



ASSOCIAZIONE
NUOVA CIVILTÀ
DELLE MACCHINE

Forlì, 28 settembre – 3 dicembre 2023

Eventi climatici estremi e realtà locali

Conoscenza scientifica e studi prevalenti

Mitigazione e adattamento per una migliore sostenibilità

4° incontro - 18/10/2023 – ore 15:00 -18:00 – aula magna ITTS “G. Marconi”

Dal fiume al mare. Fiumi e assetti idro-geologici - Il mare e le coste

Come si è formata la nostra pianura e le peculiarità degli assetti dei nostri fiumi

Geologia e acque sotterranee nella pianura forlivese

Paolo Severi

Geologo

Area geologia, suoli e sismica - Regione Emilia-Romagna



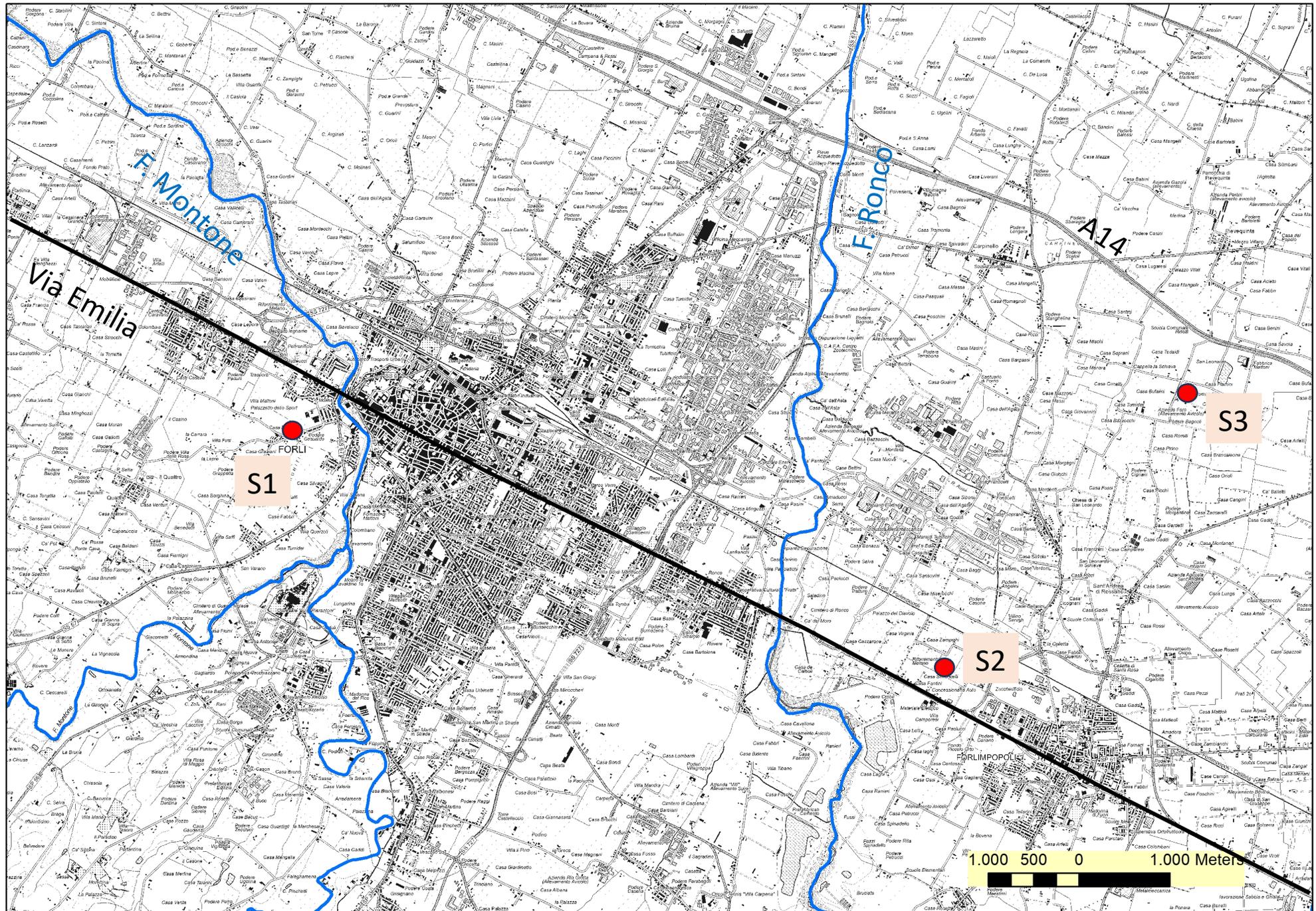
piano campagna attuale



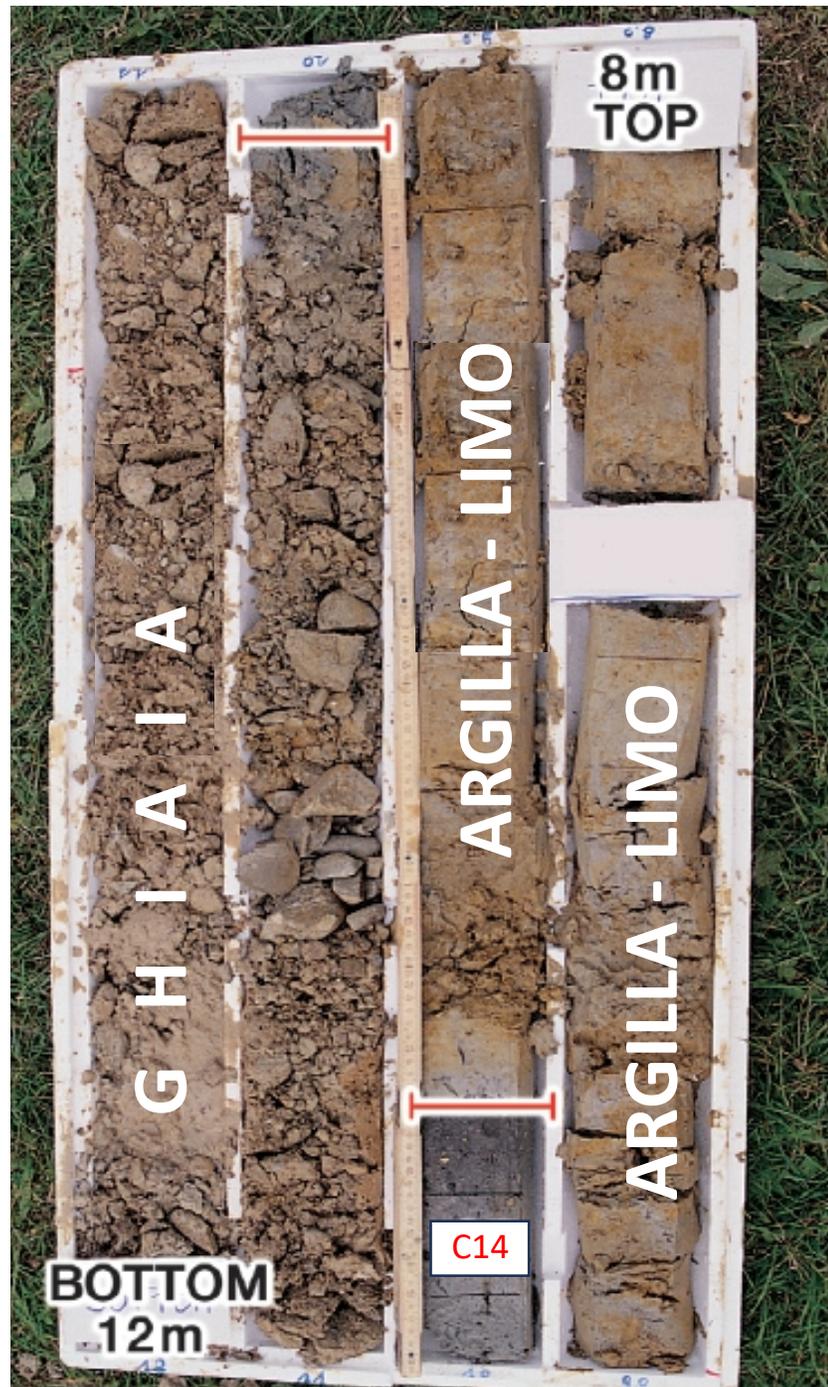
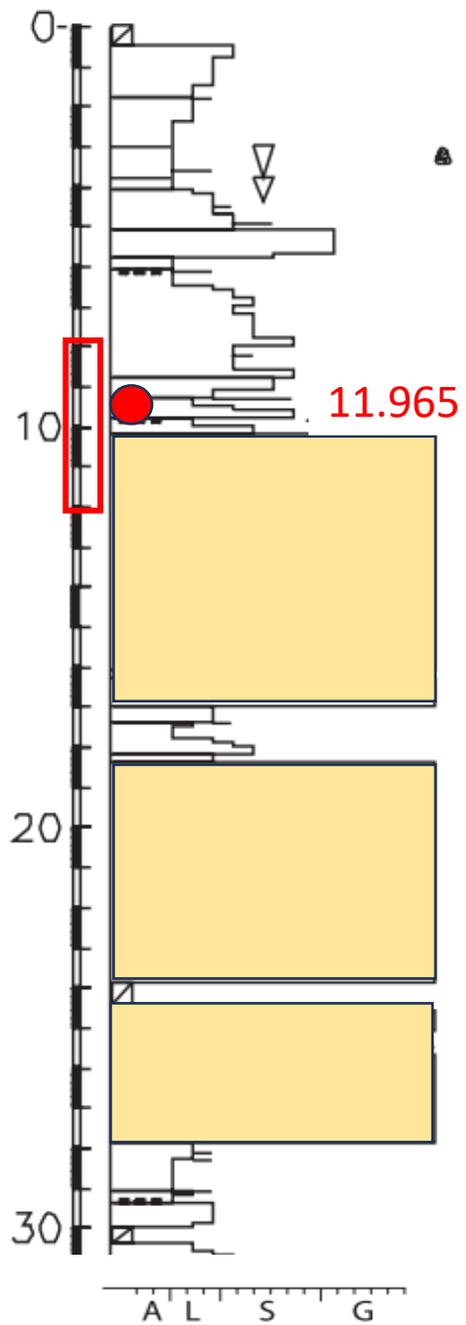
villa romana sepolta (Russi, Ra)

