Report of the OLG LAC EPN and other activities

Report 2003

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EPN subnetwork OLG

- 47 stations (5 inactive)
- Extension 5000 km
- L5/L3 fixing strategy
- Bernese Processing Engine
- IGS (and CODE) orbits

OLG subnetwork 2003

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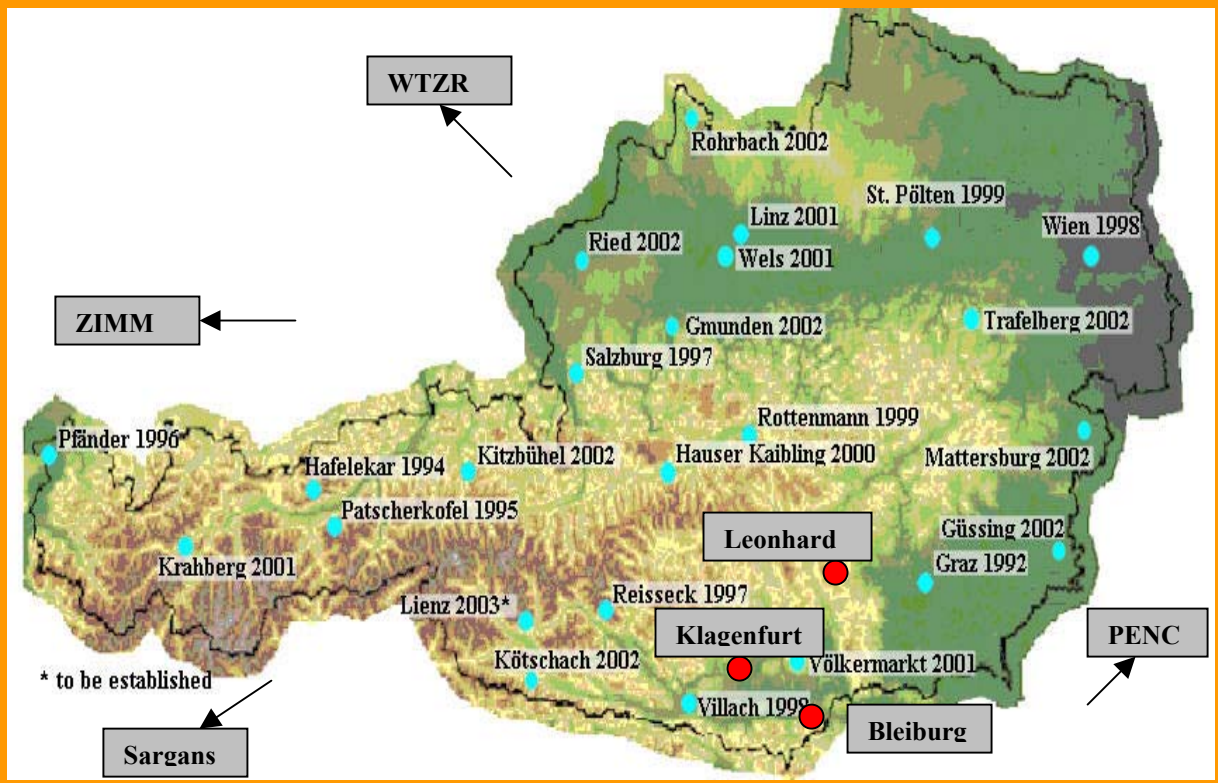
ARE/CERGOP

- Austrian Reference Extended and CERGOP permanent sites
- Monitoring geodynamics of Central Europe
- 50 stations, most of them EPN
- Extension 3000 km
- L5/L3 and QIF fixing strategy
- CODE orbits and BPE

DGPS-Austria

- National reference for Austria
- All public and some private Austrian permanent stations
- 28 stations (8 EPN)
- Extension 800 km
- L5/L3 fixing strategy
- CODE orbits and BPE

