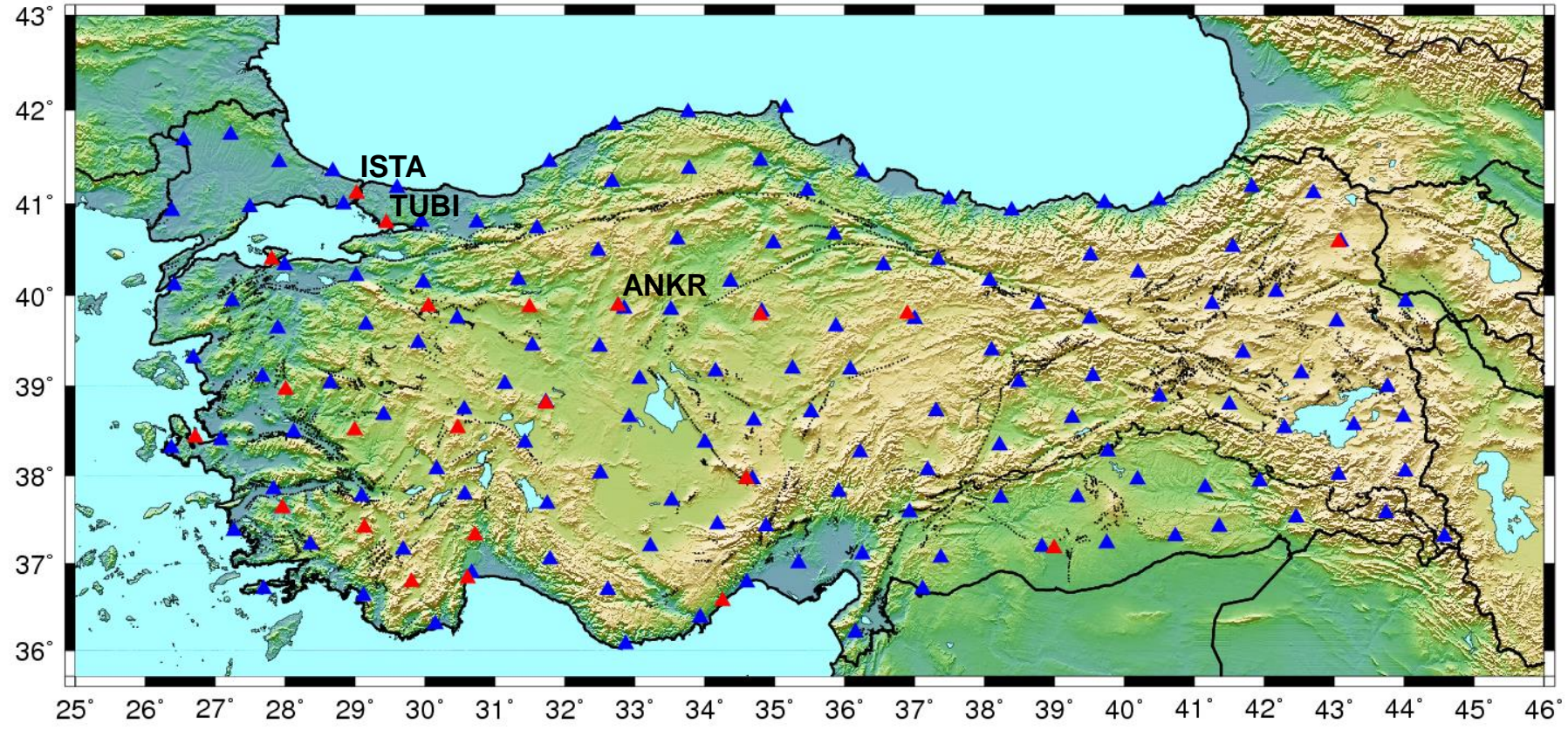


 2010  
 2011

 2012  
 2013



# TURKISH NATIONAL PERMANENT GPS AND RTK NETWORKS





# RTK NETWORK

CCCWEBROUTER1

Trimble GPStream - [20090819]

File LineRelay (RTCM3Net) View Help

- GPStream
  - LineRelay (SAPOS)
  - LineRelay (RTCM3Net)
  - LineRelay (CMR+)
  - LineRelay (DGPS)
  - LineRelay (RTCM3.1)

### LineRelay (RTCM3Net): Map

Map | Status | GPSNet Hosts

5/3/2013 8:27:44 AM LineRelay (RTCM3.1): Client 127.0.0.1:4710 connected to port 9009.  
5/3/2013 8:27:44 AM LineRelay (RTCM3.1): Client 127.0.0.1:4708 disconnected from port 9009.  
5/3/2013 8:27:44 AM LineRelay (RTCM3.1): Client 127.0.0.1:4712 connected to port 9009.  
5/3/2013 8:27:44 AM LineRelay (RTCM3.1): Client 127.0.0.1:4710 disconnected from port 9009.  
5/3/2013 8:27:44 AM LineRelay (RTCM3.1): Client 127.0.0.1:4714 connected to port 9009.  
5/3/2013 8:27:44 AM LineRelay (RTCM3.1): Client 127.0.0.1:4712 disconnected from port 9009.

