

DENSIFICATIONS OF THE ITRF BY EPN

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H I S T O R Y

w1400(06.11): ITRF2005 (data up to w1355)

introduction of the absolute PCVs

~w1470(08.03): EPN ITRF2005 densification

w1500(08.11): EPN site categorisation

~w1580(10.05): ITRF2008(data up to w1538)

w1632(11.04): IGS08 - updated PCV models

*~w1640(11.07): EPN repro1 (1995-2006) - but based
on IGS05*

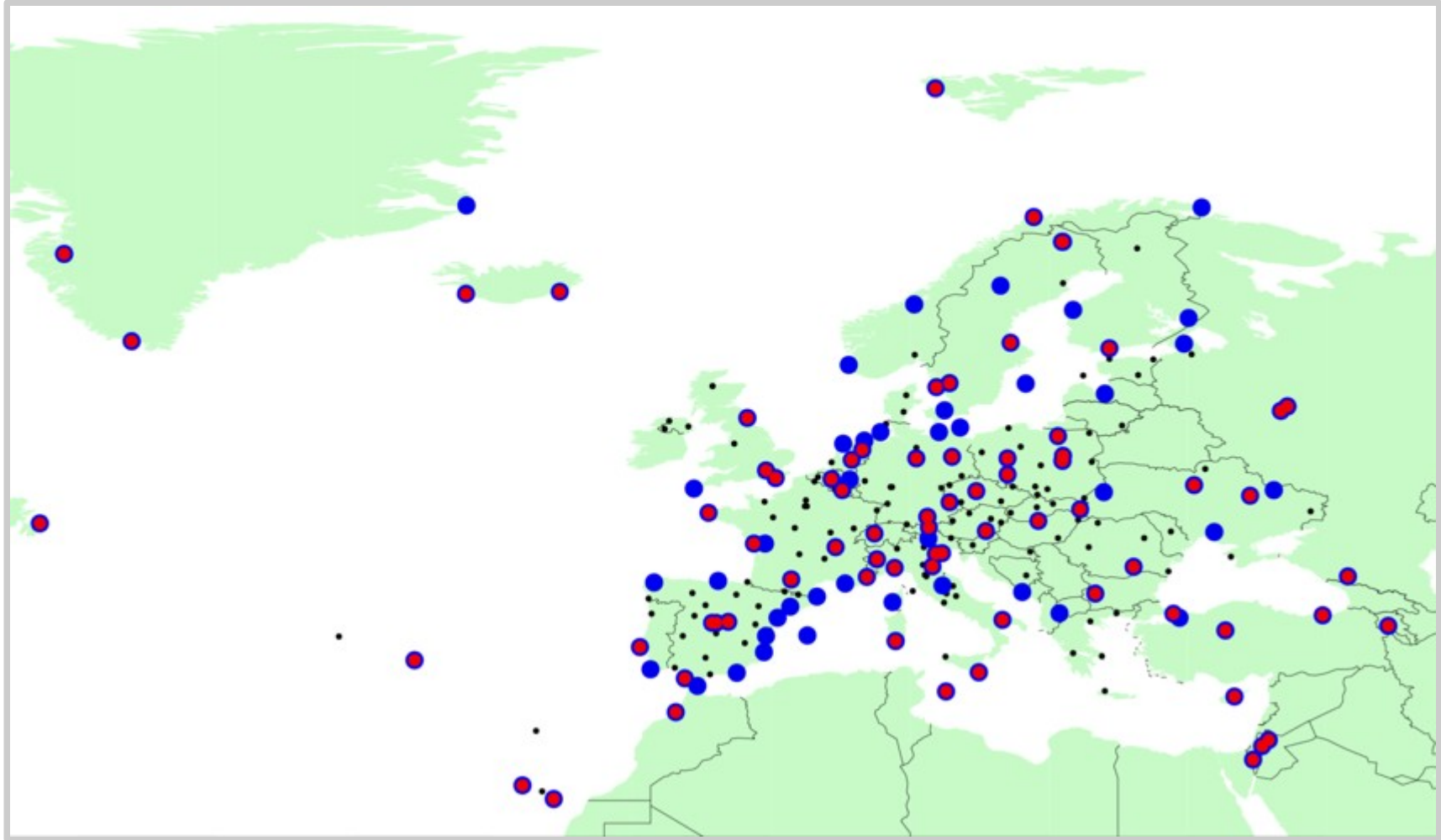
~w1660(11.11): EPN ITRF2008/IGS08 densification

ITRF2005 densification

hard born baby ...

- *fewer reliable reference sites*
- *absolute PCVs introduced → offsets at week 1400 → datum extrapolation*
- *degrading performance of the densification solution?*
- *OR rather a smooth transfer to a frame based on the absolute PCVs?*
- *stop delivery of 15-weekly updates at w1600*

