EPN REFERENCE FRAME COORDINATOR REPORT

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FÖMI SATELLITE GEODETIC OBSERVATORY

EUREF TWG MEETING AND EPN LAC WORKSHOP

BERN, SWITZERLAND
13-15 OCTOBER, 2015

OUTLINE

- **EPN CUMULATIVE / ETRS89 MAINTENANCE**
  - STATUS
  - STATION CATEGORIZATION
  - PLANS

- **EPN DENSIFICATION WG REPORT**
  - STATUS AND OUTLOOK
  - NEW CONTRIBUTIONS
 - REPROCESSING IN THE FOCUS
  - RELATION TO EPOS

ETRS89 MAINTENANCE

- MULTI-YEAR SOLUTION OF THE EPN WEEKLY COMBINED SINEX SOLUTIONS USING CATREF
- SOLUTION PUBLISHED ON EPNCB WEBSITE:
  - CUMULATIVE POSITION AND VELOCITY PRODUCT IN SSC AND SINEX FORMAT
  - META DATA OF OUTLIERS AND OFFSETS (FROM LOG FILES AND SPECIFIC ANALYSIS)
  - TIME SERIES PLOTS (IN COOPERATION WITH EPNCB)
  - MISCELLANEOUS PLOTS (OBSLEN, WMRS, VELOCITY MAPS …)
- UPDATE CYCLE: 15 WEEKS
- CHECK OF CONSECUTIVE SOLUTIONS

