

Dagli strumenti di analisi agli strumenti di supporto alle decisioni: il progetto P.I.A. del Gruppo CAP

Maurizio Gorla – Responsabile dell'Ufficio Progetto PIA e Bonifiche – CAP Holding SpA

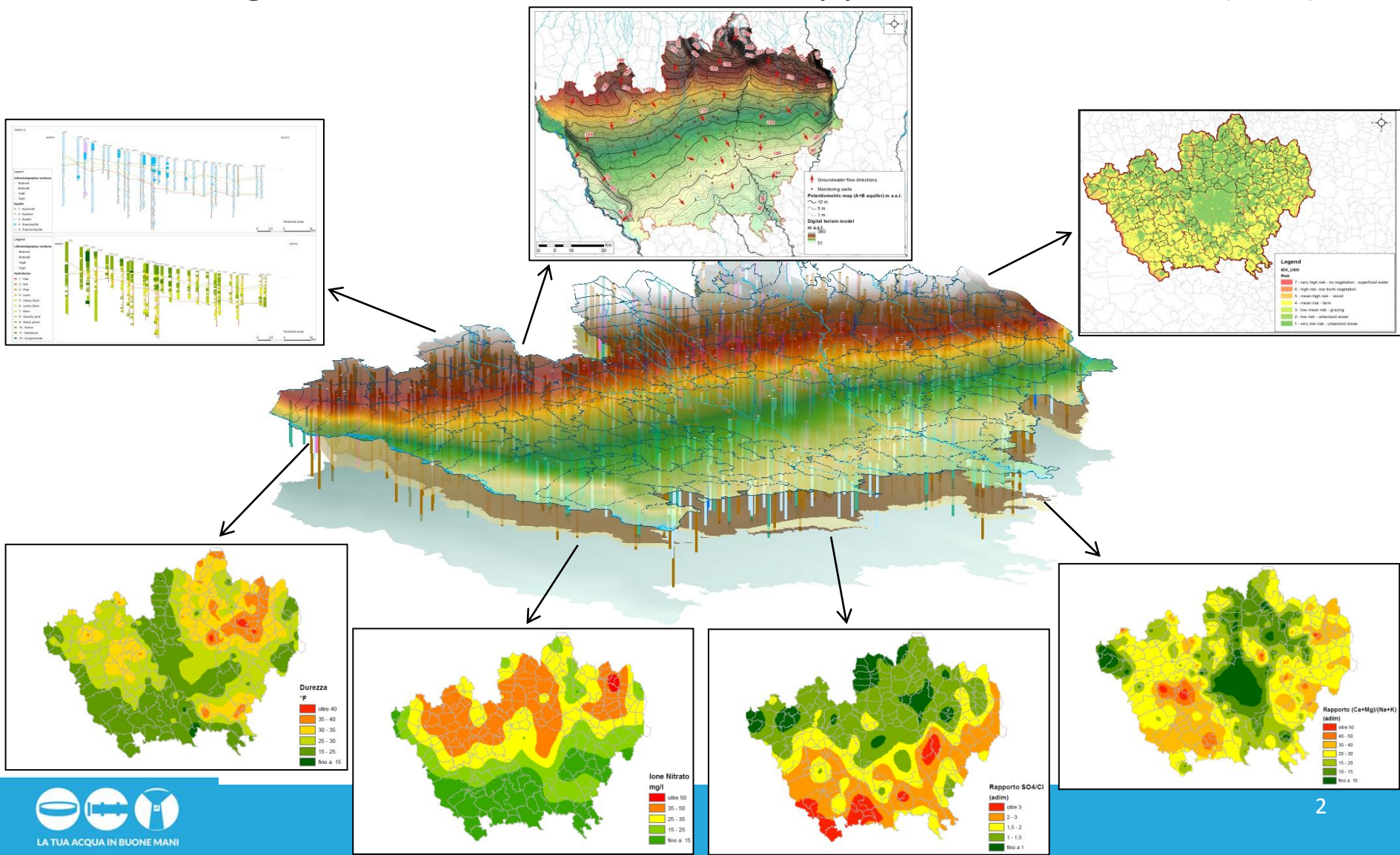


SERVIZIO IDRICO INTEGRATO



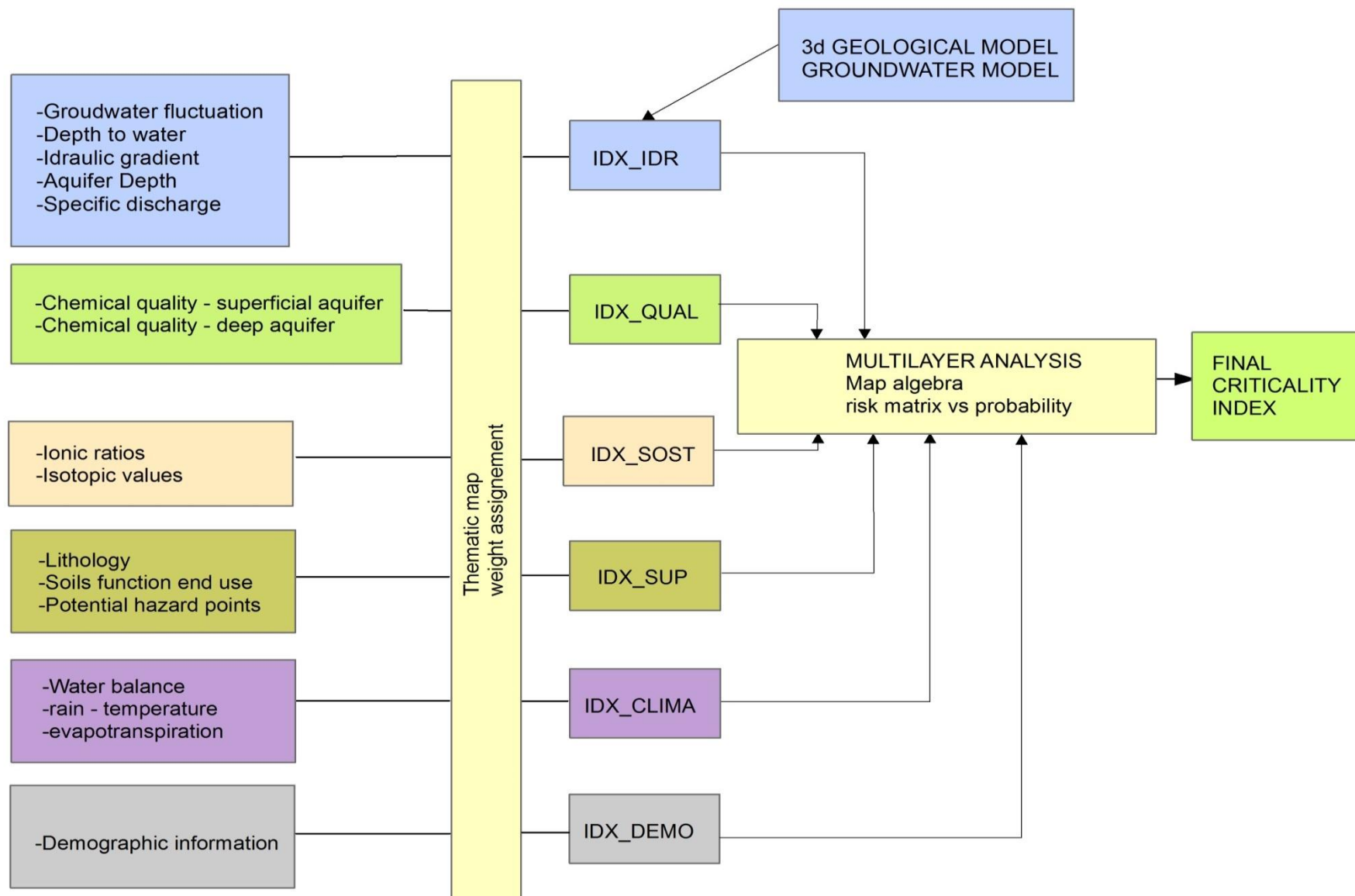
Il significato di PIA

PIA: a regime strumento di analisi e supporto alle decisioni (DSS)