ITRF2005/2008 EPN sites



91 ITRF2005

131 ITRF2008

EPN_repro1 cumulative

fresh born baby

Draft solution, pending LAC contributions

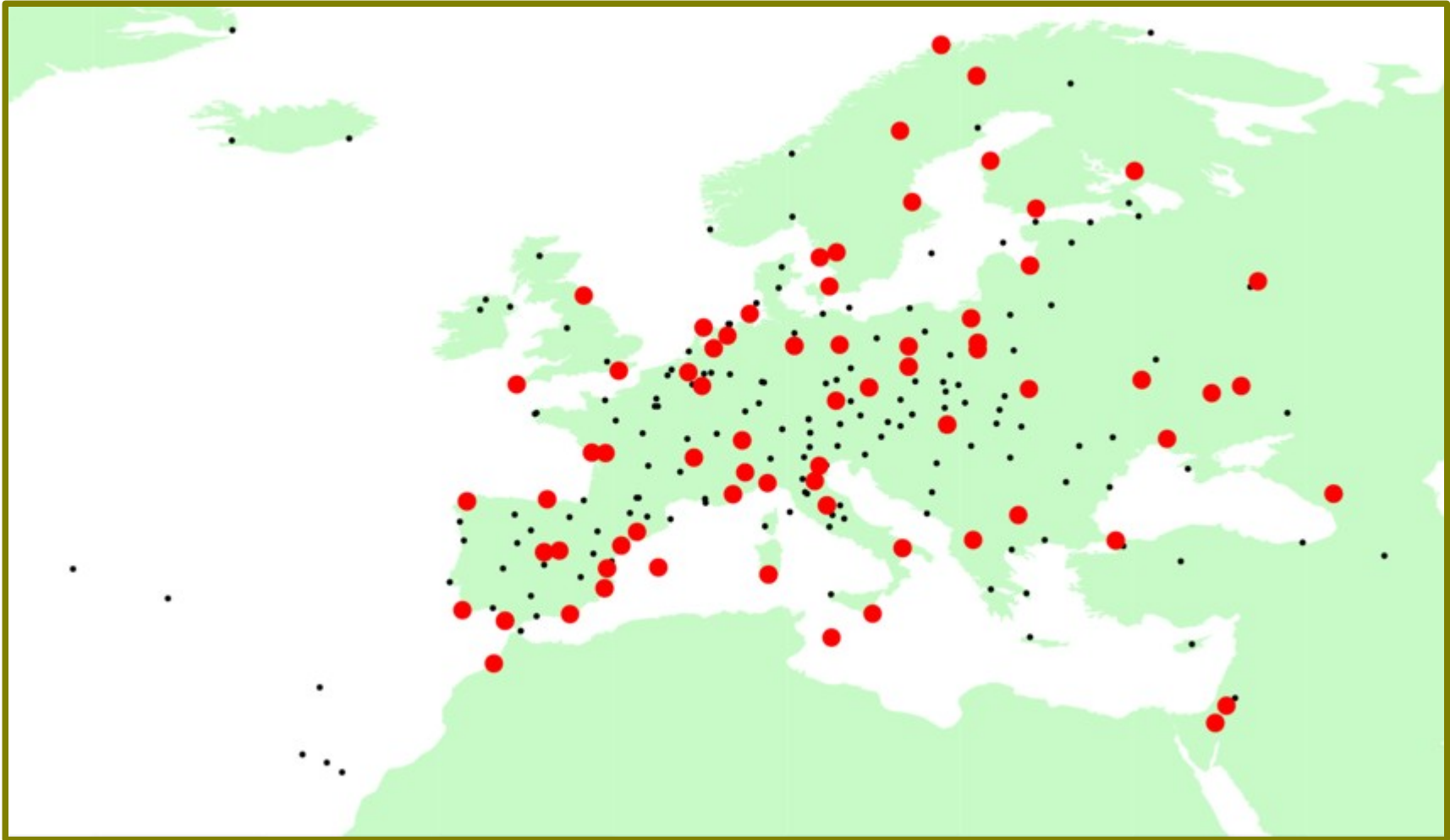
Data included:

- *GPS week 834-1408: repro1*
- *GPS week 1409 - 1538: EPN operational*

Datum:

- *92 ITRF2008 stations (from HH's selection), iteration,*
- *MC,*
- *consistency check, few outliers rejected*

ITRF2008_densification datum



datum validation

*7 parameter transformation between frame and results
over the datum defining site subset*

Should be all zero in case of MC!

position

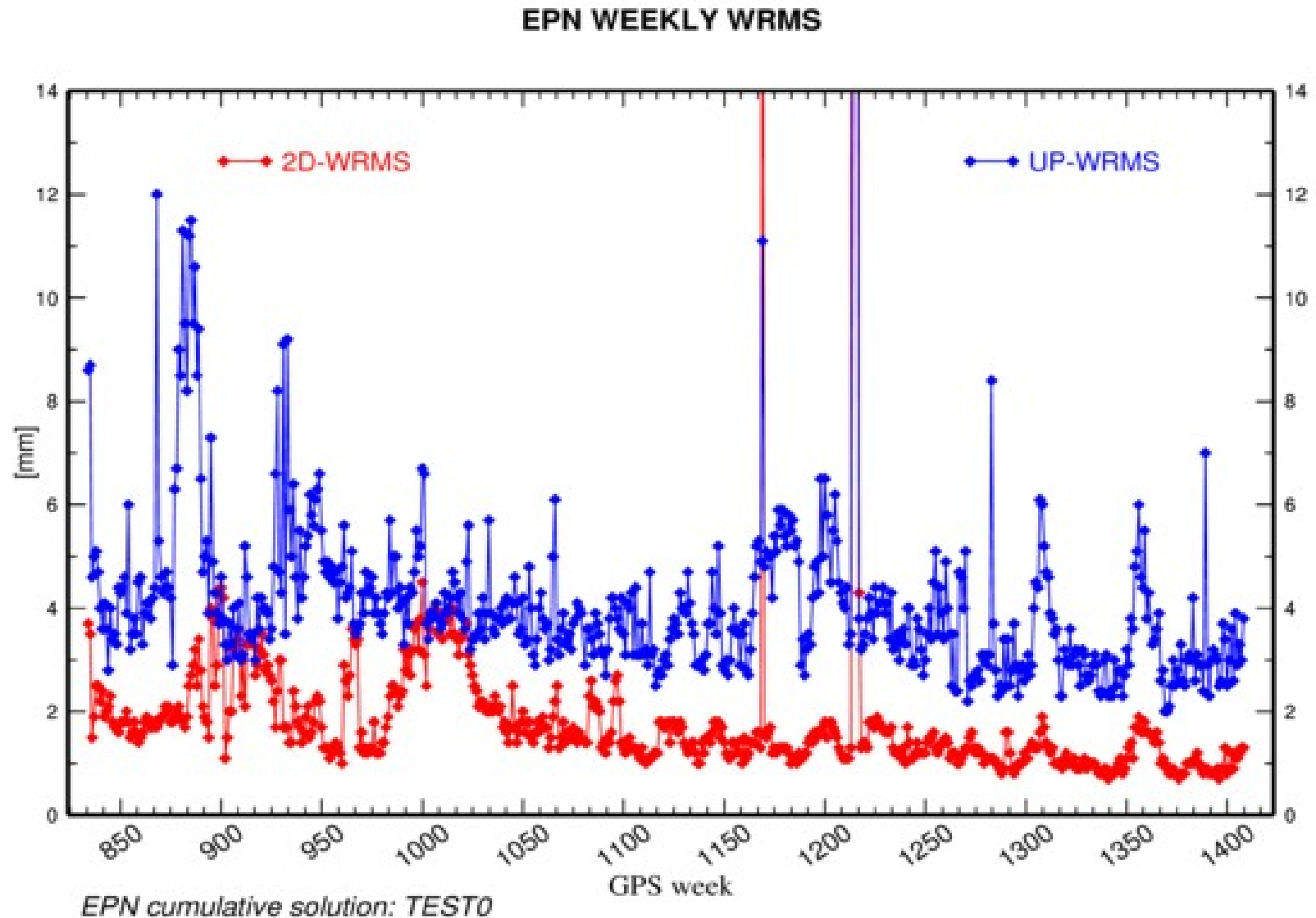
T	0.00	0.00	0.00	0.000	0.000	0.000	0.000
+/-	0.05	0.06	0.05	0.007	0.018	0.018	0.016

