Terzo Tavolo Tecnico OIMCE - Roma, 8 maggio 2025

LITIO DAI GEOFLUIDI:

IL POTENZIALE DEI FLUIDI GEOTERMICI E TERMALI

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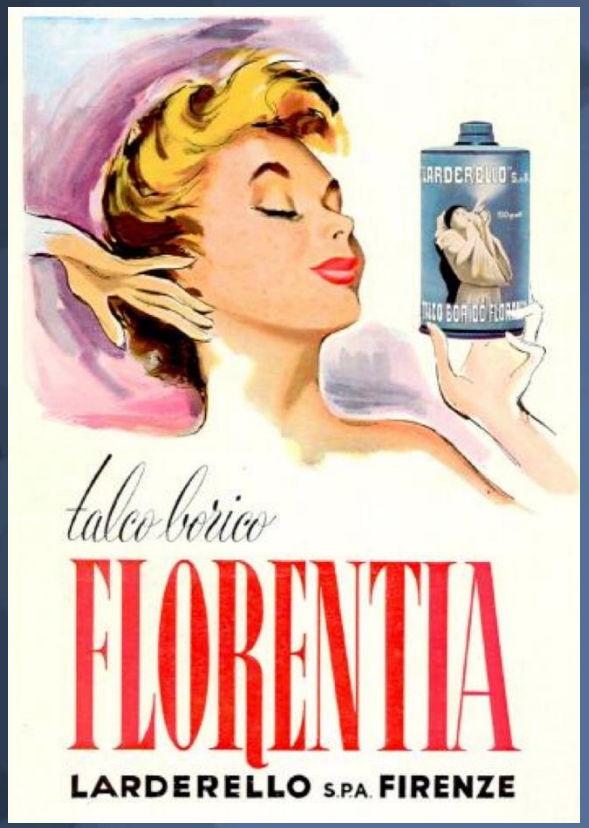
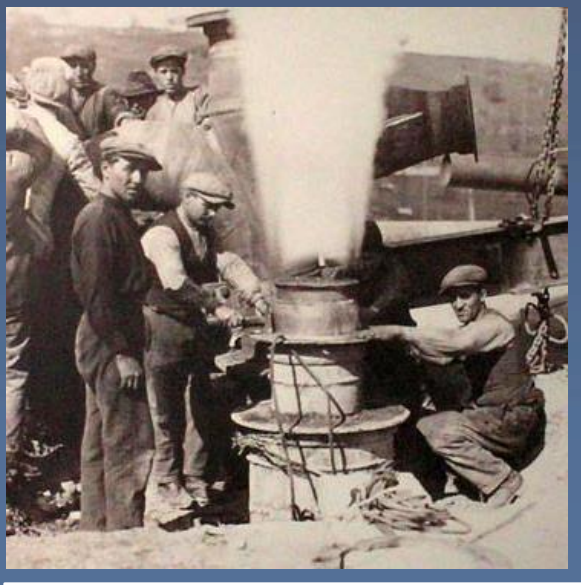
LITIO IN ITALIA?