Il flusso di lavoro





Il Data Mining

Inserimento, controllo e validazione di dati ambientali in ambiente GIS

Durata delle attività > 12 mesi

N. Dati inseriti > decine di migliaia

Tipo di dati inseriti

Litologici

Strutturali

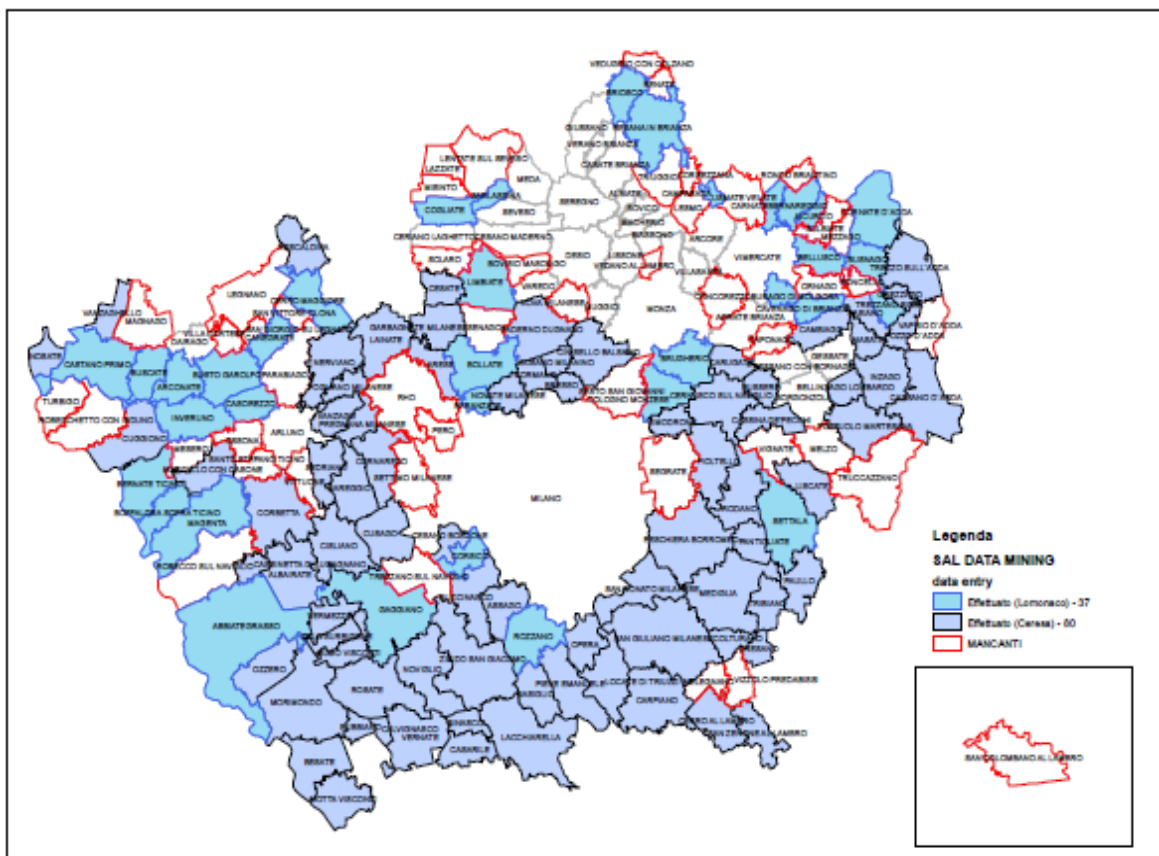
Idrogeologici

Idrochimici

Geofisici

Isotopici

Ecc.



A photograph of an open white cabinet with five shelves. The top shelf holds various books and binders. The second shelf holds more books and binders, some standing upright and others lying flat. The third, fourth, and fifth shelves are filled with numerous blue binders, each with a white label, arranged in neat rows.

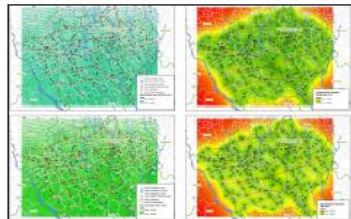
	COD SIF *	TOP	BOTTOM	DESCRIZIONE	RIPIEPIIMENTO	DIAMETRO	
0150700011		0	8,5	Riempimento	Riporto_Vario	1000	323
0150700011		8,5	40	Riempimento	Riporto_Vario	1000	323
0150700011		40	47,5	Cementazione	Boiacca di cemento	1000	323
0150700011		47,5	65	Drenaggio 6 - 10 mm	Dreno 109	1000	
0150700011		65	75	Cementazione	Boiacca di cemento	1000	
0150700011		75	86	Drenaggio 3 - 4 mm	Dreno 107	1000	
0150700011		86	90	Cementazione	Boiacca di cemento	1000	
0150700011		90	106	Drenaggio 2 - 3 mm	Dreno 106	1000	
0150700011		106	118	Drenaggio 3 - 4 mm	Dreno 107	1000	

COD SIF *	DATA	L stat	Q1	L din 1	Q2	L din 2	Q3	L din 3	Q4	L din 4	Q5
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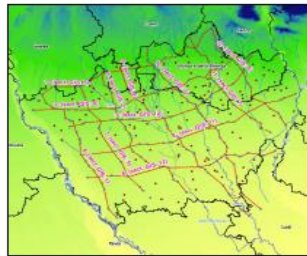
Identified 1 feature



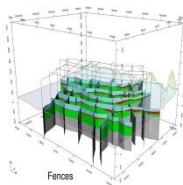
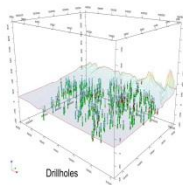
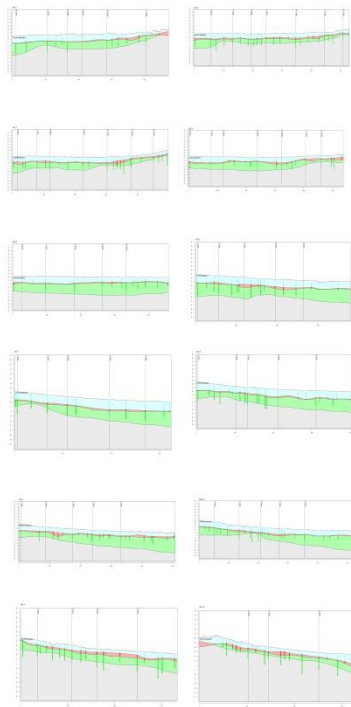
La fase di analisi: la caratterizzazione geologica



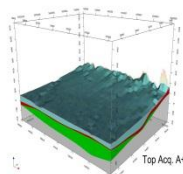
GIS Analysis



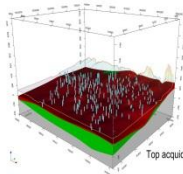
Hydrogeological Sections



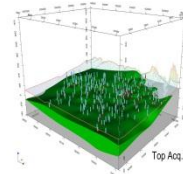
Legend
 - Drillholes
 - Fences
 - Topography
 - Hydrology
 - Geological
 - Administrative



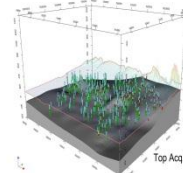
Top Acq. A+B



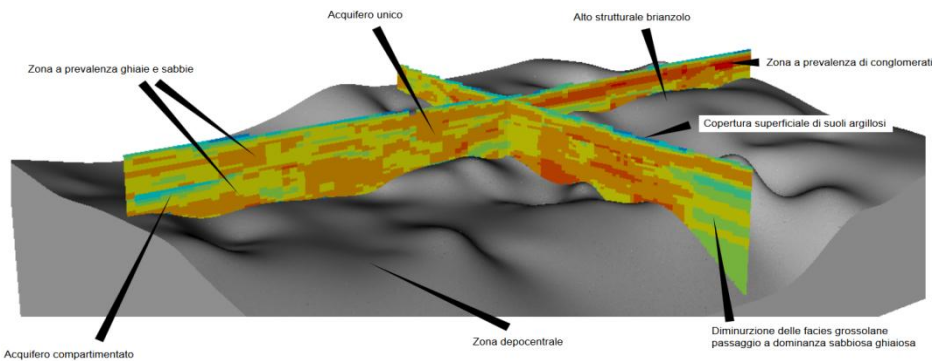
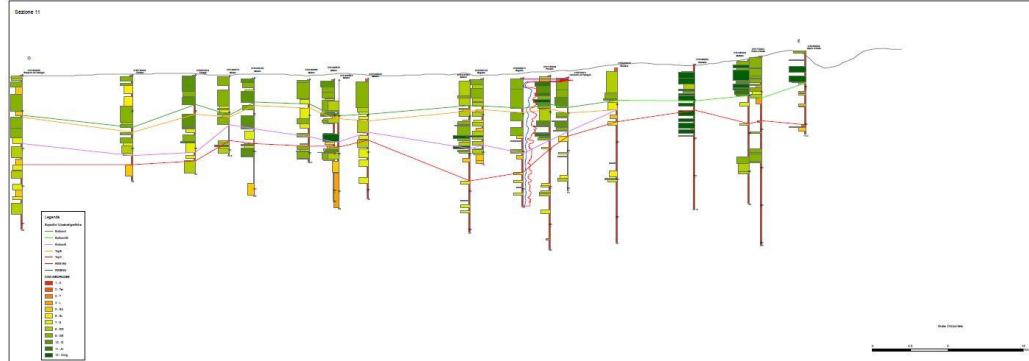
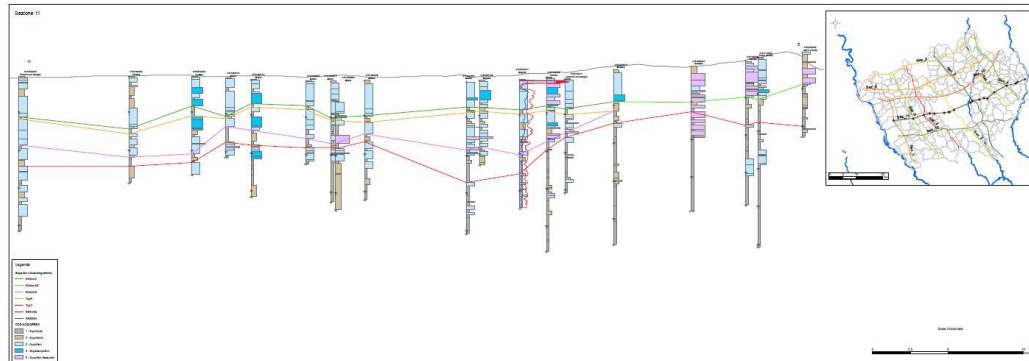
Top acquiclute