POSITION DIFFERENCES OF C1815-C1830-C1845
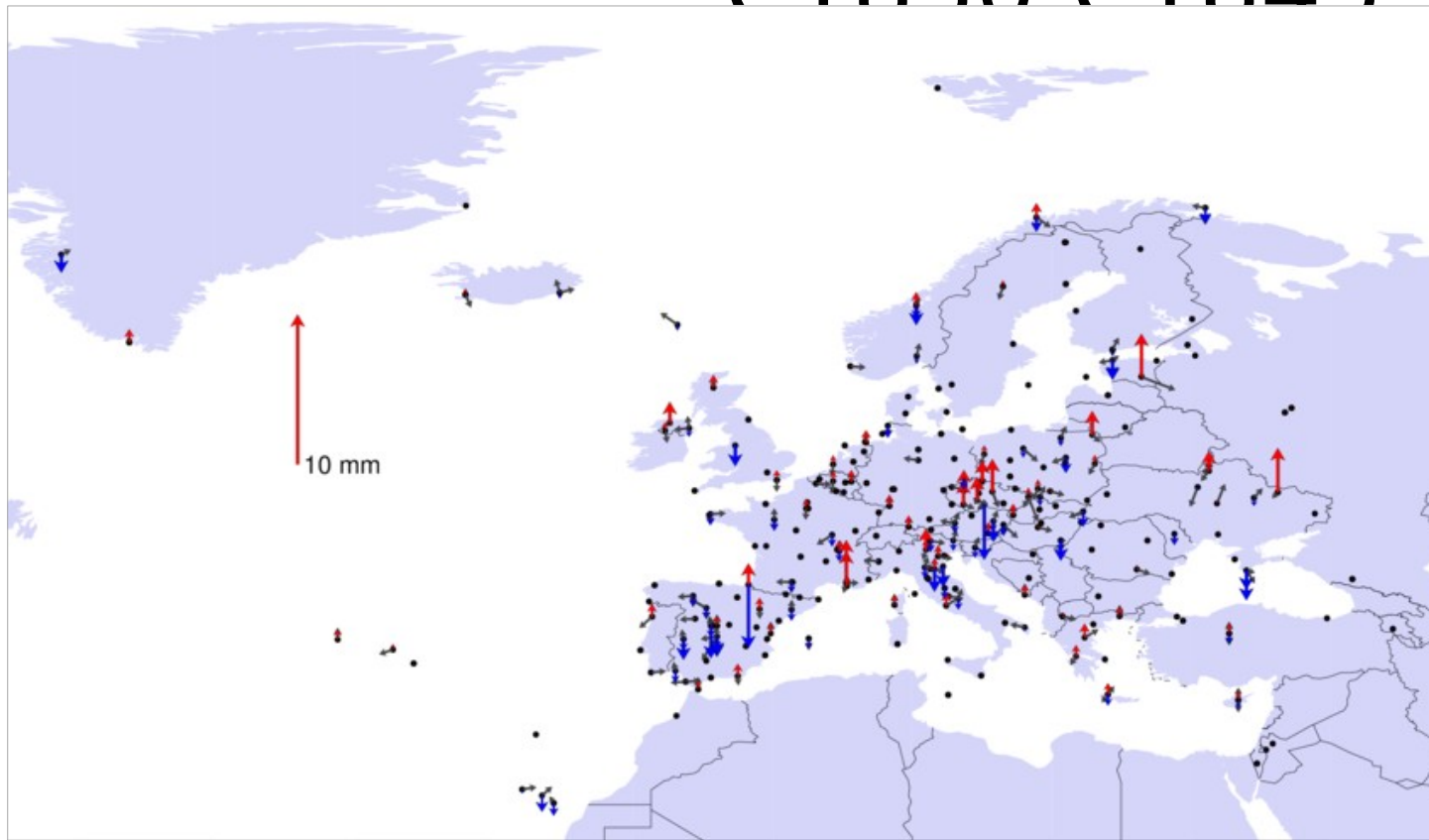
