

3rd EPN LAC Wshop, Graz 18-19 September 2003

EPN
TIME SERIES
ANALYSIS

STATUS REPORT

Ambrus Kenyeres

PRIMARY OBJECTIVE:

IDENTIFICATION,

ESTIMATION,

ELIMINATION

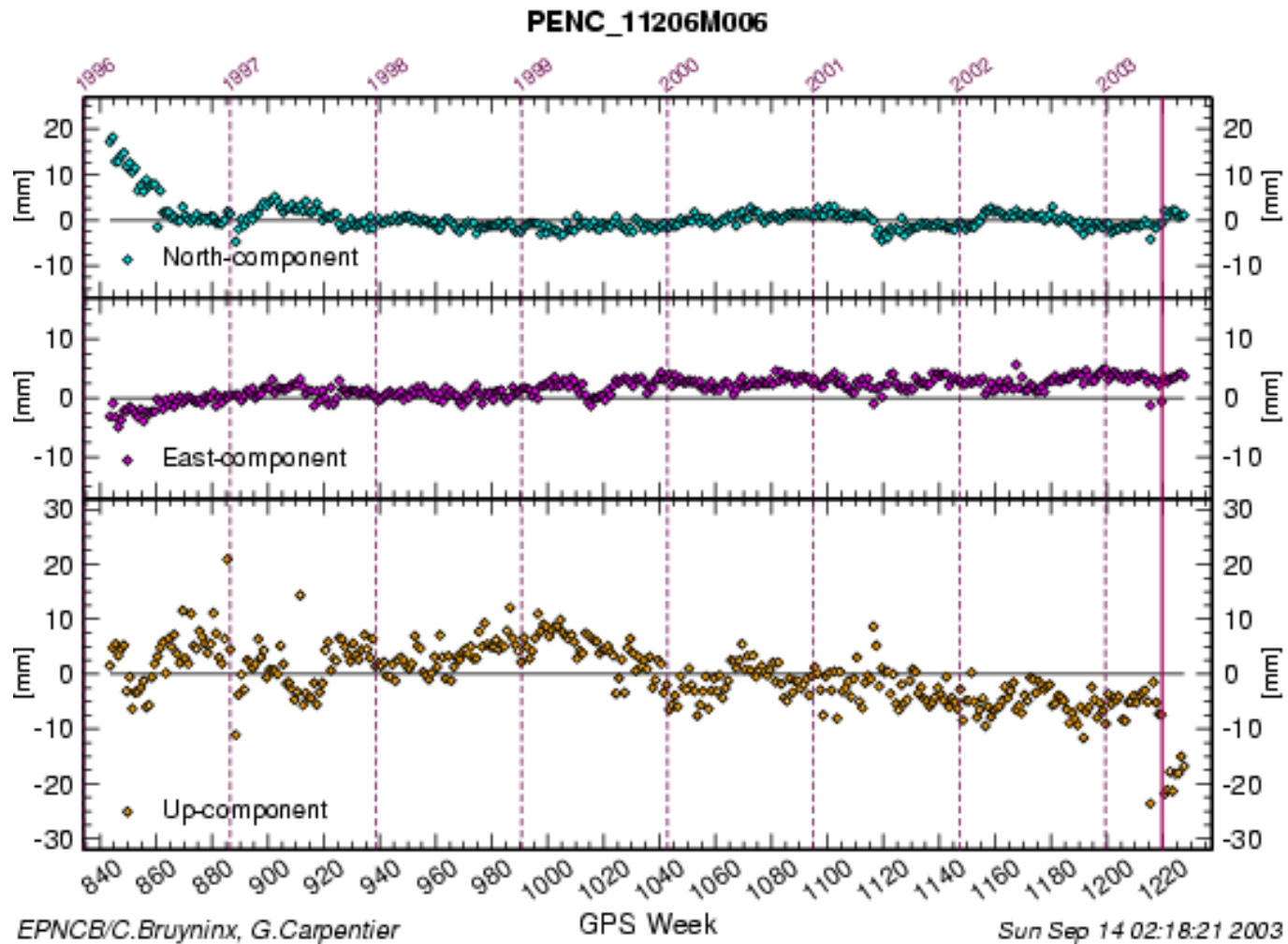
of

OUTLIERS and OFFSETS in

the EPN STANDARD time series

MOSTLY THE UP COMPONENT IS AFFECTED !!!

MAIN CAUSE: EQUIPMENT CHANGE



EXPECTED PRODUCTS:

**SET OF ESTIMATED
OFFSETS AND OUTLIERS**

IMPROVED TIME SERIES

**ESTIMATION OF VELOCITY
IMPROVEMENT**

UPDATED SINEX (?)