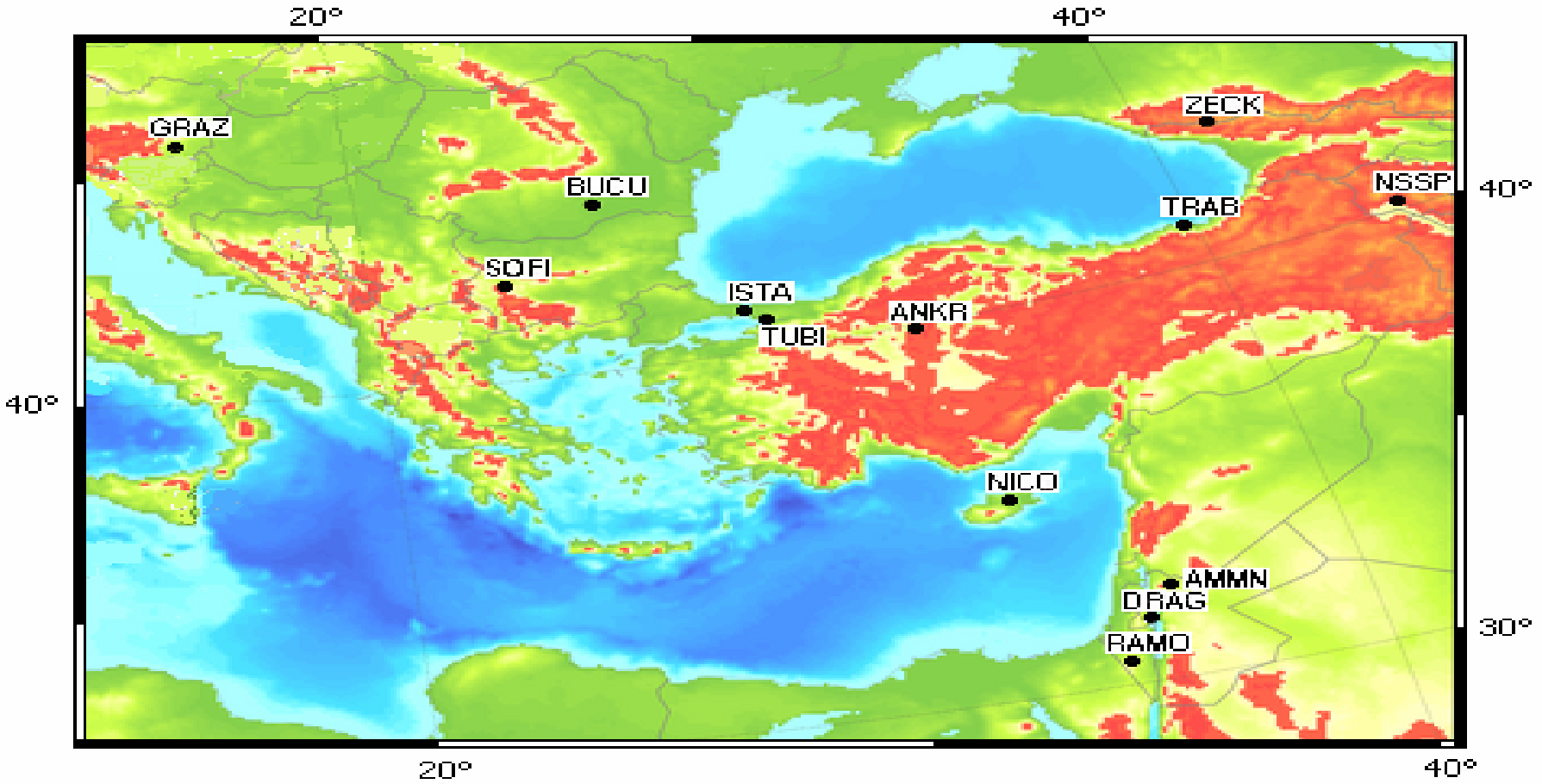
Future National Reference Network 2003 (still growing)



MON

- Monitoring EPN region VI (Balkan, Anatolia, Caucasus, Near East)
- EUREF special project
- 14 EPN stations
- Extension 2000 km
- L5/L3 fixing strategy
- CODE orbits and BPE

Monitoring Network OLG



Epoch Networks

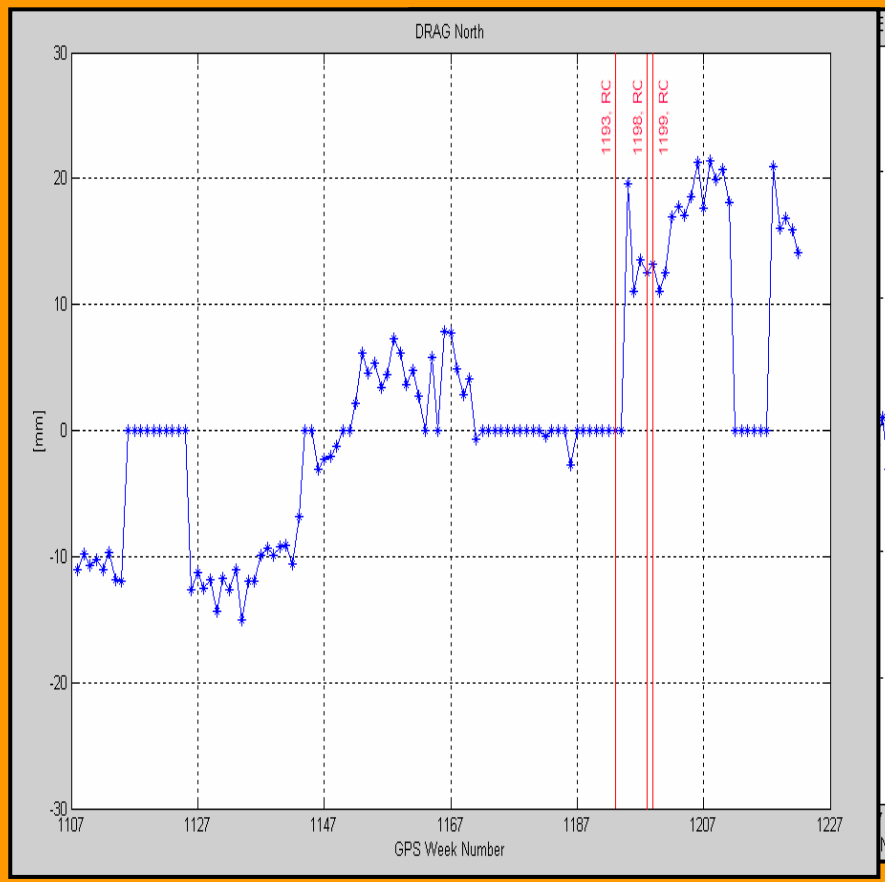
- CEGRN 1994- , estimating Central European intraplate velocities, >60 sites (epoch+permanent)
- EUREF Austria 2002, introduction of ETRS-89 as reference system
- AGREF Austrian Geodynamic Reference 1992- , monitoring movements, geoid determination, 100 epoch sites (1-5 epochs)