Né salar, né pegmatiti a spodumene

Larderello, 1817

i primi ad estrarre metalli dai geofluidi

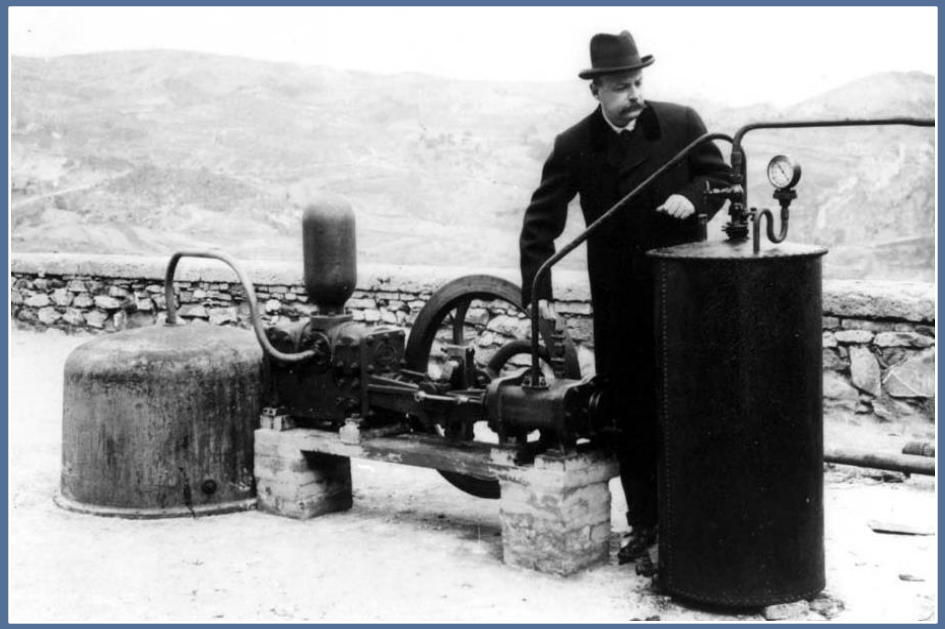




ENERGIA

Lagone coperto per l'estrazione del boro

BORO



Larderello, 1904

i primi a produrre energia elettrica dai geofluidi

Oggi: litio in fluidi geotermici e altri geofluidi in Italia?

Risorse non convenzionali di litio in geofluidi

minerals MDPI

Review

Lithium Occurrence in Italy—An Overview

Andrea Dini [1], Pierfranco Lattanzi [2], Giovanni Ruggieri [2,*] and Eugenio Trumpy [1]

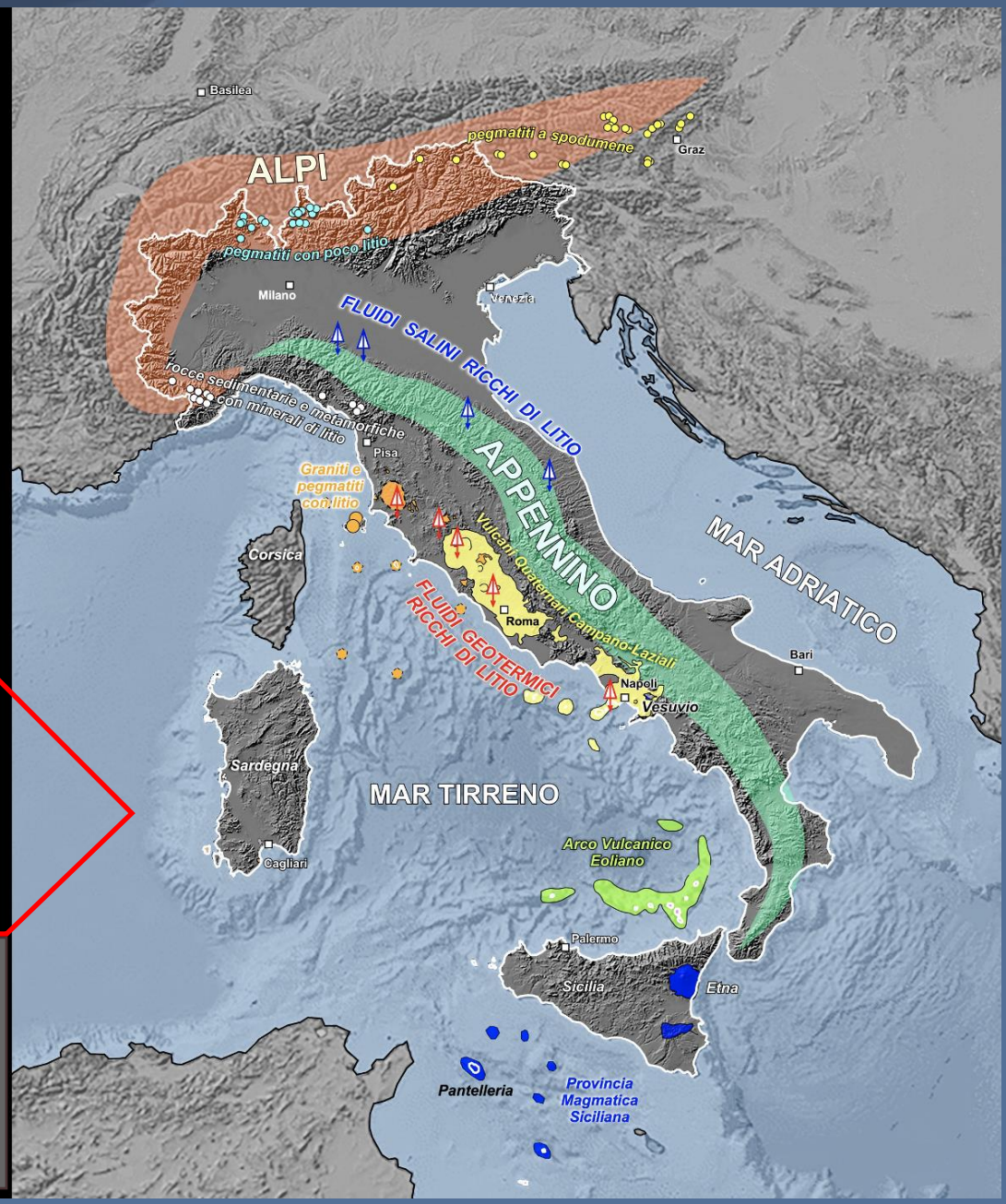
Minerals **2022**, *12*, 945. https://doi.org/10.3390/min12080945 https://www.mdpi.com/journal/minerals