NO BIAS IS OBSERVABLE!
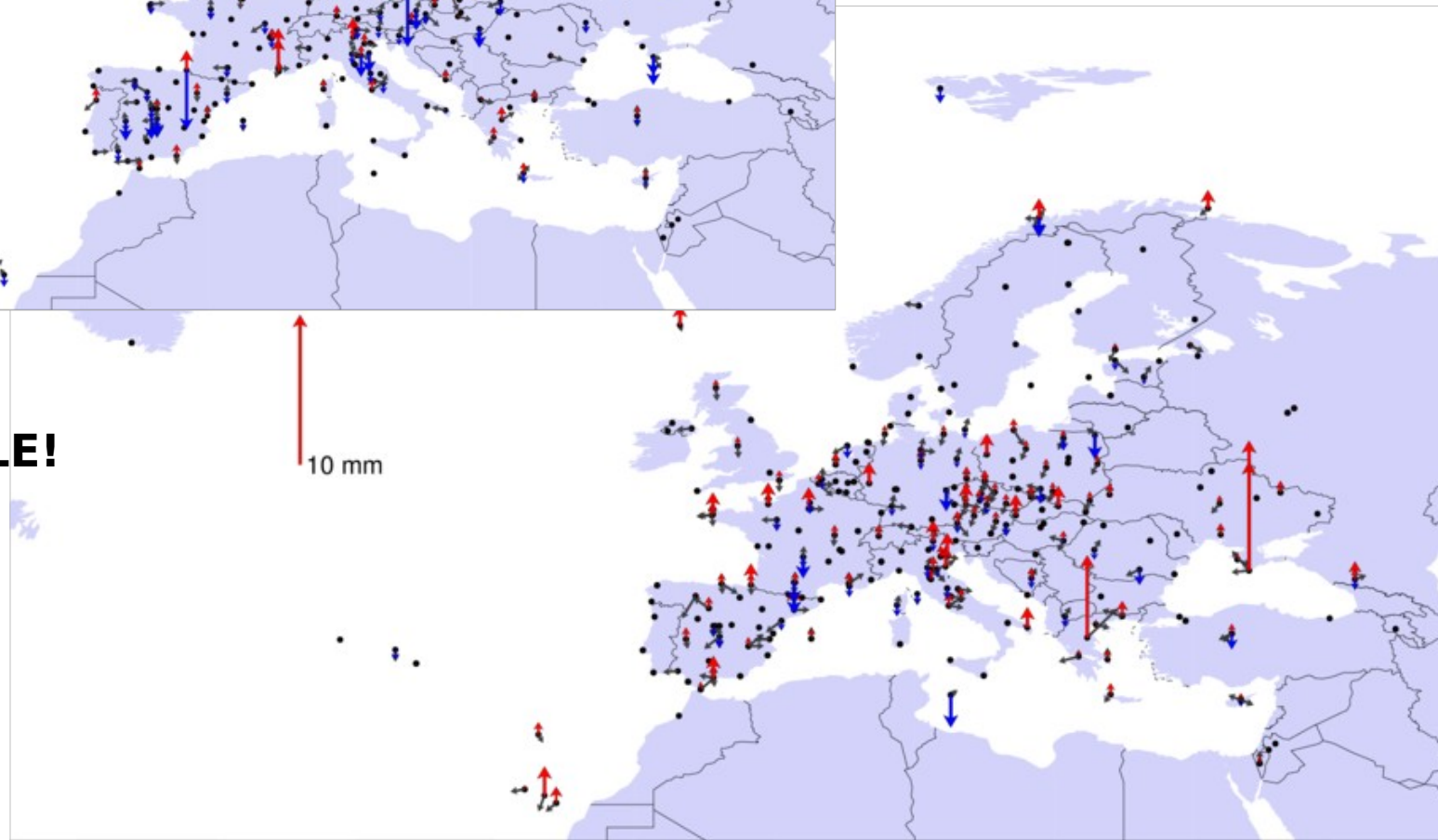
STATION CATEGORIZATION