velocity

VT	0.01	0.00	0.01	-0.003	0.001	0.000	-0.001
+/-	0.05	0.06	0.05	0.007	0.018	0.018	0.016

ITRF2008 cumulative WRMS

unfiltered; repro1 only

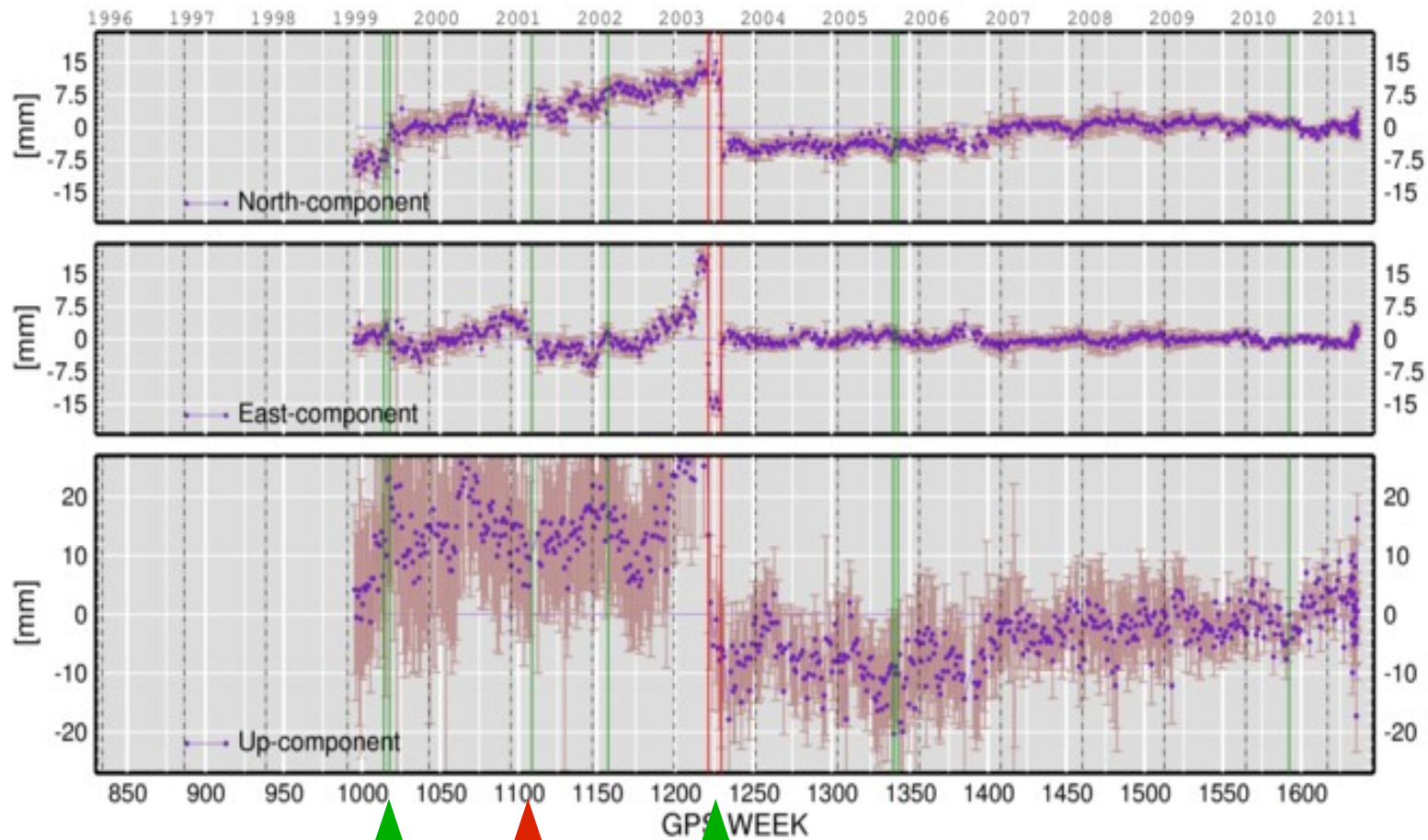


data inconsistencies

- Non-EPN stations involved (short series)
IAVH, SCOR, STJO **WHY?**
- Additional, non-consistent EPN data included
FUNC, *MADR, MAD2 - partial removal*
- DOMES number inconsistencies
FUNC, KELY, IISC - rename
NOTO(1080), MDVO(1202), OBET(1204) single week
- IGS/ITRF and EPN solution number definitions
CHIZ, CREU, NEWL, ORID, OROS, TRDS, UNPG, VARS

