

# GNSS4SWEC MC report 2013-2014 Bulgaria

WG1 Y1

WG2 Y1

WG3 Y1

Plans Y2



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GNSS4SWEC MC meeting, 11.09.2014, Varna, Bulgaria

- WG1 member - **Tzvetan Simeonov** (PhD student, Uni Sofia)
- established Sofia University GNSS Analysis Centre (SUGAC)
- STSM of Tzvetan Simeonov to University of Luxembourg (host **Prof. Norman Teferle**)
- during the STSM 7 GNSS stations from the Bulipos network (see map) processed for 2013 with 5 min temporal resolution
- signed national agreement for GNSS data exchange between Bulipos and SUGAC
- 12 stations from Bulipos are planned to be included at GOP E-GVAP processing - collaboration with **Dr. Jan Dousa**



source: Tzvetan Simeonov, STSM report.

# Bulgarian contribution to WG2 Year 1

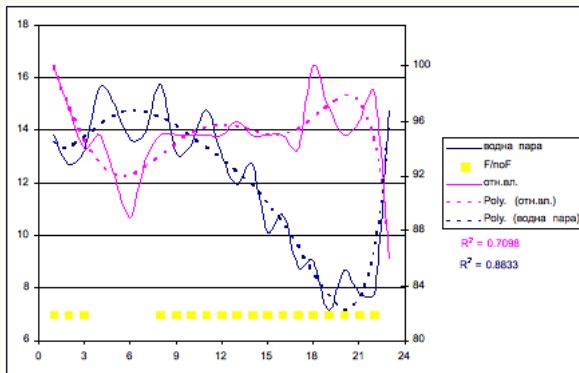
WG1 Y1

WG2 Y1

WG3 Y1

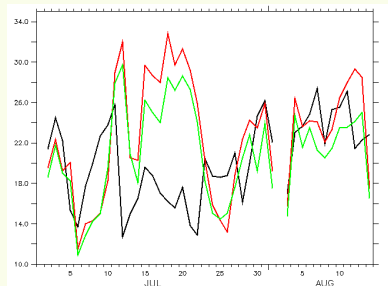
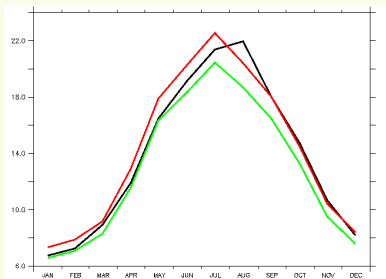
Plans Y2

- WG2 member - **Nadejda Yordanova\*** (PhD student, Uni Sofia) and **Evgenia Egova** (MSc student, Uni Sofia)
- analysed 22 convective case for 2012 in Bulgaria
- results inconclusive due to poor temporal resolution of the GNSS-IWV 3 hours
- use the WRF model to derive IWV with temporal resolution 30 min
- simulations with the WRF model (initiated August 2014)
- ongoing use of GNSS-IWV for fog cases in Bulgaria - collaboration with **Anastasia Stoycheva** (forecaster at the National Institute of Meteorology and Hydrology)



source: *Anastasia Stoycheva, preliminary results.*

- WG3 member - **Guergana Guerova** (Assoc. Prof. Uni Sofia)
- established regional database SUADA - 6 different GNSS processing including IGS repro1, IGS CODE repro2, EUREF GOP repro1, EUREF post processed - BKG, OLG, LPT, SUGAC
- day boundary problem studies with IGS repro1 and GOP EUREF repro1 for SOFI
- difference (0000 minus 2345 UTC) is in the range  $[-2.5 +2.5]$  in 92 % and  $[-0.5 +0.5]$  in 35 %
- Uni Sofia hosted STSM of **Peter Szabo**, Hungarian Meteorologic Service
- during the STSM are analysed GNSS ZTD and IWV from IGS repro 1 for station SOFI for 2000-2007 and ALADIN-Climate RCM version 5.2



source: *Peter Szabo, STSM report.*

- WG1 - operational SUGAC test processing with NAPEOS at Uni Sofia (ESA licence required)
- WG2 - use WRF model for ZTD-IWV conversion of GNSS
- WG2 - model validation for 2013 using the 7 Bulipos stations
- WG3 - continue work with Peter Szabo on comparing ERA-Interim data with GNSS-IWV for SOFI and other stations in East and Southeast Europe