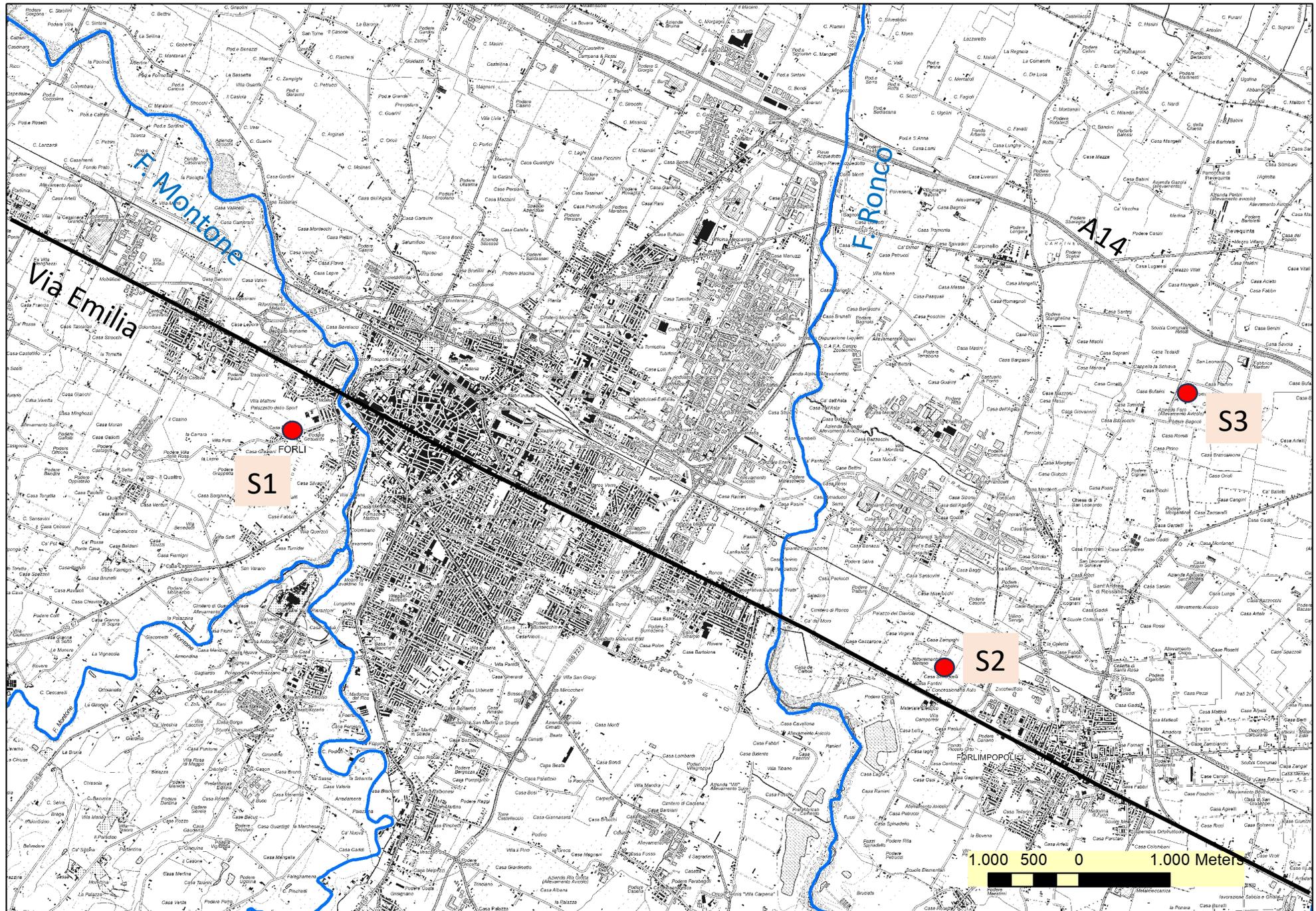




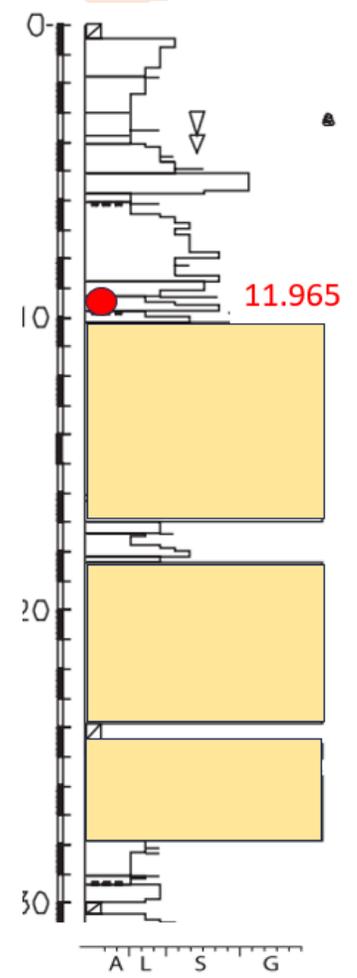


S1

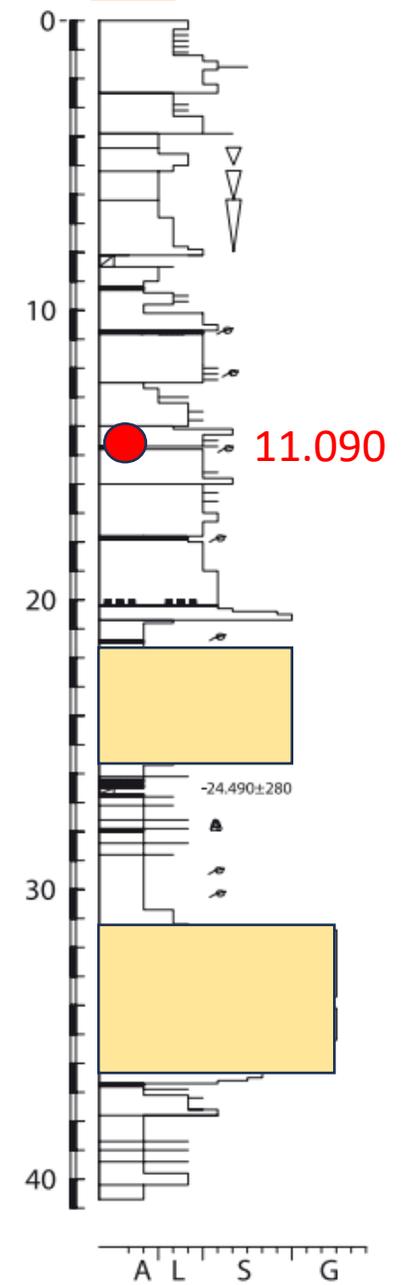




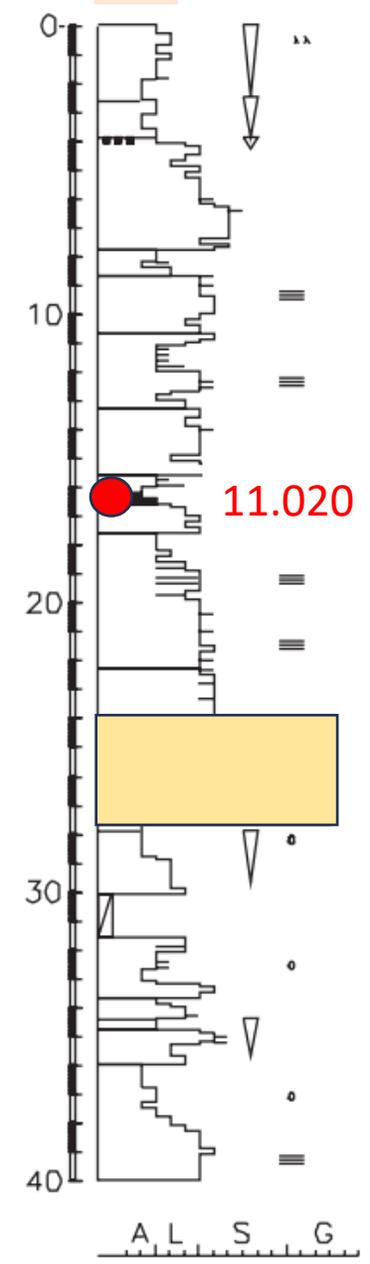
Forlì S1