Top Acq. C

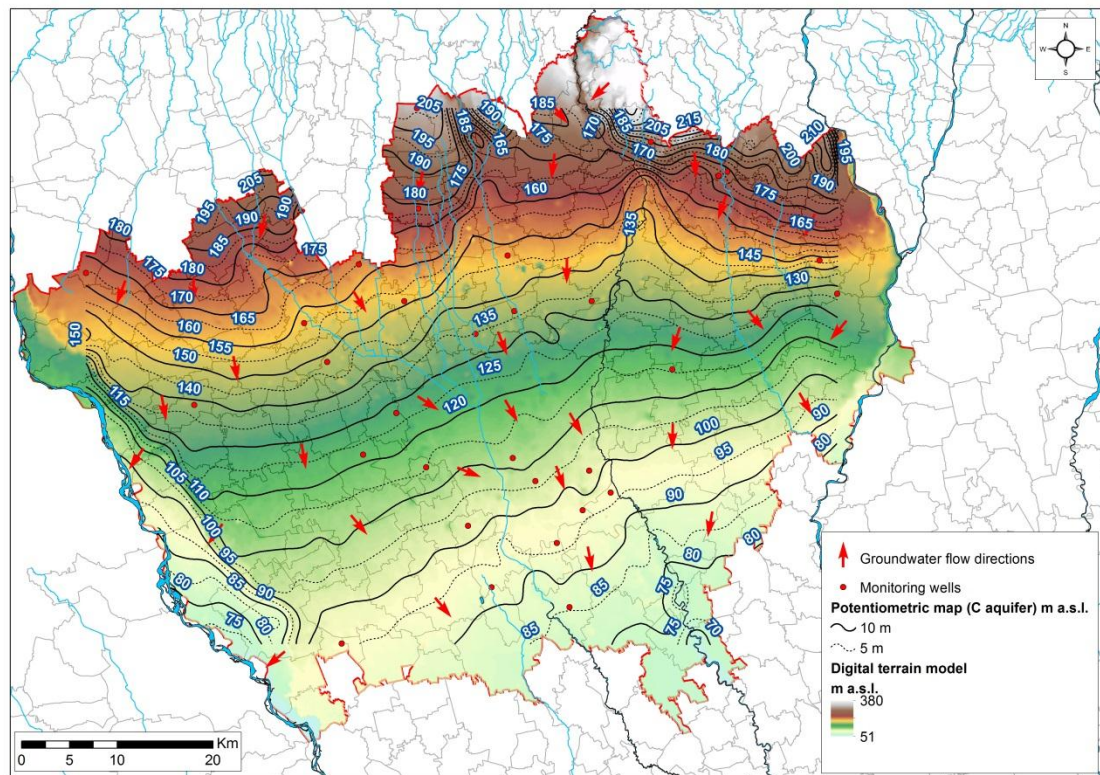
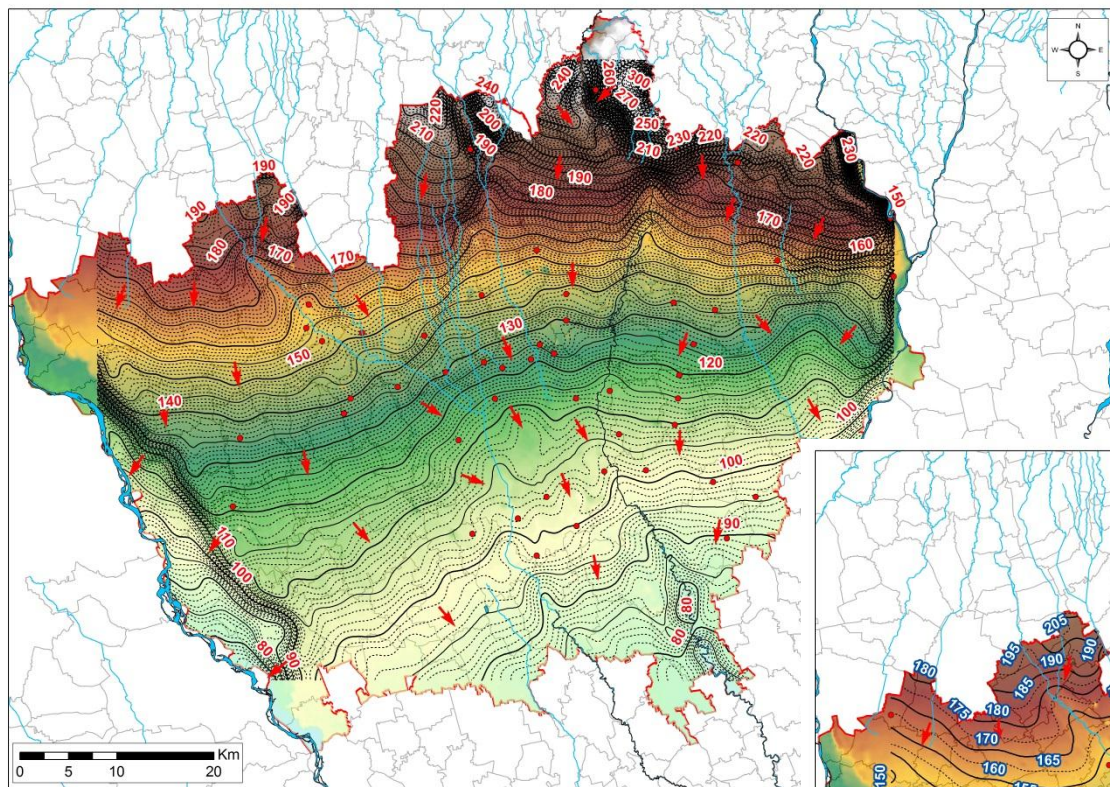


Top Acq. D



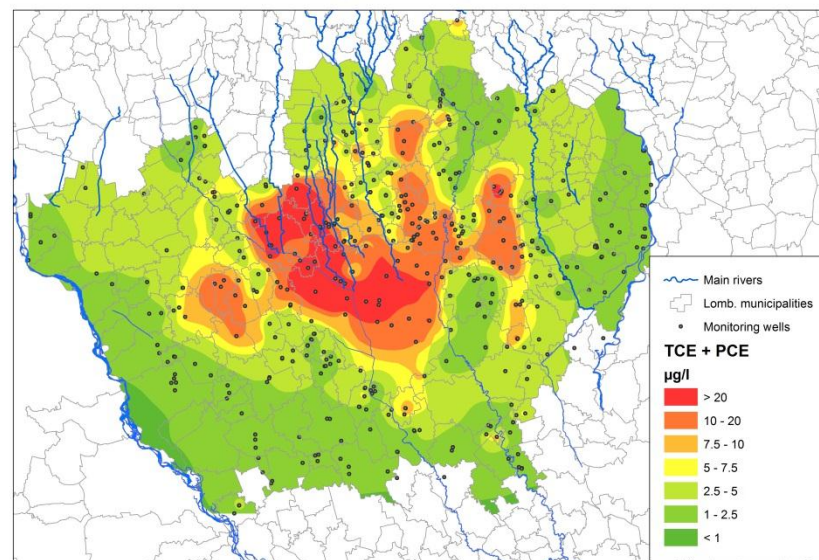
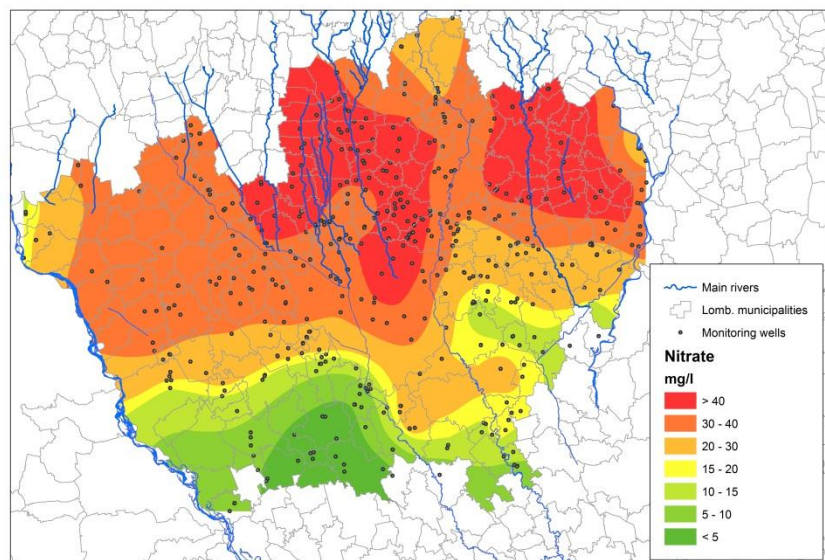
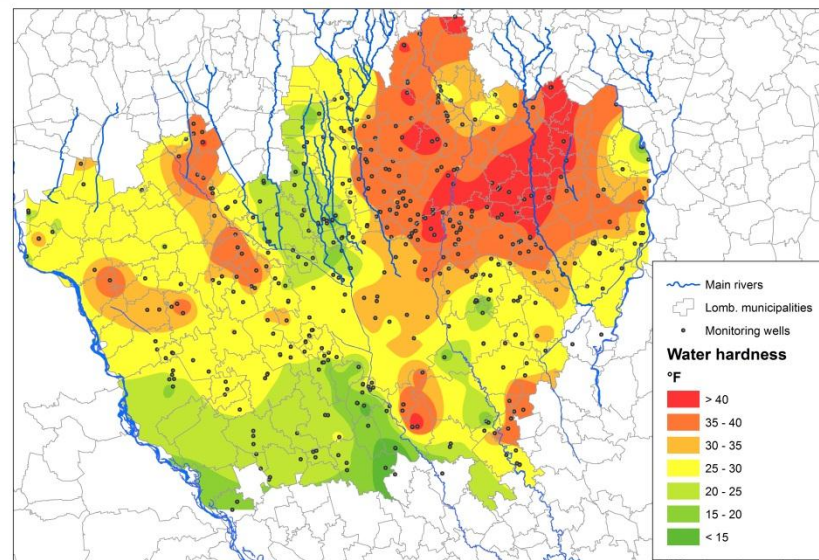
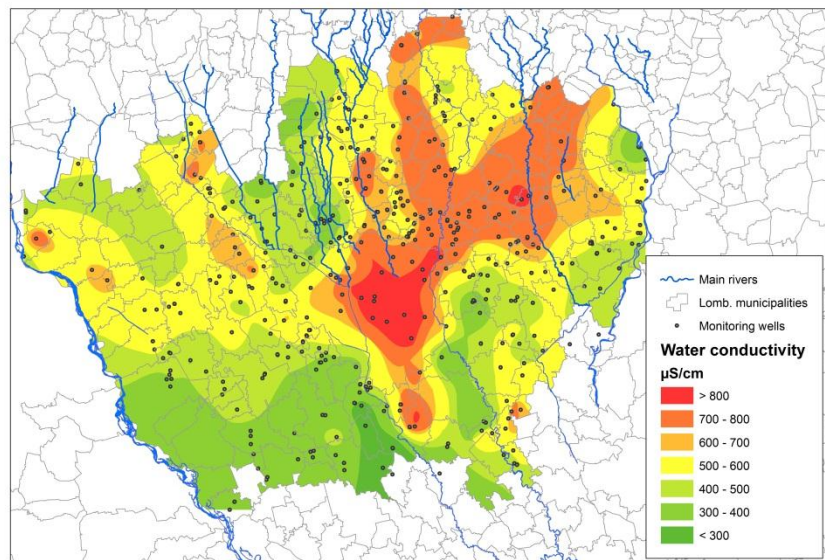