TABLE OF OFFSETS

Station_name	GPSwk	N_offs	N_rms	E_offs	E_rms	U_offs	U_rms
AJAC 10077M005	1130.	-0.0017	0.0003	0.0001	0.0002	-0.0062	0.0016
ALAC 13433M001	1130.	0.0015	0.0002	-0.0002	0.0002	-0.0056	0.0012
BELL 13431M001	1130.	0.0002	0.0003	-0.0015	0.0002	-0.0091	0.0016
BOGO 12207M002	1125.	0.0027	0.0004	0.0011	0.0002	-0.0061	0.0016
BOR1 12205M002	1012.	0.0006	0.0001	0.0046	0.0001	0.0008	0.0011
BOR1 12205M002	1011.	0.0008	0.0003	0.0050	0.0001	-0.0010	0.0016
BZRG 12751M001	1091.	0.0009	0.0005	-0.0006	0.0004	-0.0129	0.0016
BZRG 12751M001	1091.	0.0003	0.0011	-0.0012	0.0009	-0.0165	0.0021
BZRG 12751M001	1091.	0.0003	0.0004	-0.0003	0.0003	-0.0135	0.0023
CASC 13909S001	1029.	-0.0025	0.0008	0.0025	0.0007	0.0006	0.0040
CREU 13432M001	1109.	0.0011	0.0003	-0.0086	0.0001	-0.0020	0.0014
DELF 13502M004	1072.	0.0017	0.0003	-0.0002	0.0001	0.0150	0.0014
DELF 13502M004	1130.	0.0008	0.0004	-0.0001	0.0002	0.0075	0.0015
DENT 13112M001	1046.	0.0020	0.0003	-0.0025	0.0001	-0.0063	0.0013
DENT 13112M001	1156.	-0.0041	0.0004	0.0011	0.0003	0.0011	0.0018
DOUR 13113M001	1106.	0.0006	0.0006	0.0022	0.0004	0.0005	0.0030
EBRE 13410M001	1130.	-0.0015	0.0003	-0.0007	0.0002	-0.0055	0.0013
EIJS 13533M001	1059.	0.0023	0.0004	0.0049	0.0003	0.0165	0.0023
EUSK 14258M003	1112.	-0.0025	0.0002	-0.0011	0.0001	0.0449	0.0012
EUSK 14258M003	1130.	-0.0025	0.0002	-0.0010	0.0001	0.0415	0.0012

...

TABLE OF OFFSETS ii.

Station_name	GPSwk	N_offs	N_rms	E_offs	E_rms	U_offs	U_rms
GOPE 11502M002	1068.	-0.0019	0.0004	0.0036	0.0003	-0.0164	0.0022
GRAZ 11001M002	1113.	-0.0004	0.0004	-0.0027	0.0003	0.0011	0.0017
HOBU 14202M003	1172.	-0.0012	0.0006	0.0033	0.0004	0.0037	0.0028
HOFN 10204M002	1133.	-0.0045	0.0006	0.0018	0.0005	0.0663	0.0025
KARL 14216M001	1113.	0.0031	0.0003	0.0028	0.0001	0.0392	0.0013
KARL 14216M001	1170.	0.0037	0.0007	0.0053	0.0005	-0.0093	0.0037
KLOP 14214M002	1113.	-0.0028	0.0002	-0.0019	0.0001	0.0234	0.0012
KLOP 14214M002	1173.	0.0055	0.0005	0.0004	0.0004	0.0036	0.0025
LAMA 12209M001	1060.	-0.0011	0.0003	-0.0044	0.0001	-0.0176	0.0014
MANS 10091M001	1130.	-0.0032	0.0003	0.0038	0.0002	-0.0052	0.0015
MAS1 31303M002	1010.	-0.0007	0.0005	-0.0017	0.0005	0.0086	0.0031
MAS1 31303M002	1094.	-0.0010	0.0003	-0.0018	0.0003	0.0195	0.0017
MATE 12734M008	1015.	-0.0035	0.0001	0.0047	0.0001	0.0027	0.0010
MDVO 12309M002	1140.	0.0120	0.0008	-0.0002	0.0005	-0.0066	0.0033
MEDI 12711M003	1108.	-0.0022	0.0003	0.0011	0.0002	-0.0100	0.0014
MLVL 10092M001	1130.	0.0000	0.0004	0.0028	0.0002	-0.0062	0.0017
NYA1 10317M003	1092.	-0.0020	0.0002	0.0018	0.0001	-0.0108	0.0018

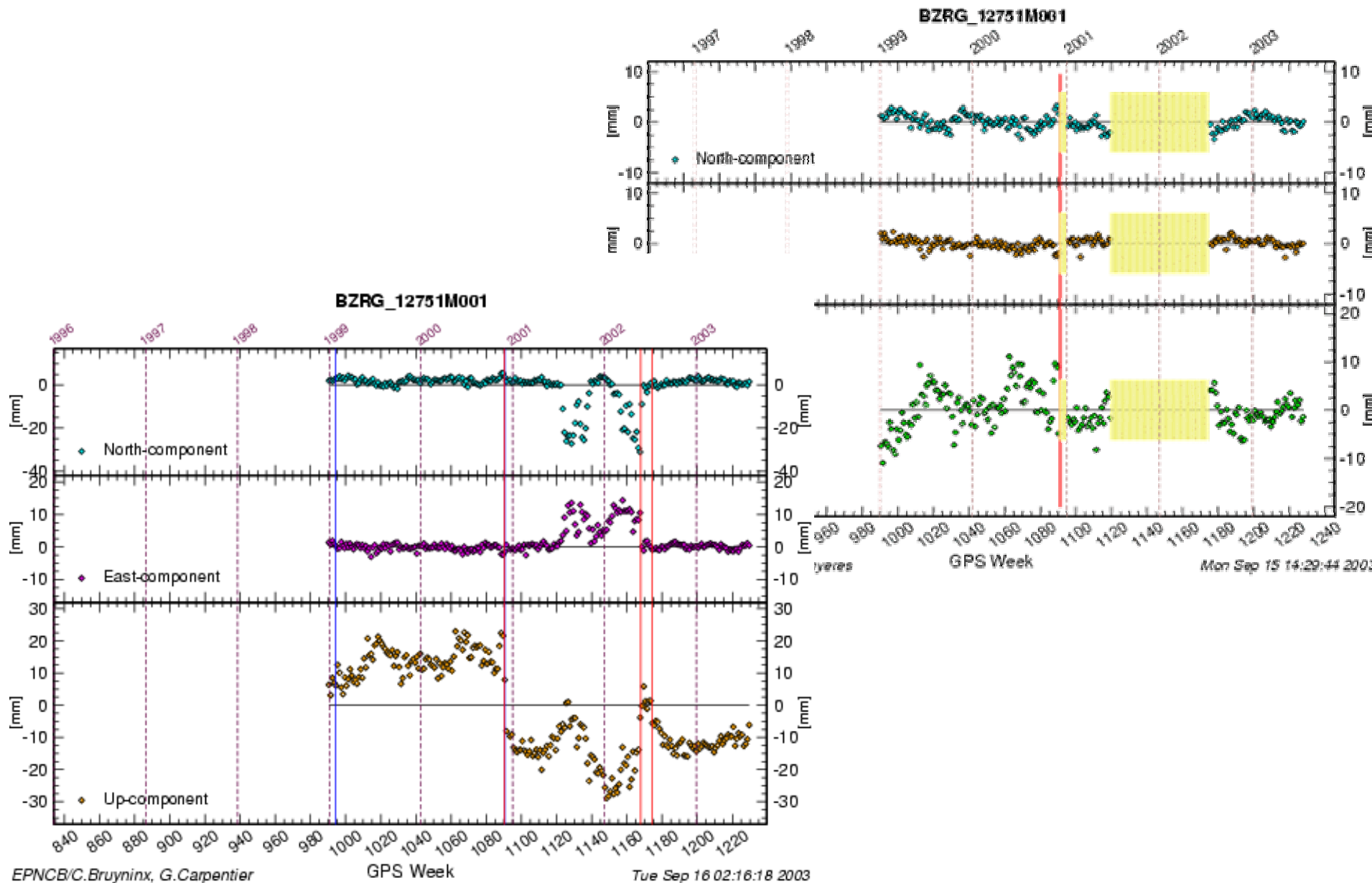
...

