

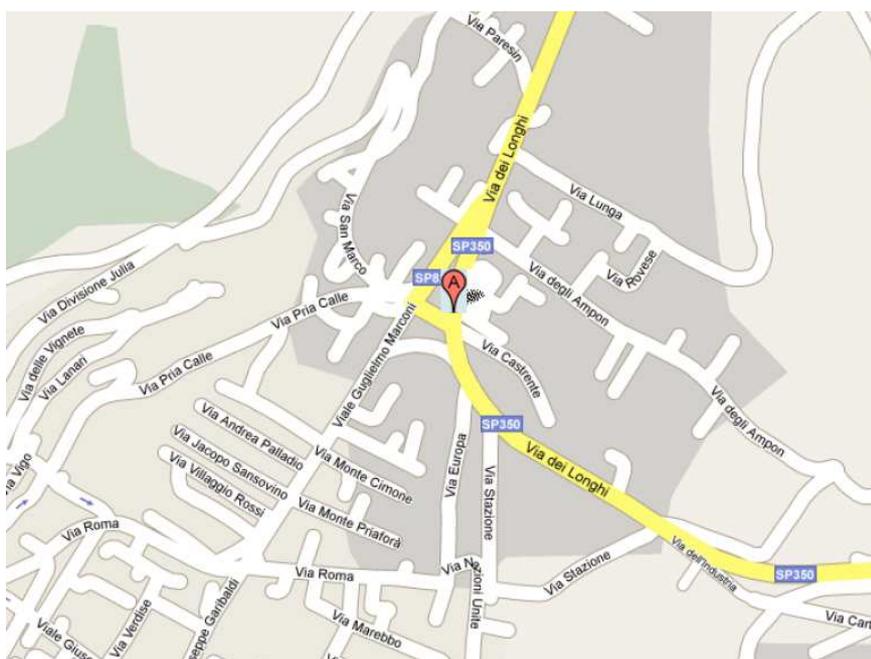
28.10.2013

Excursion to the Posina river basin and Ressi catchment

General data for the visit: Oct 26 2012

Meeting time in Agripolis: 13:00 at the bus stop

Meeting time at Arsiero (Vicenza), close to the outlet of the Posina river basin: 13:45 (bar La Vigneta - Via dei Longhi, 19, 36011 Arsiero, Vicenza - 0445 714263)



Cell Prof. Borga: 328-4383770

The participants should provide themselves with warm and waterproof clothing (brightly coloured if possible), strong waterproof boots that provide some grip, and carry a small personal first-aid kit.

No lunch time is foreseen during the fieldtrip.

The Posina river basin (116 km², Figure 1) is located in the Central-Eastern Italian Alps. The catchment of Posina is located in foothills of Alps and has an area of 116 Km². Elevation range from 387 m at the outlet to 2232 m. Posina river is a tributary of Astico river that flows into the Adriatic sea. Most of the catchment (about 75%) is actually covered by deciduous forests, especially beeches and hornbeams. The forest area expanded significantly in last decades due to land use changes, typically the abandon of agricultural practices. The average annual rainfall on catchment is about 1700 mm. Rainfall is concentrated particularly in spring (April and May) and winter (October and November, Table 1).