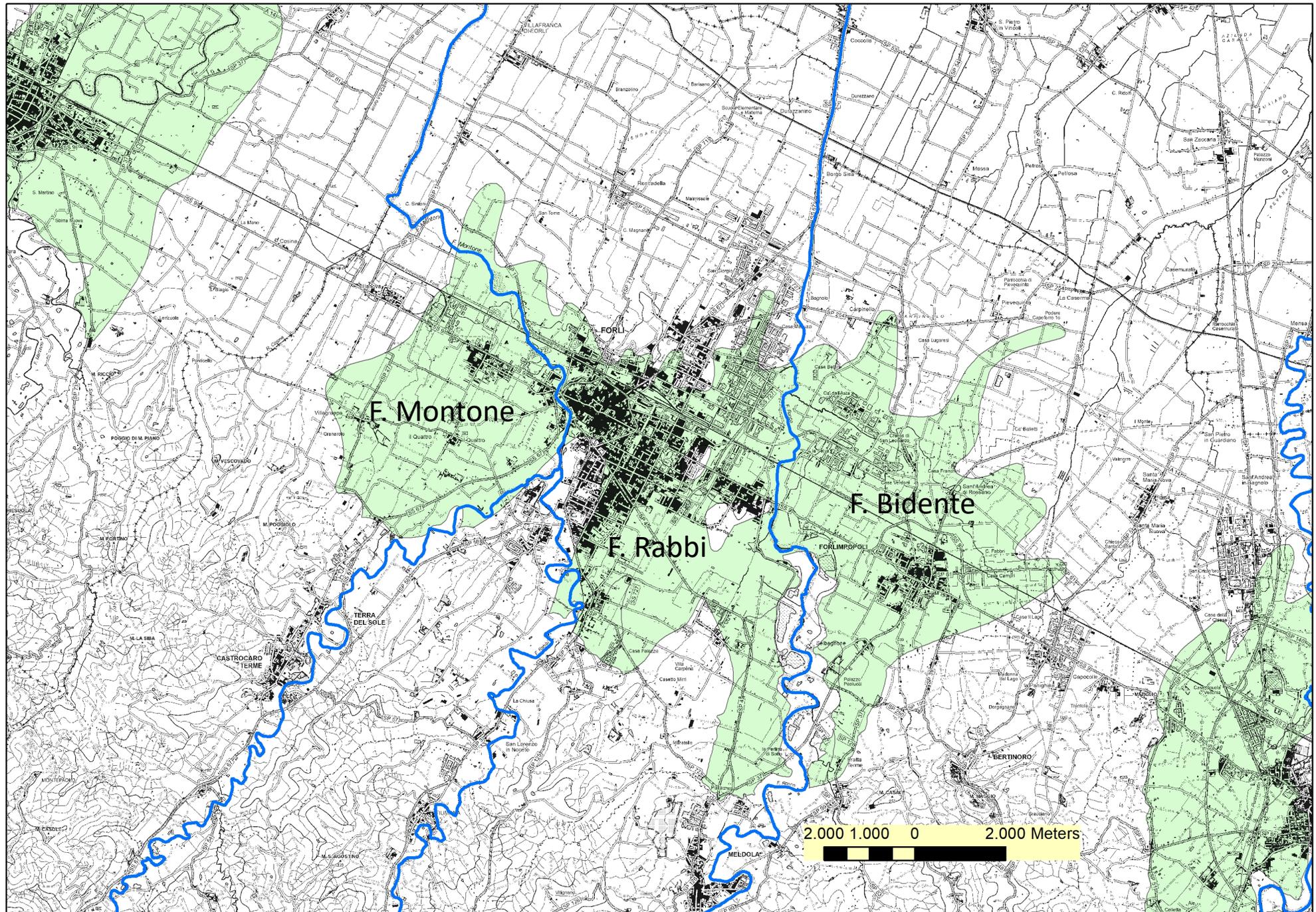


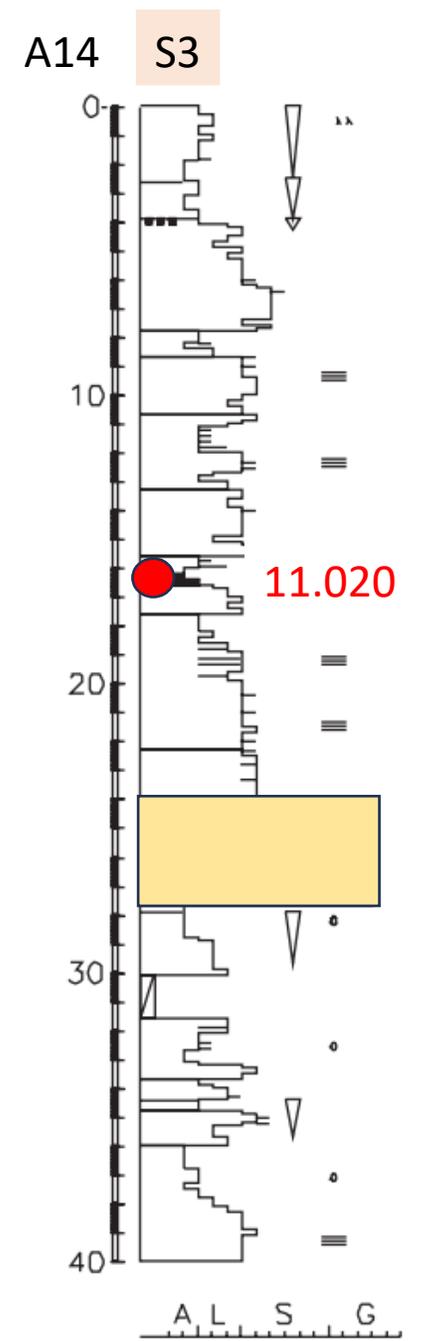
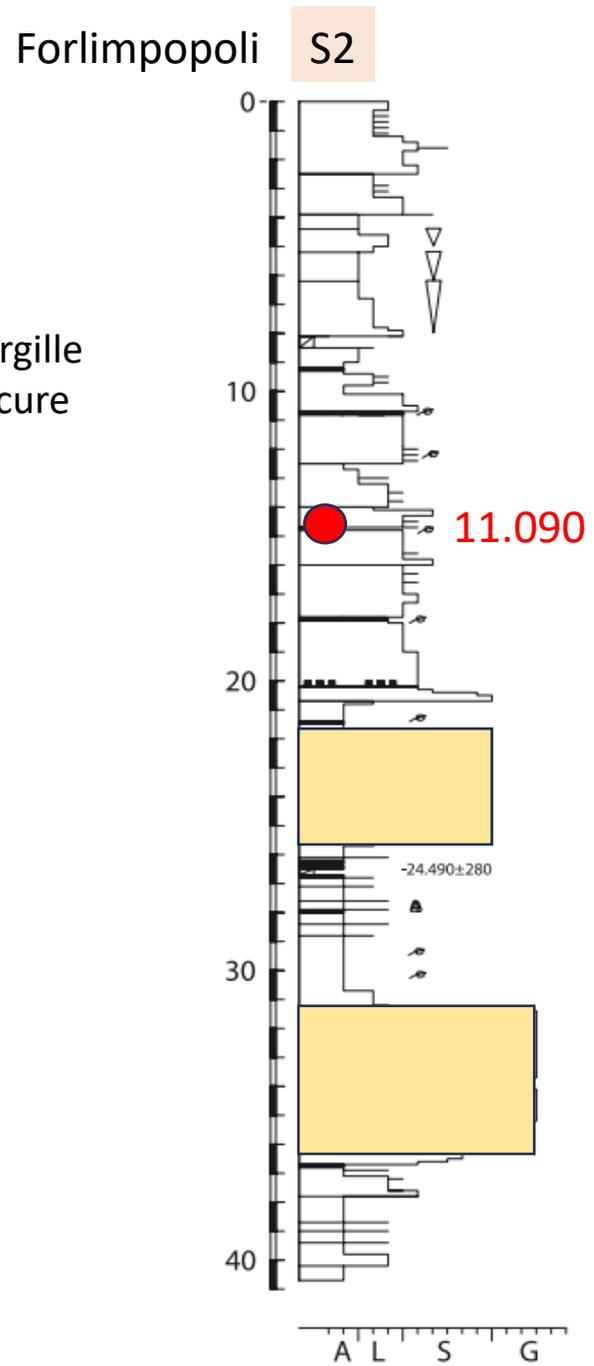
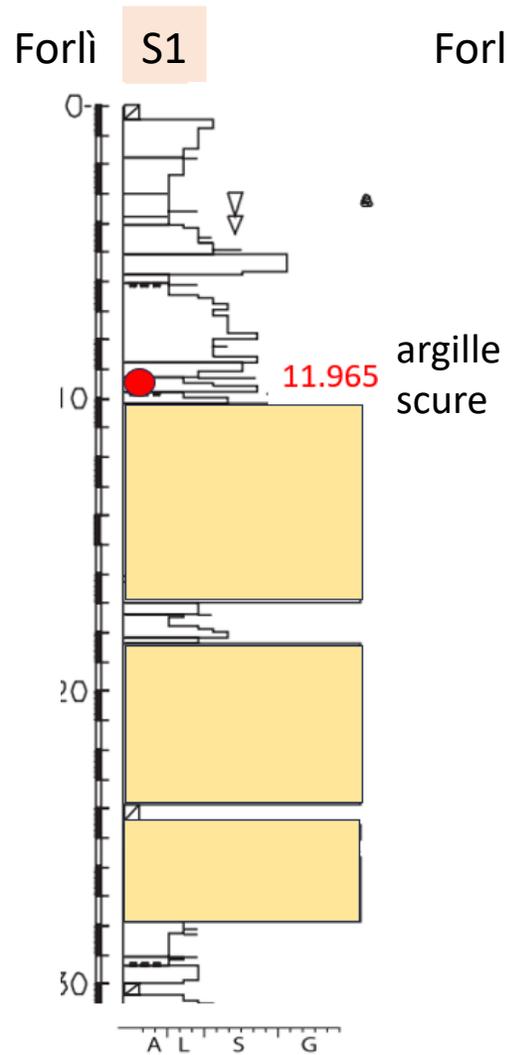
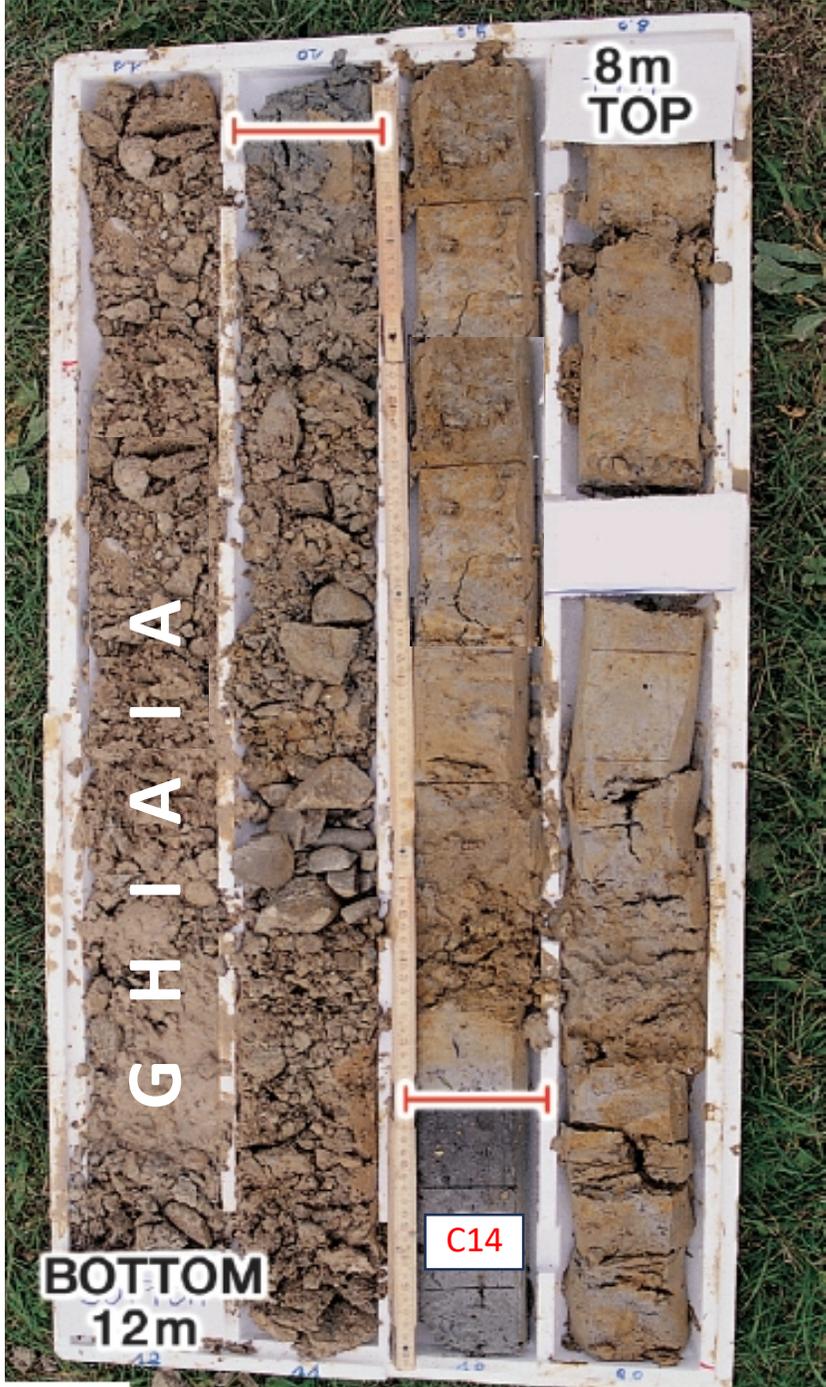
Forlimpopoli S2