TABLE OF OFFSETS

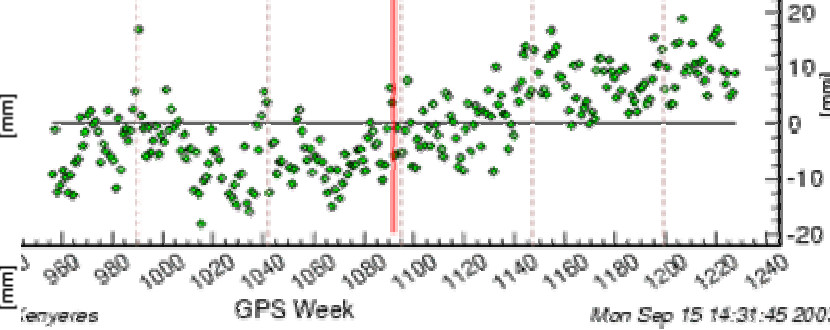
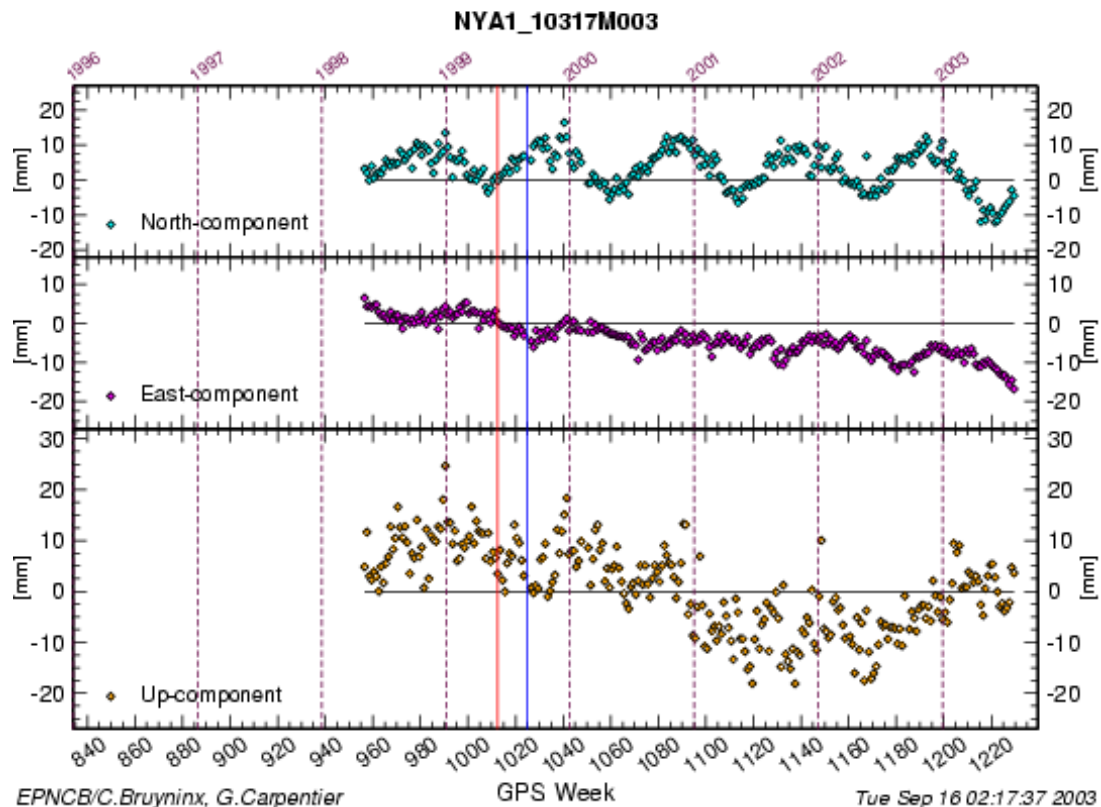
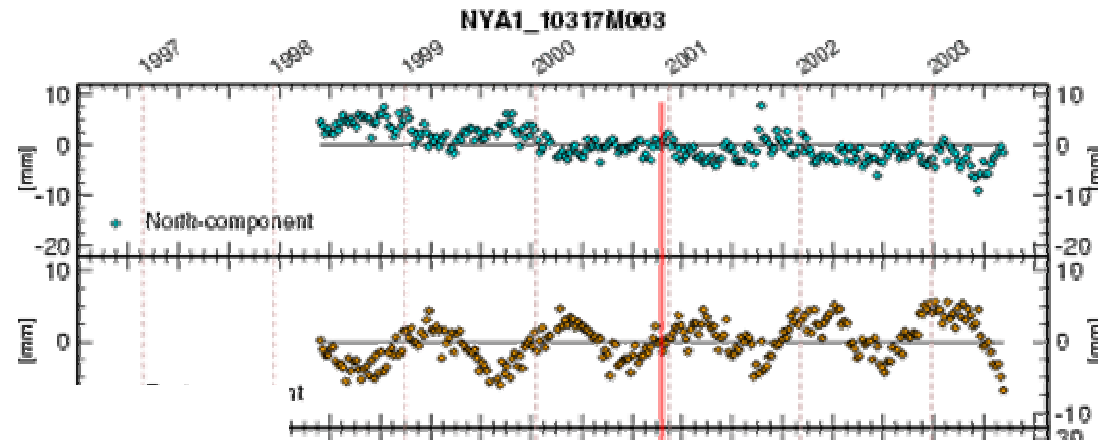
iii.