Contesto geologico-geografico-climatico **sfavorevole per giacimenti convenzionali**: pegmatiti a spodumene e salars.

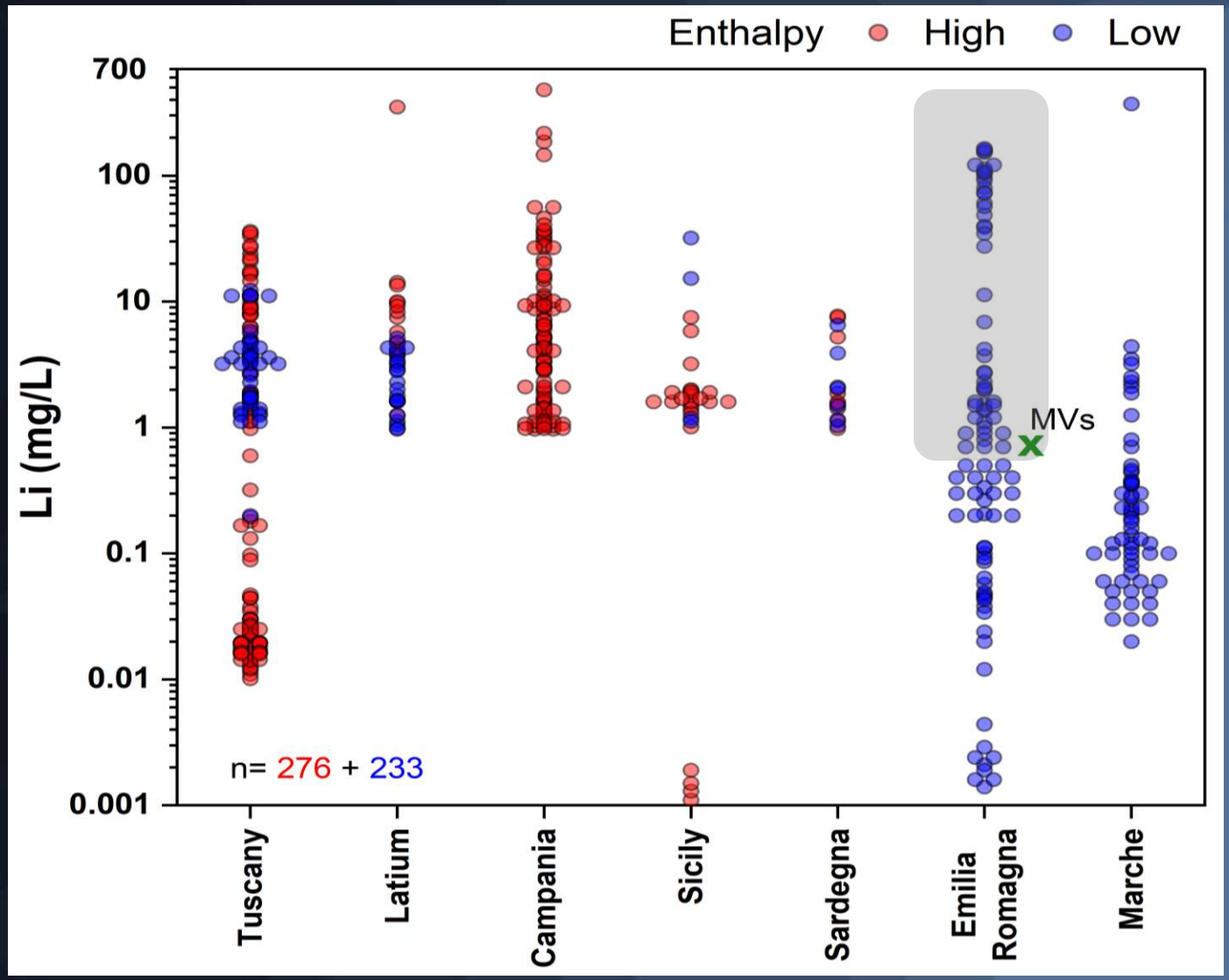
Poche pegmatiti a spodumene nelle Alpi orientali.