La fase di analisi: la caratterizzazione idrogeologica



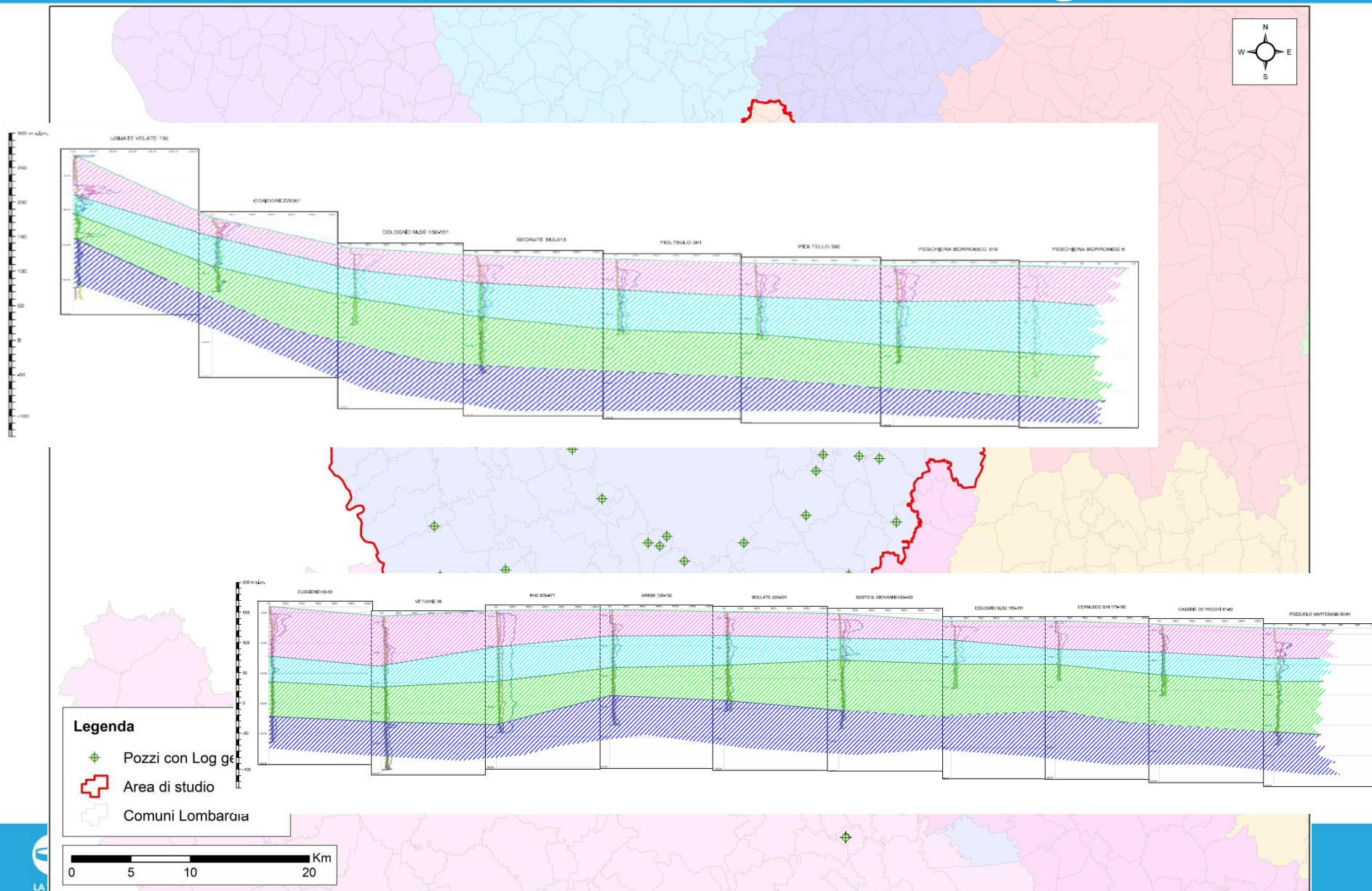


La fase di analisi: la caratterizzazione geochimica



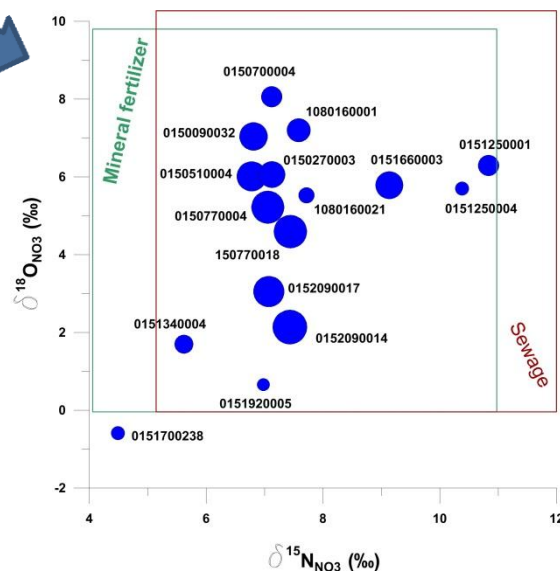
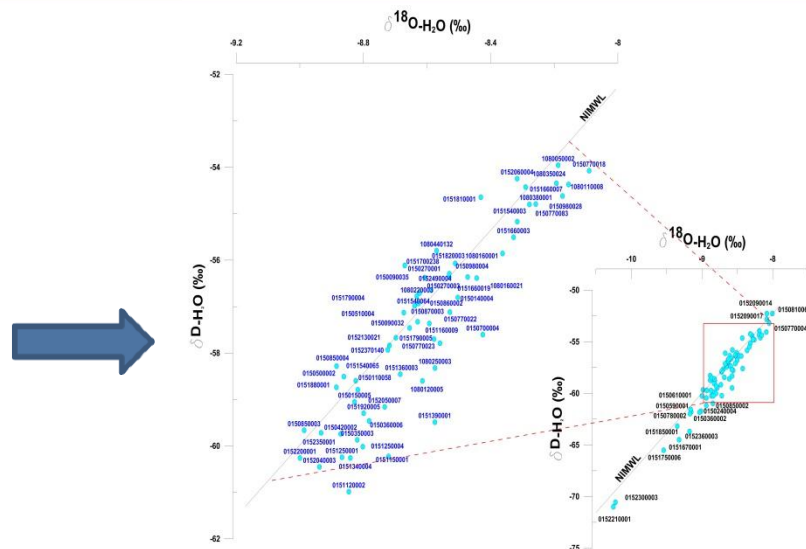
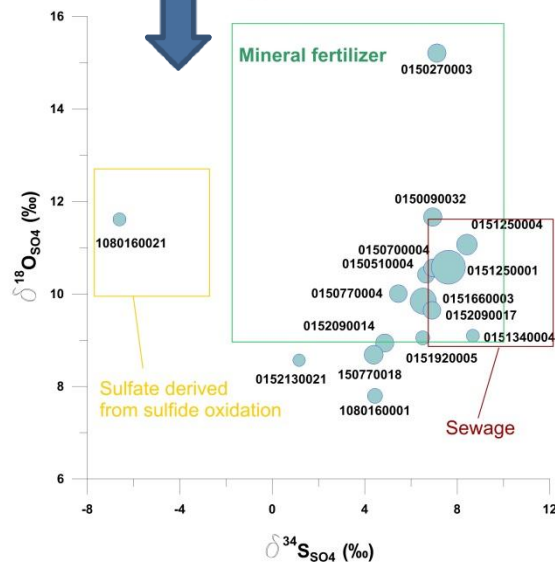