B – 1 CM POSITION ACCURACY AT THE EPOCH OF MINIMAL VARIANCE

A – 1 CM POSITION ACCURACY AT ANY EPOCH → [0.1 mm/y] VELOCITY

**EXPERIMENTAL CRITERIA TO EXCLUDE LOW PERFORMANCE STATIONS (INCLUDING STATIONS WITH HIGH SEASONAL SIGNAL) AND
LET NEW STATIONS APPEARING IN CLASS_A ASAP (TWG REQUEST!)**

AT LEAST 1.5 YEARS OF OBSERVATION LENGTH WITH STABLE, CONVERGENT POSITION AND VELOCITY ESTIMATE
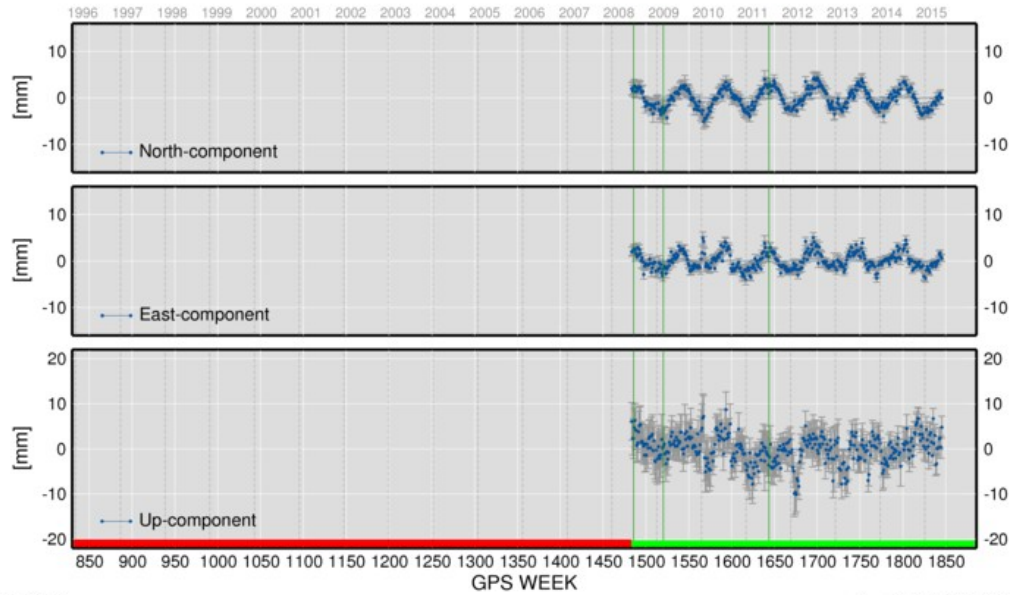