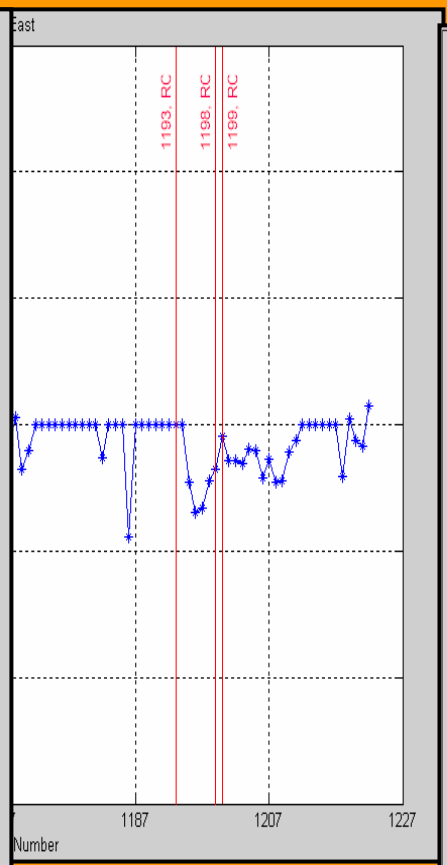
MON – Sudden Human and Natural Interference

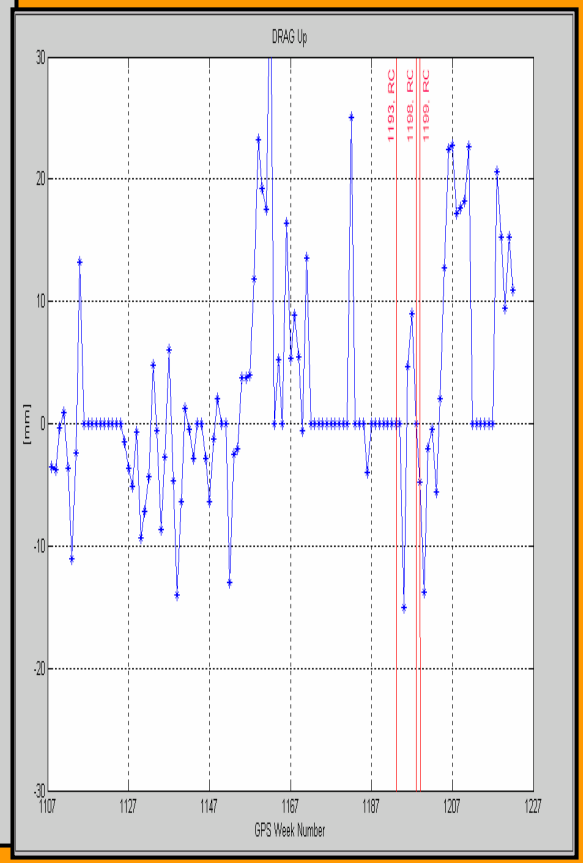
EQUIPMENT CHANGES (1107-1122)		
GPS WEEK	STATION	EQUIPMENT
1112	GRAZ	AC; RC
1116	GRAZ	RC
1122	ZECK	RC
1136	TUBI	RC
1169	TUBI	RC
1180	TUBI	RC
1193	DRAG	RC
1198	DRAG	RC
1199	DRAG	RC
1204	NSSP	AC; RC
1206	RAMO	RC

TURKEY - LAST EARTHQUAKES		
DATE	GPS WEEK	MAGNITUDE
13.03.1992	635	6.8
17.08.1999	1023	7.8
12.11.1999	1035	7.2
3.02.2002	1152	6.0
1.05.2003	1216	6.4

DRAG - receiver changes (Ashtech 1193/1198/1199)