ITRF2008 vs EPN 'soln'

CREU_13432M001 (RAW)



EPN CB

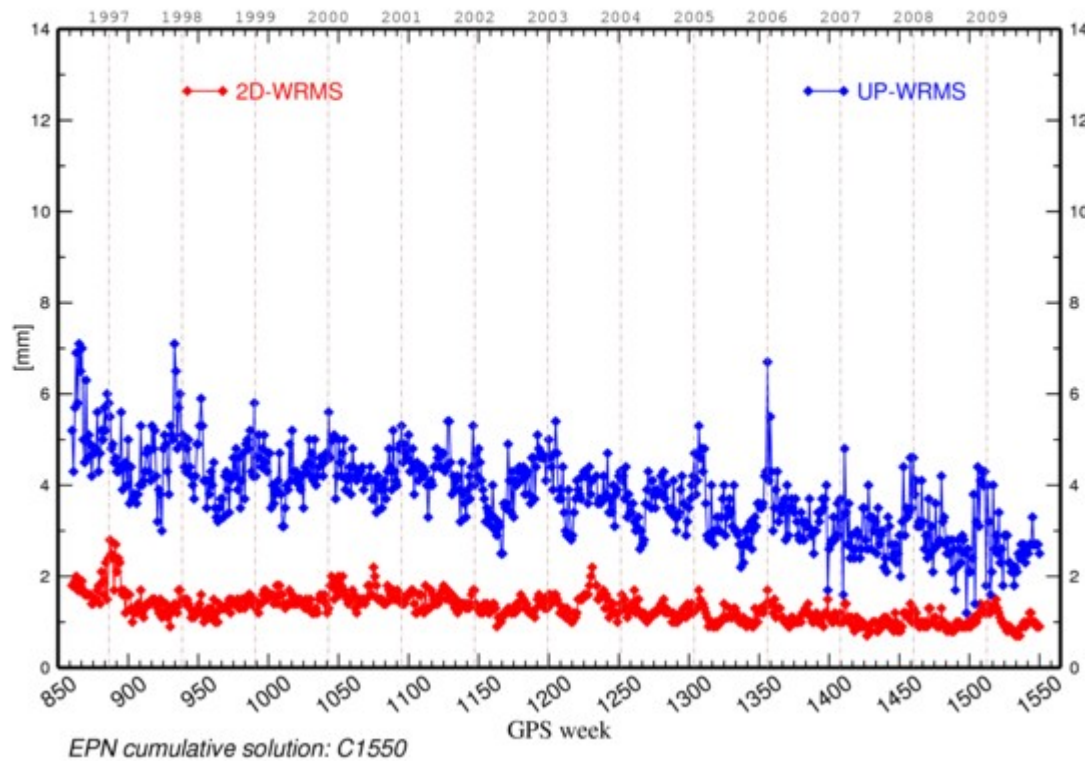
Wed May 18 04:40:14 2011

only this offset is considered in ITRF