Station_name	GPSwk	N_offs	N_rms	E_offs	E_rms	U_offs	U_rms
ONSA 10402M004	995.	0.0000	0.0003	0.0010	0.0001	-0.0120	0.0013
PFAN 11005S002	1033.	0.0055	0.0003	0.0044	0.0003	-0.0456	0.0017
PFAN 11005S002	1105.	0.0085	0.0001	-0.0033	0.0001	-0.0527	0.0012
PTBB 14234M001	1159.	-0.0027	0.0012	-0.0025	0.0008	-0.0227	0.0039
SBGZ 11031S001	1033.	0.0016	0.0008	0.0016	0.0006	0.0111	0.0028
SBGZ 11031S001	1020.	0.0059	0.0008	0.0032	0.0006	0.0047	0.0030
SFER 13402M004	1156.	-0.0060	0.0004	0.0019	0.0004	-0.0012	0.0019
SJDV 10090M001	1130.	-0.0002	0.0002	0.0005	0.0002	-0.0071	0.0015
SOFI 11101M002	1099.	0.0017	0.0003	-0.0012	0.0002	-0.0012	0.0018
TERS 13534M001	1060.	-0.0015	0.0003	0.0010	0.0003	0.0147	0.0019
TERS 13534M001	1130.	0.0009	0.0004	0.0002	0.0002	-0.0040	0.0015
TRO1 10302M006	990.	-0.0040	0.0006	-0.0047	0.0004	-0.0136	0.0037
UNPG 12752M001	1177.	-0.0080	0.0009	0.0033	0.0008	0.0032	0.0043
WARE 13114M001	940.	-0.0034	0.0006	0.0012	0.0004	-0.0052	0.0030
ZECK 12351M001	1123.	-0.0003	0.0003	0.0026	0.0002	0.0065	0.0016
ZIMM 14001M004	983.	-0.0009	0.0004	0.0049	0.0003	-0.0085	0.0021