La fase di analisi: la caratterizzazione geofisica



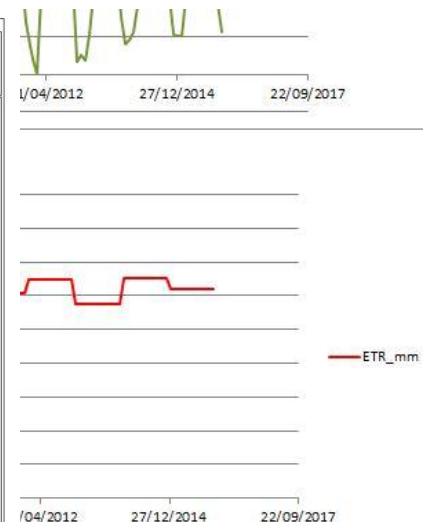
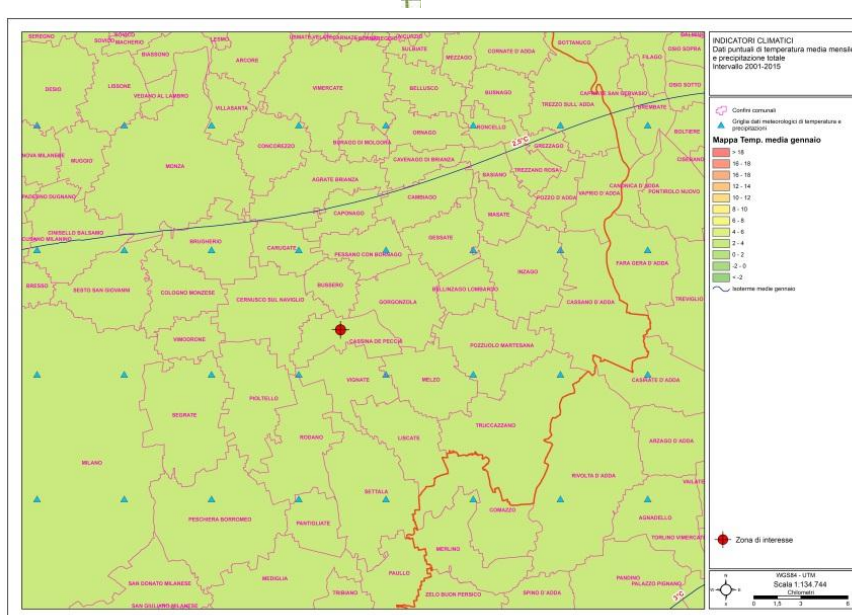
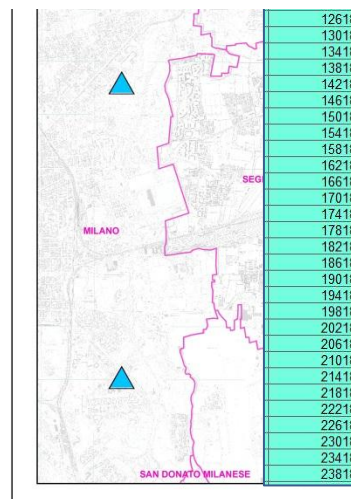
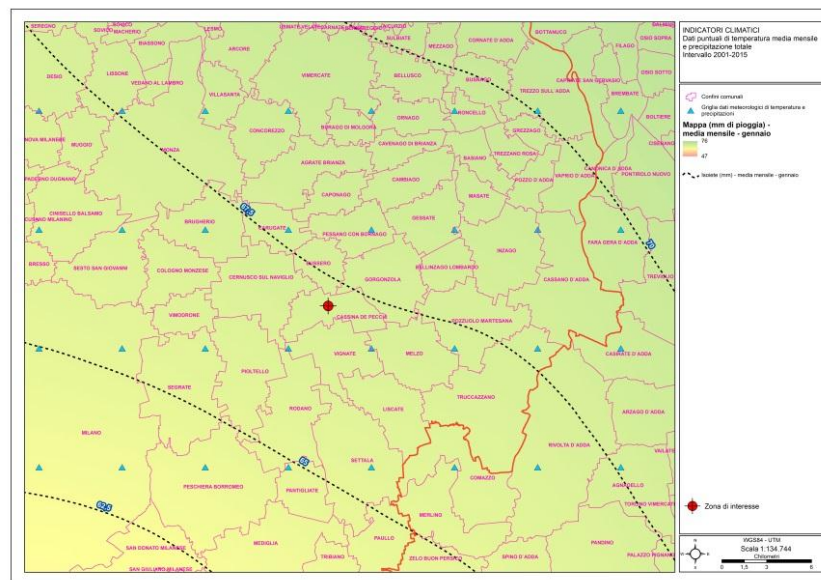
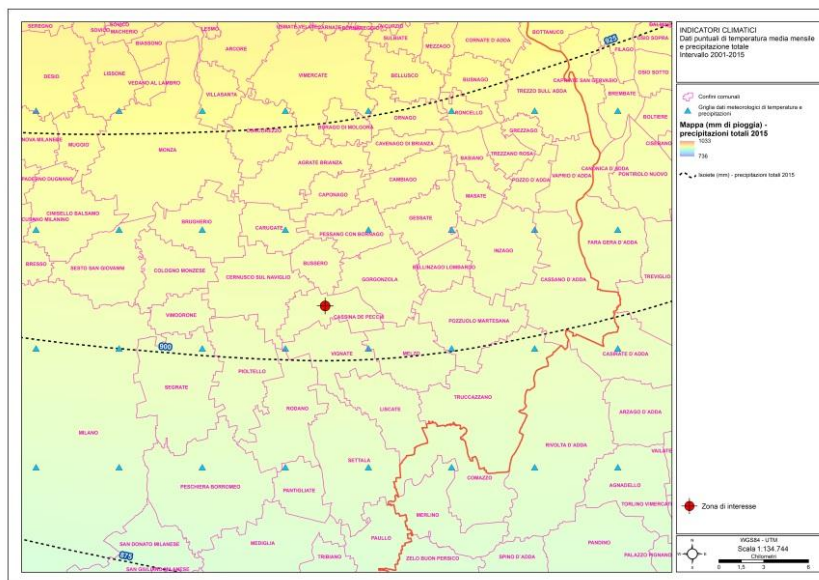