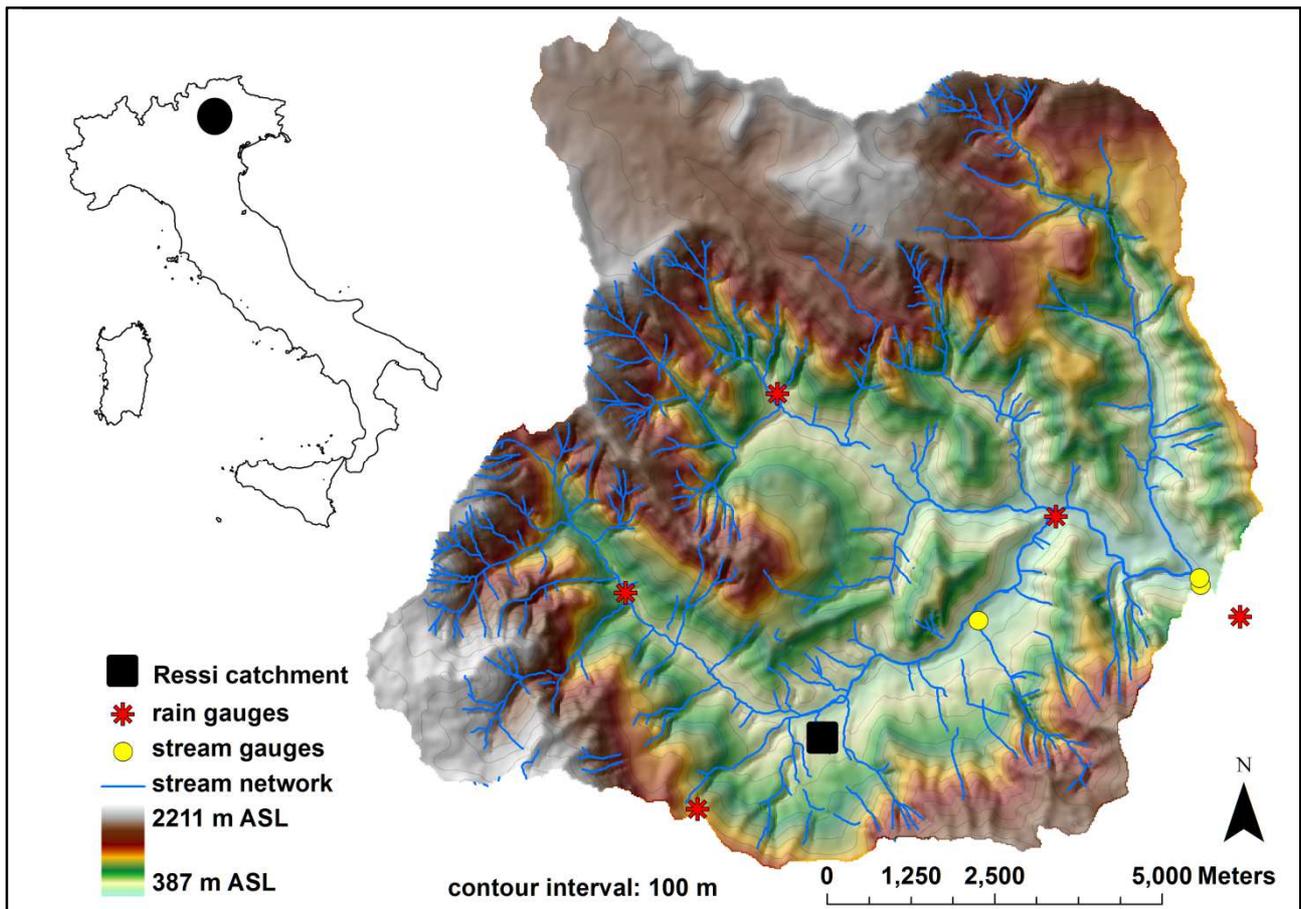


Figure 1. The Posina river basin and location of Ressi catchment.

Table 1. Average (1992-2007) monthly rainfall and temperature at the meteorological station of Molini-Laghi, in the Posina basin.

	J	F	M	A	M	J	J	A	S	O	N	D	Total/average annual
mm	80	53	97	150	159	137	114	136	176	236	246	111	1695
°C	1,2	2,2	5,4	8,8	13,5	16,8	18,7	18,6	14,0	10,2	5,6	1,9	9,7

The Ressi catchment is a forested site (2 ha) located in the Southern portion of the Posina river basin (Figure 1 and Figure 2). The main properties of the Ressi catchment are reported in Table 2. The map of the catchment with the position of the field instrument is displayed in Figure 3.



Figure 2. View of the Posina Valley looking at South-East. The red arrow indicates the position of the Ressi catchment.

Table 2. Main properties of the Ressi catchment.

Area (ha)	1.9
Min elevation (m asl)	609
Max elevation (m asl)	725
Max slope(°)	47.7
Min slope (°)	3.0
Mean slope (°)	25.8
Aspect (°)	N: 22%, NE: 12%, SW: 5%, W: 29%, NW: 32%

Table 3. Hydrometeorological variables monitored at Ressi catchment.

Variable	Instrument	Temporal resolution	Number of sensors
rainfall	tipping bucket	event-based	2
temperature	thermistor	5 minutes	1
streamflow	V-notch weir	5 minutes	1
soil moisture (0-30 cm)	TDR	5 minutes	4
groundwater	pressure transducers	5 minutes	4
throughfall	totalizers	event-based	12
stemflow	totalizers	event-based	6
soil water	suction cups	event-based	3
leaf water	pressure bomb	event-based	4 beeches

Table 4. Water sources sampled for isotopic and geochemical analysis at Ressi catchment.