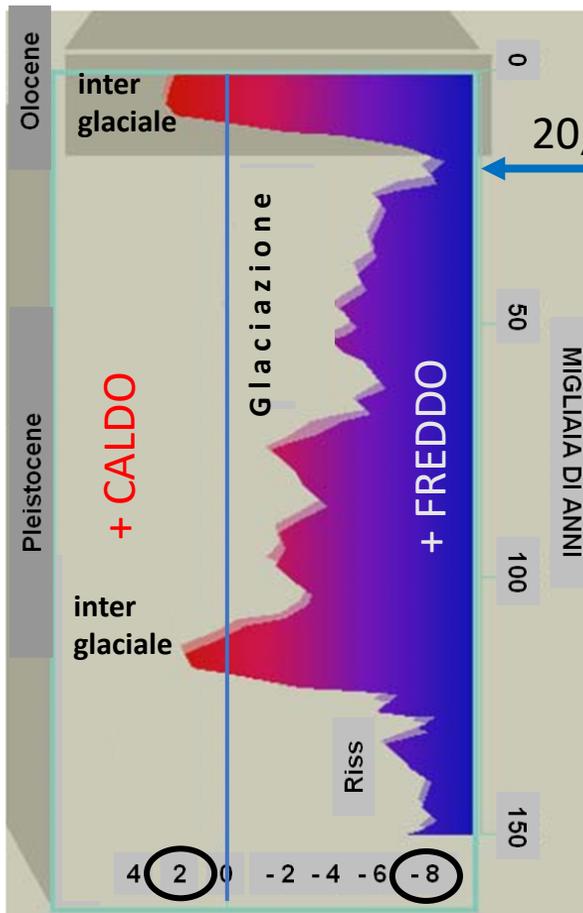


A14 S3



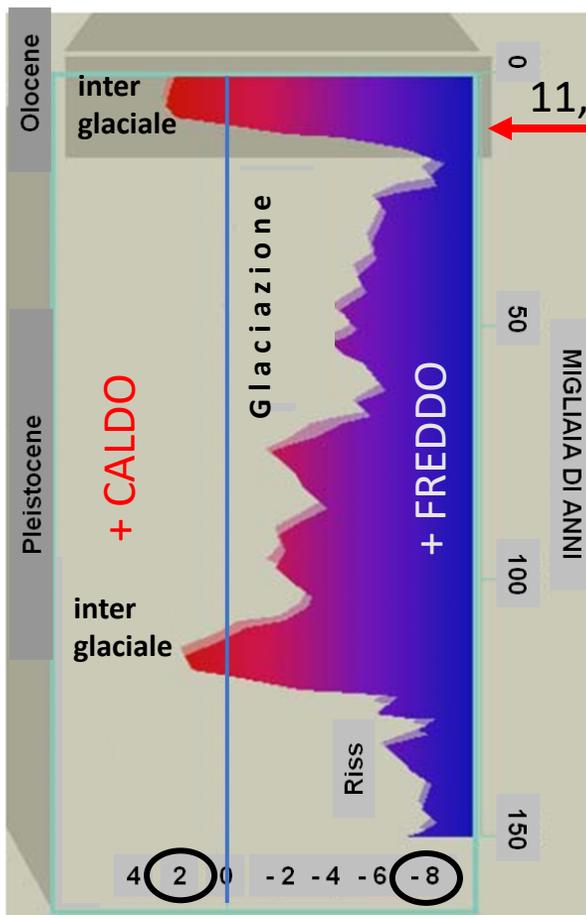


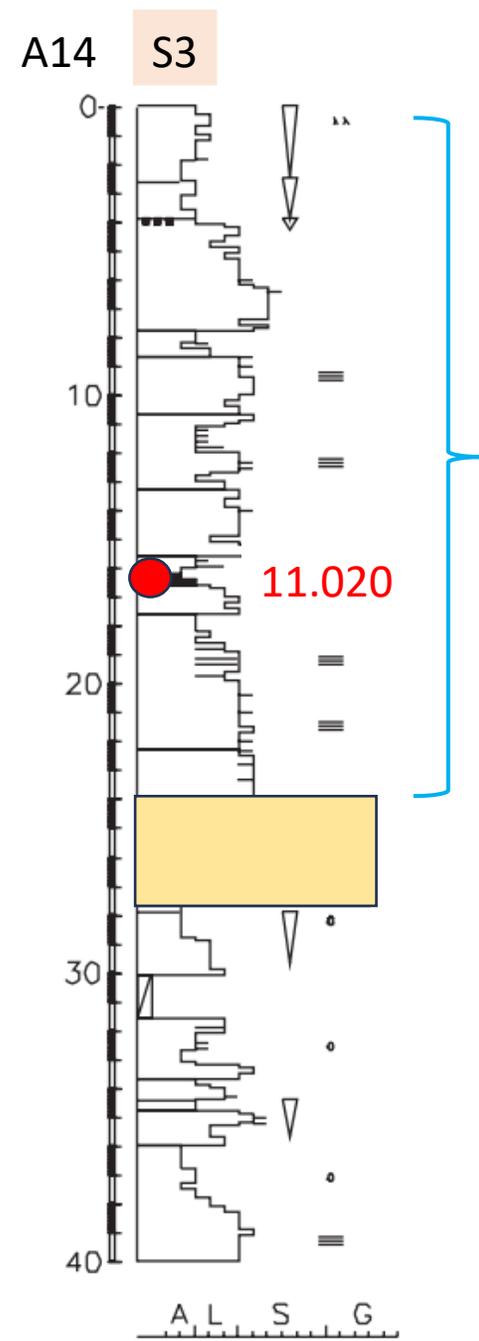
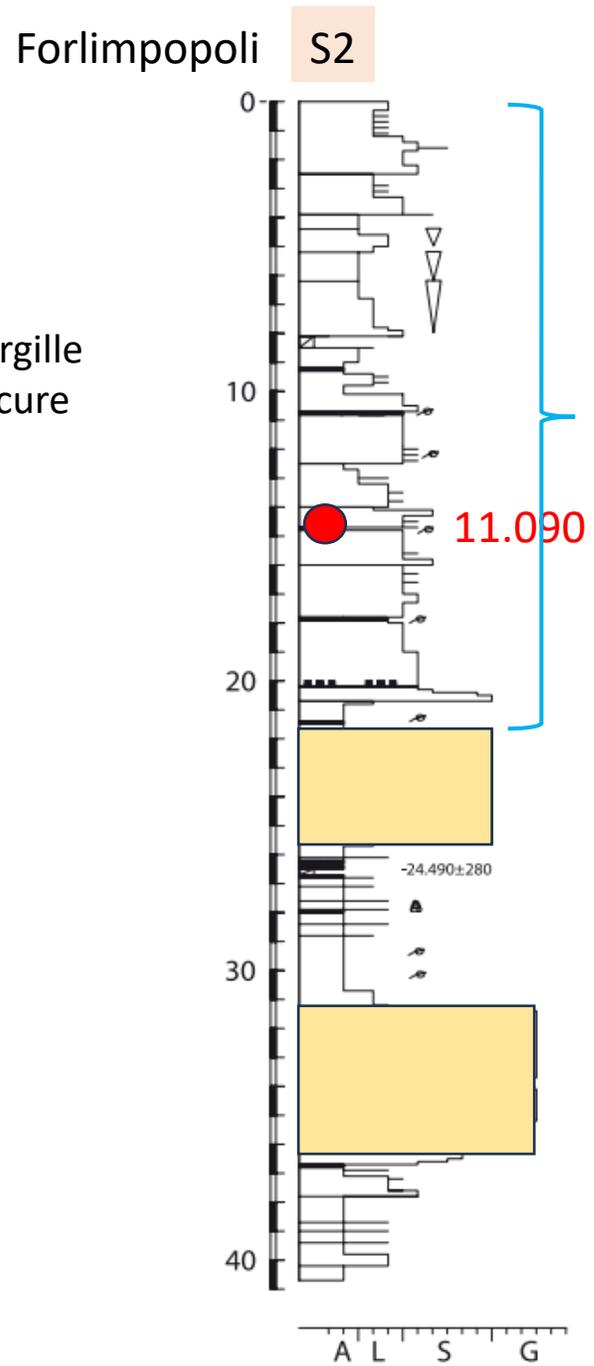
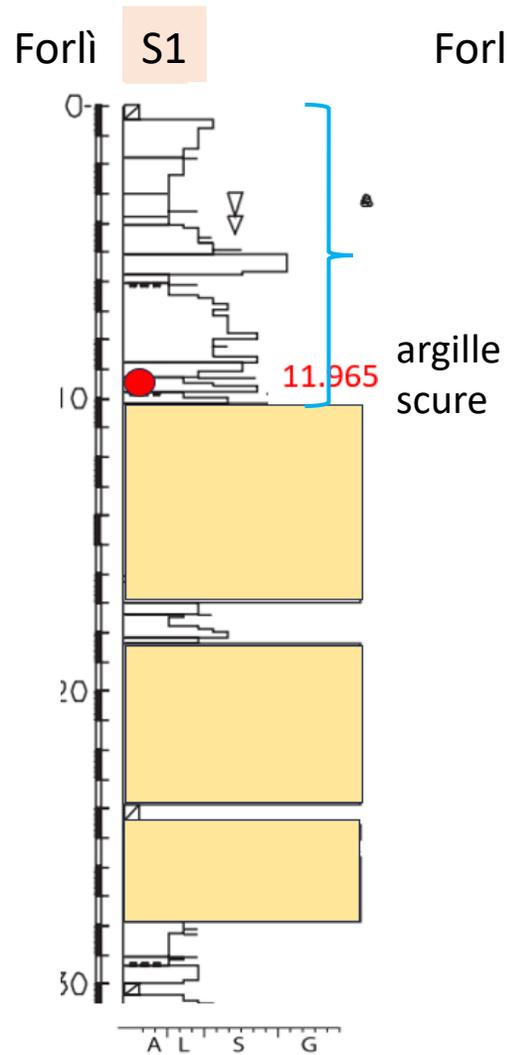
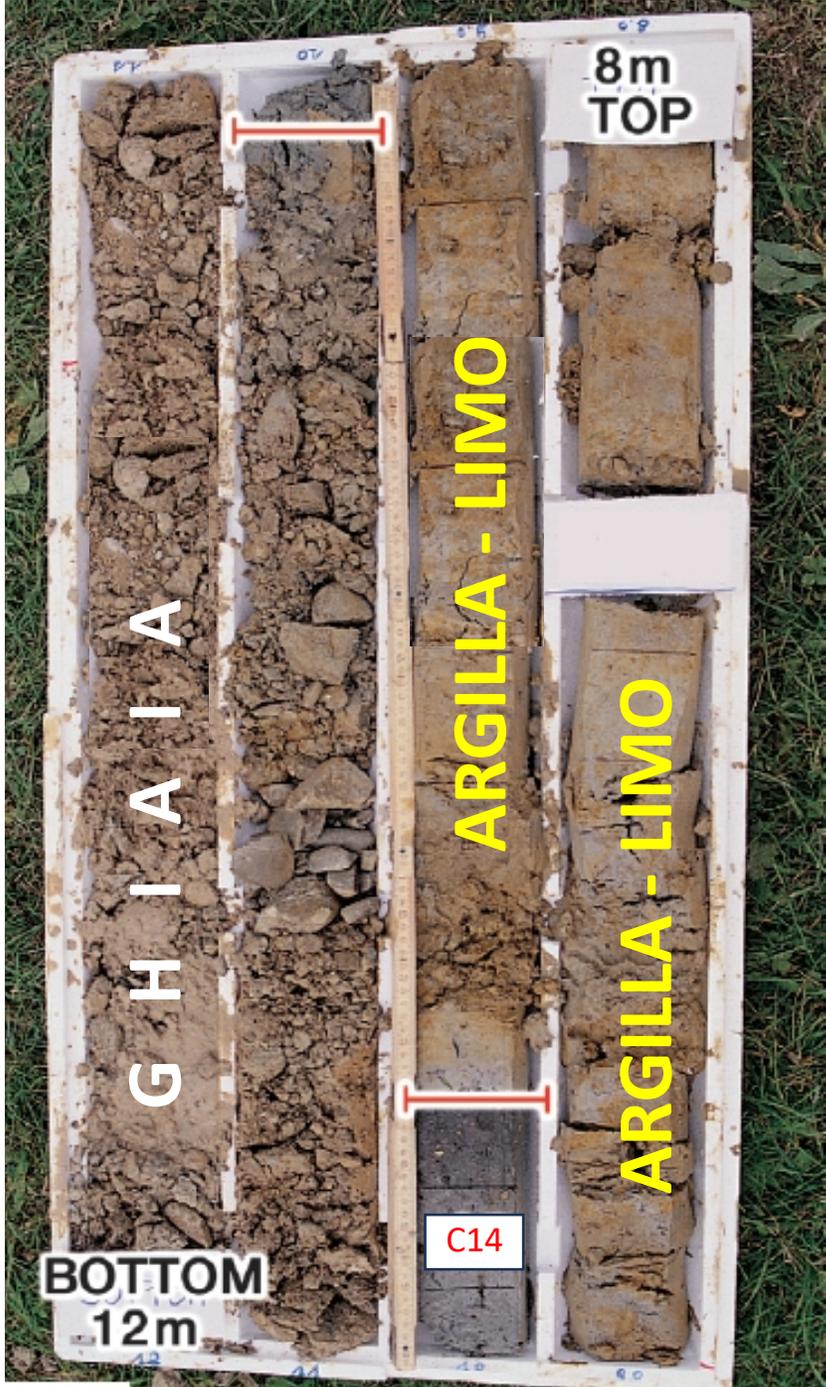