Output

5/3/2013 8:27:45 AM Local Time DONGLE

Start IPCLUSTER Trimble GPStream... Trimble Streaming M... Trimble NTRIP Caster CorsYon 08:27

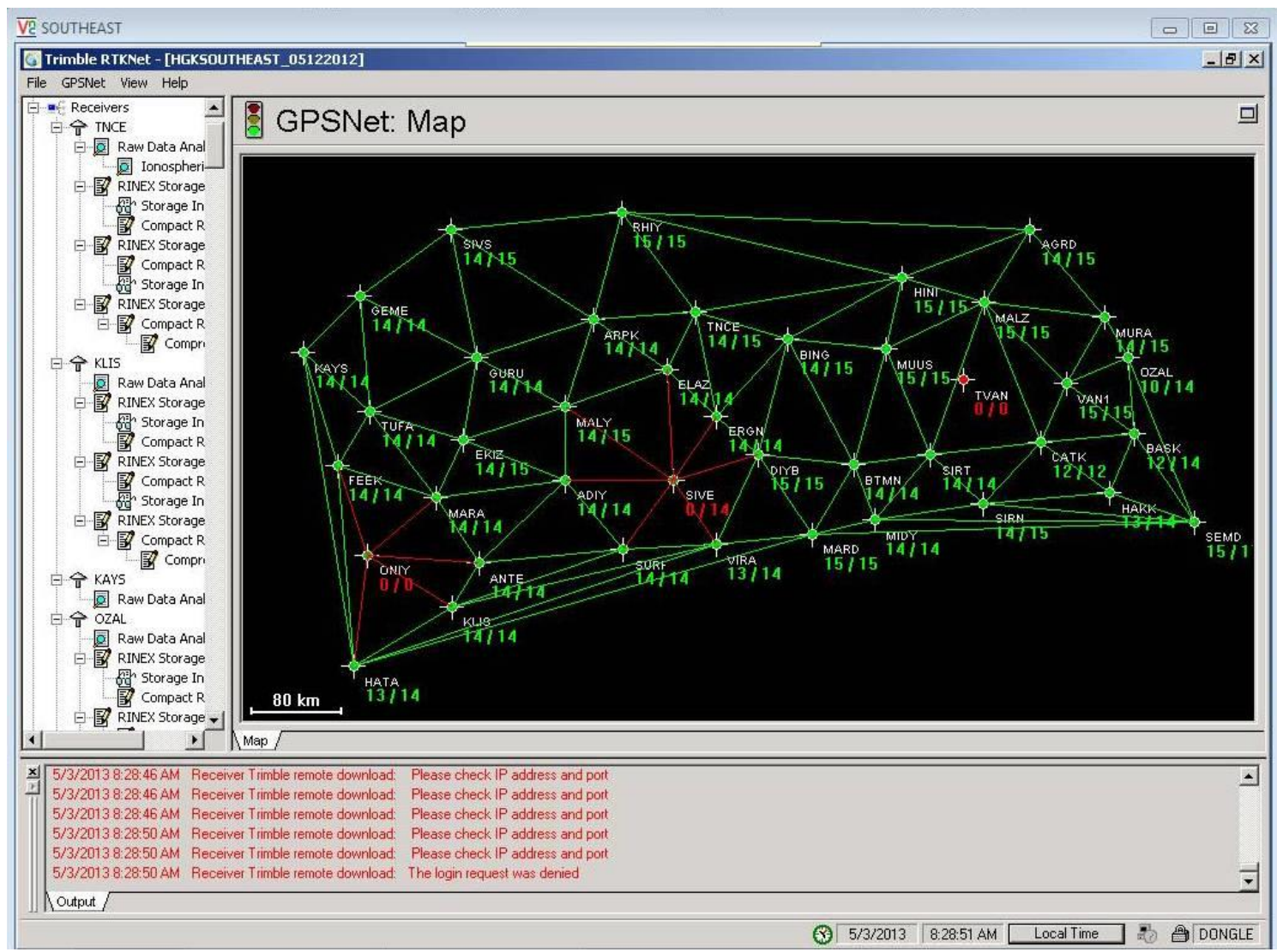






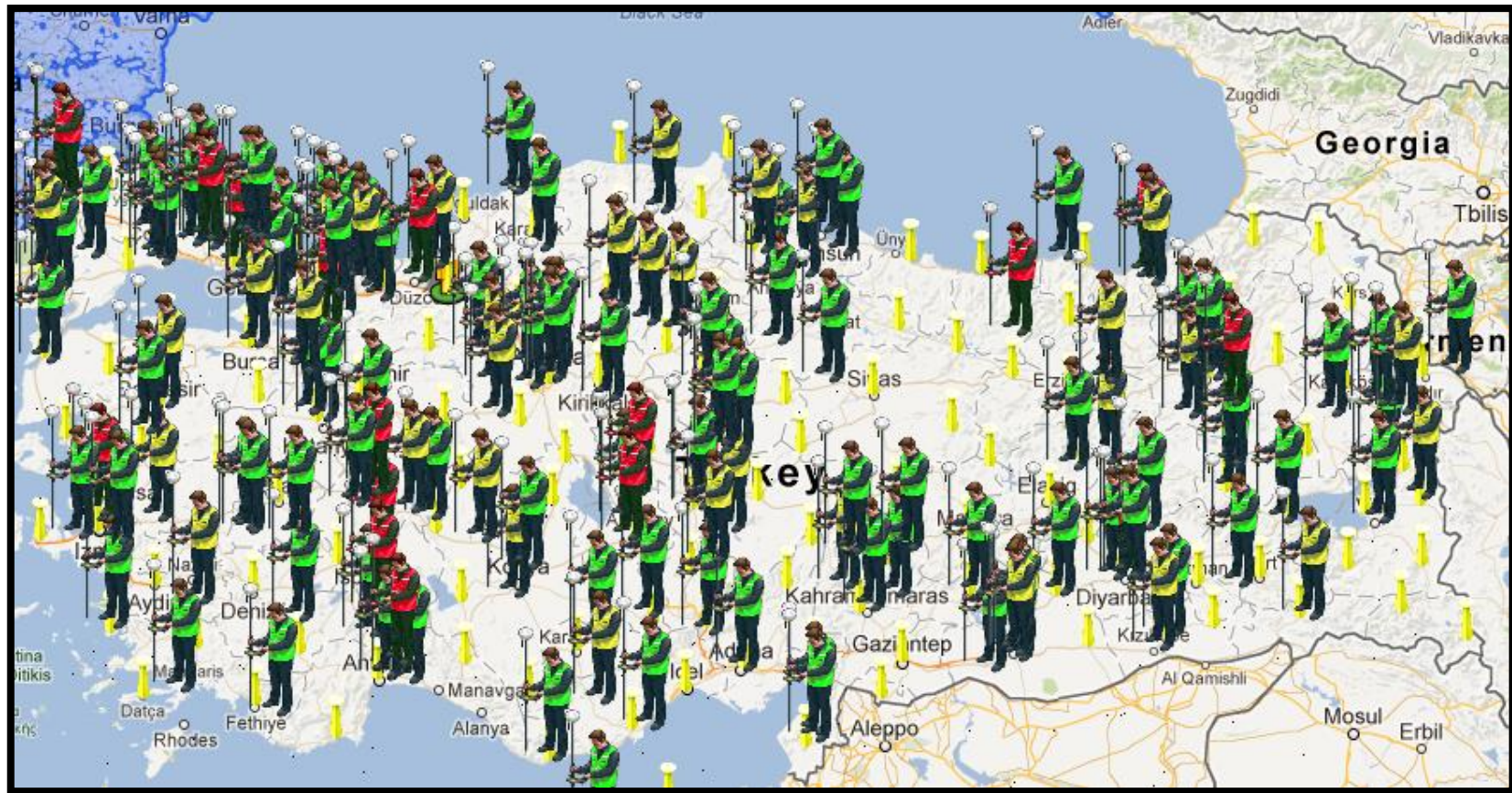