Variable sampled for isotopic and geochemical analisys	Instrument	Temporal resolution	Number of locations
rainfall	totalizer	event-based	2

streamflow	automatic sampler	Once every three days/15 minutes during rainfall events	1
groundwater	pump	event-based	4
throughfall	totalizers	event-based	12
stemflow	totalizers	event-based	6
soil water	suction cups	event-based	3
leaf water	pressure bomb	event-based	4 beeches

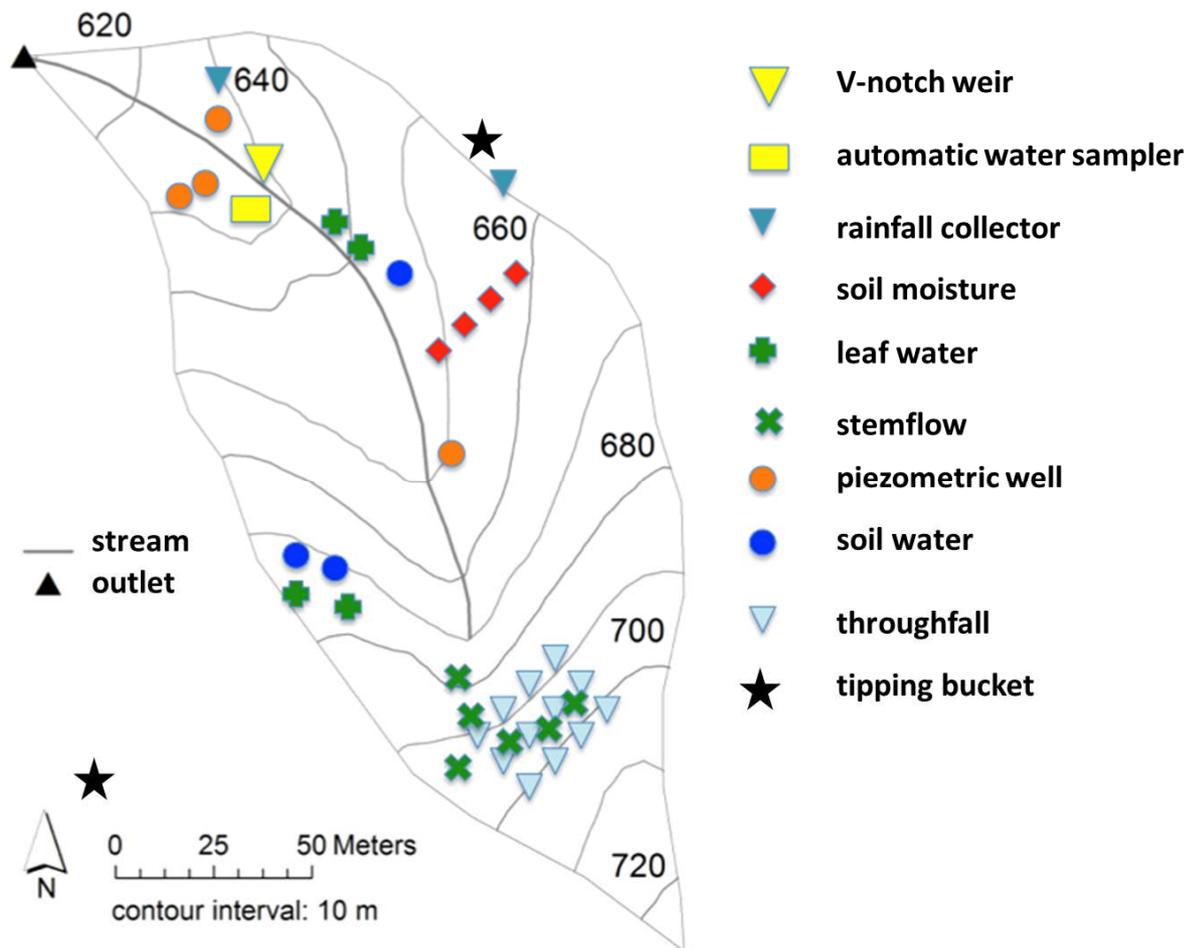


Figure 3. Map of the Ressi catchment and localization of field instruments.



Figure 4. Plot with 12 rainfall totalizer for interception measurements.



Figure 5. One of the six selected beeches for stemflow measurements.



Figure 6. Streamgauge with the box containing the automatic water sampler.



Figure 7. Streamgauge during a rainfall-runoff event.