Nel momento di massimo freddo della glaciazione (circa 20.000 anni fa) il livello del mare era molto più basso dell'attuale e la costa molto più a sud

la rapida risalita del mare provocò la formazione diffusa di paludi







1.000 500 0 1.000 Meters

D.lli Fratelli COSTA & ERNANIO
 FIDENZA
 UFFICIO TECNICO

CONSORZIO ACQUE PER LE PROVINCE DI FORLÌ E RAVENNA
 Trivellazione eseguita in località
 "CORIANO"

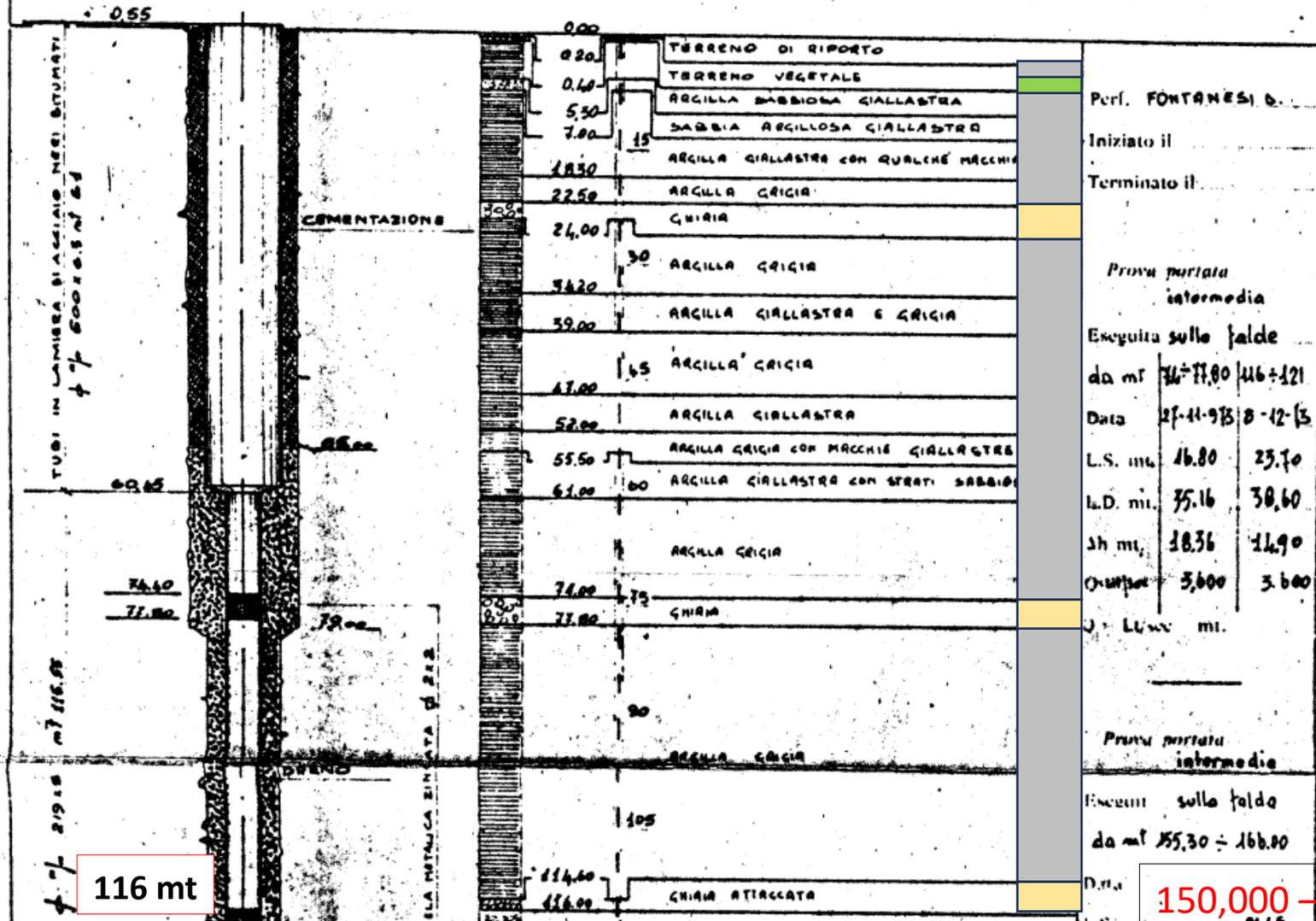
N. 33 H 1
 Data Aprile/74

SEZIONE POZZO **43**

STRATI e
 PROF. ml.

TERRENI ATTRAVERSATI
 NATURA

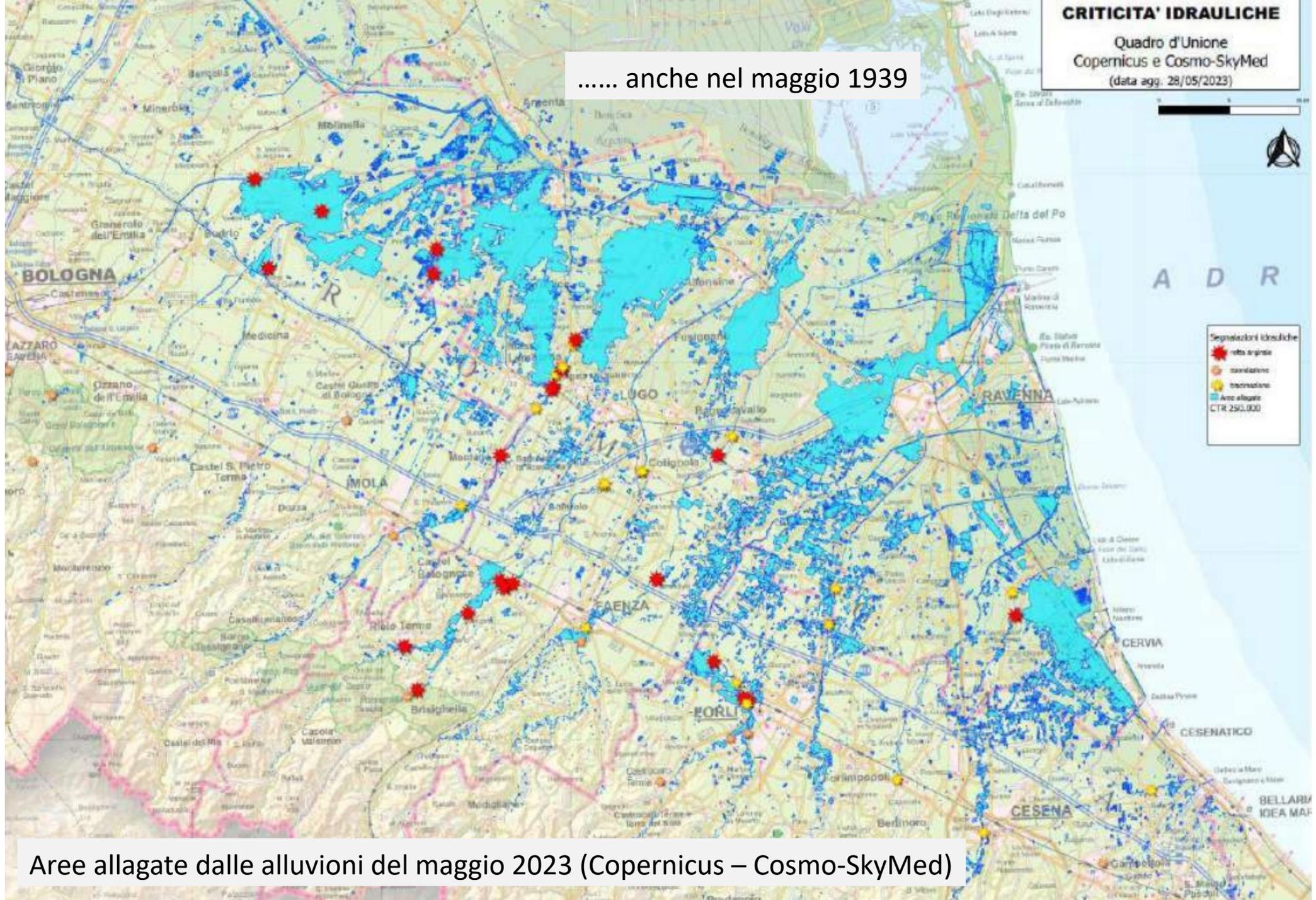
Prove di portata



116 mt

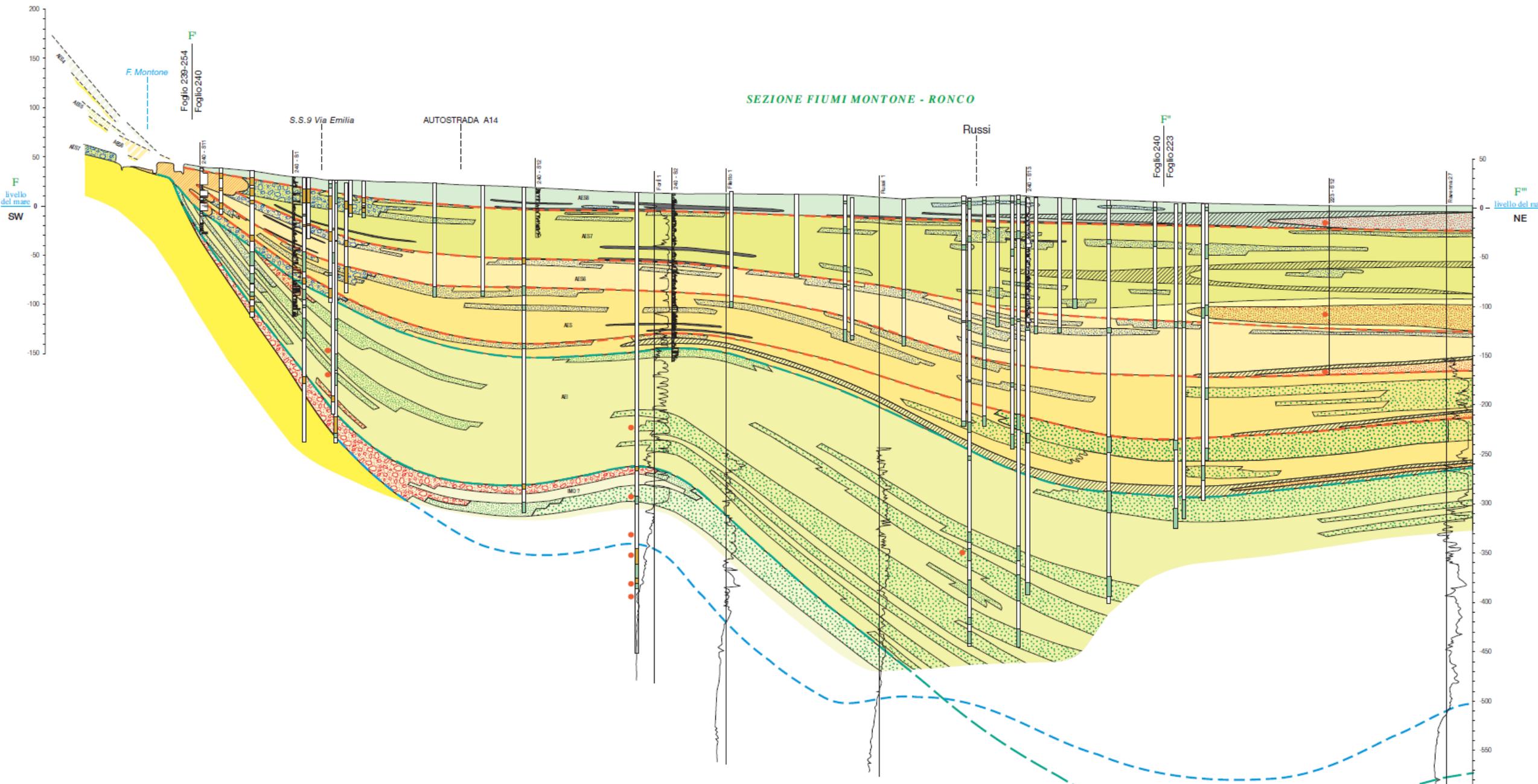
150,000 - 200,000 anni fa

..... anche nel maggio 1939



Aree allagate dalle alluvioni del maggio 2023 (Copernicus – Cosmo-SkyMed)