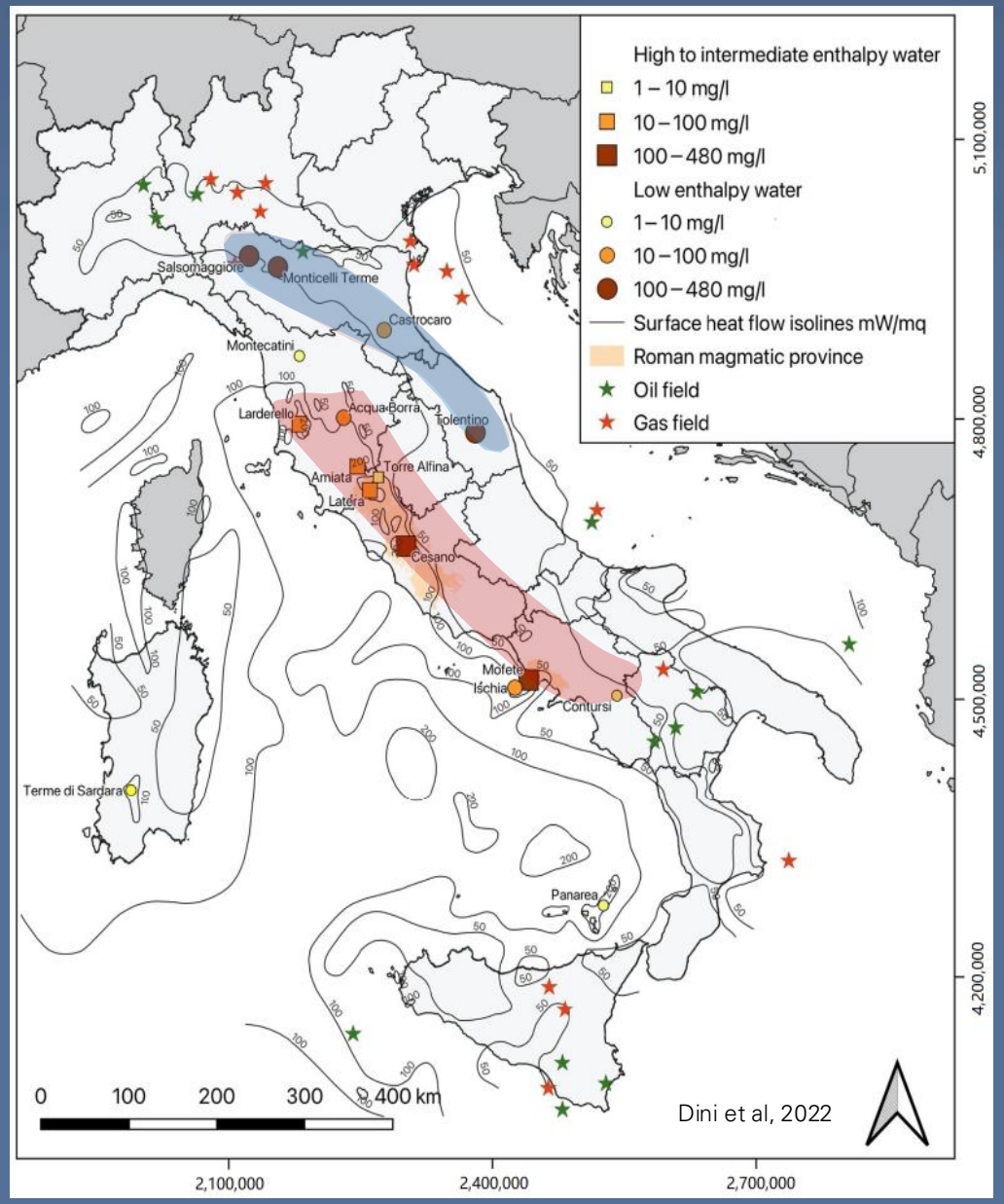
Notevole **potenziale per giacimenti non convenzionali**:

- Fluidi geotermici in italia centro-meridionale → Li fino a 500 mg/l
- Fluidi salini al fronte della catena appenninica → Li fino a 400 mg/l
- Graniti litiniferi in Toscana → Li fino a 2500 mg/kg
- Rocce vulcano-sedimentarie nelle Alpi Marittime → Li fino a 3000 mg/kg



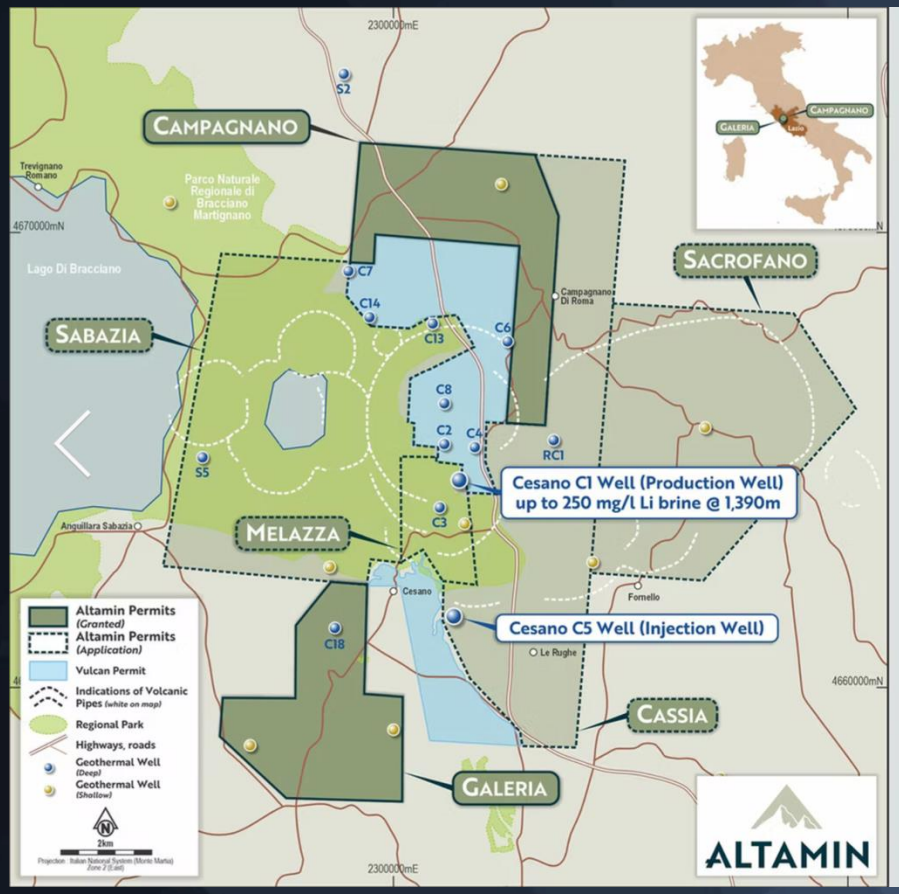
Litio in geofluidi geotermici e «termali»





