

IGb08 to IGS14 in EUREF REFERENCE FRAME MAINTENANCE

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EPN REFERENCE FRAME COORDINATOR



EUREF 2017 Symposium

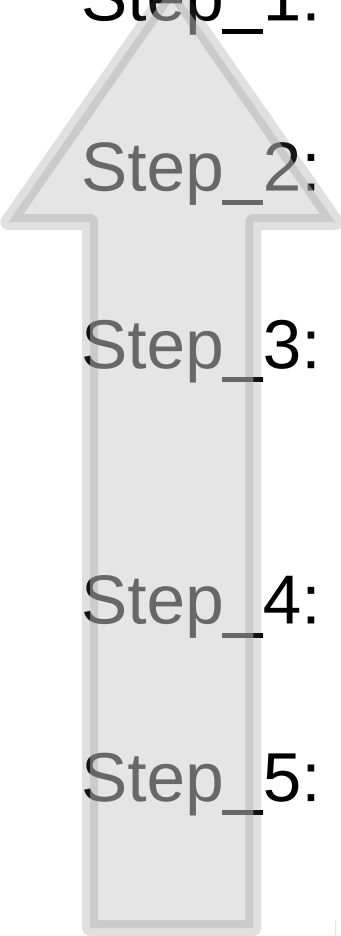
WROCLAW May 17-19, 2017

A satellite map of Europe at night, showing city lights. Overlaid on the map are several station codes in white text. The codes are: ZIMM00CHE, WROC00POL, DELF00NLD, POT500DEU, FLRS00PRT, OSLS00NOR, TUB000CZE, MARS00FRA, GRAZ00AUT, and KLOP00DEU. The map is dark blue with yellow and white lights representing cities and urban areas.

ZIMM00CHE
WROC00POL
DELF00NLD
POT500DEU
FLRS00PRT
OSLS00NOR
TUB000CZE
MARS00FRA
GRAZ00AUT
KLOP00DEU



GENERAL RF MAINTENANCE PROCEDURE

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- Step_1: re-processing of all GNSS data (REPRO_n) on IGS level,
 - Step_2: REPRO_n on regional level based on the IGS REPRO_n products,
 - Step_3: release of the ITRFyy solution – based on REPRO_n and the actually available antenna Phase Centre Variation (PCV) models,
 - Step_4: update of the official PCV models, publication of the ITRFyy-based IGSyy reference solution,
 - Step_5: run regional densification as the combination of REPRO_n and the routine processing using the updated IGS models.

Iteration with decreasing level of temporary inconsistencies, but with some complications for the regional networks.

