EURAC research Institute for Alpine Environment Institute for Applied Remote sensing

Mazia valley/Matschertal test site – Bolzano/Bozen - Italy

Claudia Notarnicola, Georg Niedrist, Stefano della Chiesa, Giacomo Bertoldi, Ulrike Tappeiner, Marc Zebisch

Nazzareno Pierdicca, member of the SMAP ST (UNI Sapienza)
Simonetta Paloscia (CNR-IFAC)

4th SMAP cal/val workshop, Pasadena 5-7 November 2013

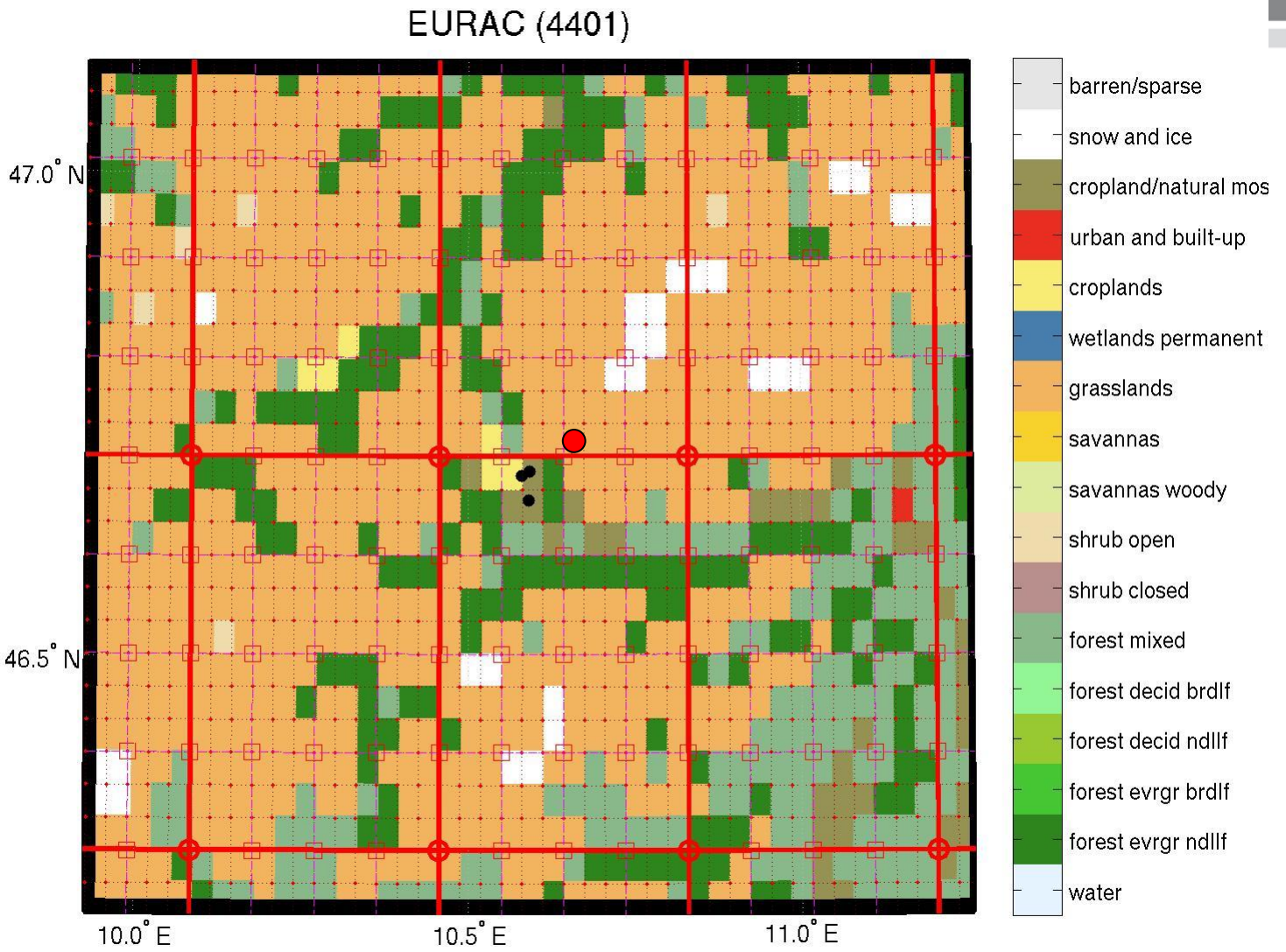
Pictures of landscape and stations

Experimental Transect

Station B3

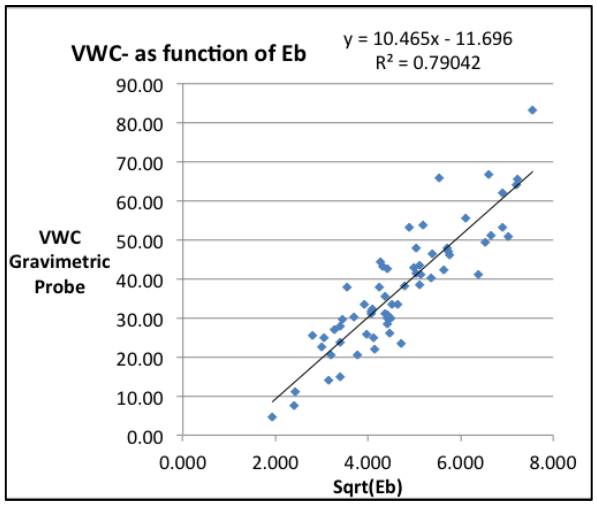
Pictures of landscape and stations

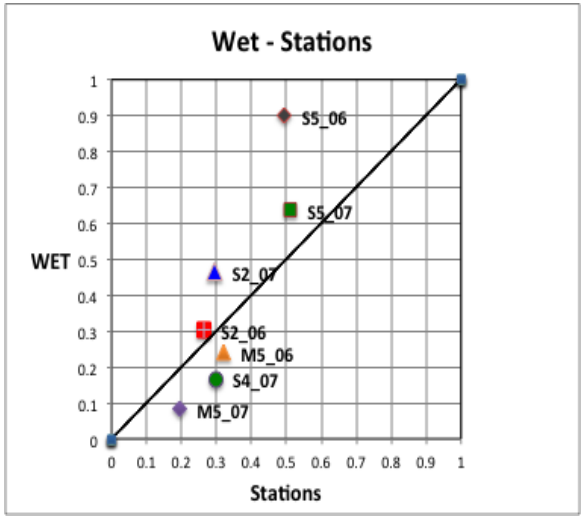
SMAP Grid Cell and station map

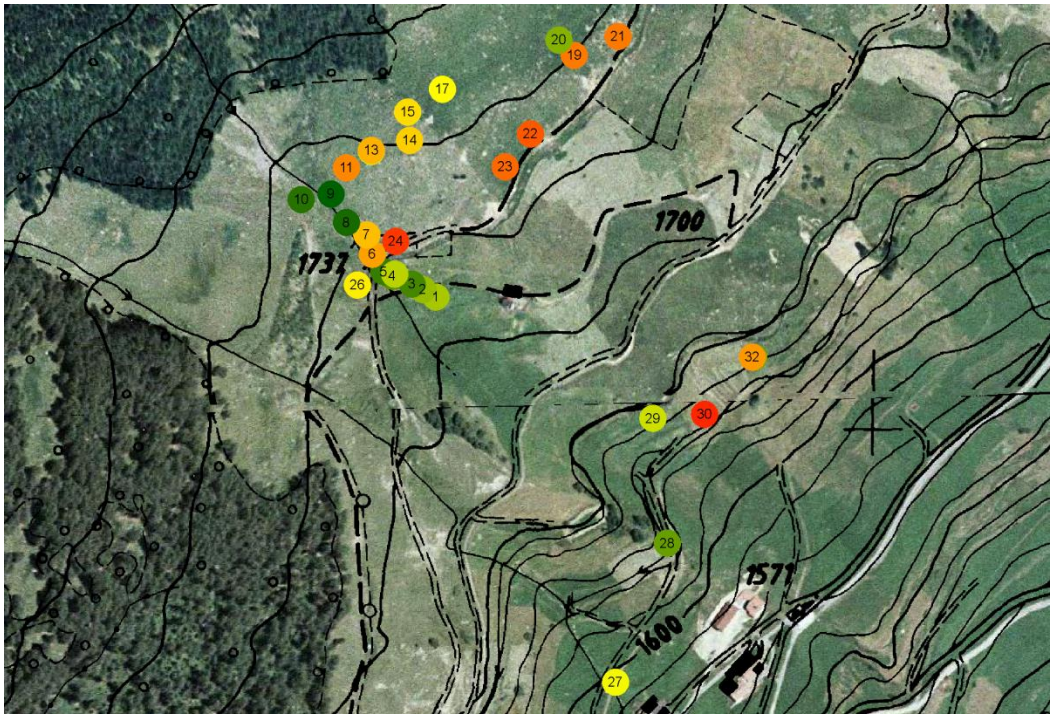


The land class predominant over the 36km is the grassland which over this area is located at an