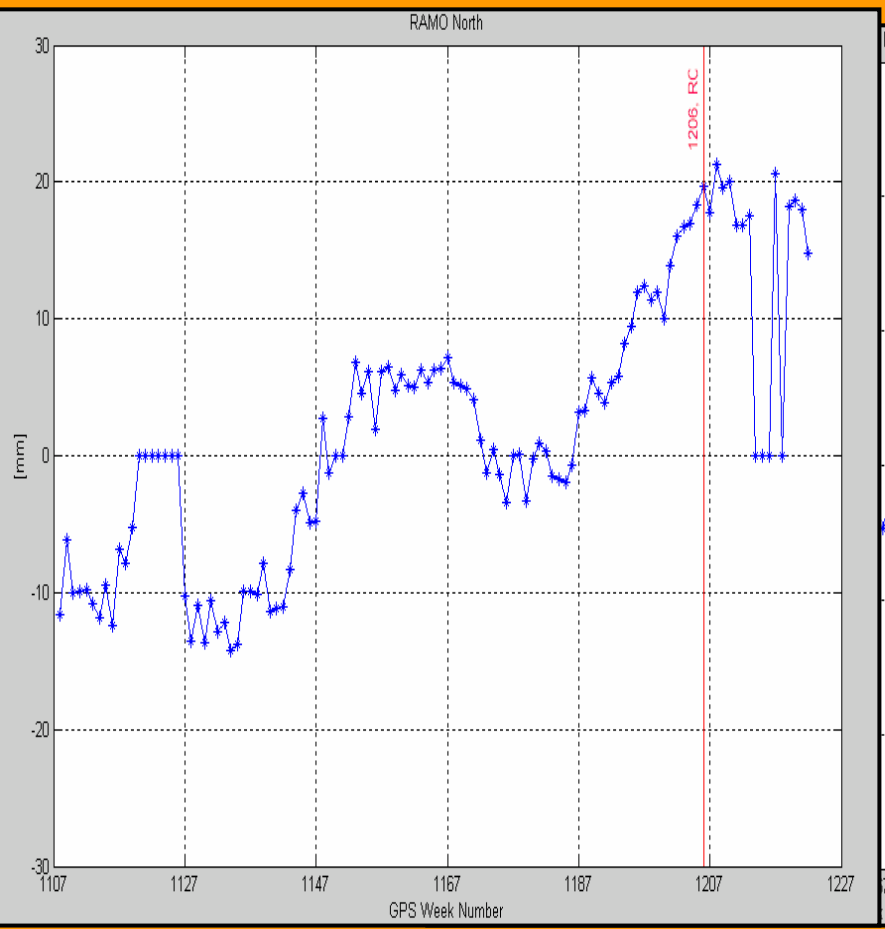


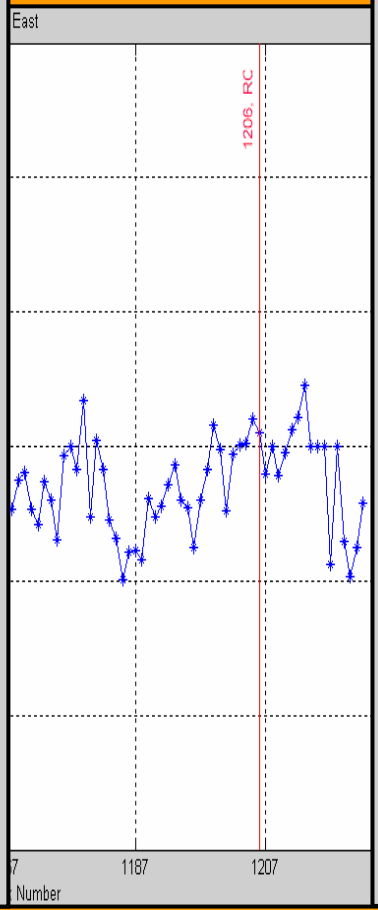


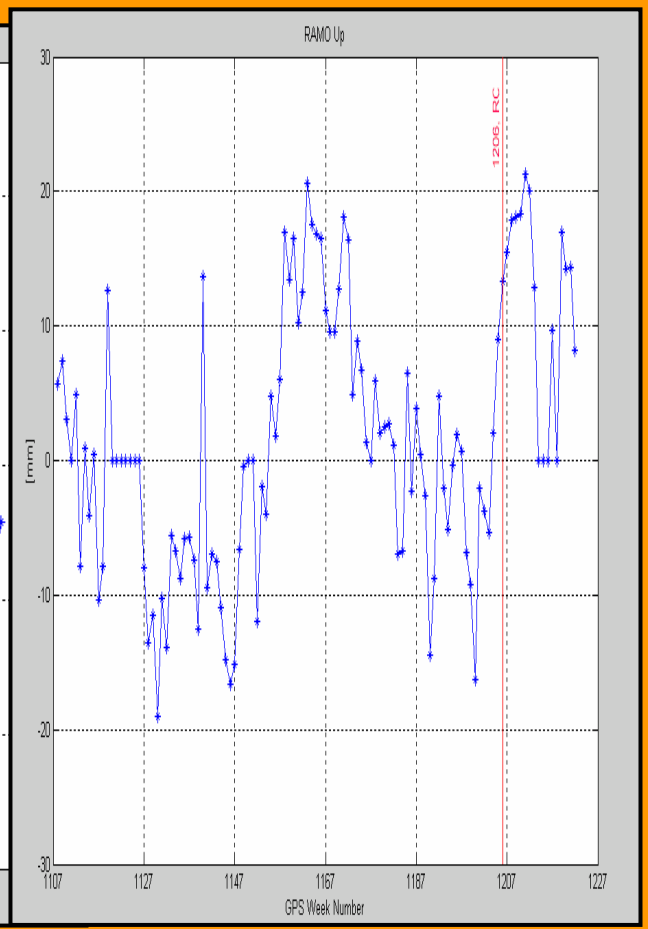


RAMO – cut-off change

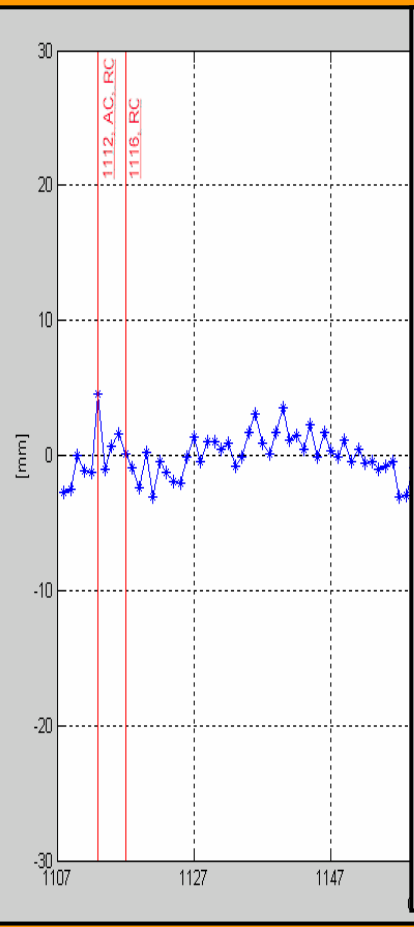
(10/5° 1206)