La fase di analisi: il monitoraggio isotopico



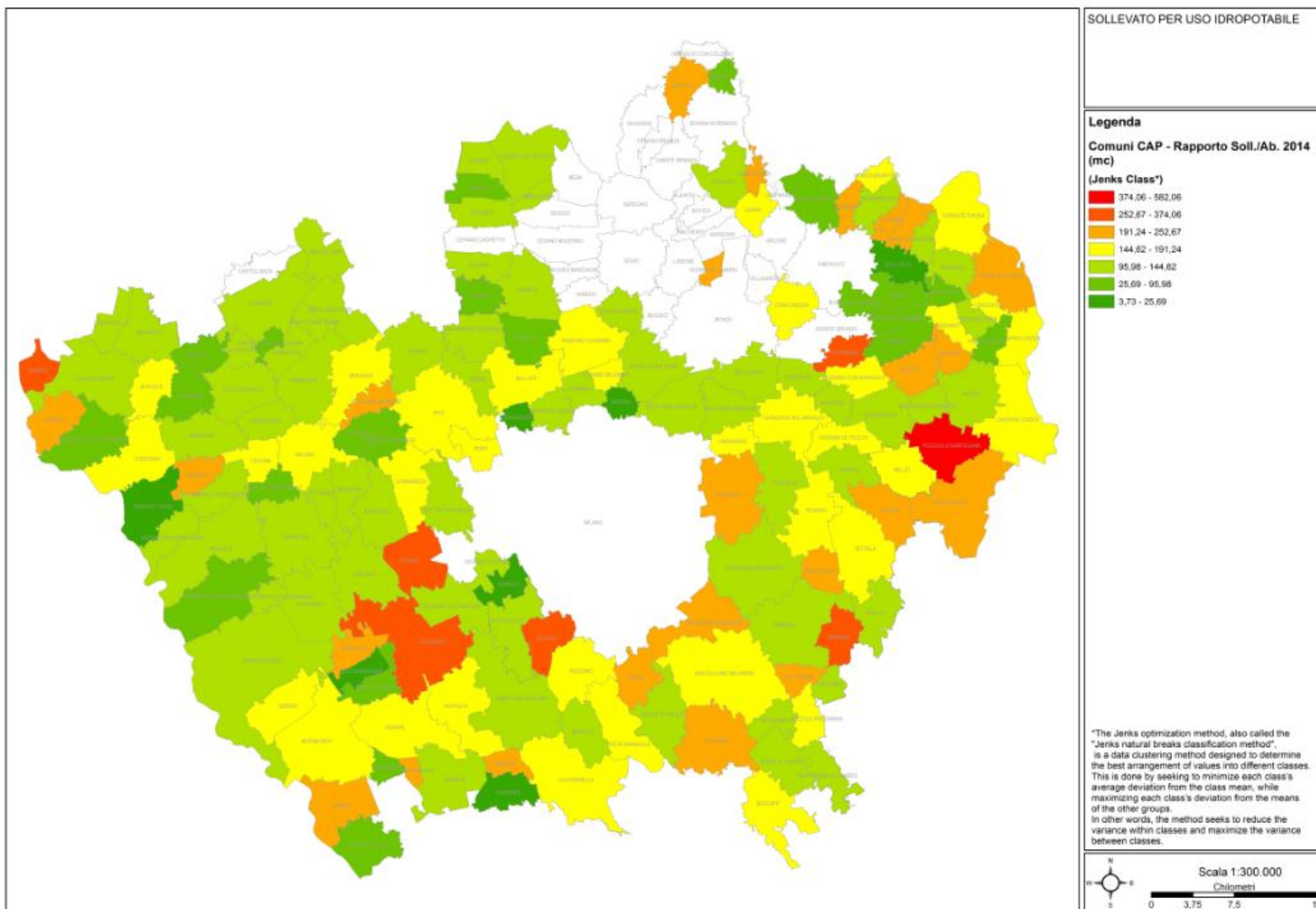


La fase di analisi: i dati climatici





Rapporto sollevato/abitante (2014)





Sollevato vs potenziale idrico – Falda superficiale (2014)

Legenda

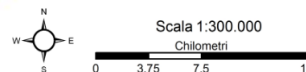
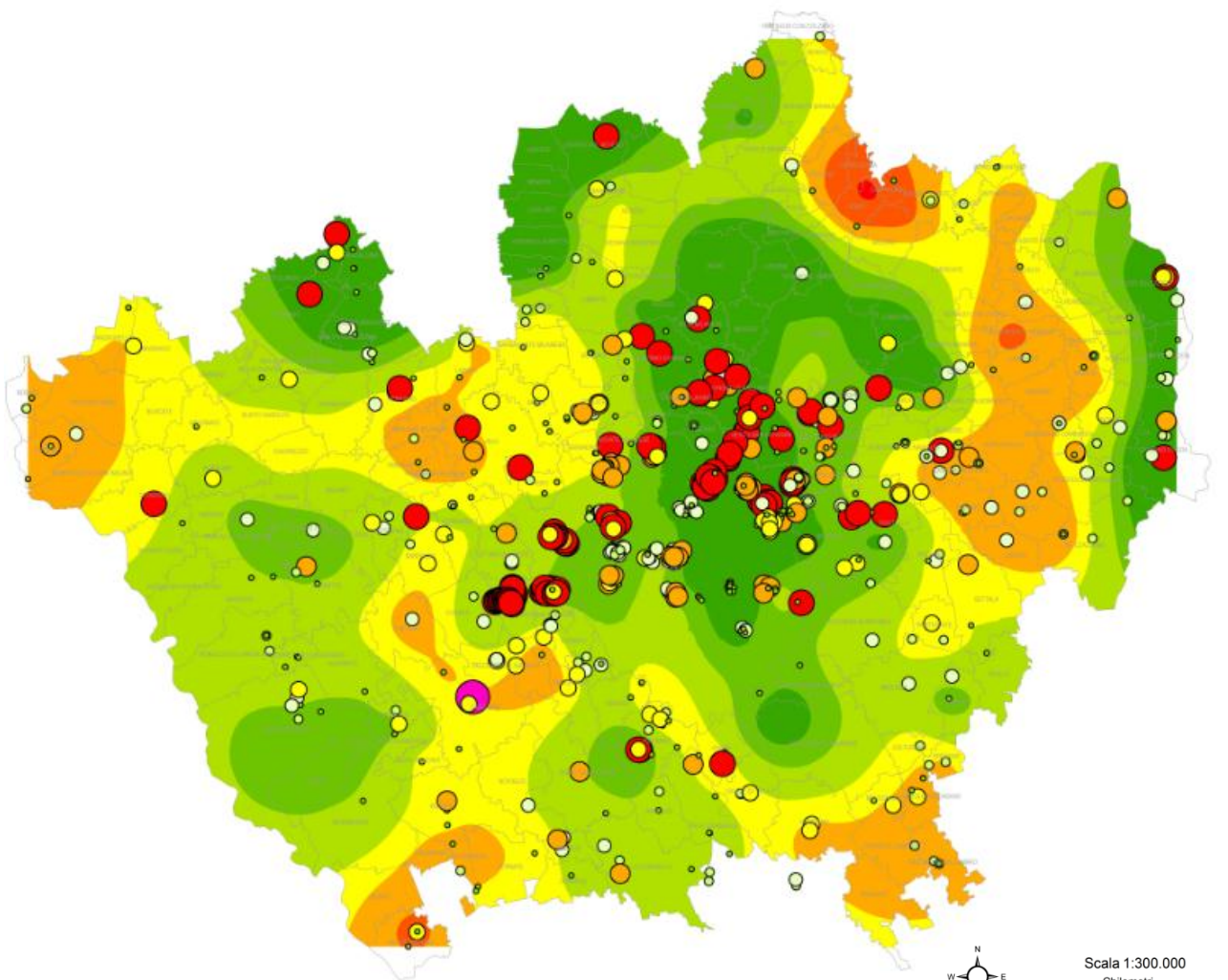
pozzi in acq. A+B

Sollevato medio 2014 in l/s



Potenziale idrico (Qs in l/s/m) falda superficiale

valori, livello di criticità, descrizione rischio





Sollevato vs potenziale idrico – Falda profonda (2014)