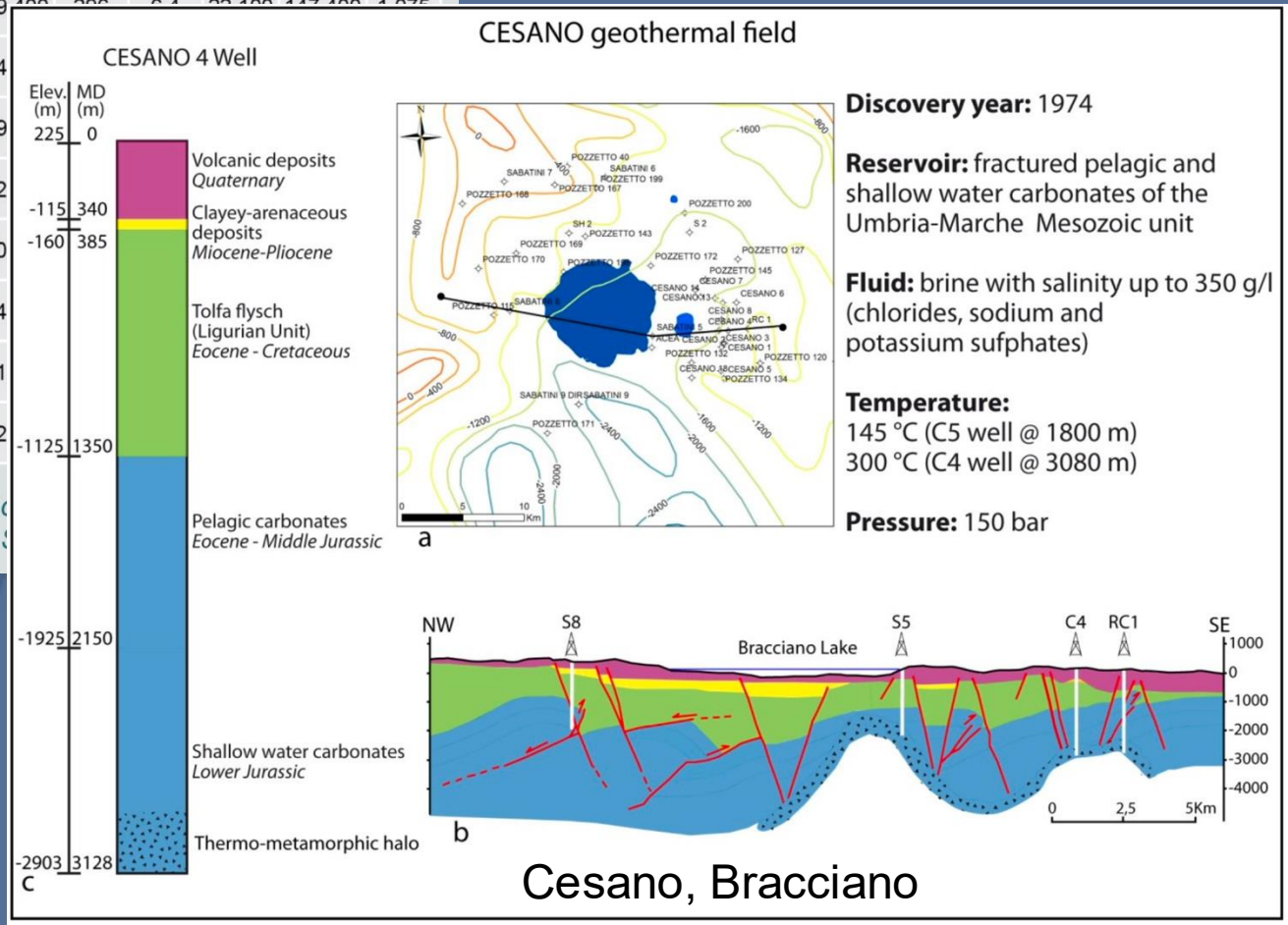
Dini et al, 2022

Litio in fluidi geotermici: Lazio, Campania (e Toscana)