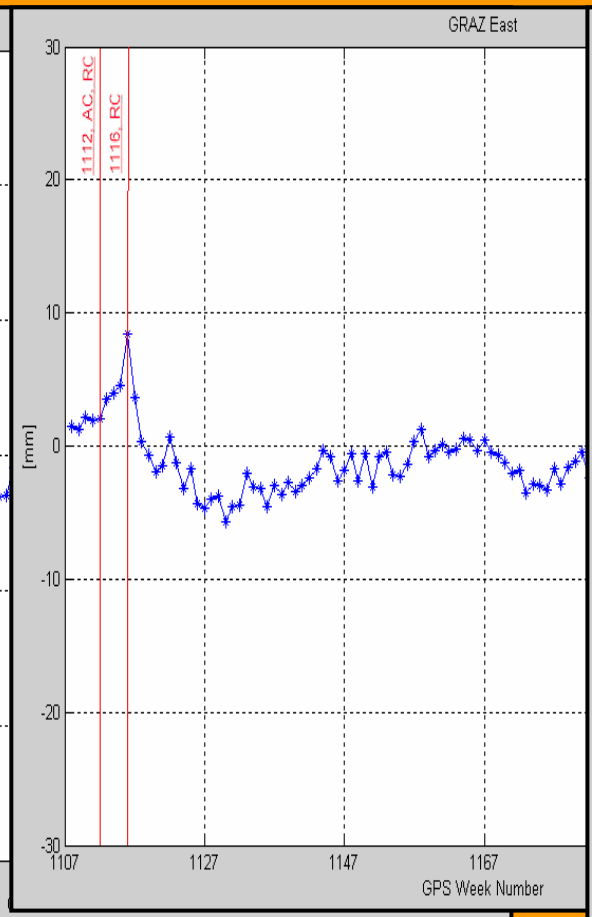


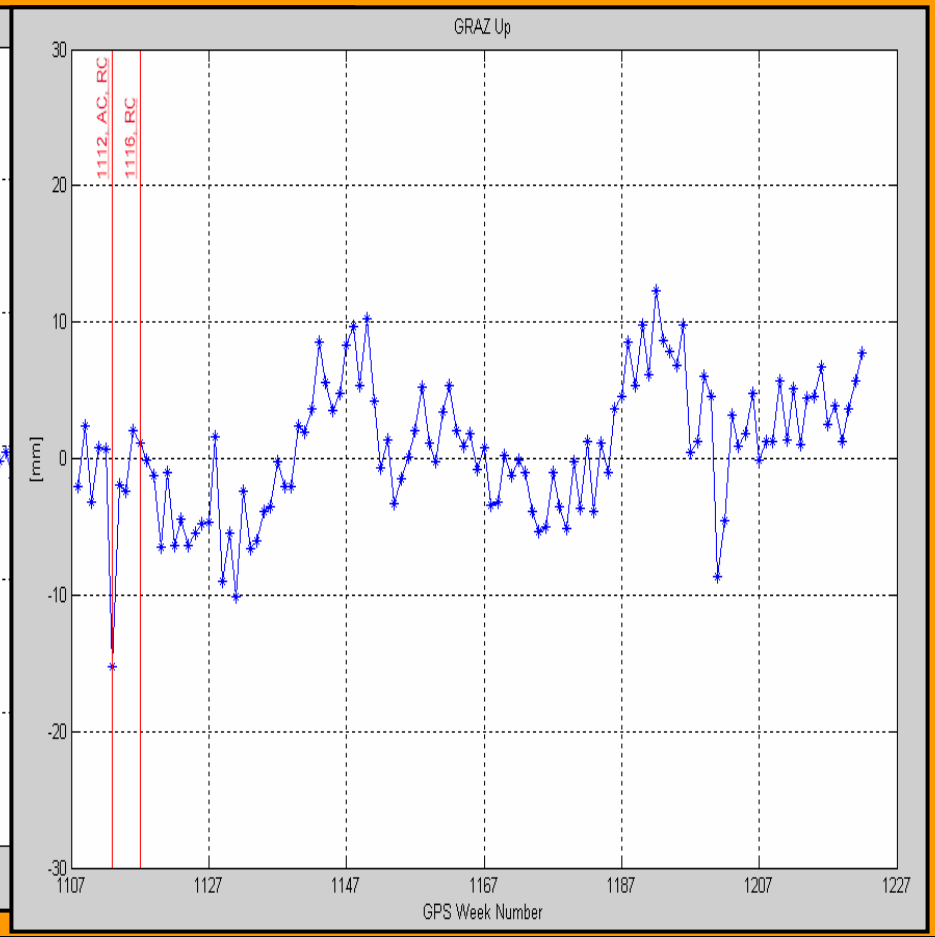




GRAZ - antenna + receiver changes (1112, 1116)