Legenda

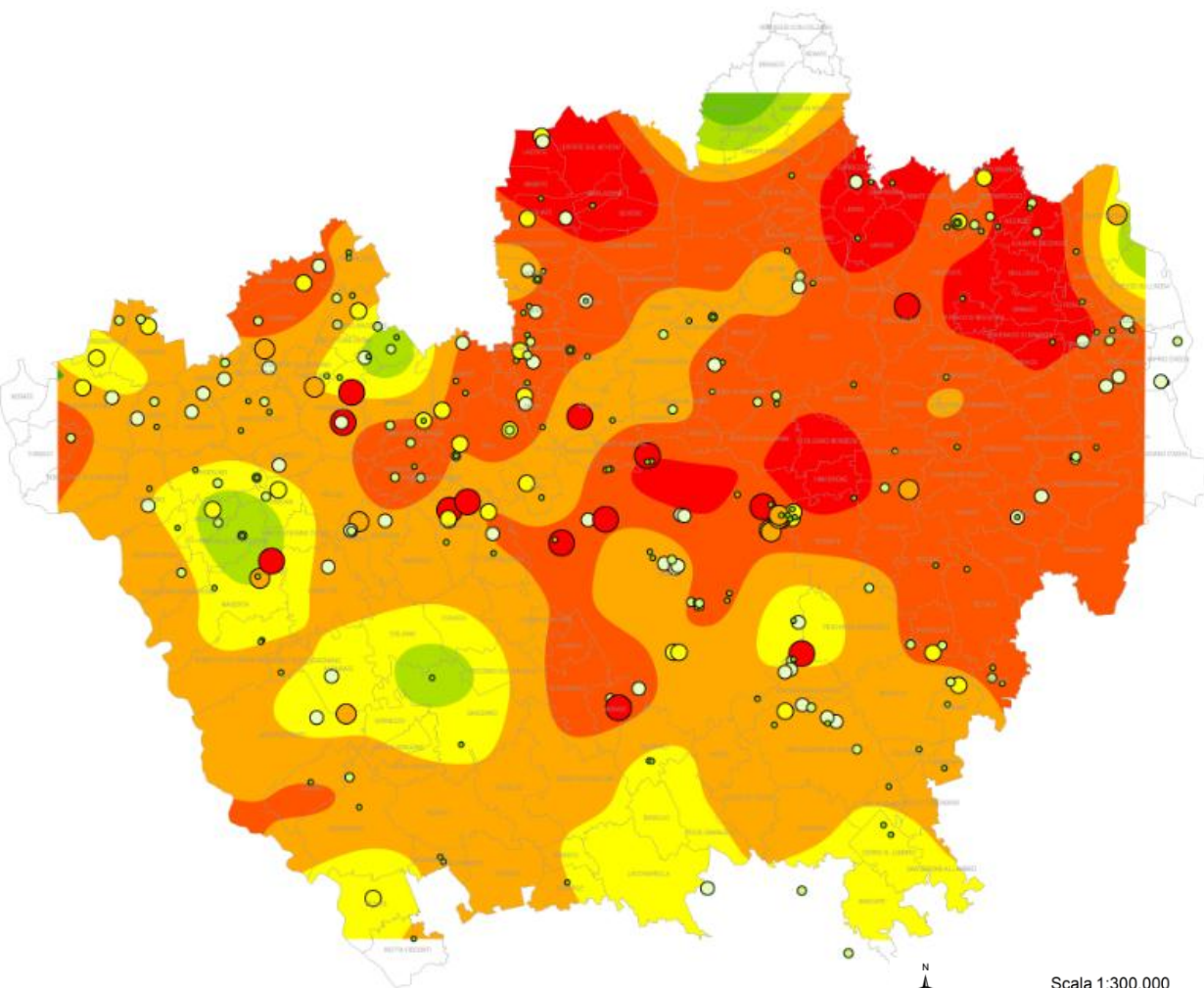
pozzi in acq. C

Sollevato medio 2014 in l/s

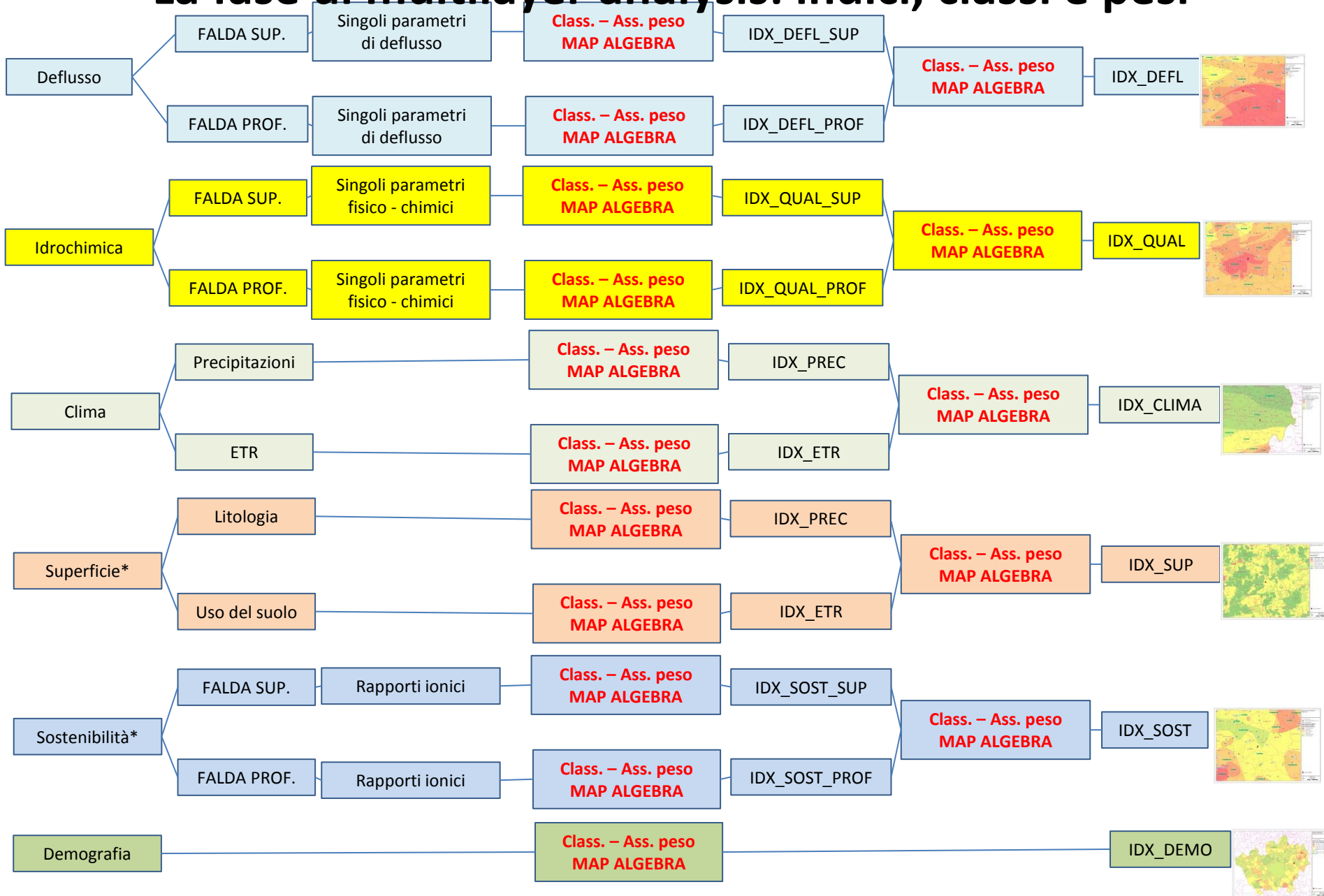


Potenziale idrico (Qs in l/s/m) falda profonda

valori, livello di criticità, descrizione rischio

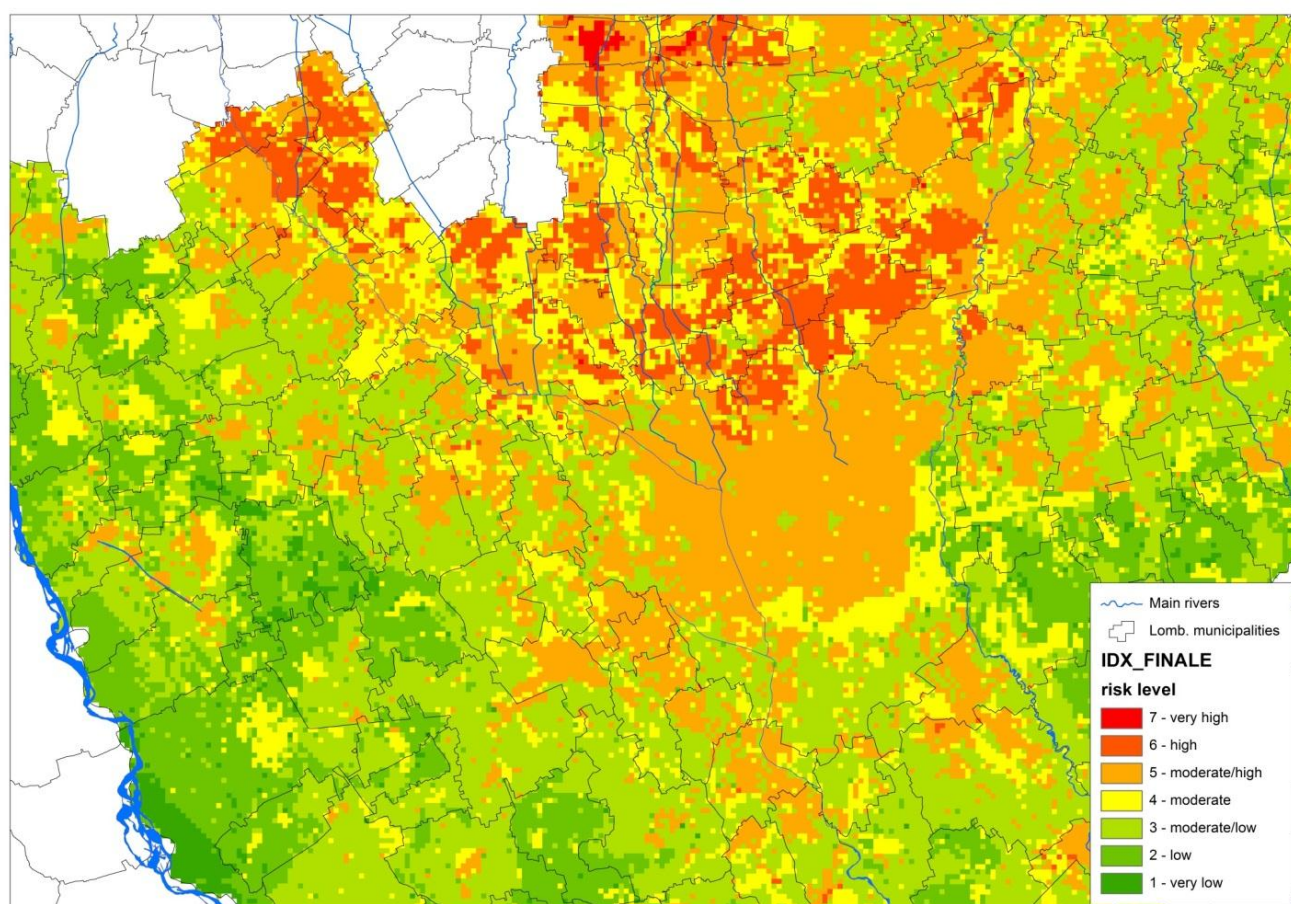
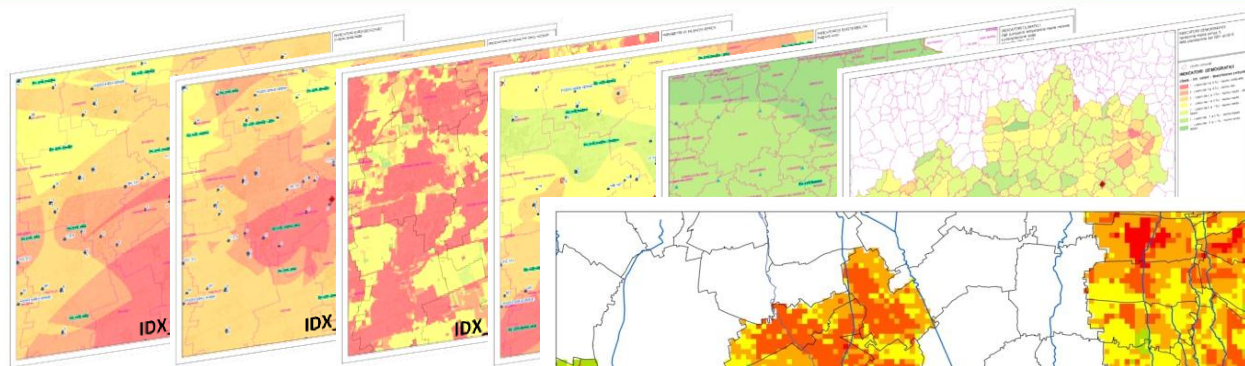