average altitude of 2000m a.s.l with a standard deviation of around 500 m.
The location of the S4 ● station at around 2300m is then representative of the grassland in "average" for this area.

Approach to calibration



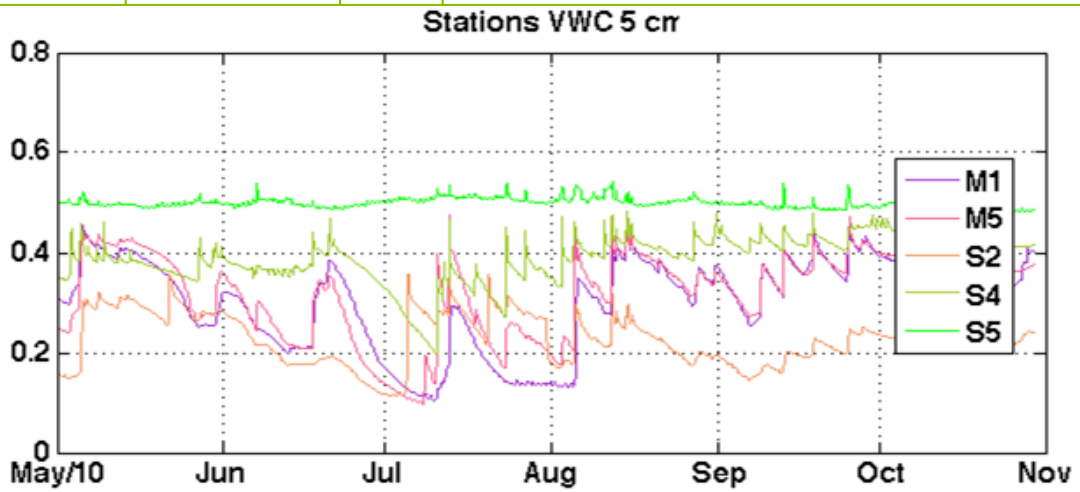




- Use of TDR and gravimetric samples
- Good correspondence with station values;
- Patterns correspond to land cover/topographic features.