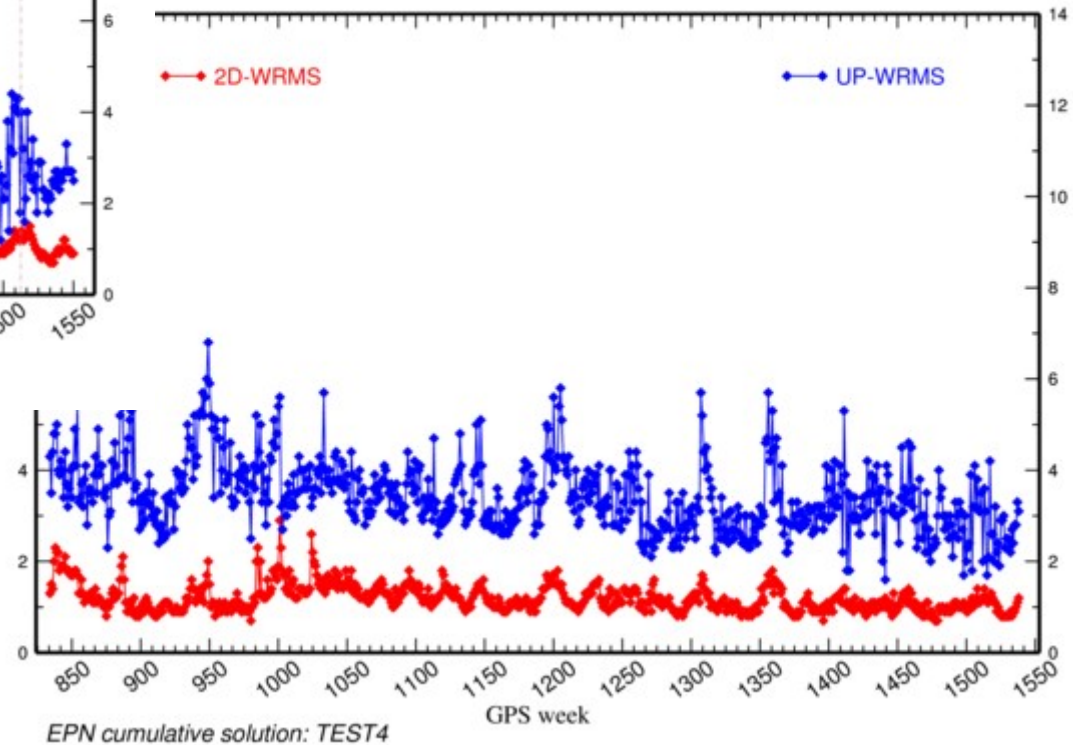
ITRF2008 cumulative WRMS

repro1(+) vs operational EPN

EPN WEEKLY WRMS

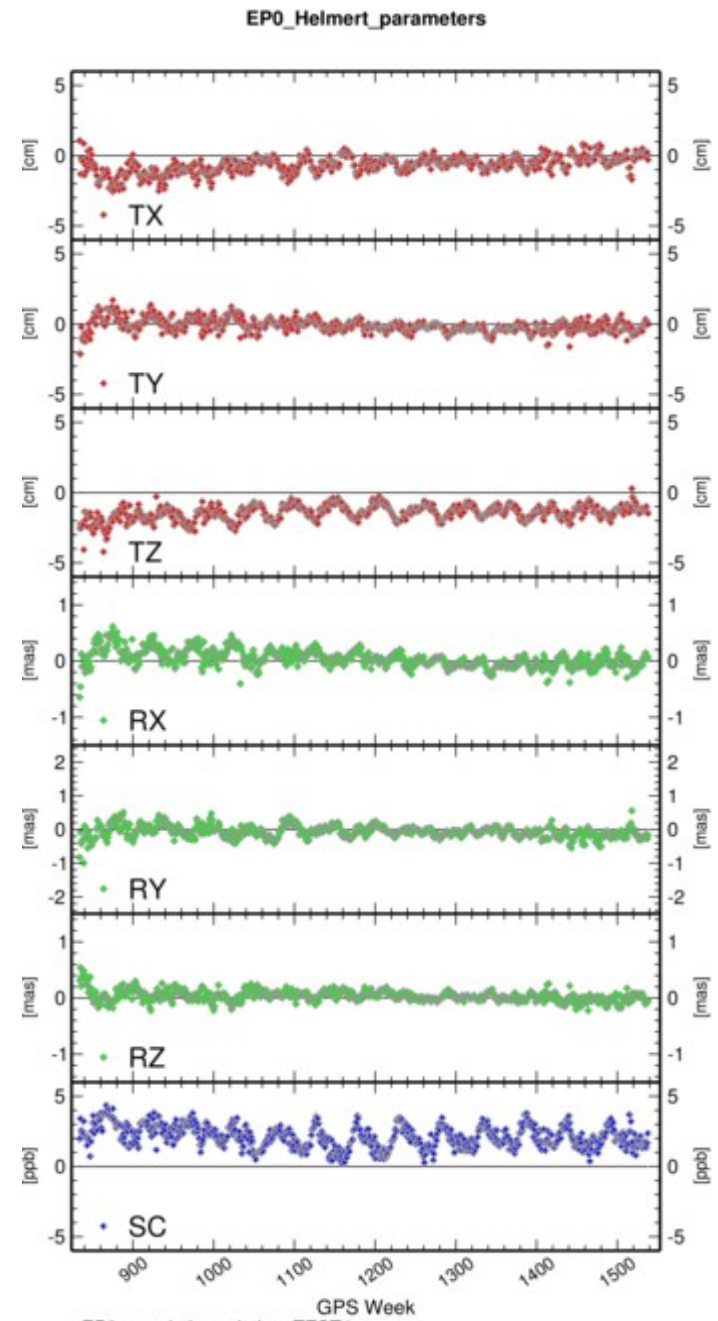
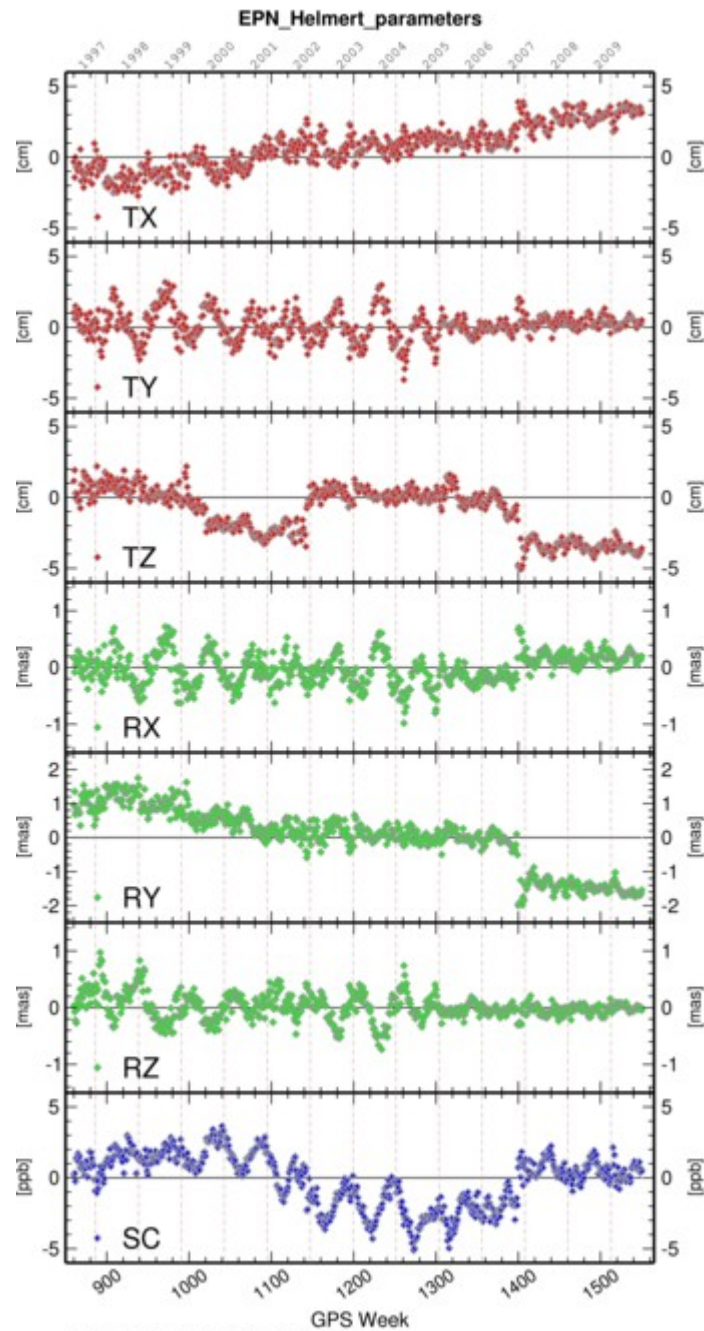