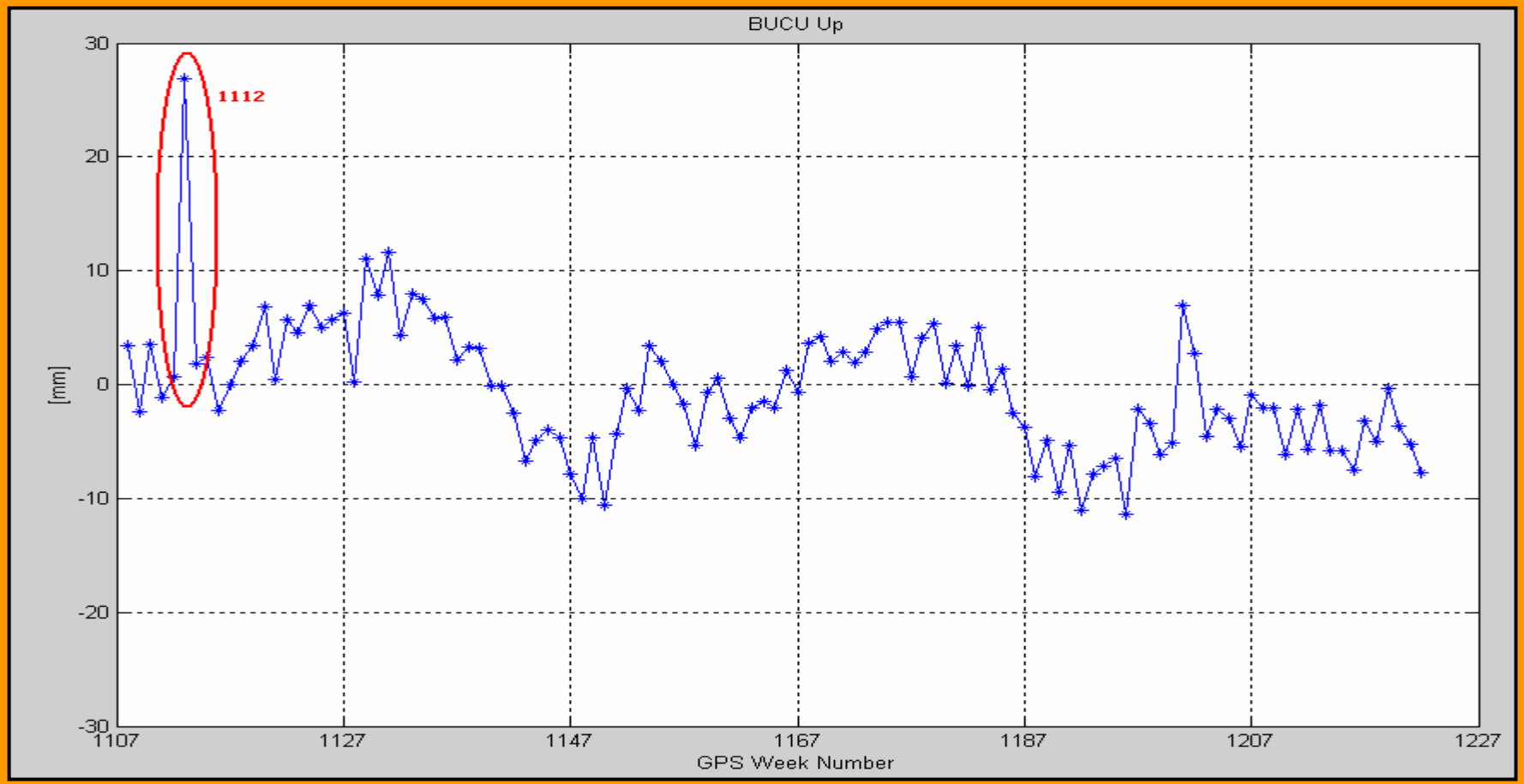




GRAZ antenna change

fixing distorts the UP component

of all other stations



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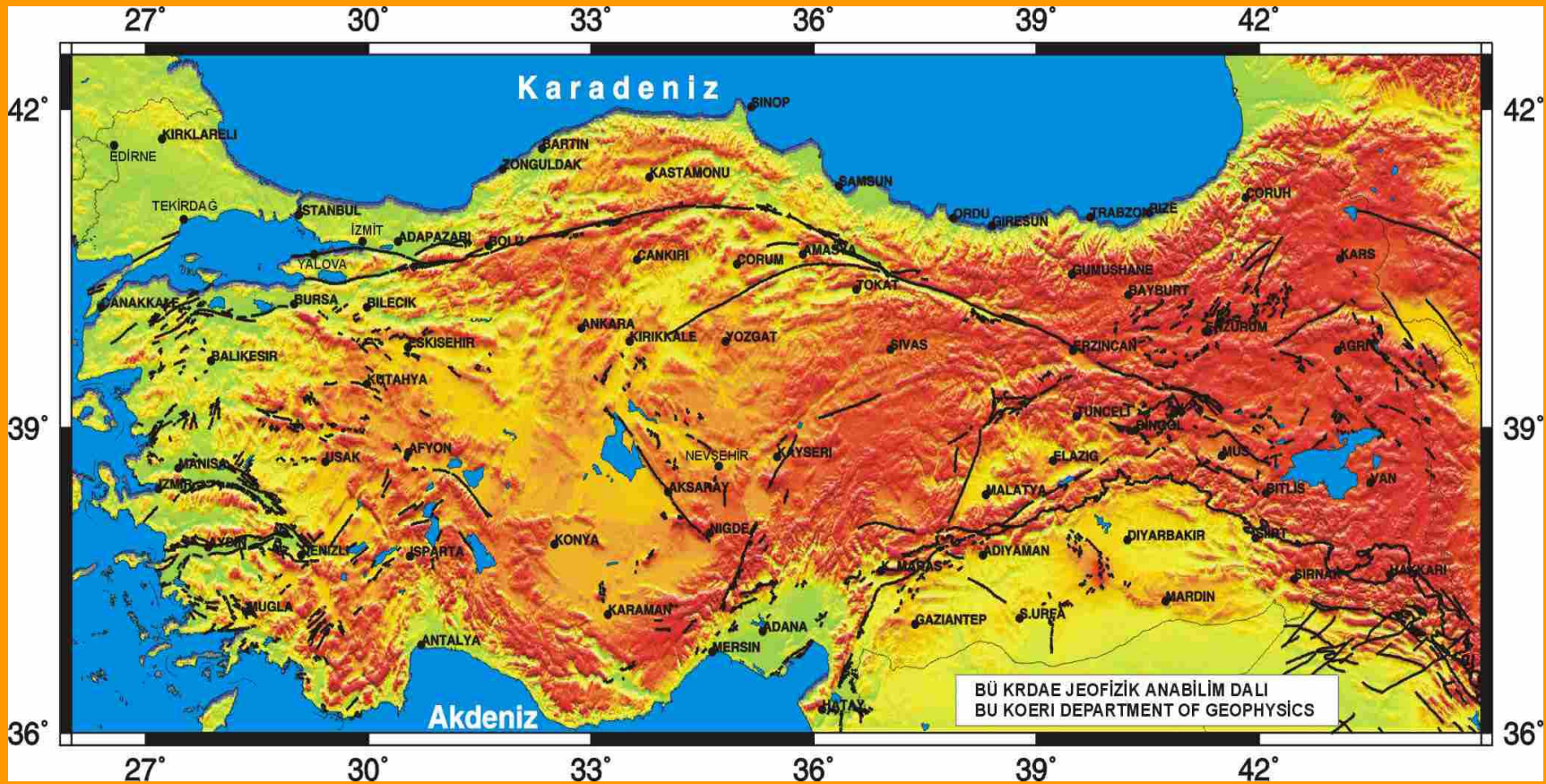
MON - N/E Velocities, BUCU fix