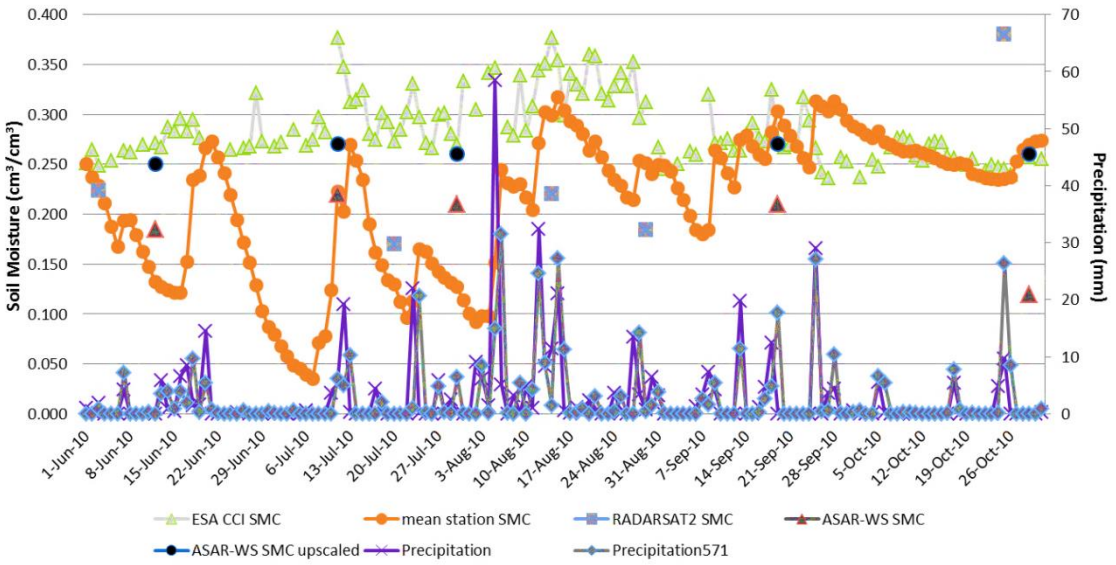
Representation of SMAP products

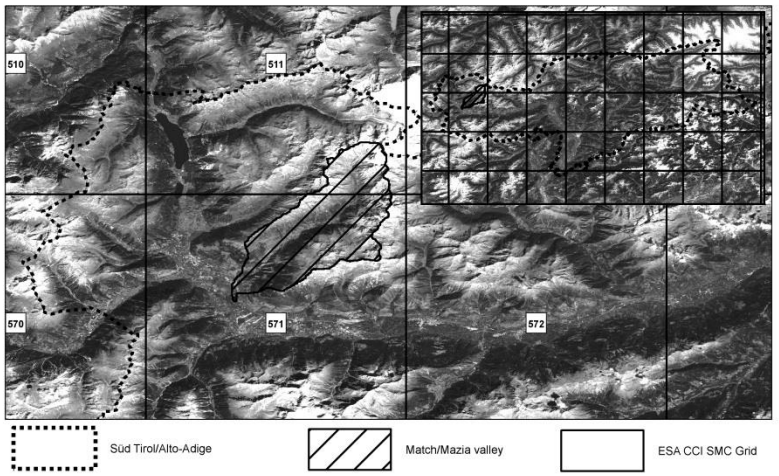
Site name	ID	#	Variables (depth)
Schluderns/Sluderno (B1000)	4401	1	SM* at 5 and 20cm (2 replicates) ST at 0.5, 5, 10, 20 and 50cm depth, PREC. Tair (both at 2m) manually downloadable by GSM connection. (Decagon sensor)
Muntetsching (B1500)		1(6)	SM at 5 and 20cm (2 replicates) ST at 0.5, 5, 10, 20 and 50cm depth, PREC. Tair (both at 2m) manually downloadable by GSM connection. (5 more replicates of SM profiles will be installed in autumn 2013)
Tartscher Leger (B2000)		1	SM at 5 and 20cm (2 replicates) ST at 0.5, 5, 10, 20 and 50cm depth, PREC. Tair (both at 2m) manually downloadable by GSM connection.
B4 (2300)		1	SM at 5 and 20cm (2 replicates) ST at 0.5, 5, 10, 20 and 50cm depth, PREC. Tair (both at 2m) manually downloadable by GSM connection.