SEZIONE FIUMI MONTONE - RONCO



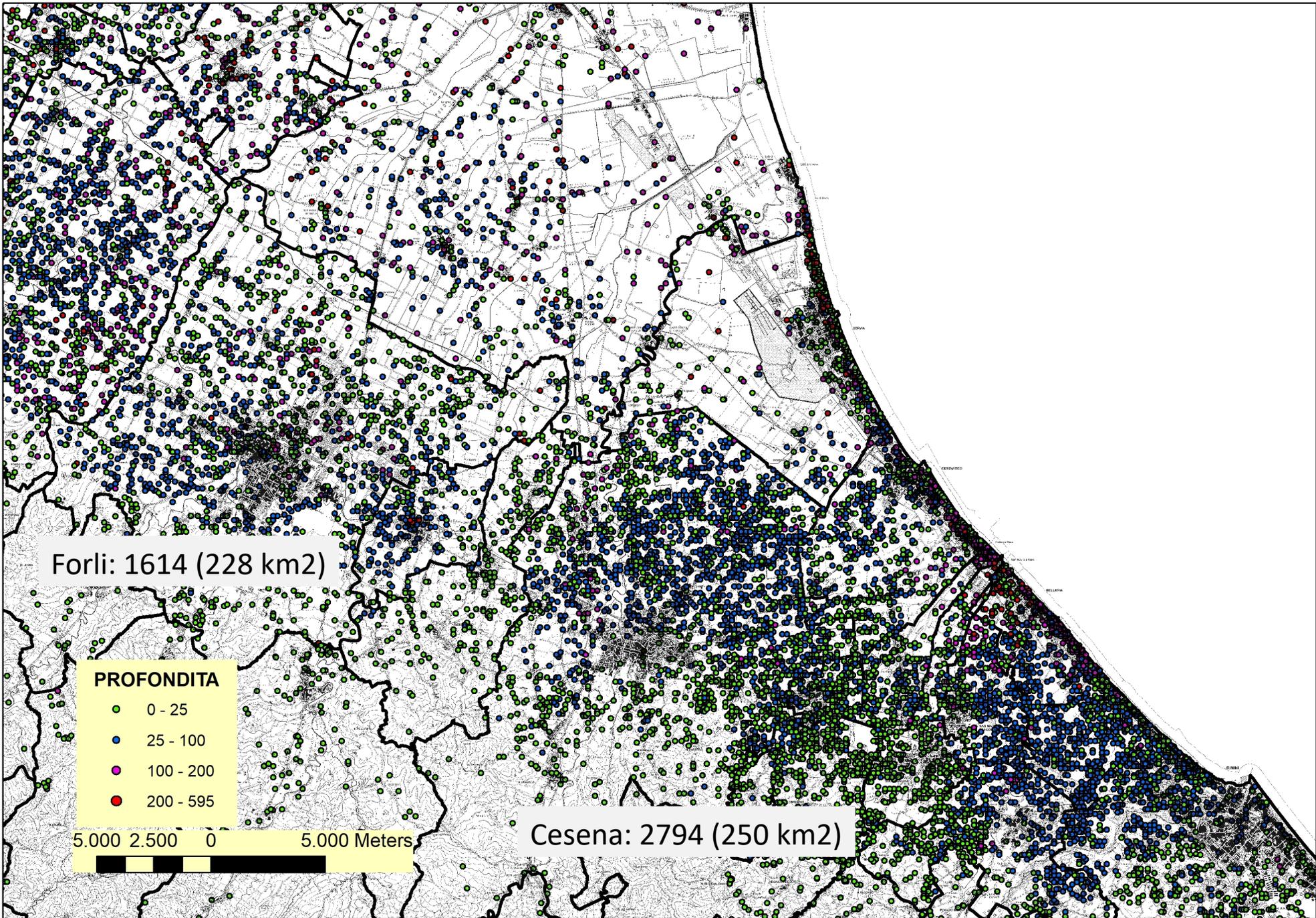


Tabella 7.5 Prelievi sotterranei connessi ai diversi usi

Volumi di prelievo in Mm ³ /anno					
Provincia	Irriguo (Ir) [+]	Industriale (Ind)	Acquedott. (A)	Zootecnia (Z)	TOTALE (Ir+Ind+A+Z+P)
Piacenza	84.81	8.25	29.81	2.44	125.3
Parma	52.72	27.86	60.37	3.68	144.8
Reggio-Emilia	27.24	14.35	45.11	4.56	91.3
Modena	16.50	19.16	71.38	3.55	110.8
Bologna	14.73	17.72	54.84 (*)	0.75	88.1
Ferrara	5.82	3.02	21.32	0.95	31.6
Ravenna	18.99	8.02	1.62	0.96	29.7
Forlì-Cesena	10.71	8.02	10.00	1.59	30.3
Rimini	4.97	3.32	25.36	0.19	33.9
<i>Di cui extra RER</i>			0.21		
Totale	236.5	109.7	319.8 [●]	18.7	685.8