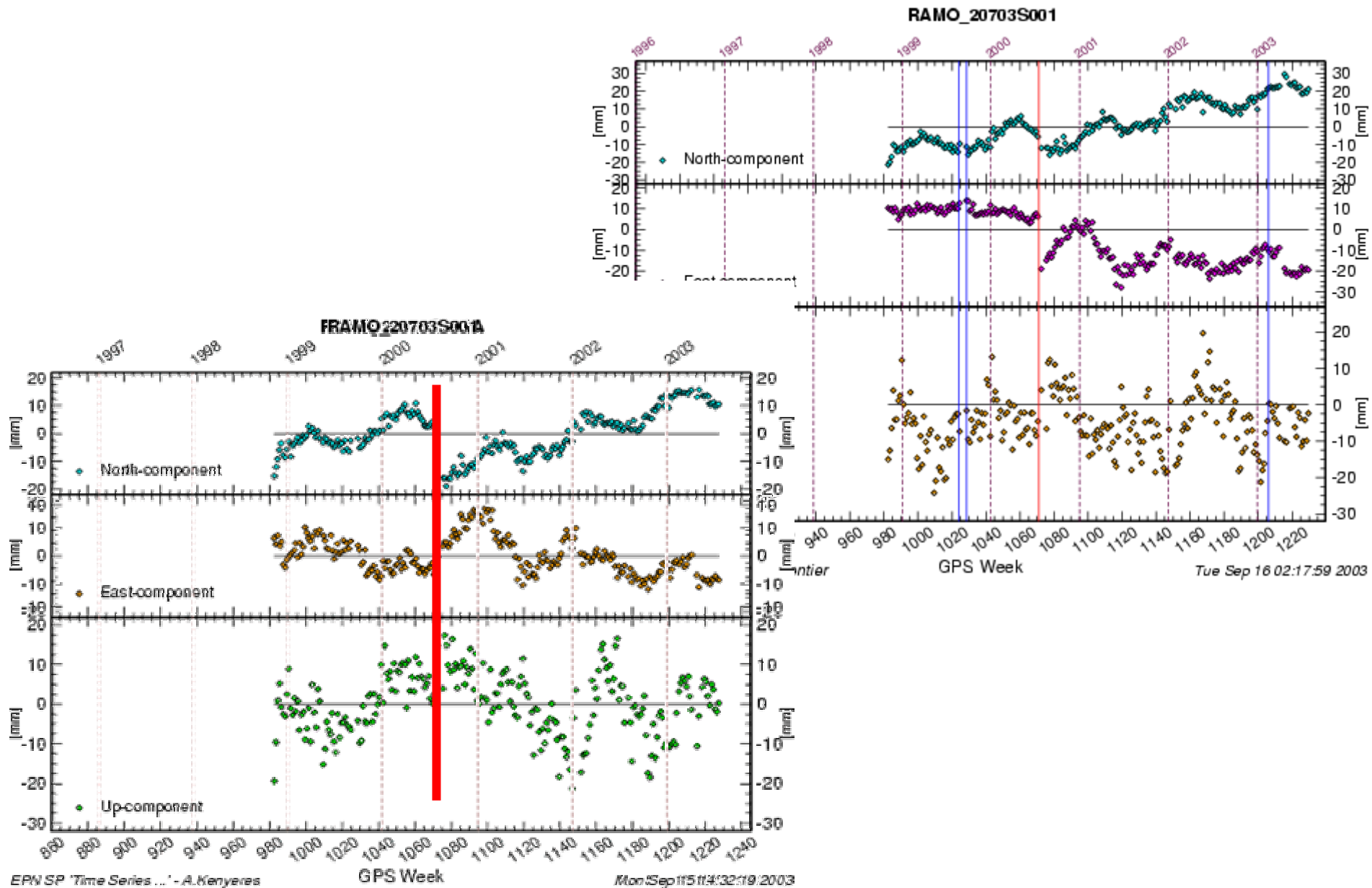
IMPROVED TIME SERIES/1



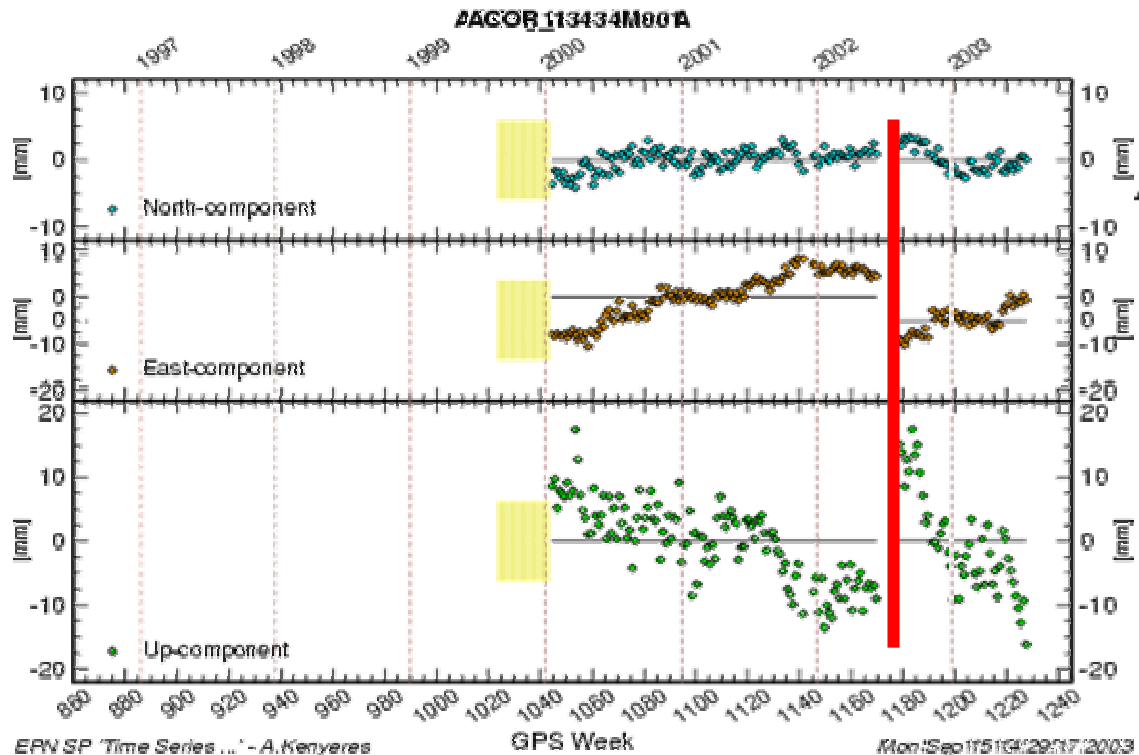
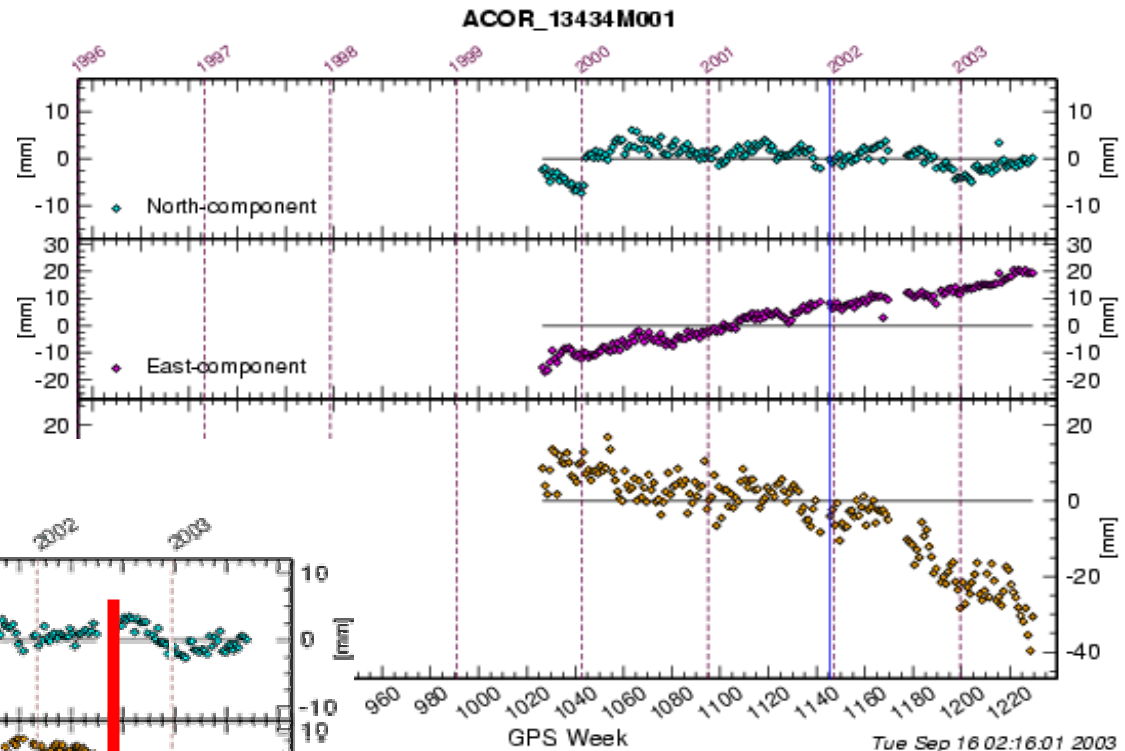
IMPROVED TIME SERIES/2