# RTK NETWORK (SouthEast)





# USERS of RTK NETWORKS





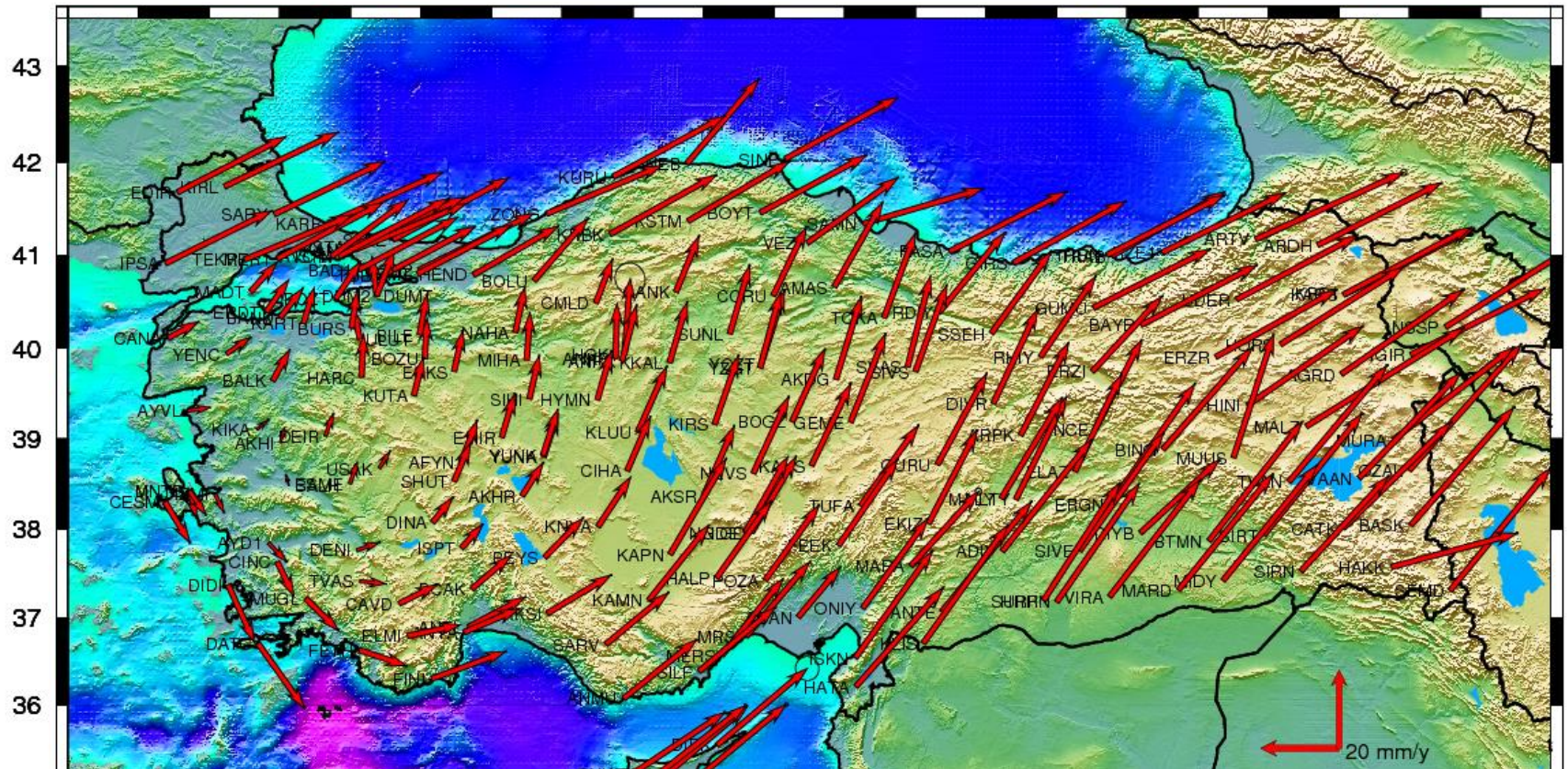
## USERS of RTK NETWORKS

Nu	Output Type	Output Format	Usage
1	FKP	RTCM2.3	% 3
2	VRS	RTCM3.1	% 61
3	VRS	CMR+	% 35
4	DGPSNet	RTCM2.1	% 1