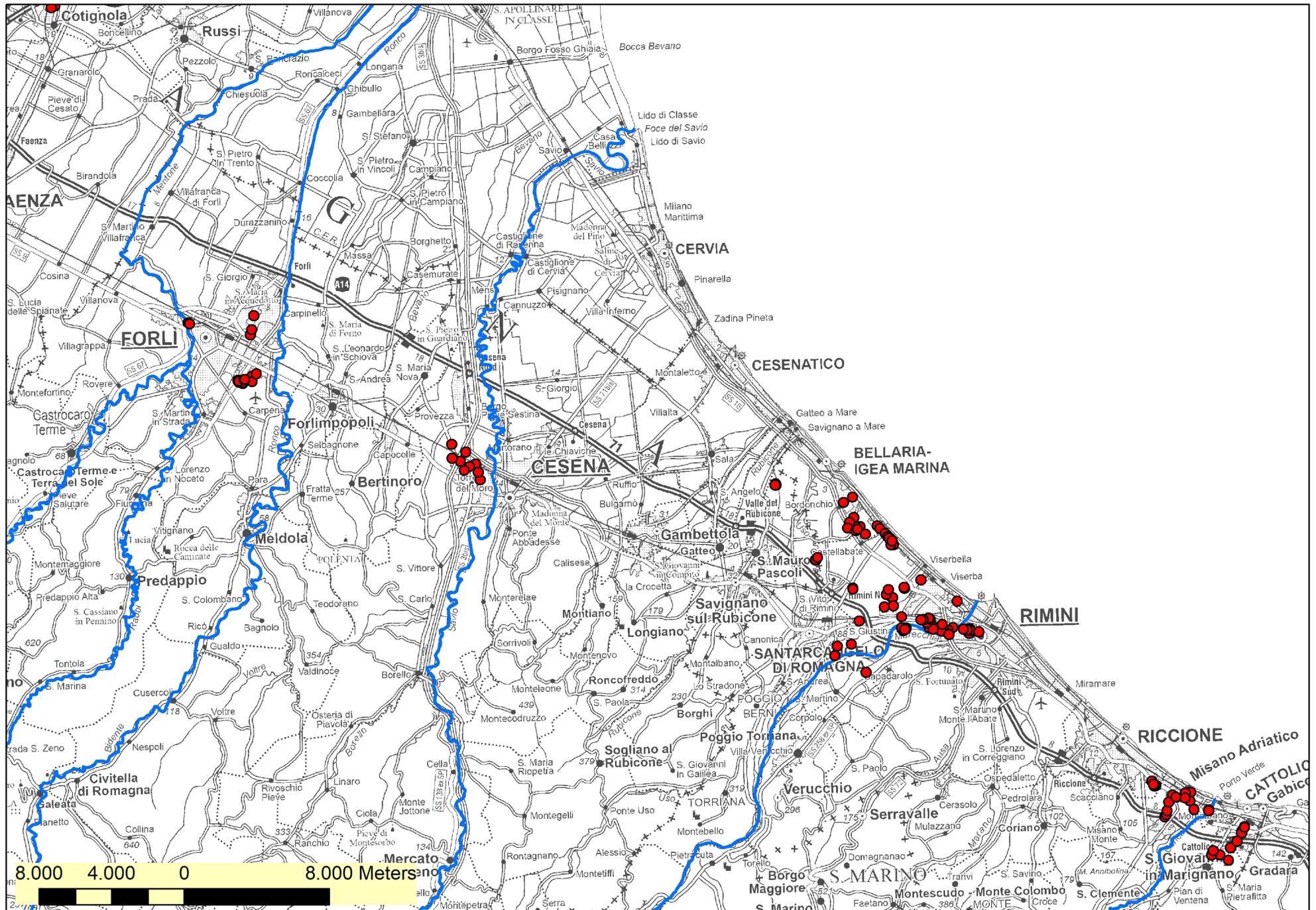
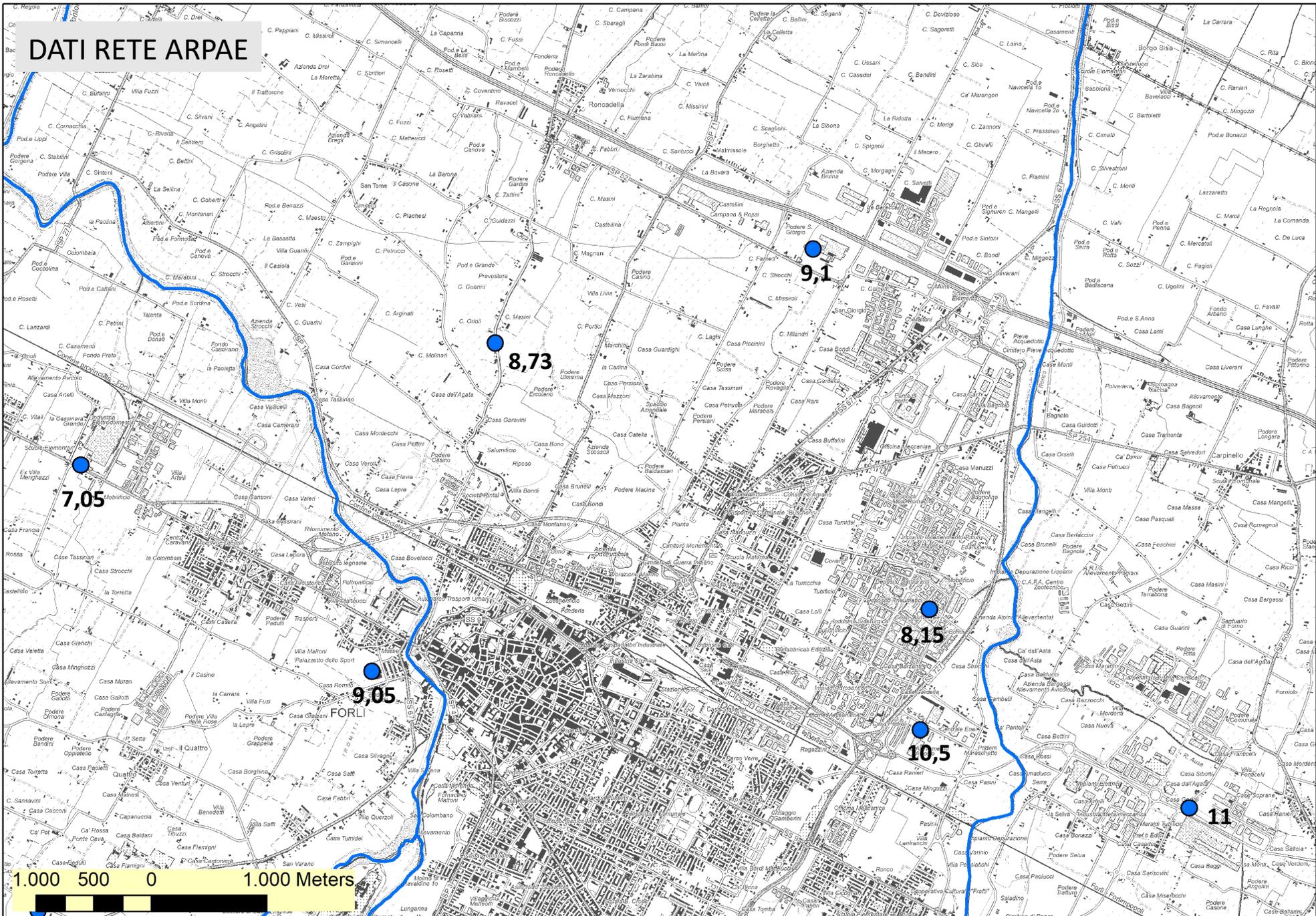
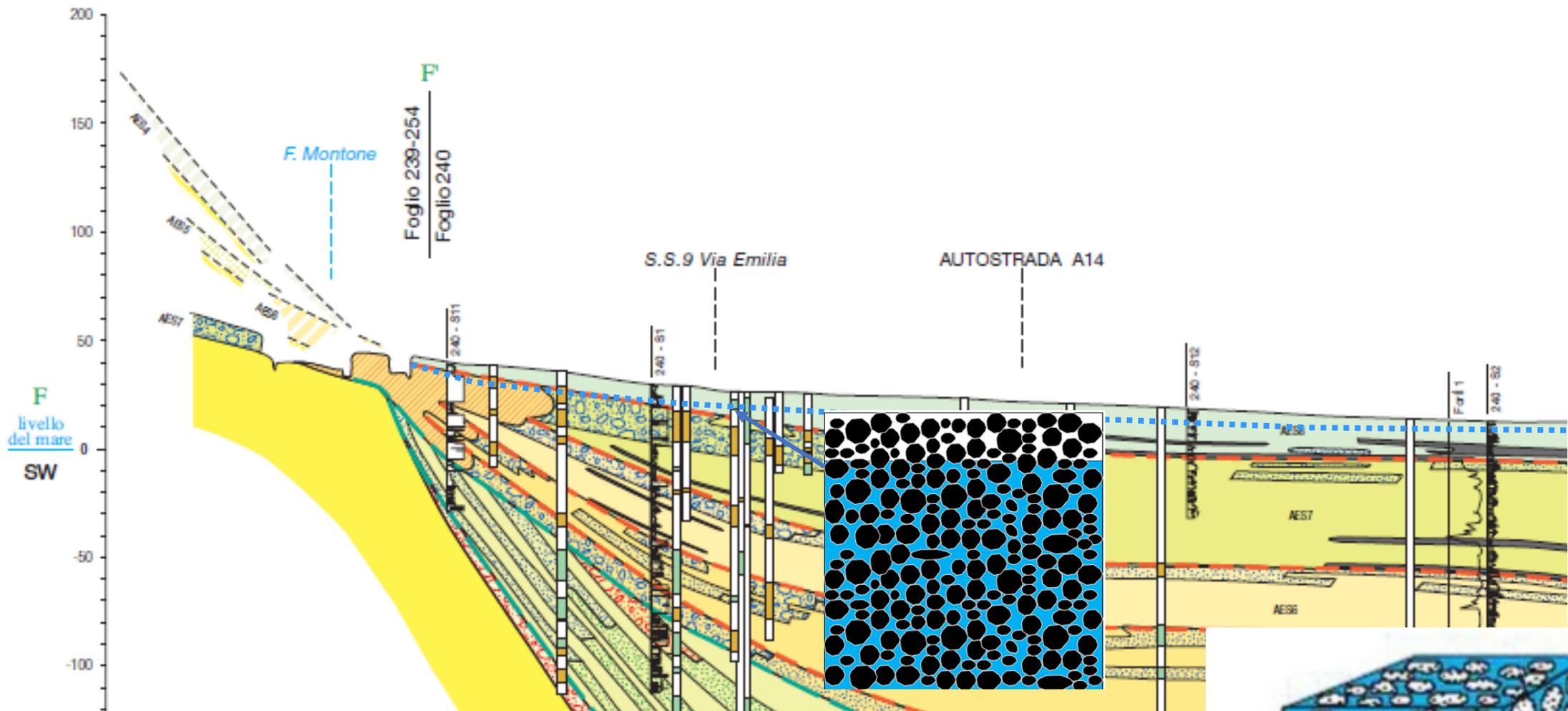


Tabella 7.4 Prelievi superficiali connessi ai diversi usi

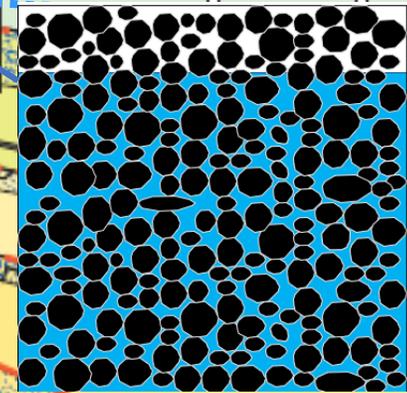
Provincia	Volumi prelevati in Mm ³ /anno				
	Irriguo	Indus- triale	Ac- quedott.	Pisci- coltura	Totale
Piacenza	85.3	1.3	2.4	0.0	89.0
Parma	47.7	0.3	2.8	19.2	70.2
Reggio-Emilia	148.8	1.9	4.7	1.1	156.7
Modena	114.9	0.0	2.3	3.5	120.9
Bologna	23.9	7.8	47.6	3.4	82.8
Ferrara	823.2	24.8	49.8	32.2	929.9
Ravenna	20.2	24.7	7.3	9.0	61.3
Forlì-Cesena	2.4	0.8	54.7	0.8	58.7
Rimini	1.5	0.0	0.6	0.0	2.1
Extra RER					
Totale	1268.0	61.7	172.1	69.2	1571.6