IMPROVED TIME SERIES/3

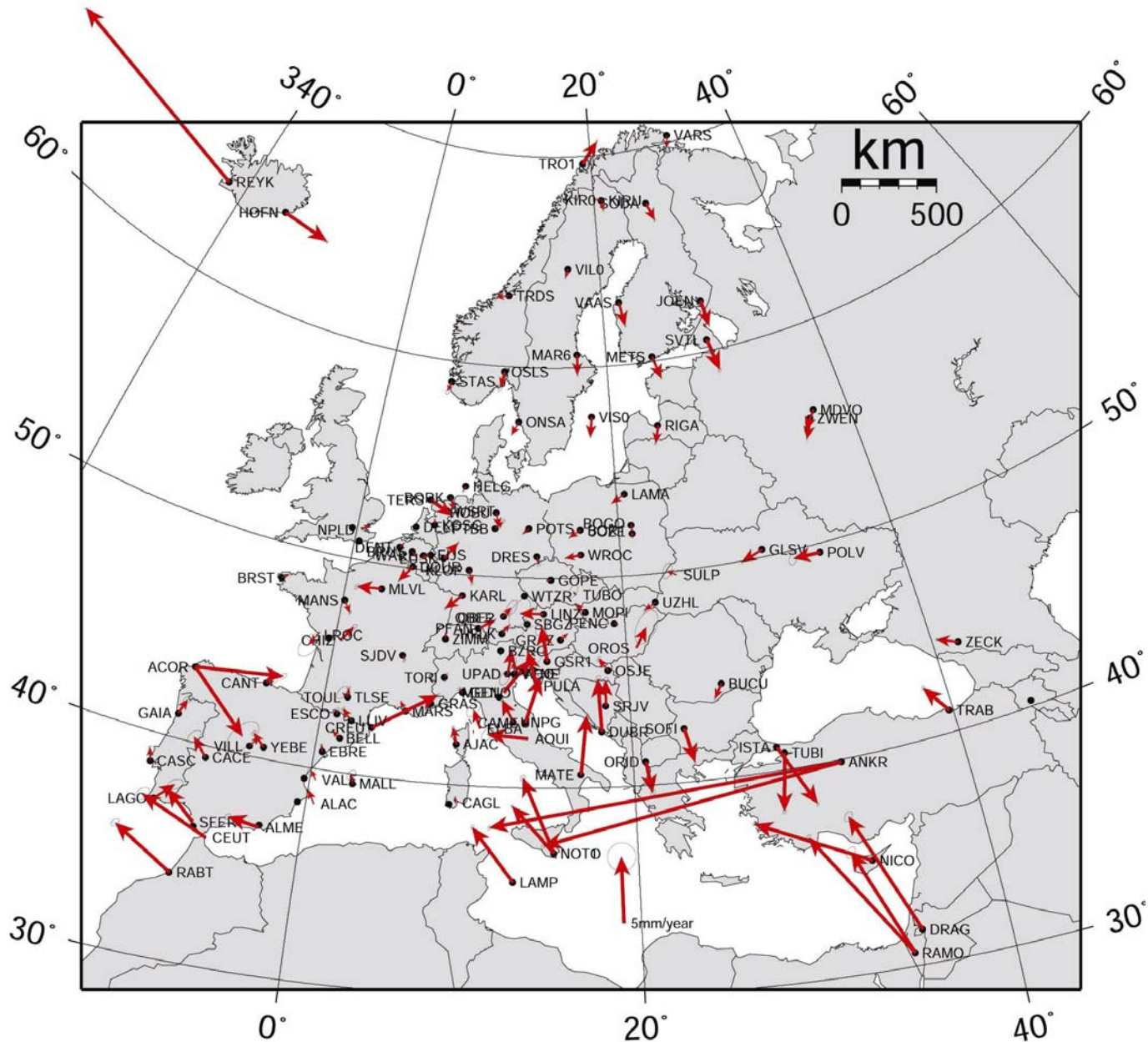


IMPROVED TIME SERIES/4

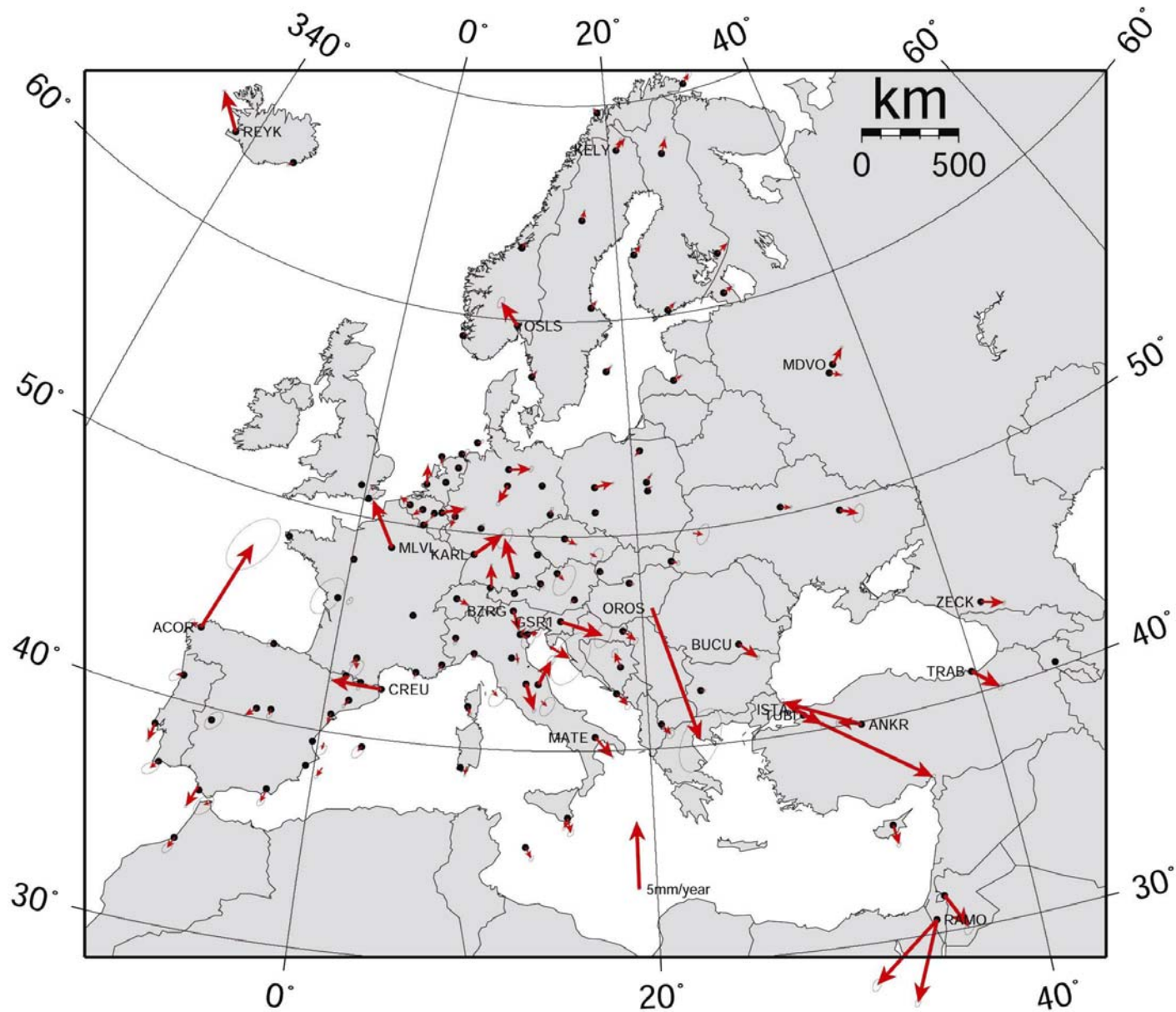


GPS Week Tue Sep 16 02:16:01 2003

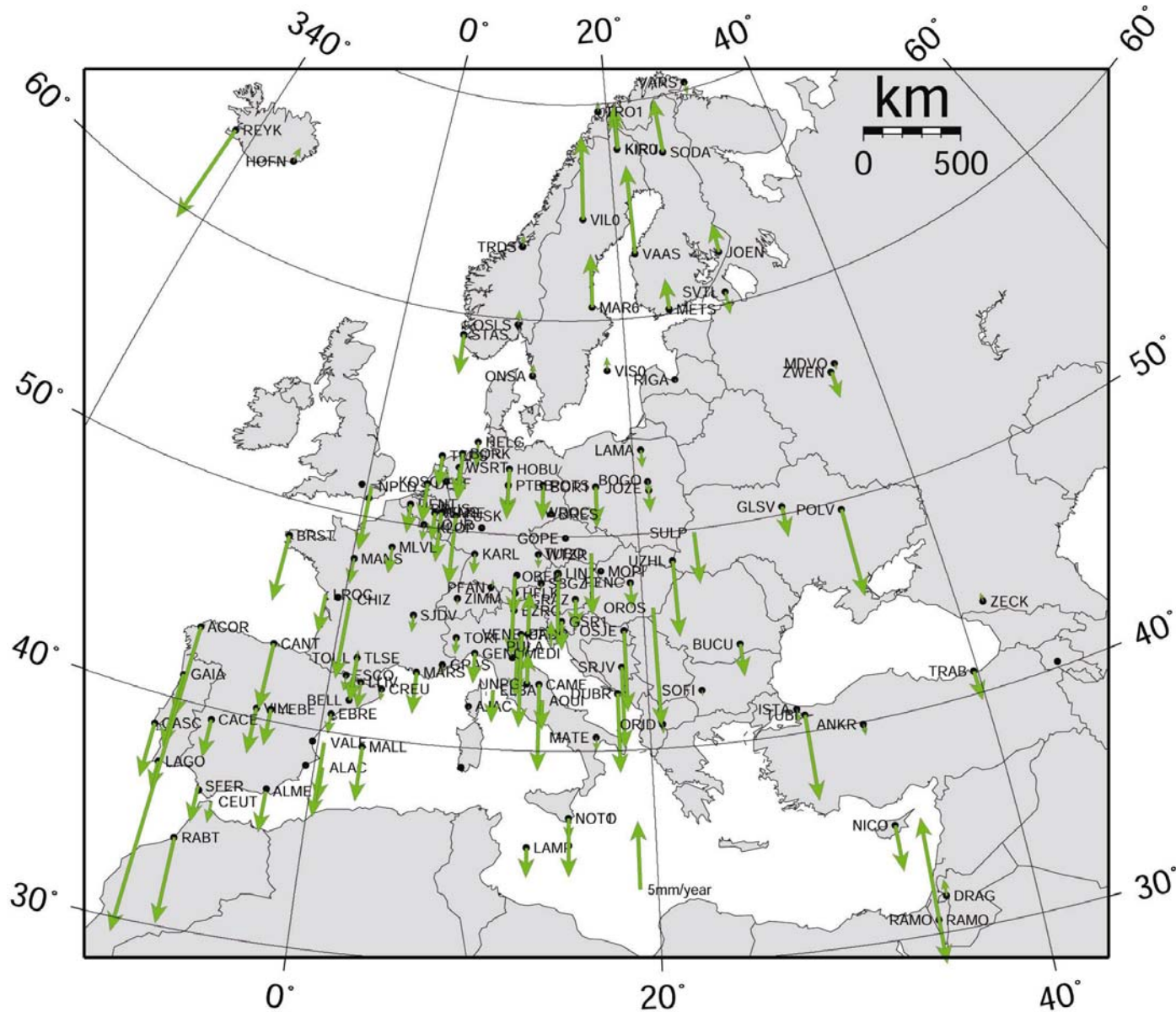