C1934 → C1950

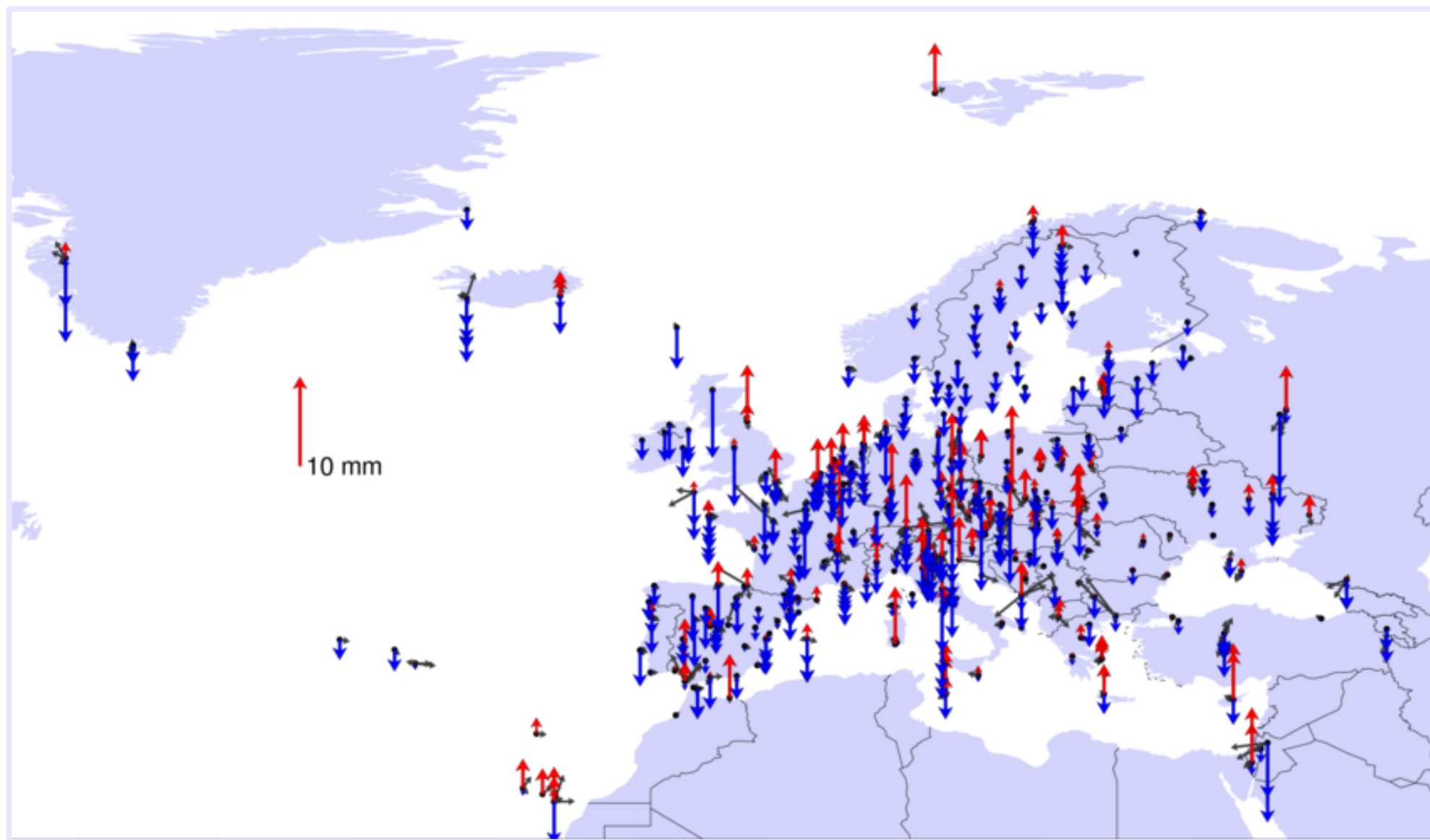
WILL BE A MAJOR RF UPGRADE

BASED ON CONSECUTIVE, SUPERIMPOSED STEPS

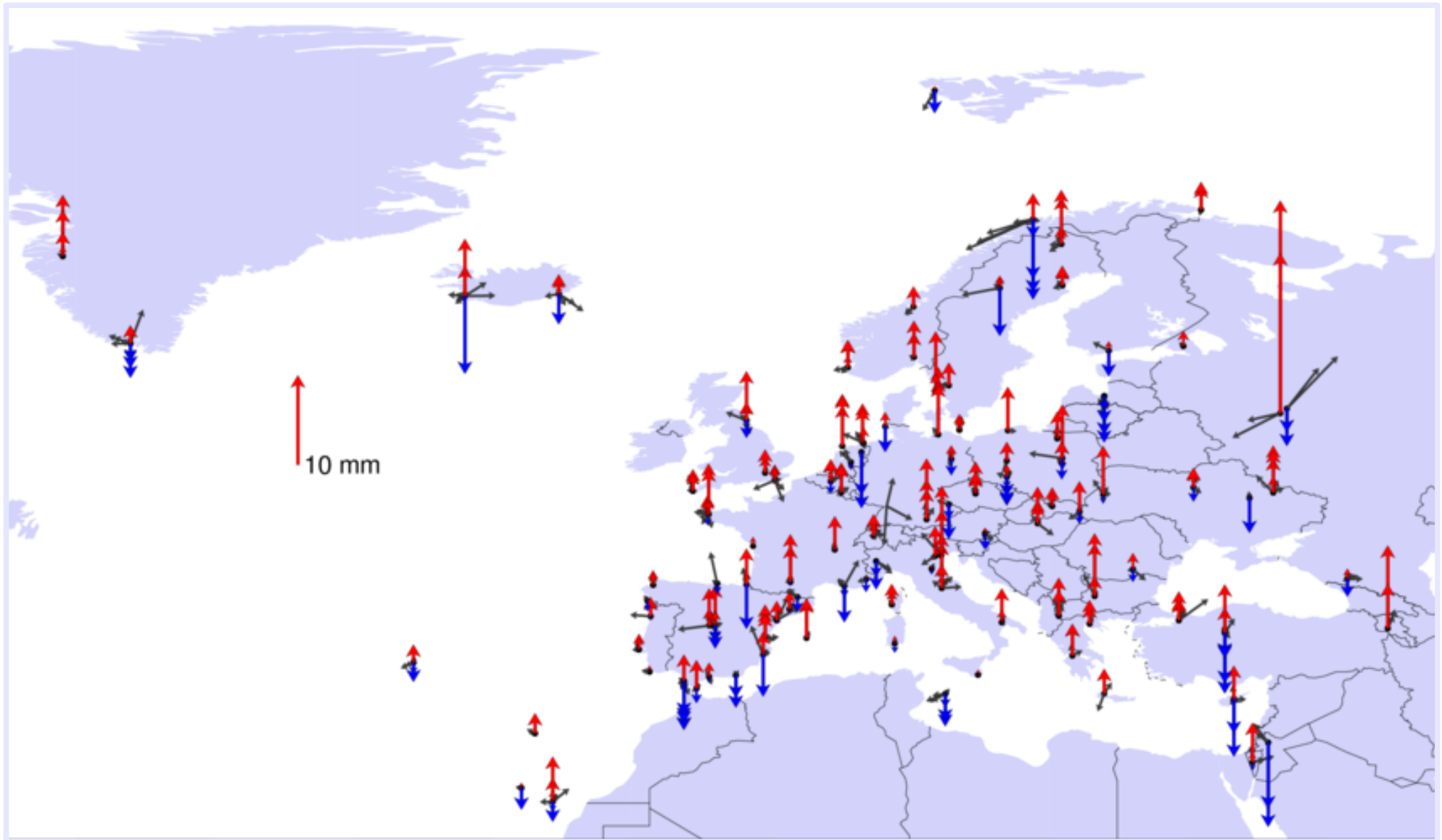
- NEW BACKGROUND REFERENCE FRAME
IGB08 TO IGS14 (ATX + SOLN.SNX + RF.SNX)
- INTRODUCTION OF EPN REPRO_2
- CHANGE FROM WEEKLY TO DAILY CUMULATIVE SOLUTION
BETTER TRACK OF CHANGES AND LESS DATA REMOVAL
- CHANGE THE REFERENCE EPOCH FROM 2005.0 TO 2010.0
- INTRODUCTION OF PSD MODELLING
- NEW REFERENCE FRAME COORDINATOR