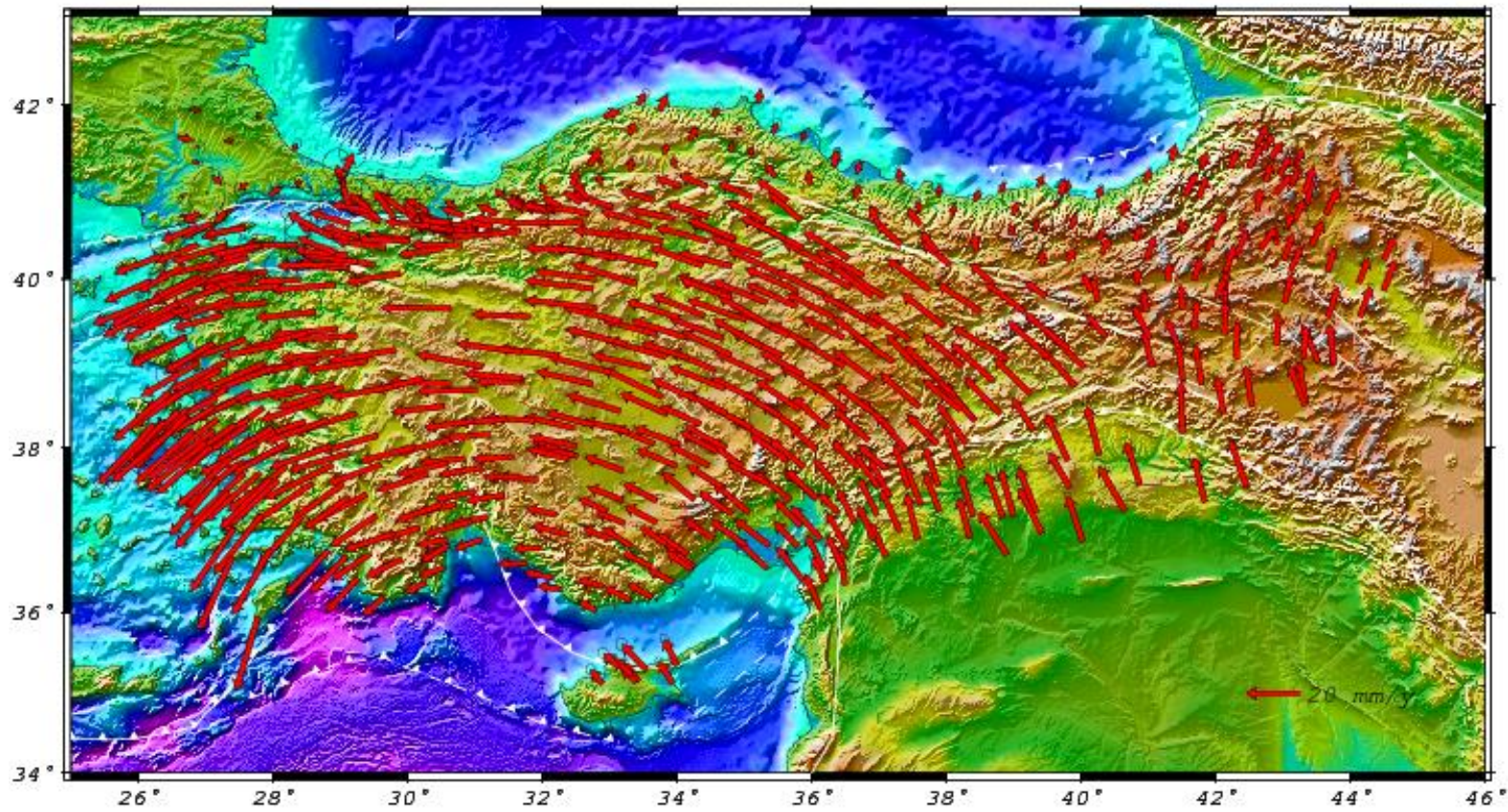




# ITRF VELOCITIES

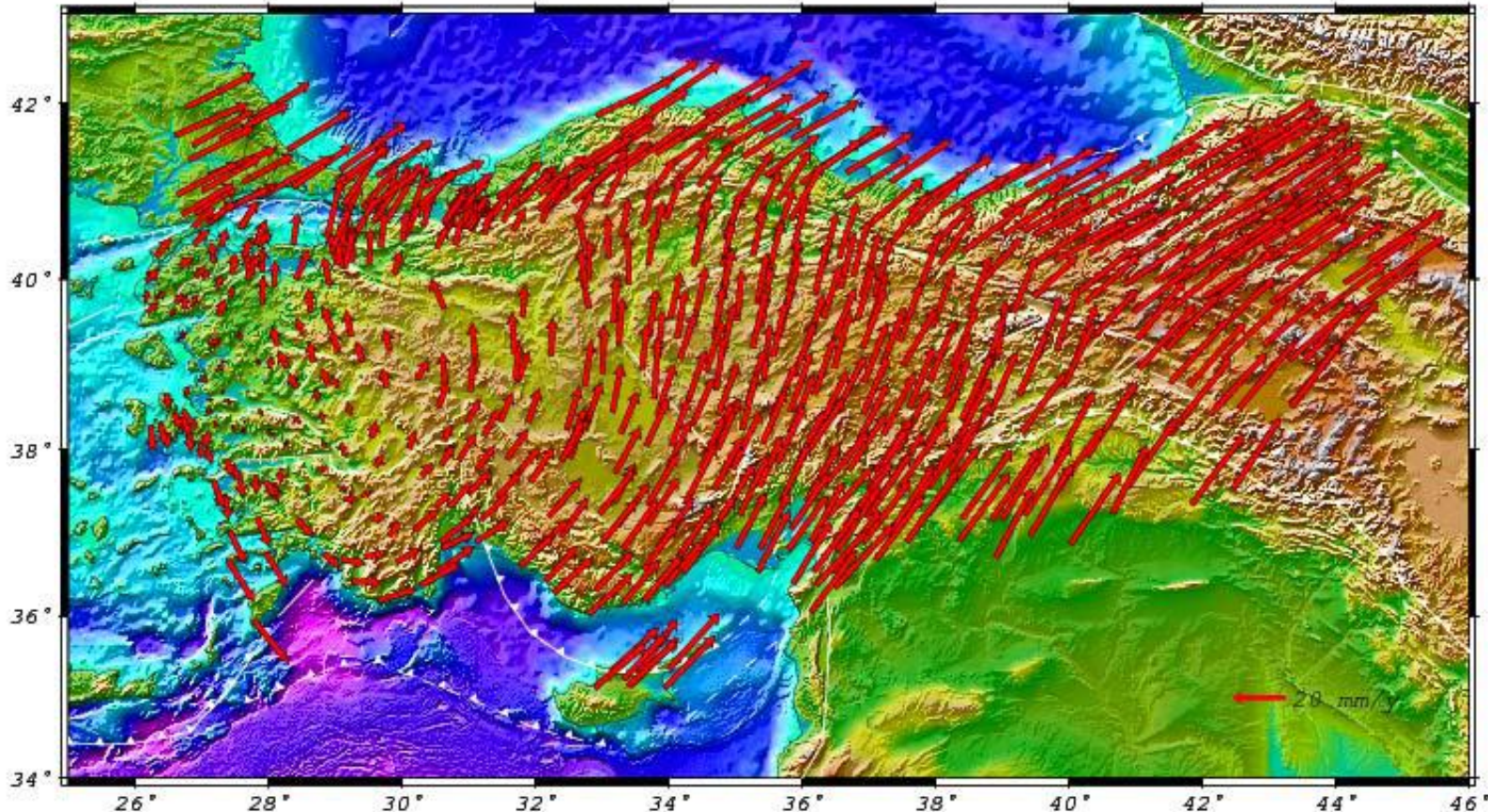


# Velocity solution of GPS data over the interval 1992-



**Horizontal velocity field of Turkey and surrounding regions  
in a Eurasia-fixed frame**

# Velocity solution of GPS data over the interval 1992-



**HORIZONTAL velocity field of Turkey and surrounding regions  
in ITRF**