1. POSITION REPEATABILITY LESS THAN 2MM (2D), 5MM(UP) FROM THE LAST 6 SOLUTIONS (PER 5 WEEKS)
2. VELOCITY REPEATABILITY **0.5 MM/YEAR** (!!) FROM THE LAST 6 SOLUTIONS (PER 5 WEEKS)
3. MAXIMUM **SQUARED VELOCITY SIGMA : 0.4** FROM THE LAST 3 SOLUTIONS (PER 5 WEEKS)
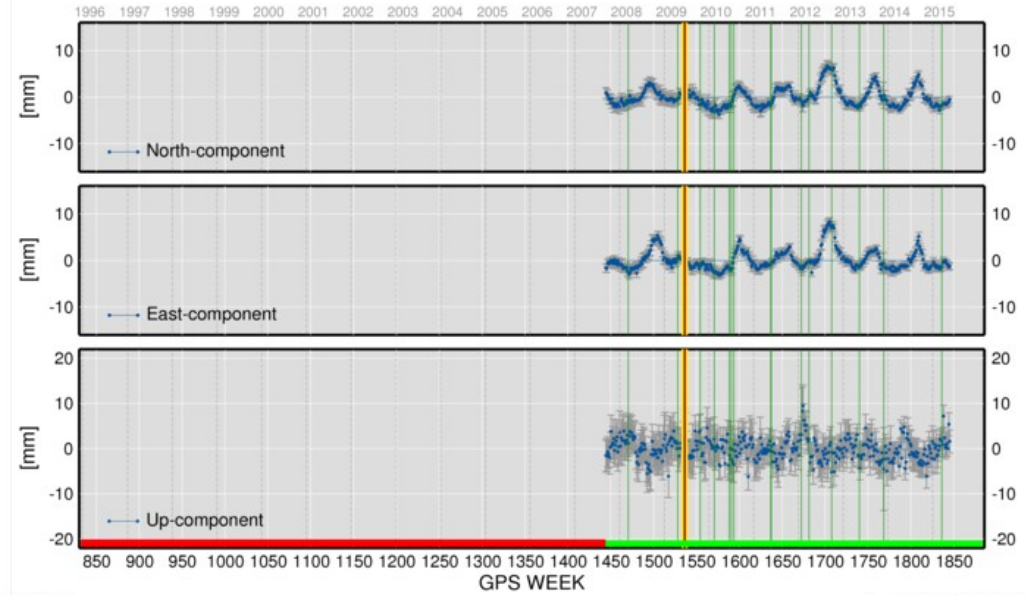
EPN STATION CATEGORIZATION
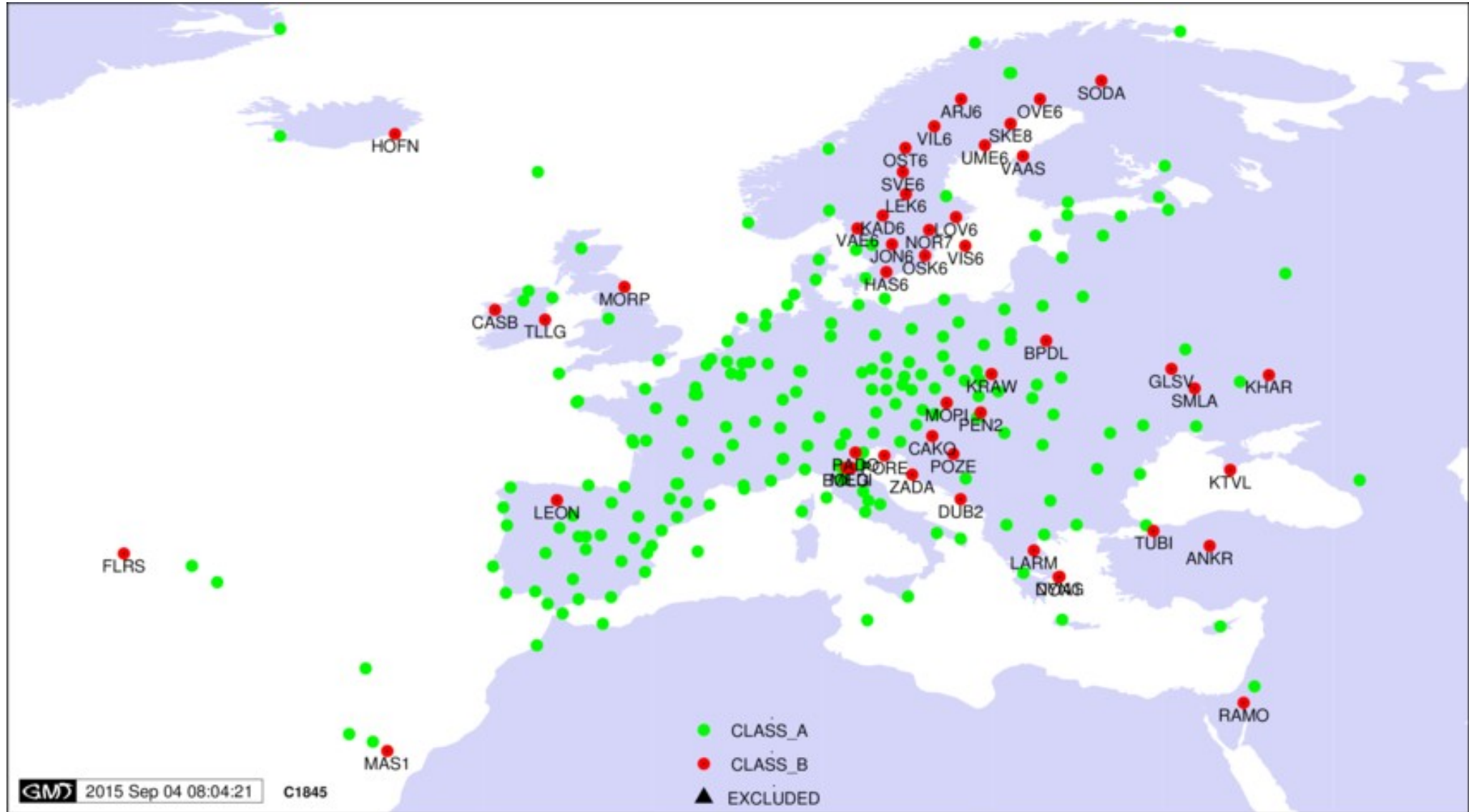
CLASS B EXAMPLES
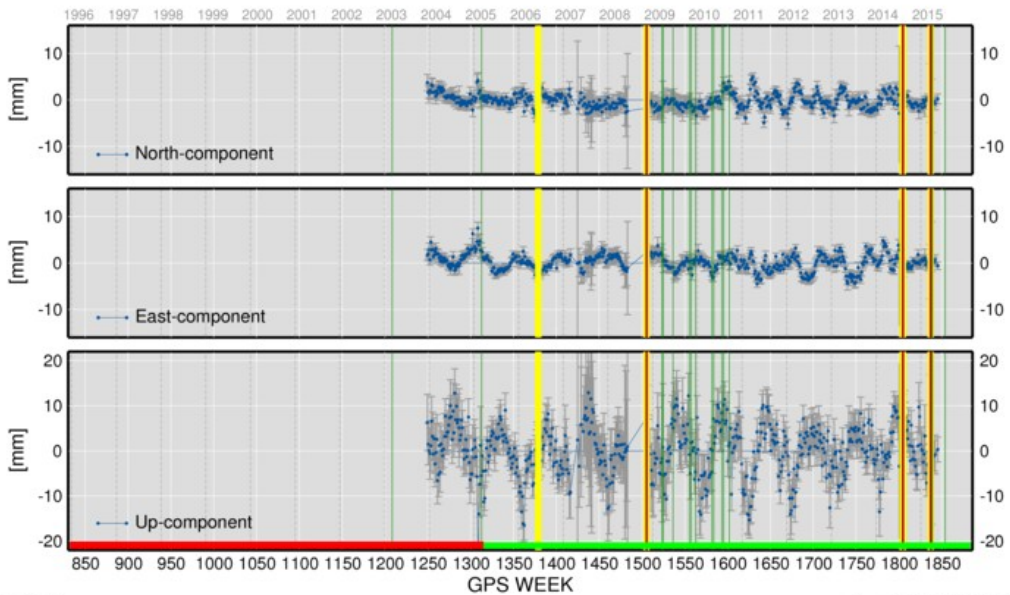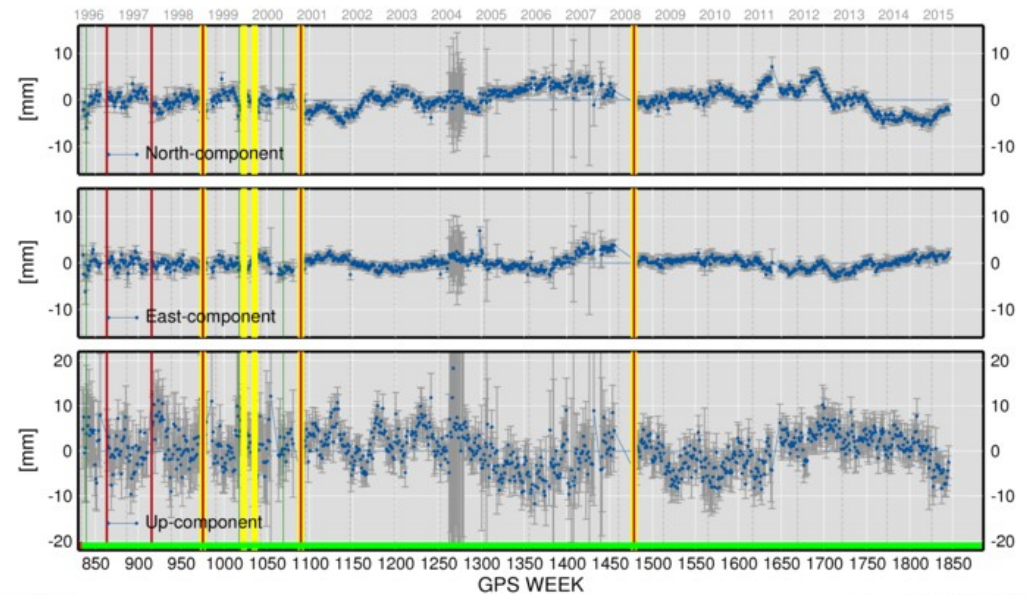
EPN/ETRS89 MAINTENANCE NEXT STEPS

- WAITING FOR REPRO2 RESULTS
- ITERATIVE FILTERING OF OUTLIERS (CHECK WHETHER JAN'S QUALITY INFORMATION IS CONSIDERED?)
- EXTENSIVE COMPARISONS & ANALYSIS
- THE EXPECTED POSITIVE EFFECTS OF REPRO2
- GLOBAL OR REGIONAL EPN?
- INDIVIDUAL CALIBRATION: EPN vs IGS
- IMPROVED STATION CATEGORIZATION PRACTICE
- COHERENCE WITH EPN DENSIFICATION
  - SAME COMBINATION STRATEGY
  - SAME DATUM
  - SAME METADATA