EPN REPRO_2 vs ROUTINE positions

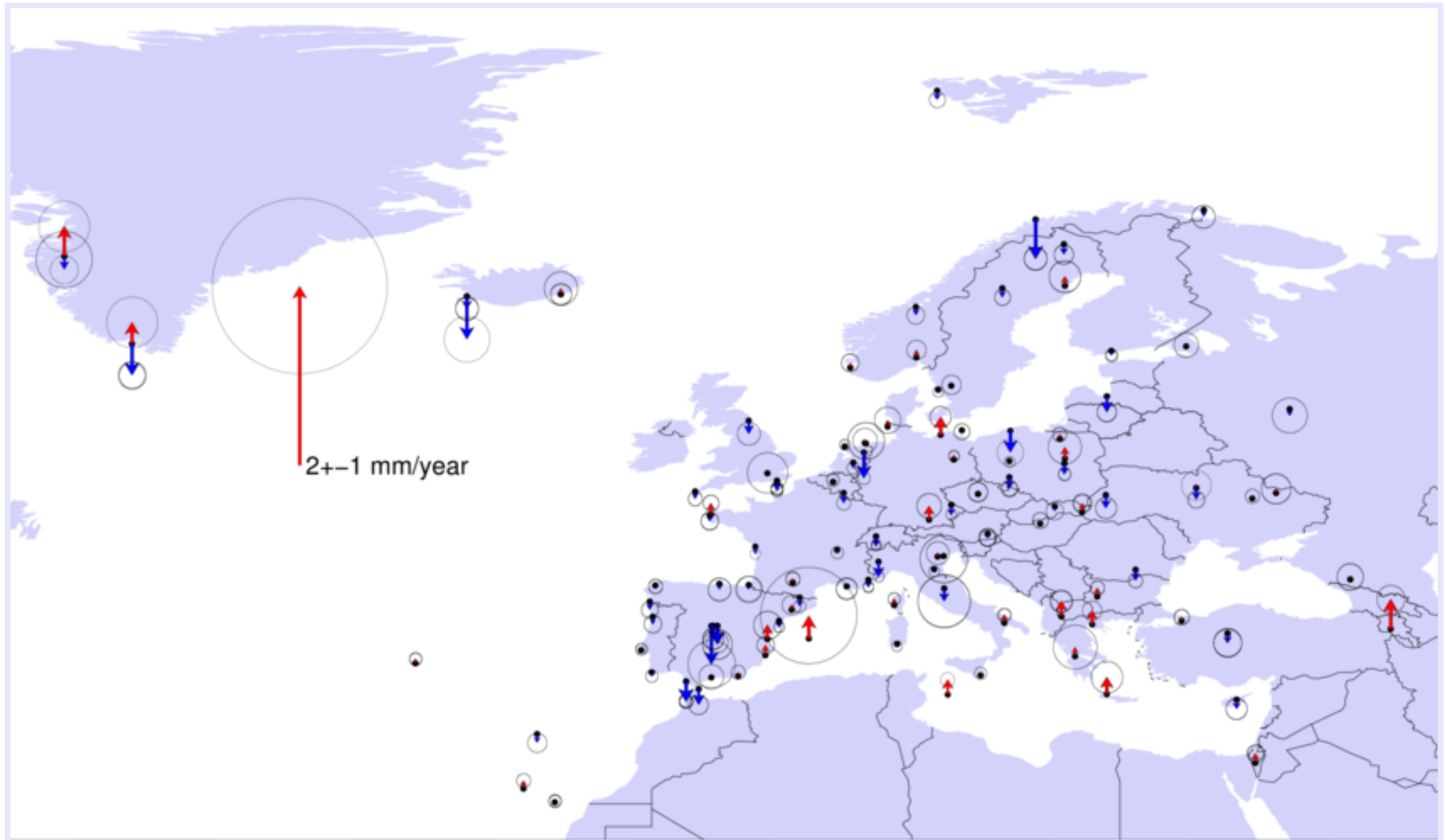
epoch 2010.0



ITRF2014 vs EPN REPRO_2 positions with **PSD** epoch 2010.0

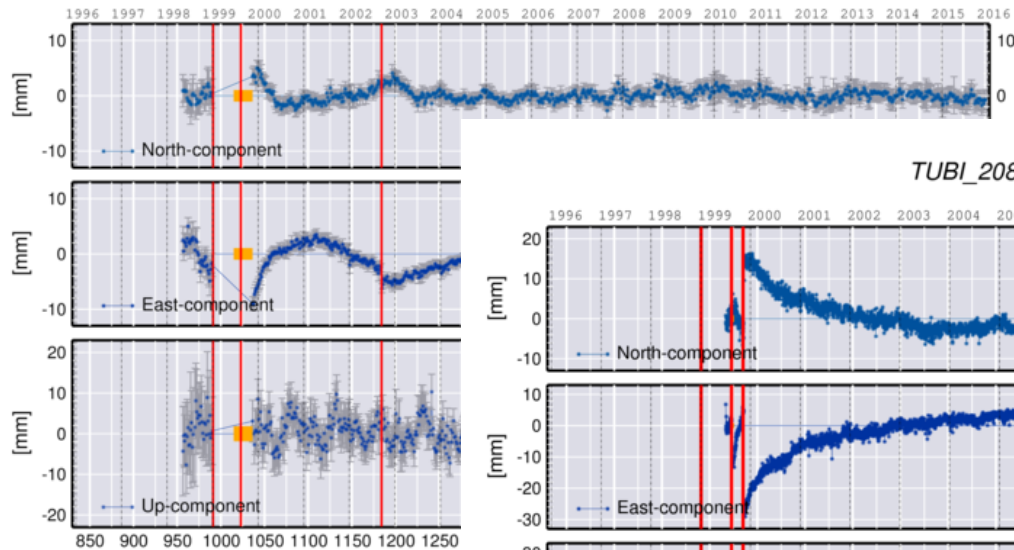


ITRF2014 vs EPN REPRO_2 velocities

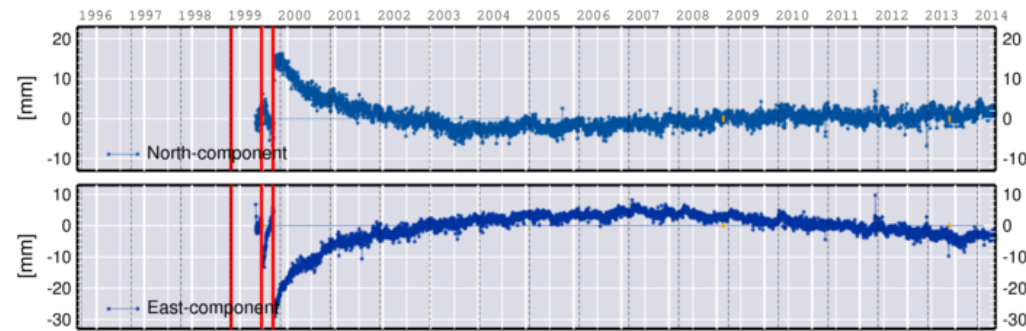


HANDLING OF POST-SEISMIC DEFORMATION

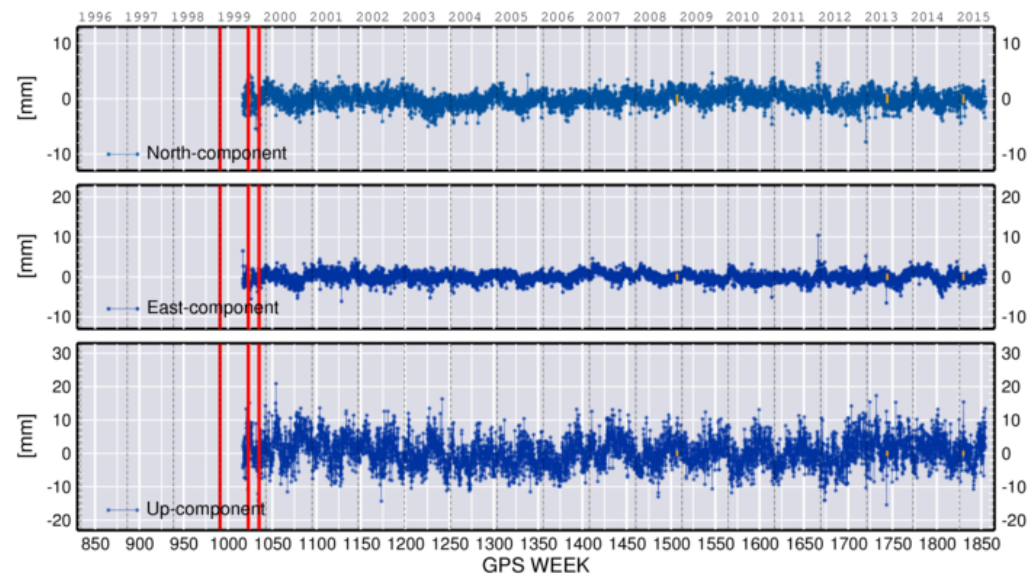
TUBI_20806M001



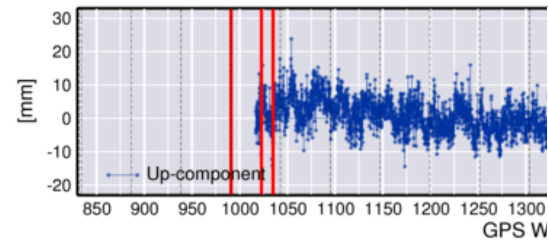
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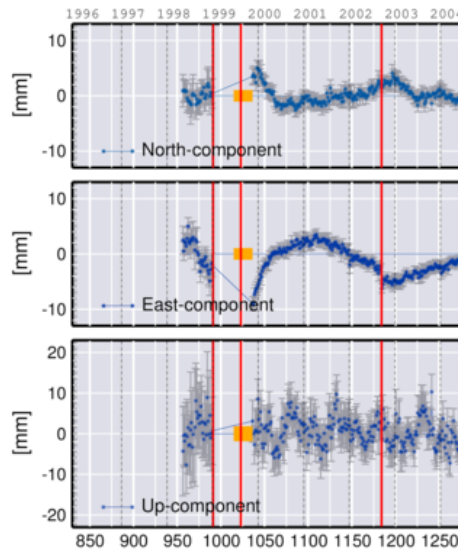


EPD_C1854_daily



EPD_P1854_daily

EP2_C1875_weekly



PROPOSED TRANSITION (FRAME & RFC) SCHEDULE

Publication of C1934 based on weekly routine EPN SINEX product and expressed in IGb08	RFC_1	done
– – Change from weekly to daily multi-year combination – –		
Correction of daily SINEX solutions with POS offsets due to antenna calibration update	RFC_2	done
Preparation of discontinuity SINEX compatible with IGS14 soln.snx	RFC_1-2	in progress
Reference network selection and computation of the multi-year solution iteratively	RFC_1-2	in progress
Publication of C1950 expressed in IGS14	RFC_1-2	2 nd half of 2017