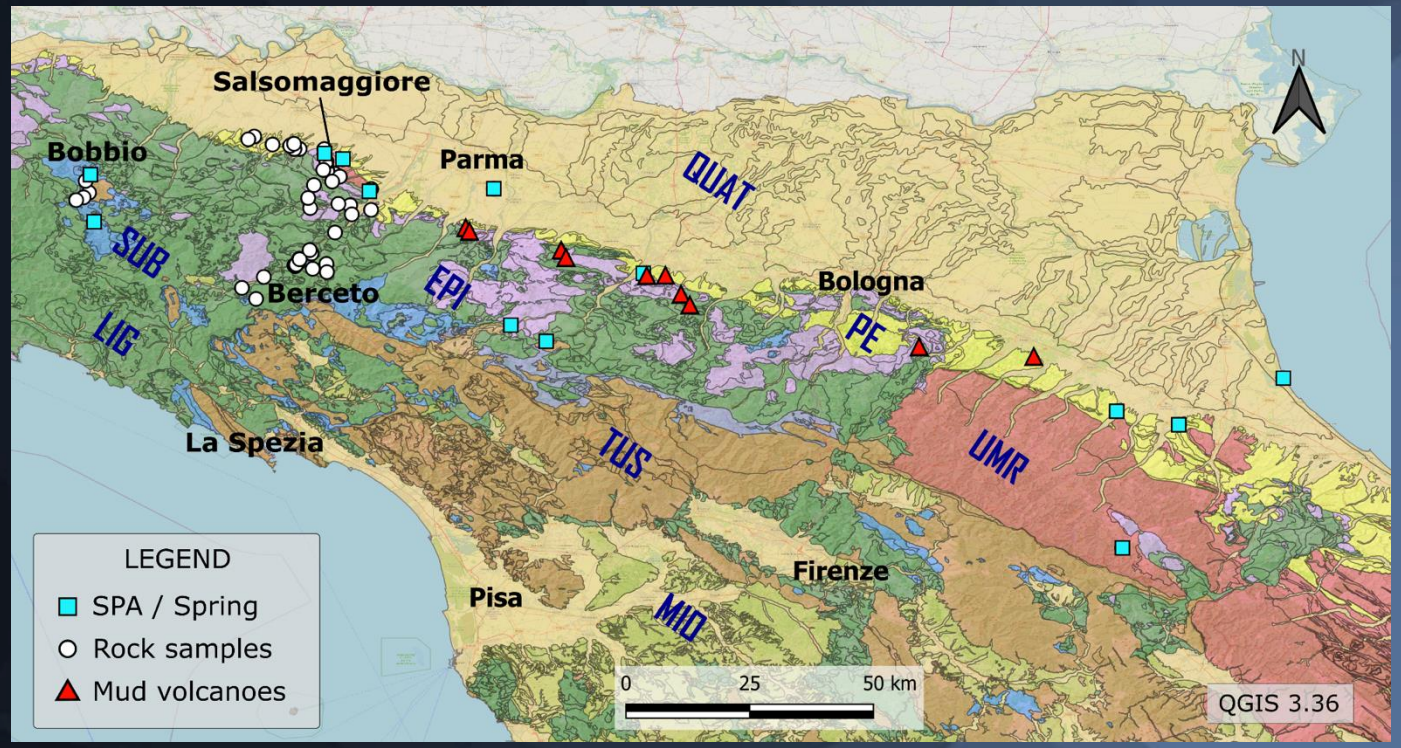


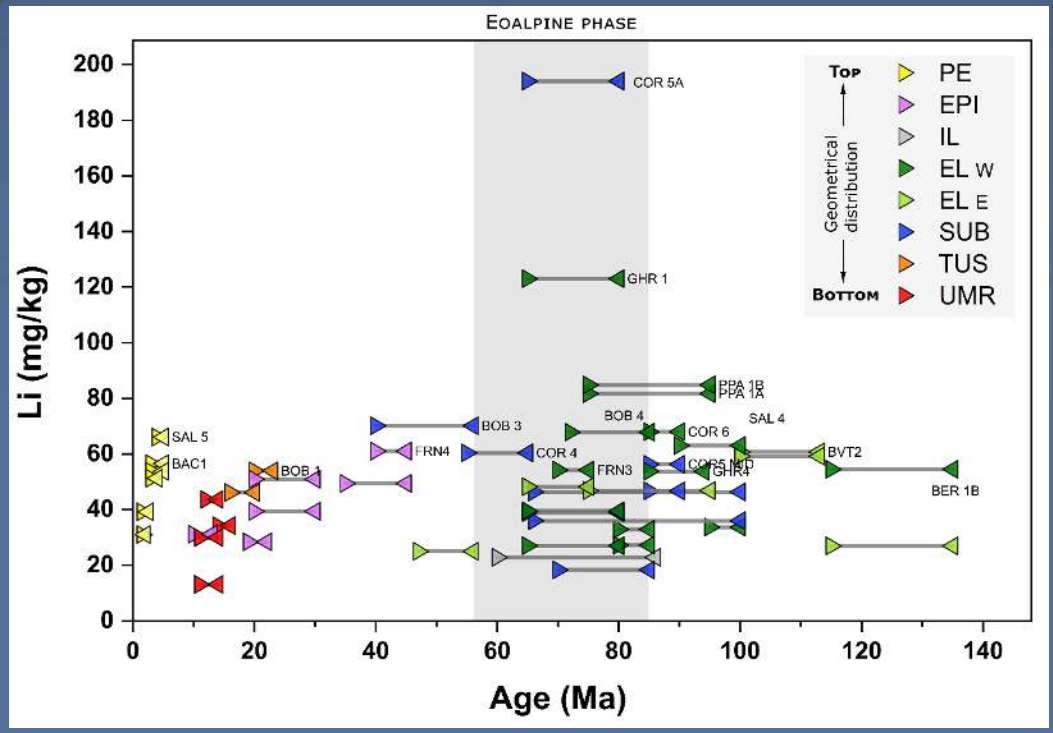
Well	Temp.	Li	Na	K	Rb	Mg	Cl	SO4	B
	T°C	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
C-1	212	196	49,386	76,823	384	54.1	21,165	156,625	1,121
C-1	212	163	54,800	78,340	285	6.9	22,100	151,600	1,084
C-1	212	158	53,800	79					
C-1	212	165	51,000	64					
C-1	212	196	47,921	69					
C-1	212	173	47,136	62					
C-1	212	141	44,779	60					
C-5	141	75	20,544	14					
C-7	221	96	19,200	11					
C-7	221	-	13,500	12					