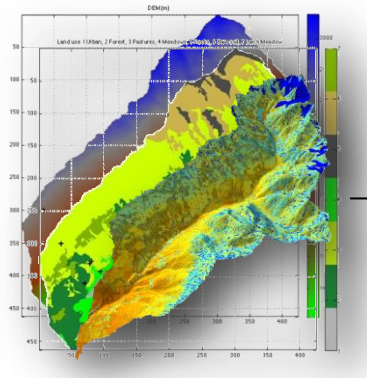


Representation for 5 cm and 20 cm with 2 replicates for each level

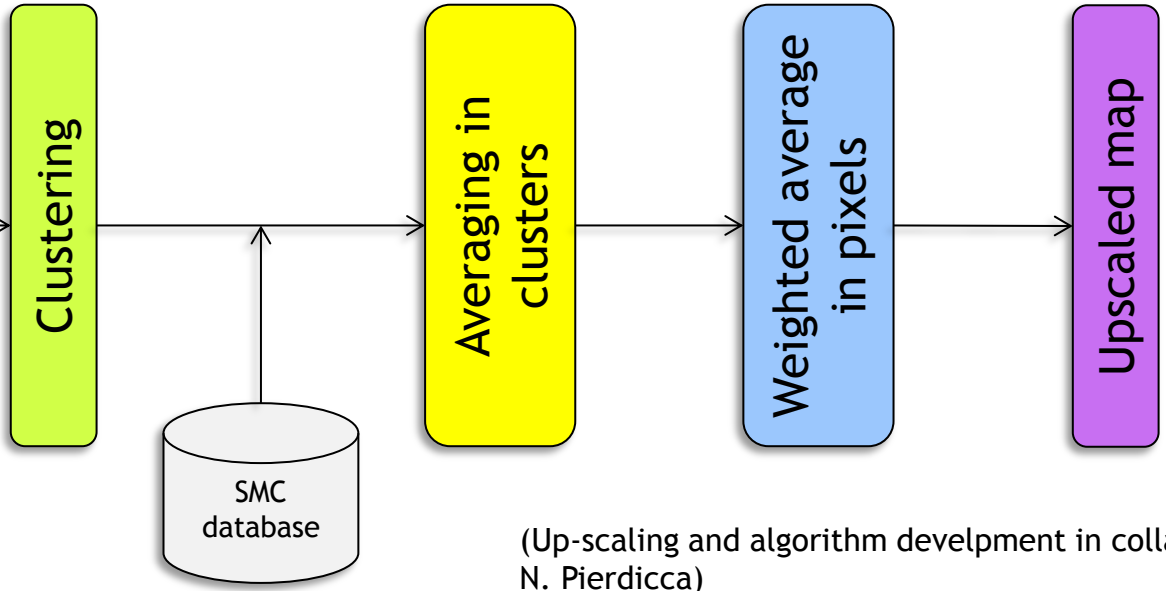
Approach to up-scale SMAP products





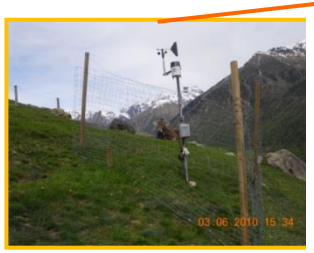


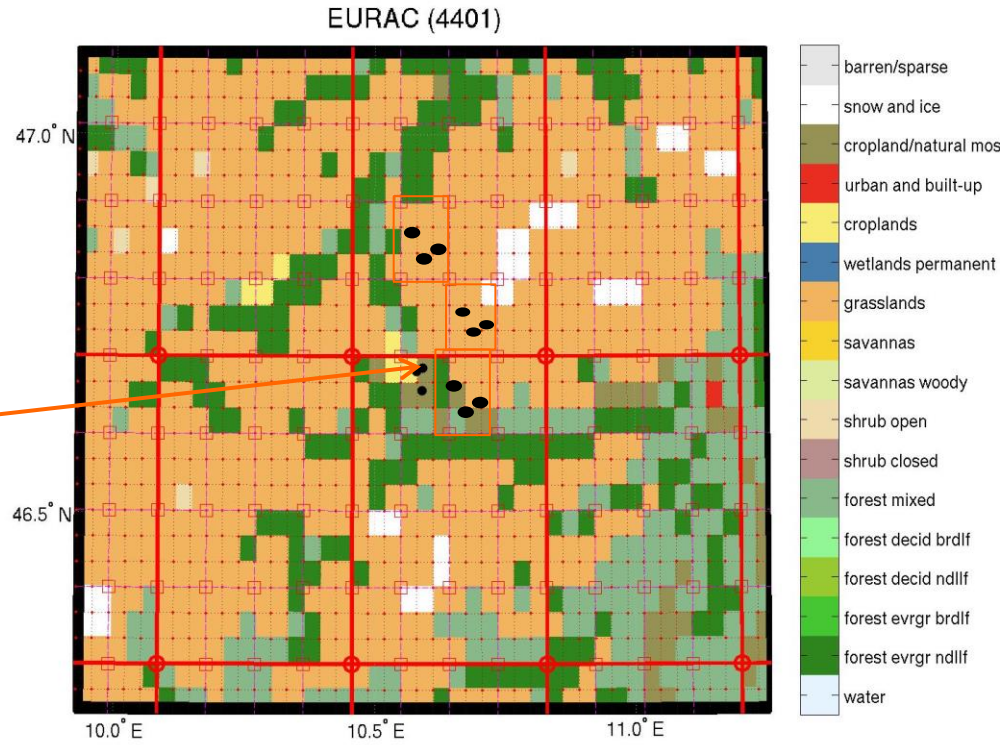
Landscape Auxiliary data:
DEM
Land use
Hydrological model



(Up-scaling and algorithm develpment in collaboration with N. Pierdicca)

Next year field campaigns





Next field campaigns: May-September 2014 (1-2 per month)- 4 teams – Snow presence from Nov-Dec to April

Gravimetric samples + TDR sensors (including sampling close to stations for calibration)

Samples from vegetation for VWC

Acknowledgment

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Thank you for your attention!

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