## TURKISH SEA LEVEL MONITORING SYSTEM (TUDES)



**Locations of the existing TUDES tide gauges**



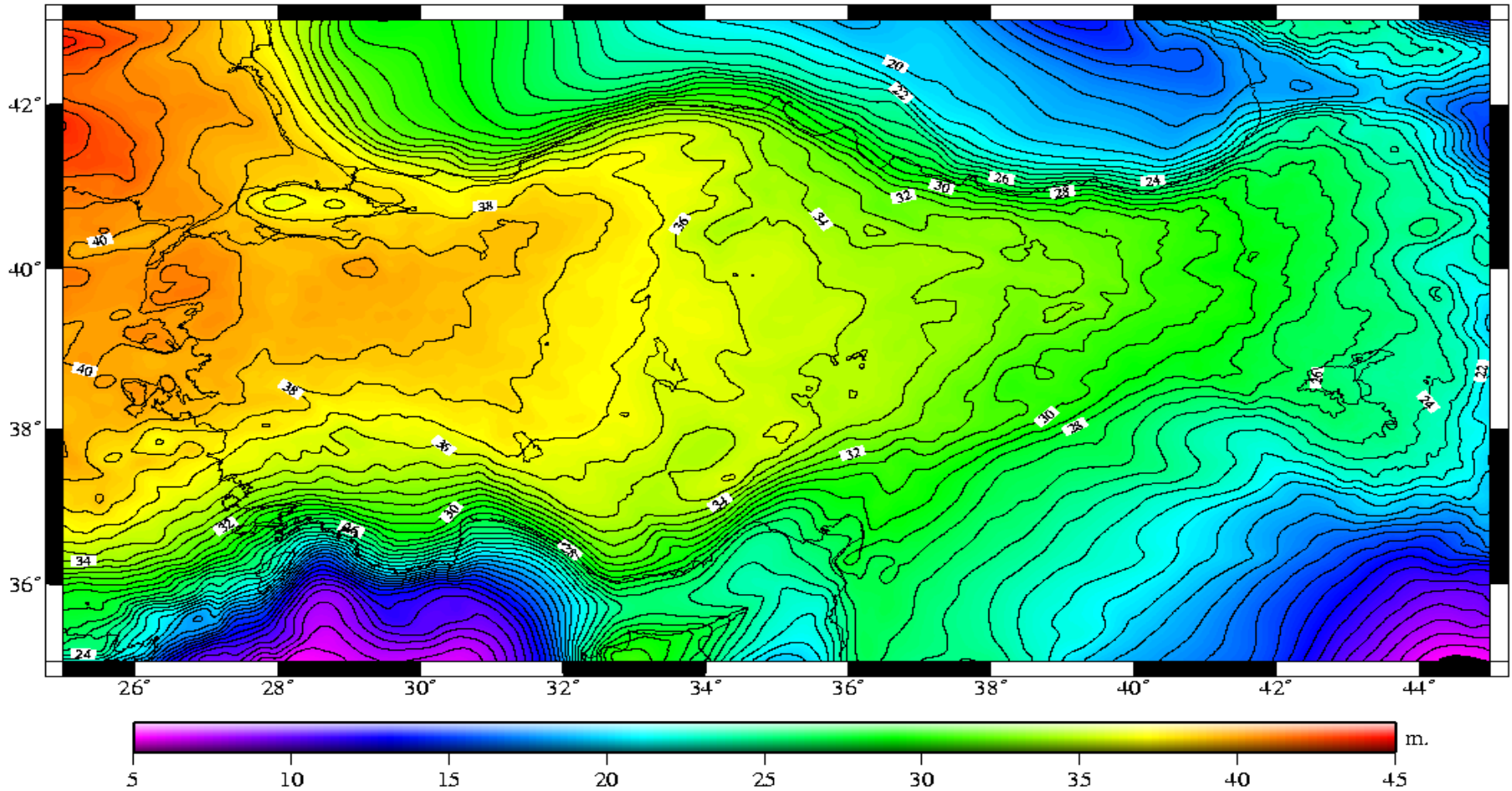
## *Geoid Models of Turkey*

<b>Model</b>	<b>TG-99</b>	<b>TG-03</b>	<b>TG-09</b>
<b>Method</b>	<b>RCR-LSC</b>	<b>RCR-LSC</b>	<b>RCR-FFT</b>
<b>Global Gravity Field Model</b>	<b>GPM2-T1</b>	<b>EGM96</b>	<b>EGM08</b>
<b>Terrestrial Gravity</b>	<b>62.250</b>	<b>61.597</b>	<b>262.212</b>
<b>Marine Gravity</b>	<b>-</b>	<b>Satellite Altimetry</b>	<b>DNSC08</b>
<b>Terrain Model</b>	<b>450m x 450m</b>	<b>450m x 450m</b>	<b>90m x 90m</b>
<b>GPS/Levelling Point</b>	<b>187</b>	<b>192</b>	<b>2464</b>
<b>Accuracy</b>	<b>± 14.5 cm</b>	<b>± 8.6 cm</b>	<b>± 8.4 cm</b>

RCR: Remove-Compute-Restore, LSC: Least Squares Collocation, FFT: Fast Fourier Transformation