EPN WEEKLY WRMS

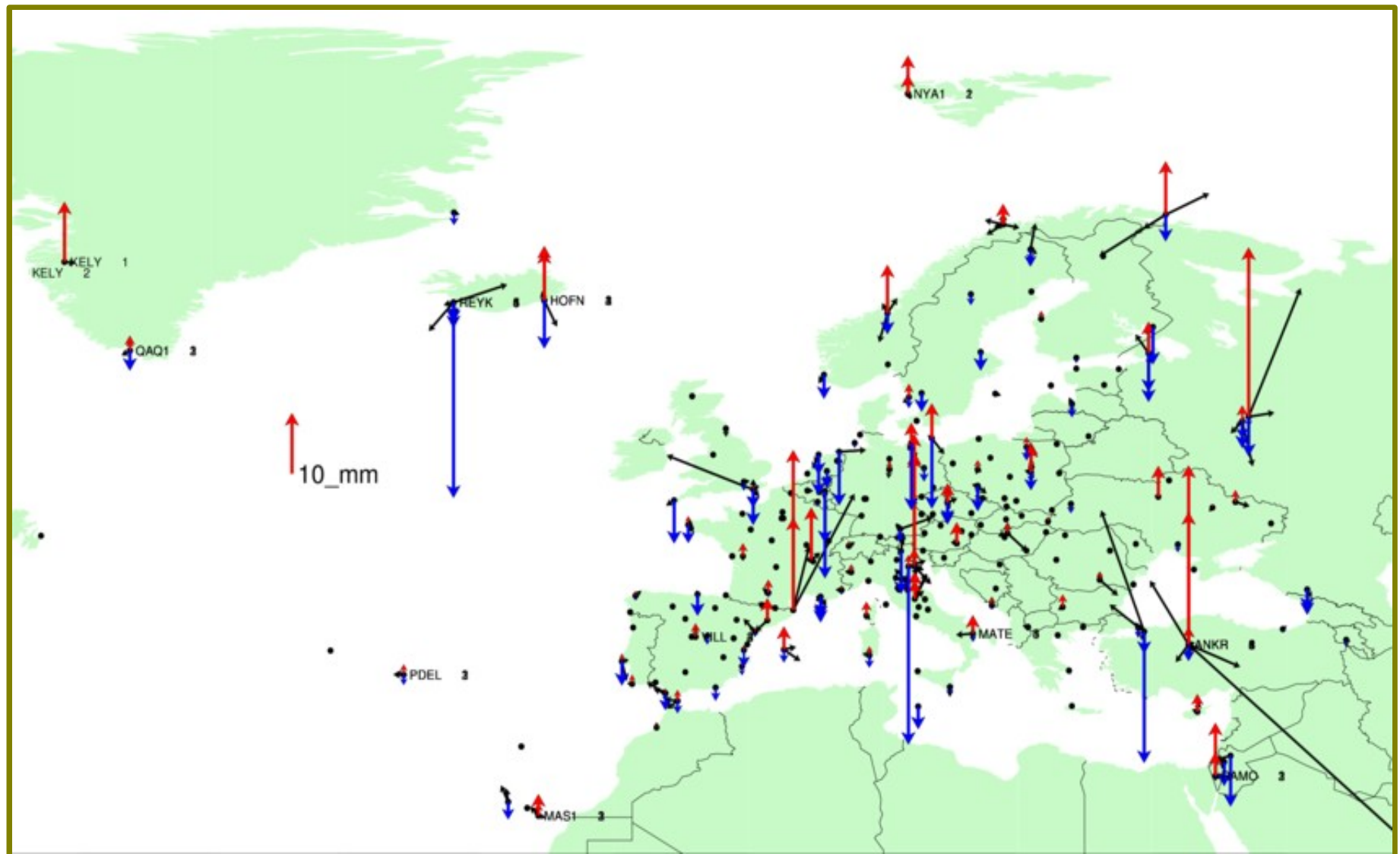


ITRF2008 cumulative: Helmert

operational EPN *vs* *repro1(+)*

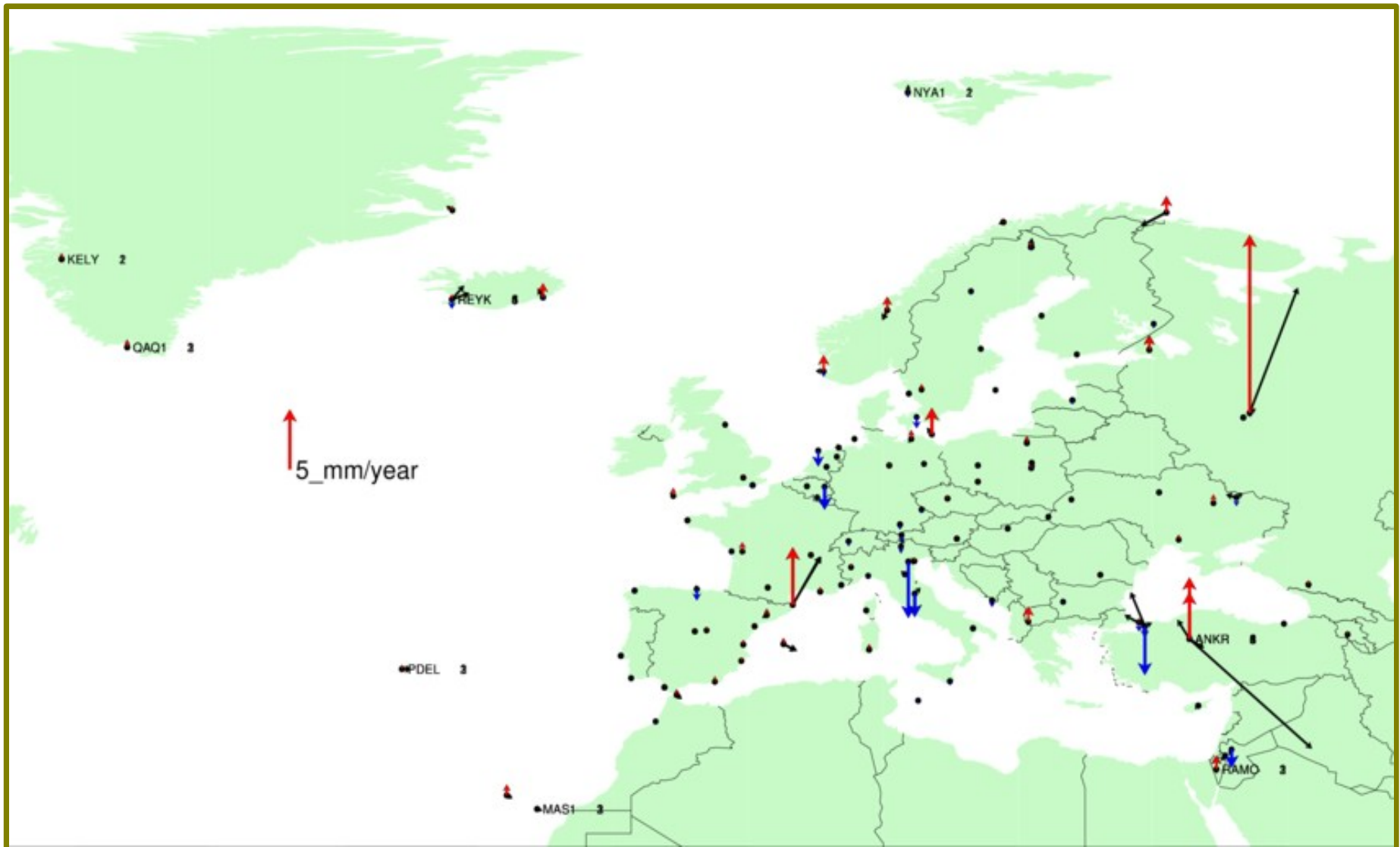


ITRF2008 vs densification *coordinates*