Comparison between the EPN and OLG estimated velocities

STATION		N	E	U
BUCU	EPN	0.0119	0.0221	-0.0006
	OLG	0.0105	0.0238	0.0008
ISTA	EPN	0.008	0.026	0.0008
	OLG	0.0086	0.0266	0.0037
TUBI	EPN	0.0084	0.0231	-0.005
	OLG	0.0081	0.0239	0.0036
NICO	EPN	0.0162	0.0159	0.0022
	OLG	0.0168	0.0183	0.0006
RAMO	EPN	0.0202	0.0223	0.0073
	OLG	0.0226	0.0214	0.0073
TRAB	EPN	0.0129	0.0235	-0.0008
	OLG	0.0118	0.024	0.0035
DRAG	EPN	0.0221	0.0209	0.0017
	OLG	0.0229	0.0223	0.0099
NSSP	EPN	NO	NO	NO
	OLG	0.0159	0.0259	0.0053
ZECK	EPN	0.0111	0.0239	0.0034
	OLG	0.0104	0.0247	0.0042
ANKR	EPN	0.0105	0.001	-0.0001
	OLG	0.0125	-0.0012	0.0081
SOFI	EPN	0.0105	0.0227	0.0021
	OLG	0.0115	0.0249	0.0011
GRAZ	EPN	0.0148	0.0208	-0.0003
	OLG			