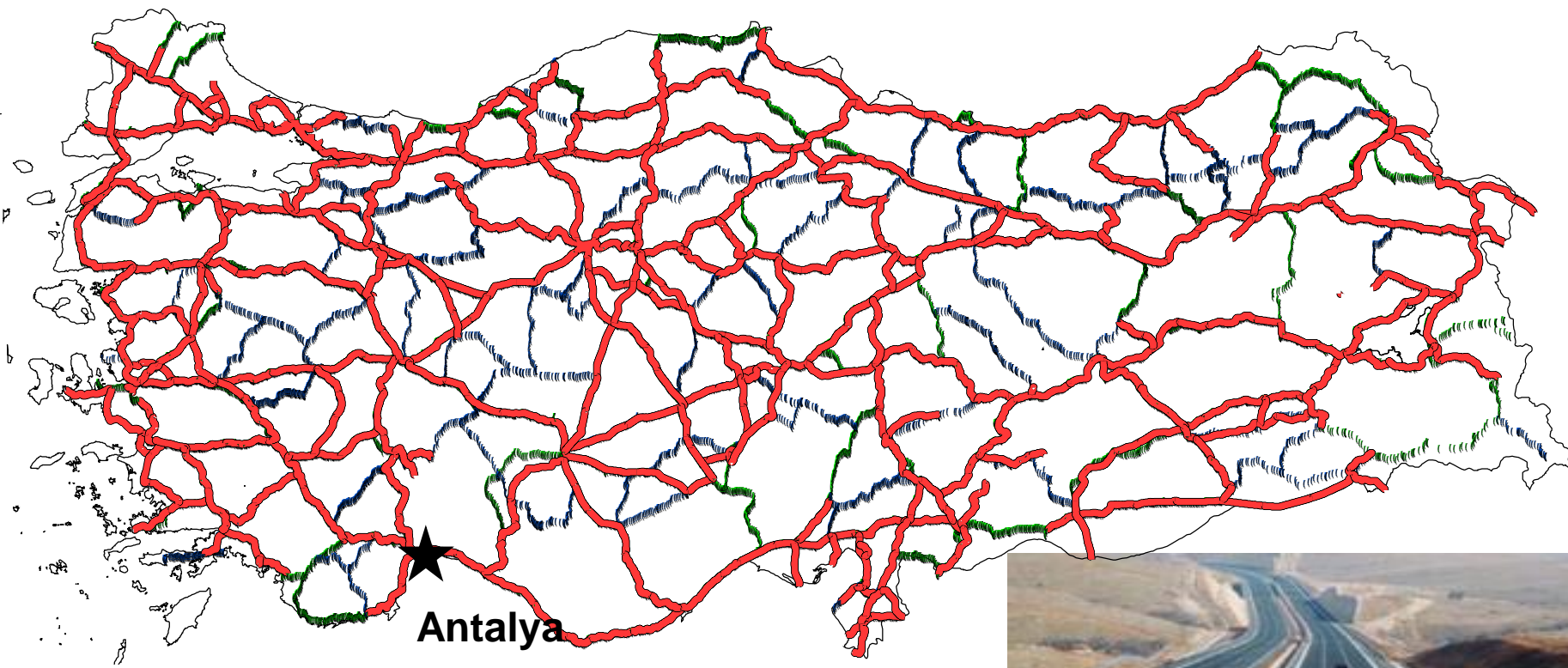
## *Geoid Models of Turkey*






**Turkish Hybrid Geoid (THG-09)**



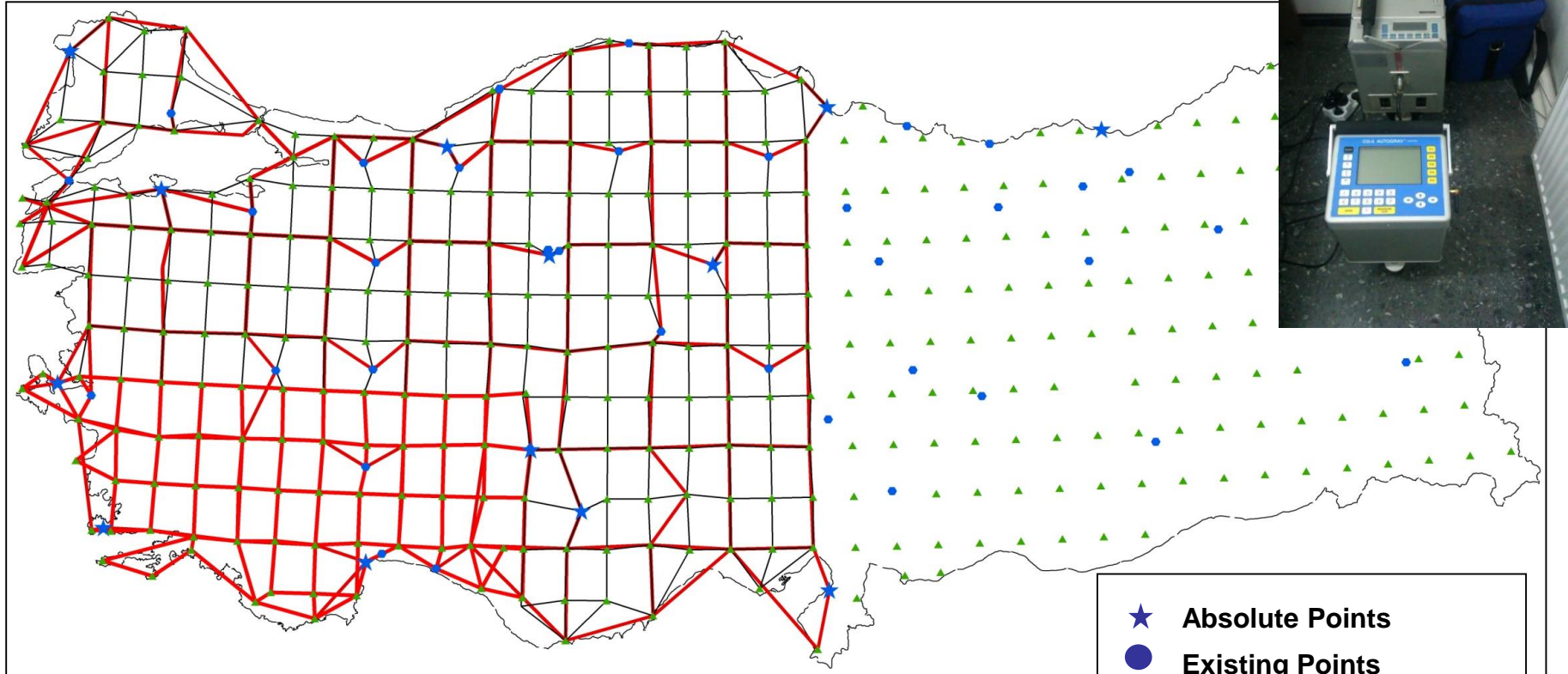
# CURRENT STATUS OF LEVELLING NETWORK



-  Roads Constructed (2003-2011)
-  1st Order Lines **~63% destroyed**
-  2nd Order Lines



# Extension of National Gravity Standardization Network



- ★ Absolute Points
- Existing Points
- ▲ New Points
- Gravity ties (2011-2012)
- Gravity ties (2013)

**Extension Measurements (30 min x 30 min)**

**Scintrex CG3 (808451) and CG5 (40946) gravimeters**



# Extension of National Gravity Standardization Network



HARİTA GENEL KOMUTANLIĞI GRAVİTE NOKTA PROTOKOLÜ			
NOKTA NUMARASI	1031	ENLEM	40.0032583428
İL	Eskişehir	BOYLAM	30.9969449349
İLÇE	Alpu	YERLEŞİM	ELİPSOİD 1318,178
MAHALLE		ORTOMETRİK	
KÖY	Belkeşen	GRAVİTE (mgal)	
AÇIKLAMA	Karapınar Mevki	TESİS TARİHİ	03.05.2012
DURUM KROKİSİ			
FOTOĞRAF		YER TARIFI	
		Eskişehir'den Sivrihisar ilikametine gidenken geçen merkezden (kıvrık) sola Alpu İlgesi istikametine dönülür. Alpu merkezden belediyenin önünden geçen yol takip edilir ve tren yolu geçilir. Buradan Belkeşen köyü istikametine doğru gidilir (tren yolundan Ribaren 24.1 km) ve sağa Belkeşen yönüne dönülür. Bu yoldan 4.1 km ilerlendiğinde Belkeşen köyüne varılır. Köyün camisinin önünden geçen yol 1.3 km takip edilerek noktaya ulaşıılır. Noktadan bulunduğu yöre Karapınar mevkii olarak bilinmektedir. Ayrıntılı bilgi için fotoğraflara bakınız.	
		KOLAYLIK YERİSİLERİ	