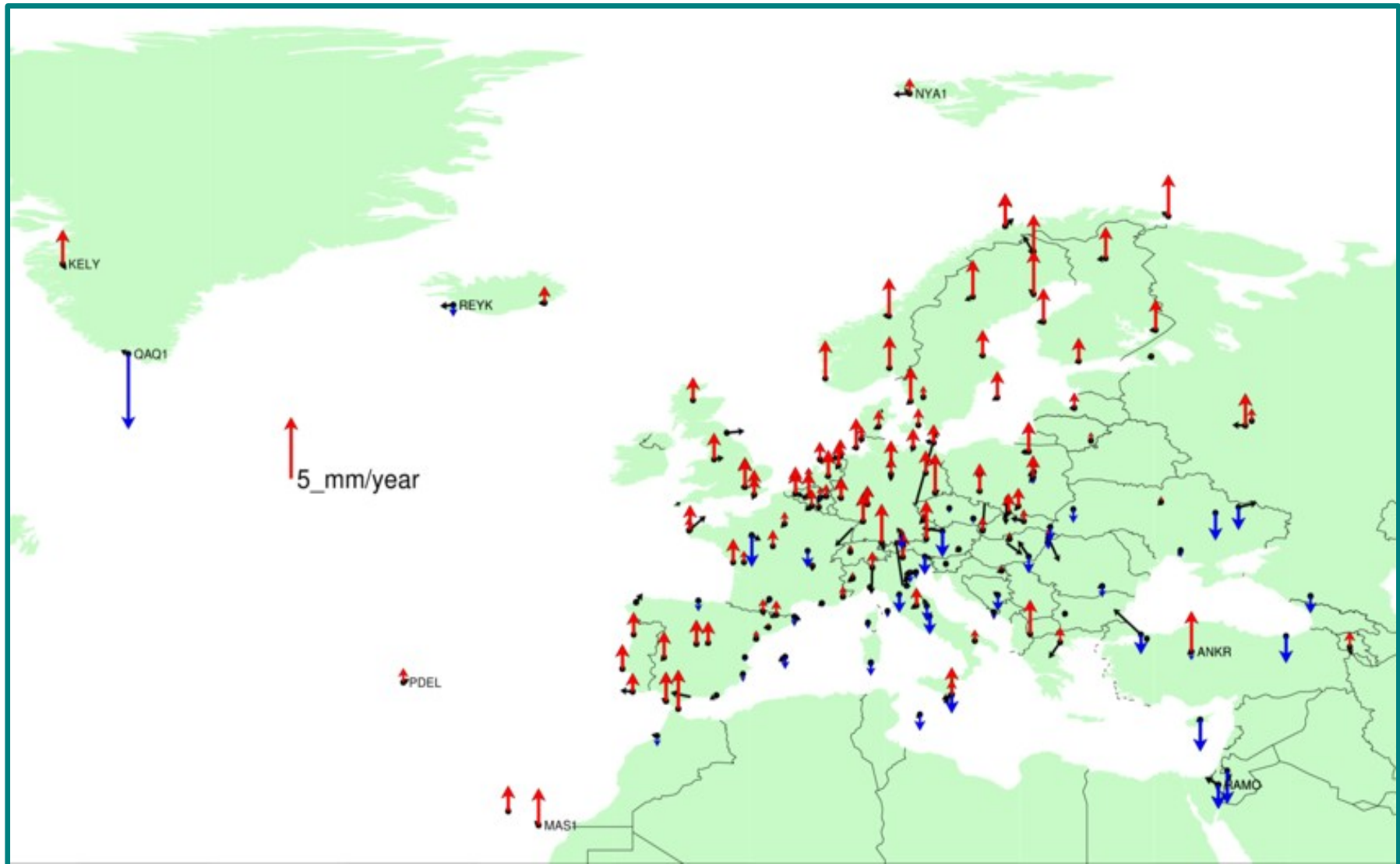


ITRF2008 densification

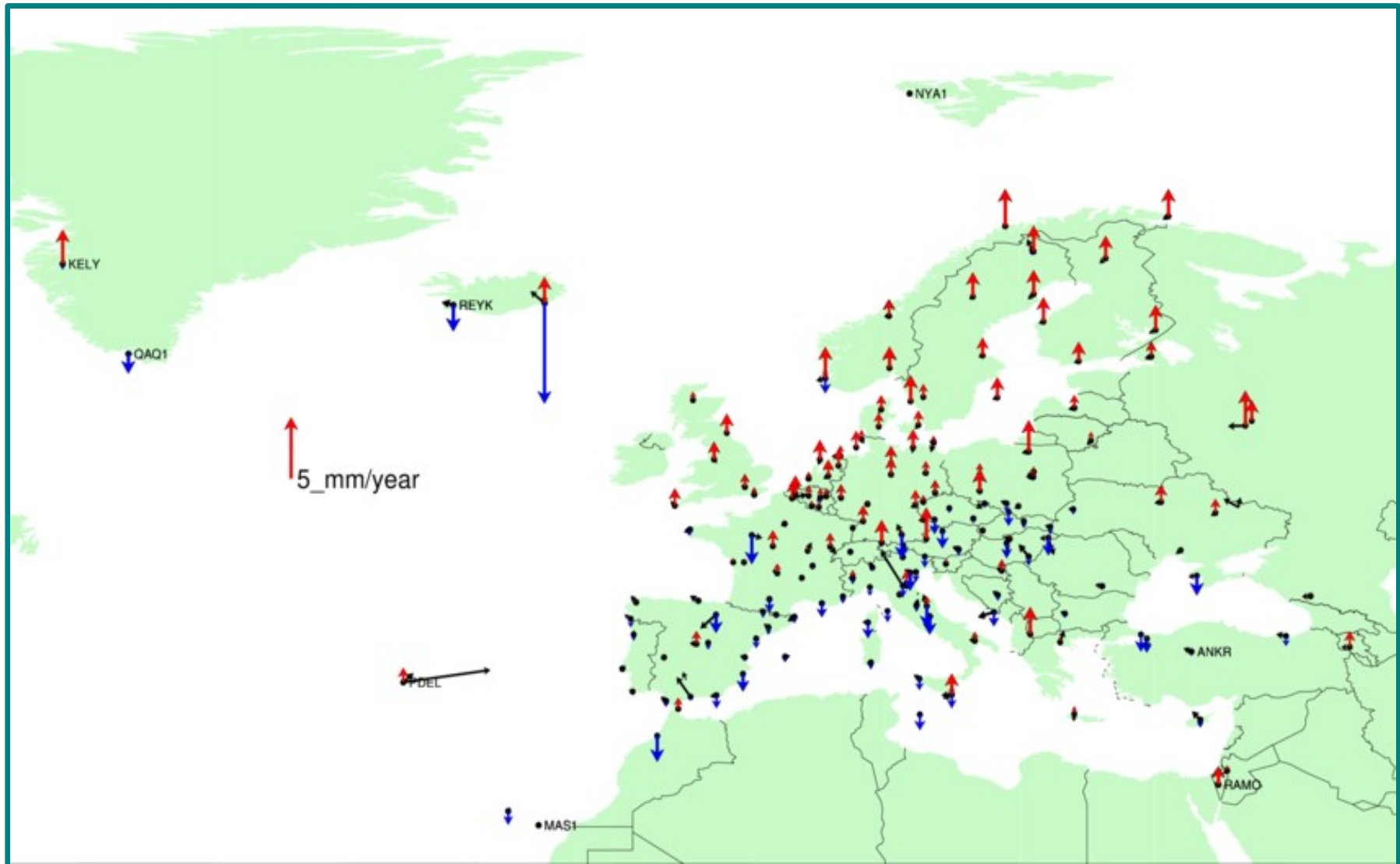
velocities



ITRF2005d vs ITRF2008d velocities (C1355-TEST4)



ITRF2005d vs ITRF2008d *velocities (C1600-TEST4)*



ITRF2008 densification

next steps

- *Completion of EPN repro1 weekly combination*
- *ITRF2008 densification solution*
- *Conversion to IGS08*
- *Release of EPN_CWWW series - November 2011*