DATI RETE ARPAE

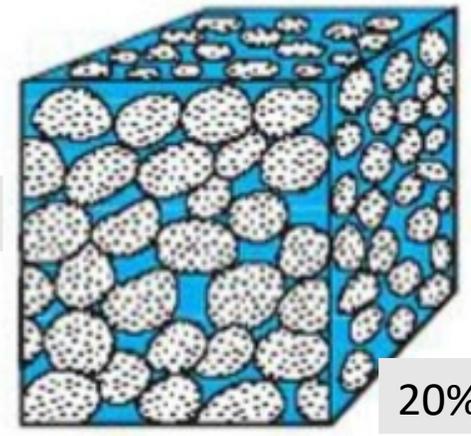




da pioggia
 Ricarica delle falde
 da fiume



200 litri ogni m³

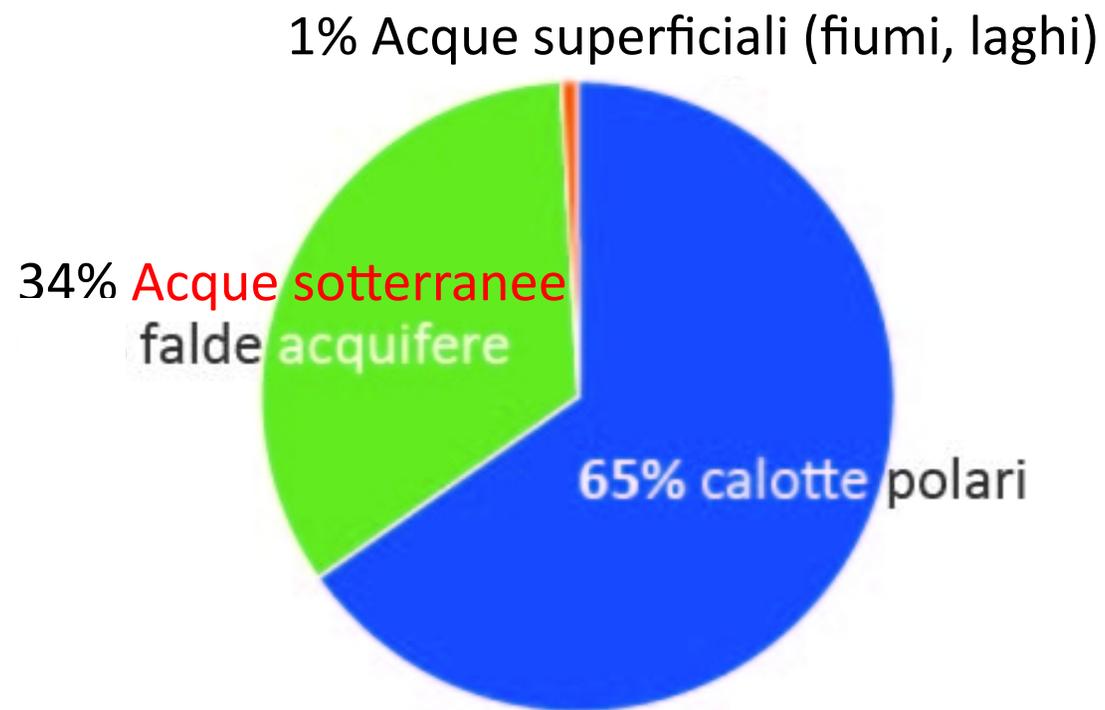
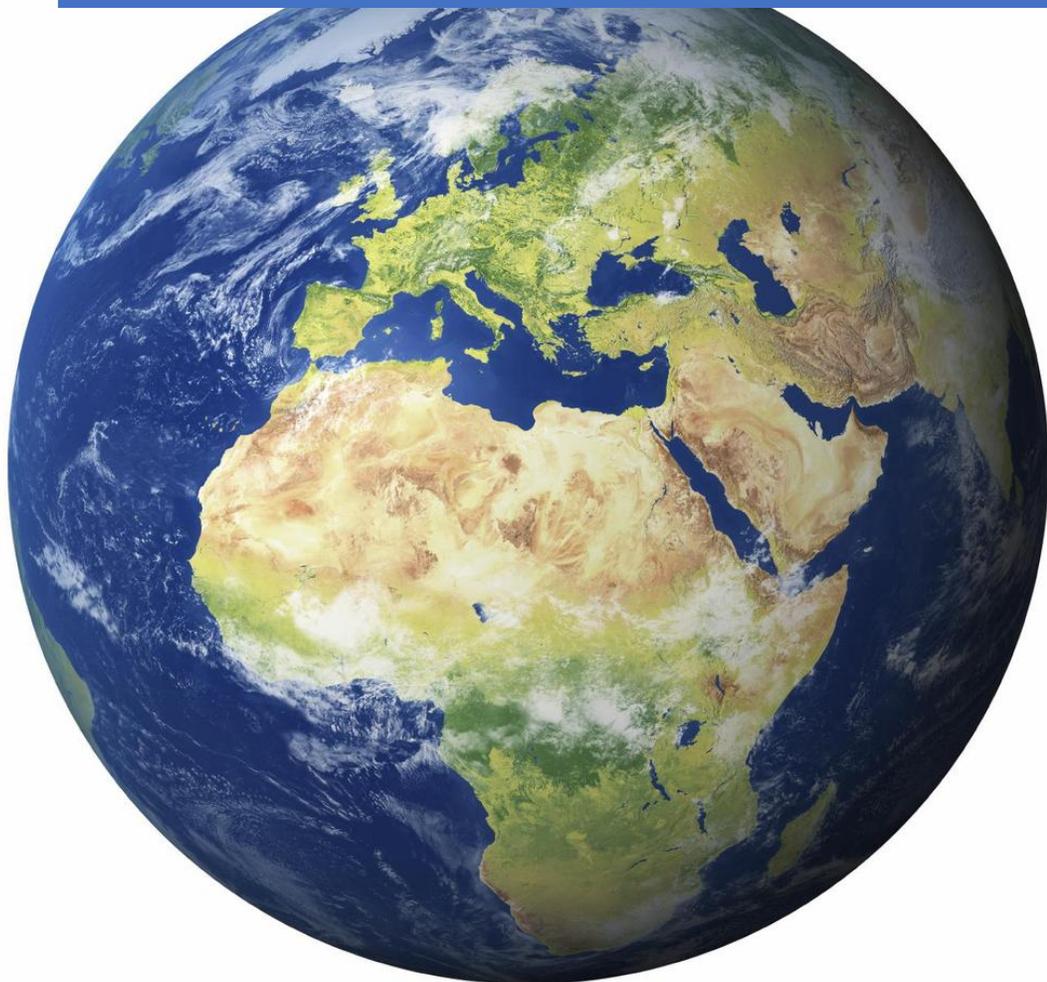


20%

Tabella 7.5 Prelievi sotterranei connessi ai diversi usi

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Rimini	4.97	3.32	25.36	0.19	33.9
<i>Di cui extra RER</i>			0.21		
Totale	236.5	109.7	319.8 [●]	18.7	685.8

40 milioni di miliardi di metri cubi di acqua dolce



GRAZIE PER L'ATTENZIONE

Paolo Severi

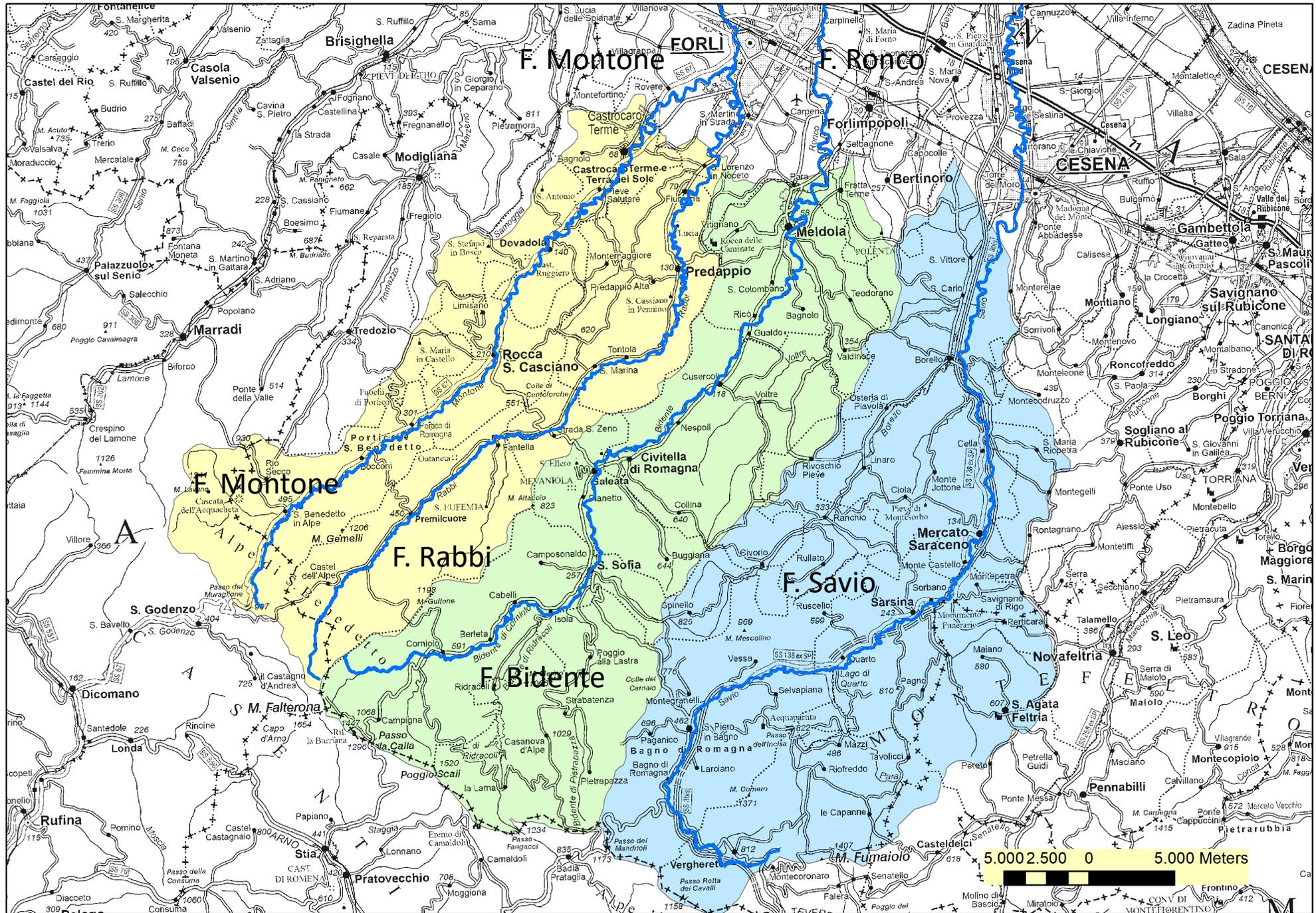
Geologo

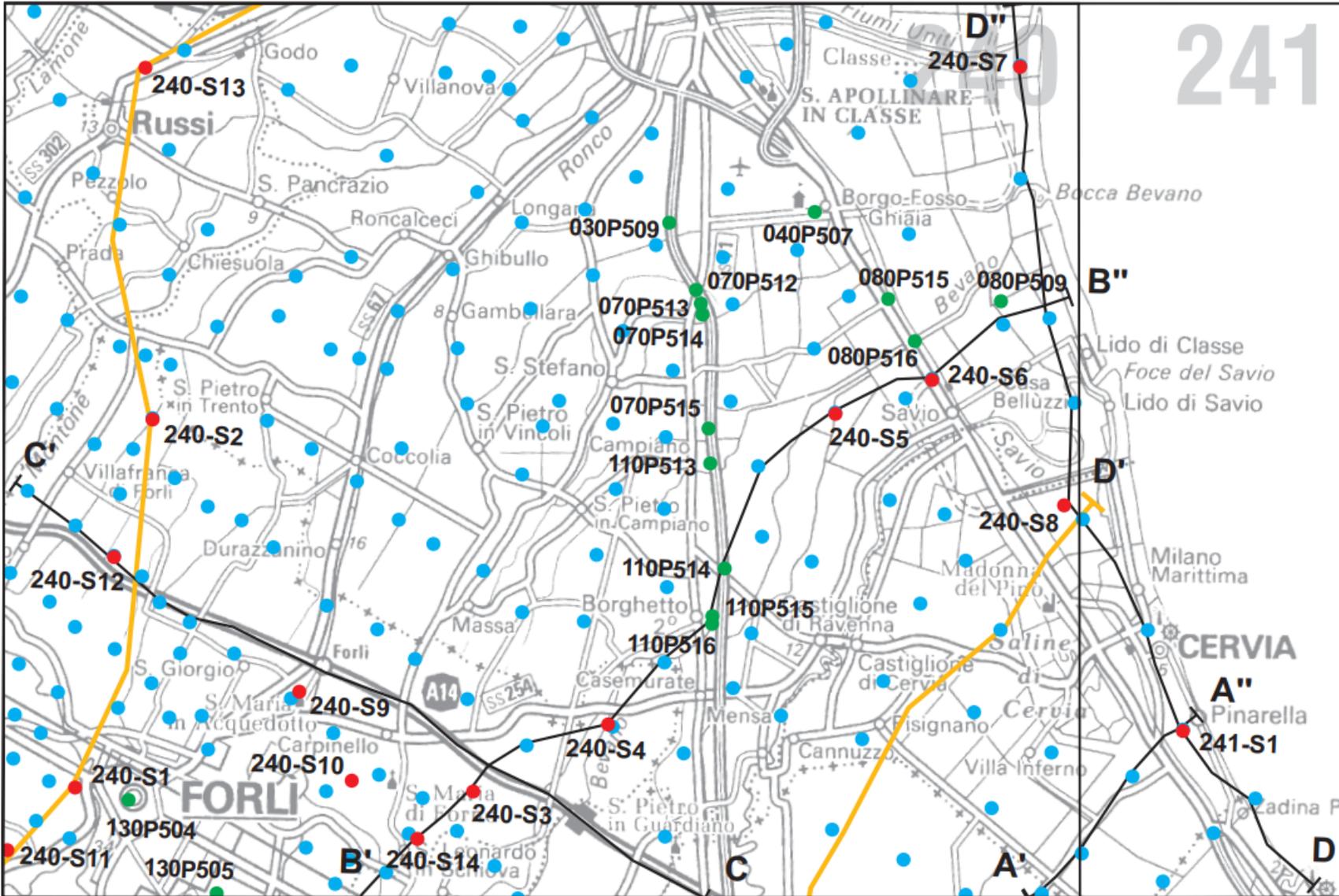
Area geologia, suoli e sismica - Regione Emilia-Romagna











● Penetrometrie elettriche
(con o senza piezocono)
"Progetto CARG"

● Sondaggi a carotaggio continuo
"Progetto CARG"

● Altri sondaggi a carotaggio continuo
visionati durante la realizzazione
del Foglio