La fase di multilayer analysis: indici, classi e pesi



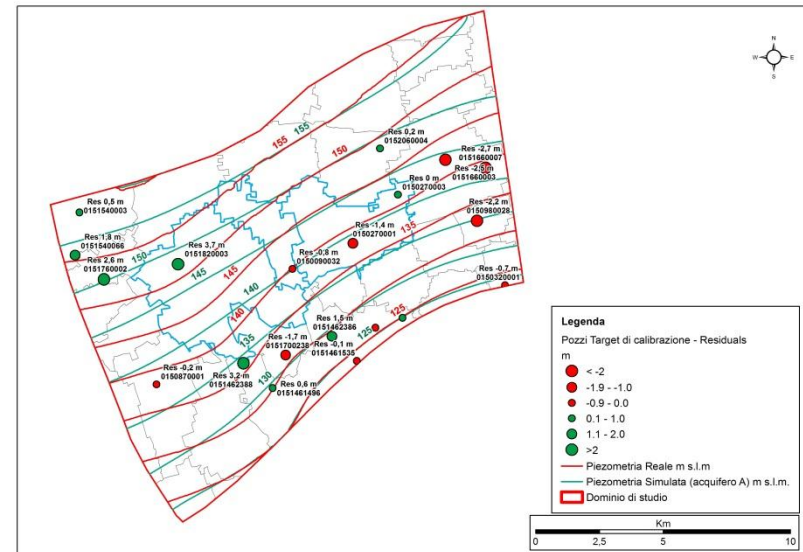
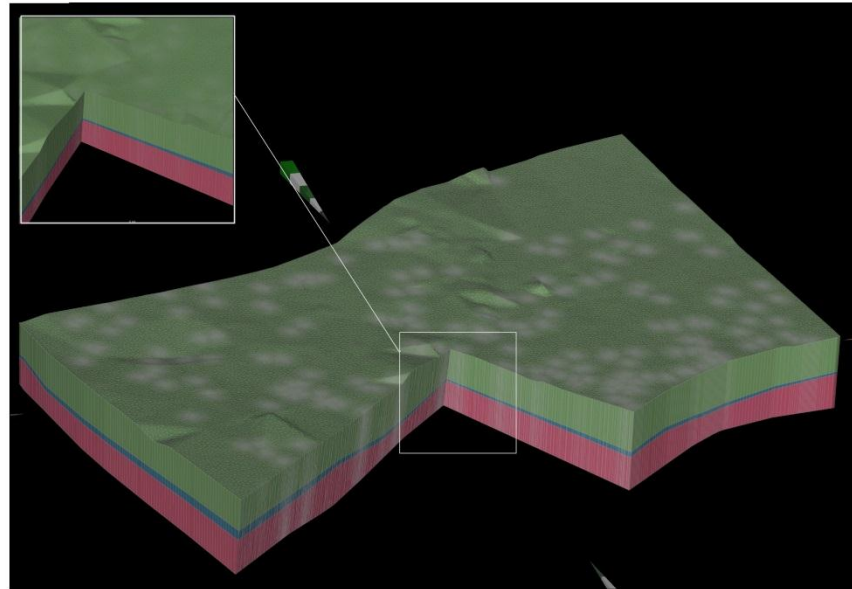
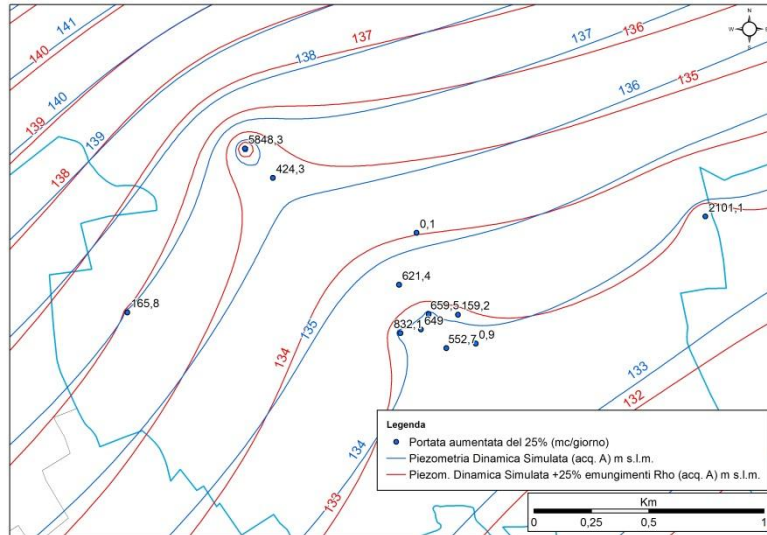


La fase di multilayer analysis: indici, classi e pesi



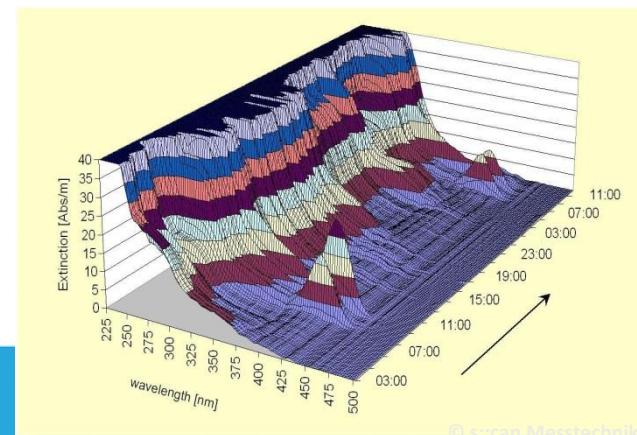
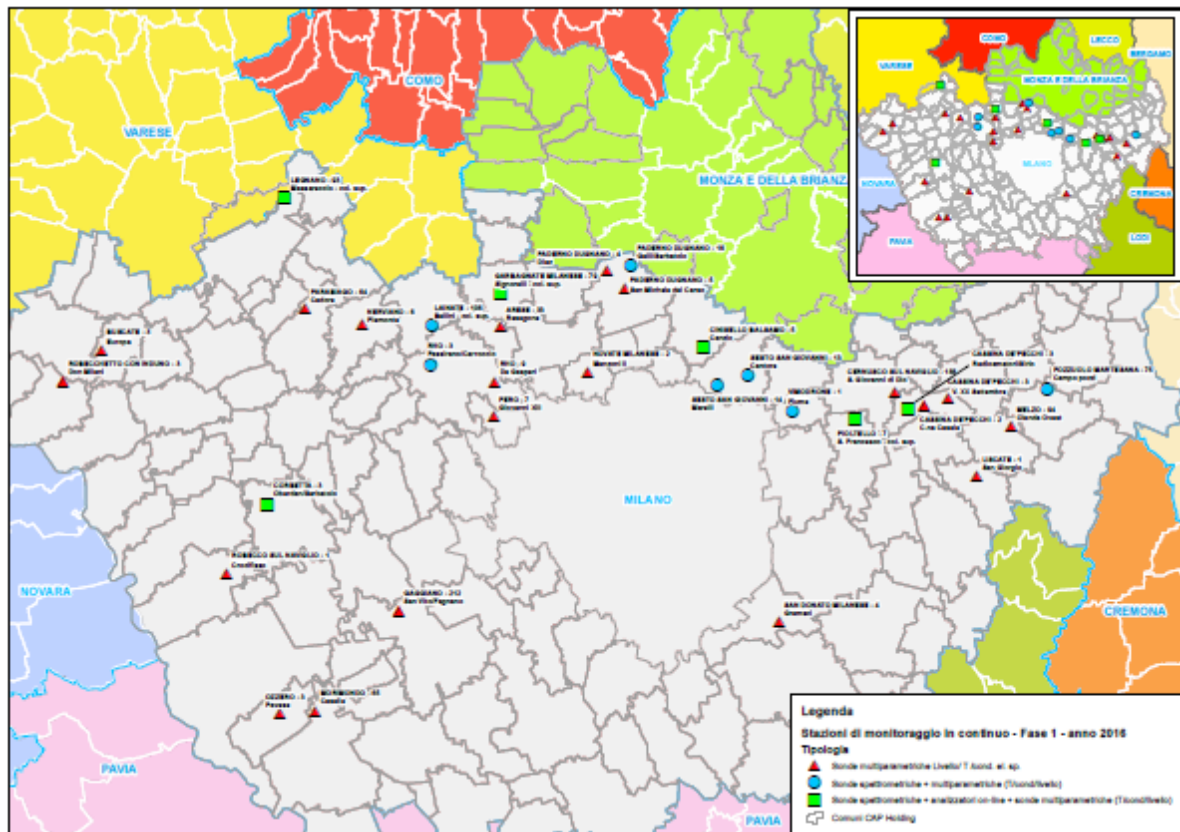


La fase di analisi: la modellistica numerica





La fase di monitoraggio: l'EWS del Gruppo CAP



Grazie per l'attenzione

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