INTRAPLATE NE VELOCITIES



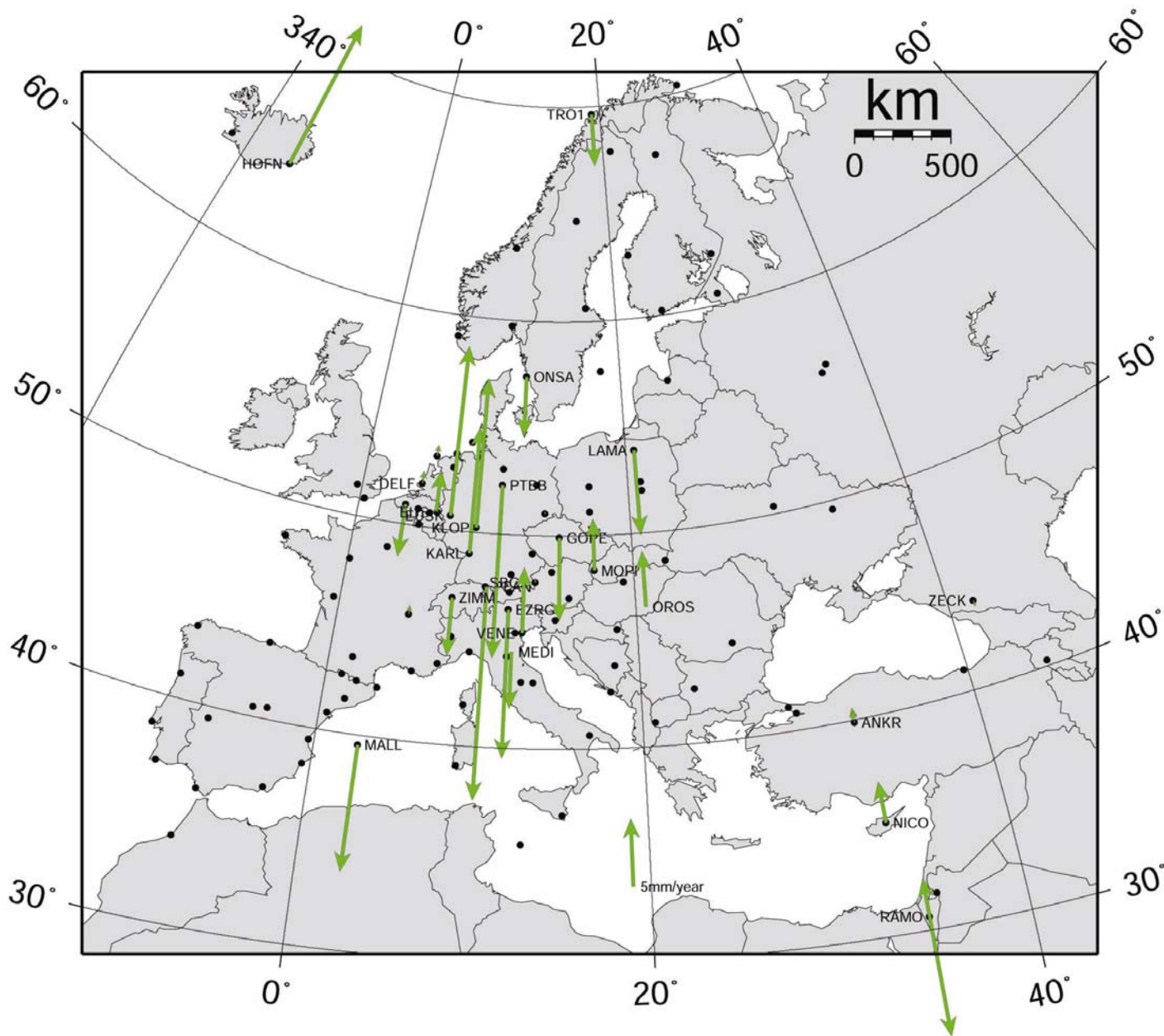
Standard-Improved NE-VEL



ESTIMATED UP VELOCITIES



Standard-Improved UP-VEL



FUTURE PLANS

HIGHEST PRIORITY: OFFSET PUBLICATION ON THE EPN WEBSITE

PUBLICATION IN GPS SOLUTIONS

IMPLEMENTATION OF CATREF SOFTWARE FOR VELOCITY ESTIMATION

MONTHLY REGULAR UPDATE OF THE IMPROVED SERIES ON THE WEB

PREPARATIONS FOR THE EPN RE-PROCESSING

CONTRIBUTION TO THE FOLLOW ON ITRF