Active fault map of Turkey



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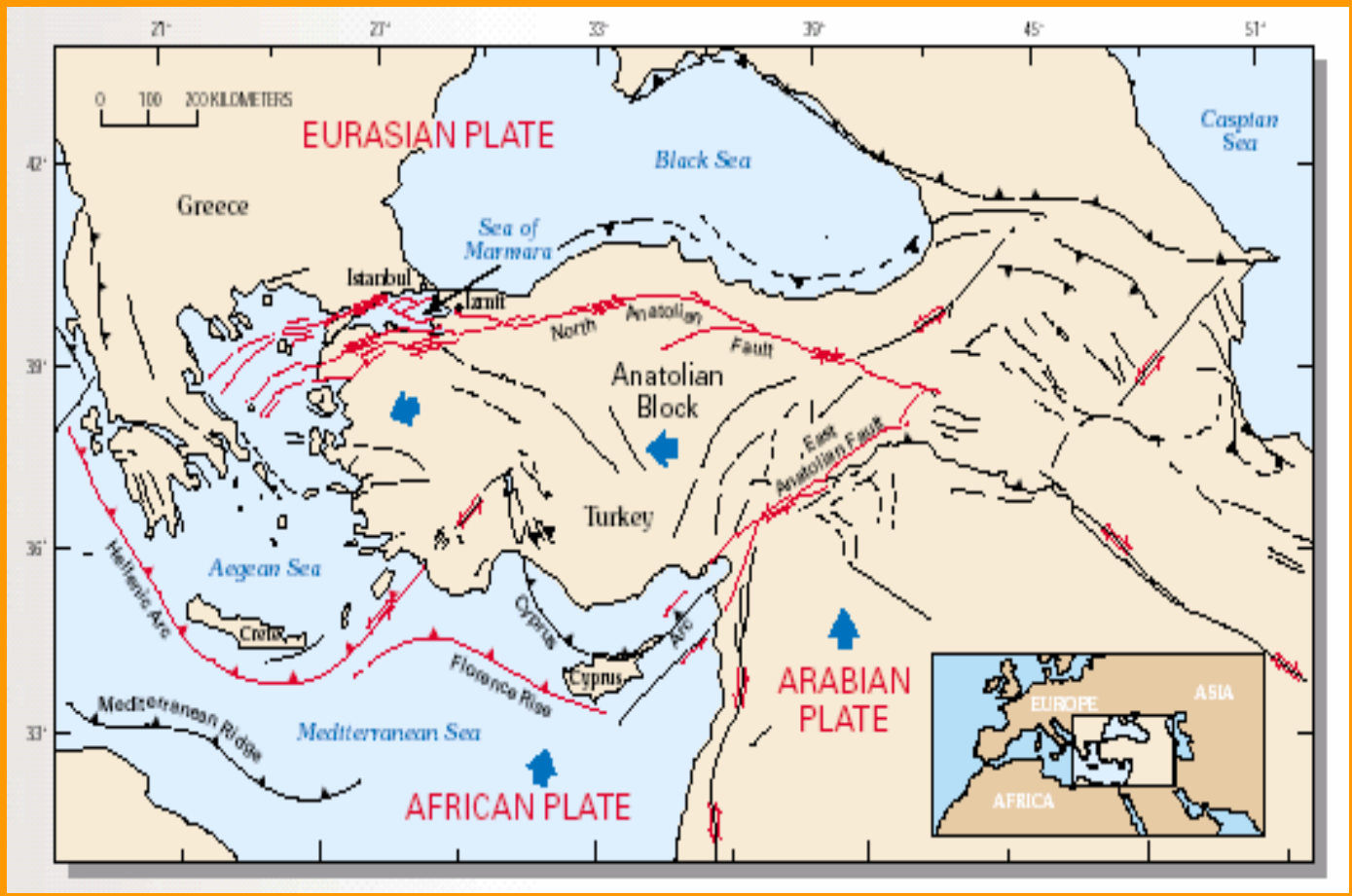
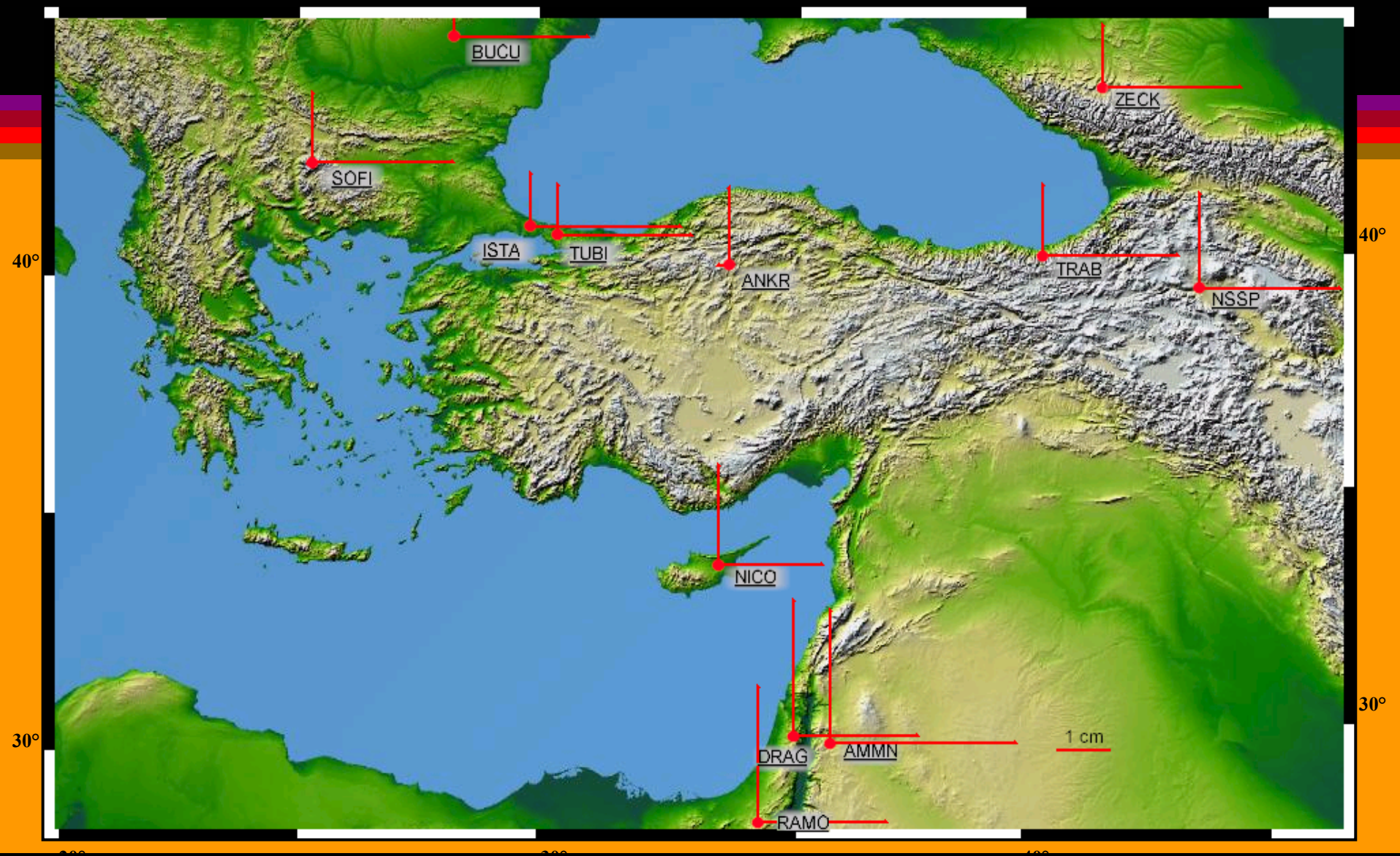
Tectonic map of Anatolia



Modified from Barka (1992) and Rockwell and others

Recommendations

- Replace antenna/receiver at RAMO
- AMMN is necessary for monitoring plate boundaries
- Several stations are necessary monitoring the Anatolian plate(s) and its boundaries


BUCU
ZECK
SOFI
ISTA
TUBI
ANKR
TRAB
NSSP
NICO
DRAG
AMMN
RAMO
1 cm
40°
40°
30°
30°

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