Table: Concentrations of reservoir brines [Source:

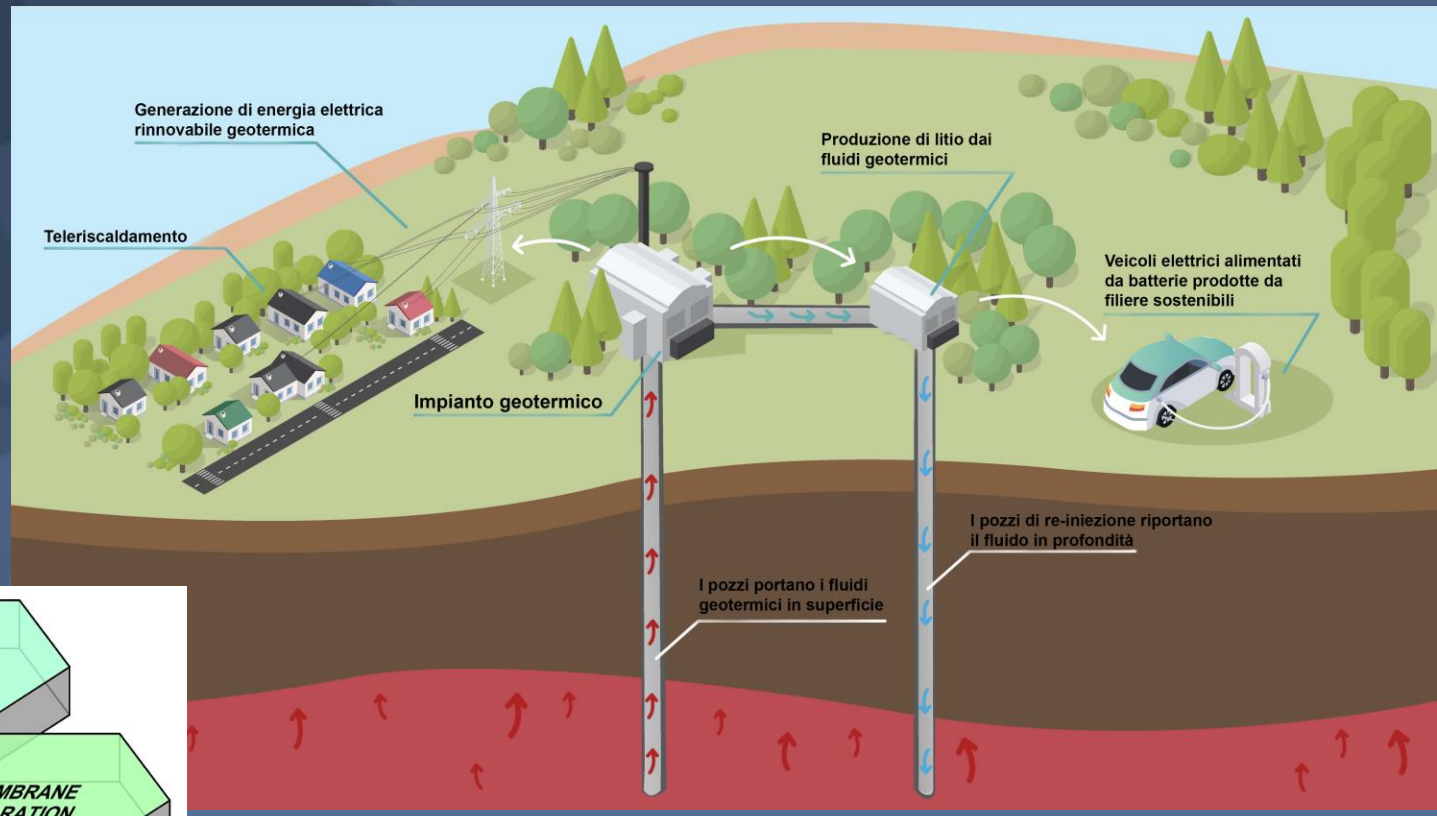


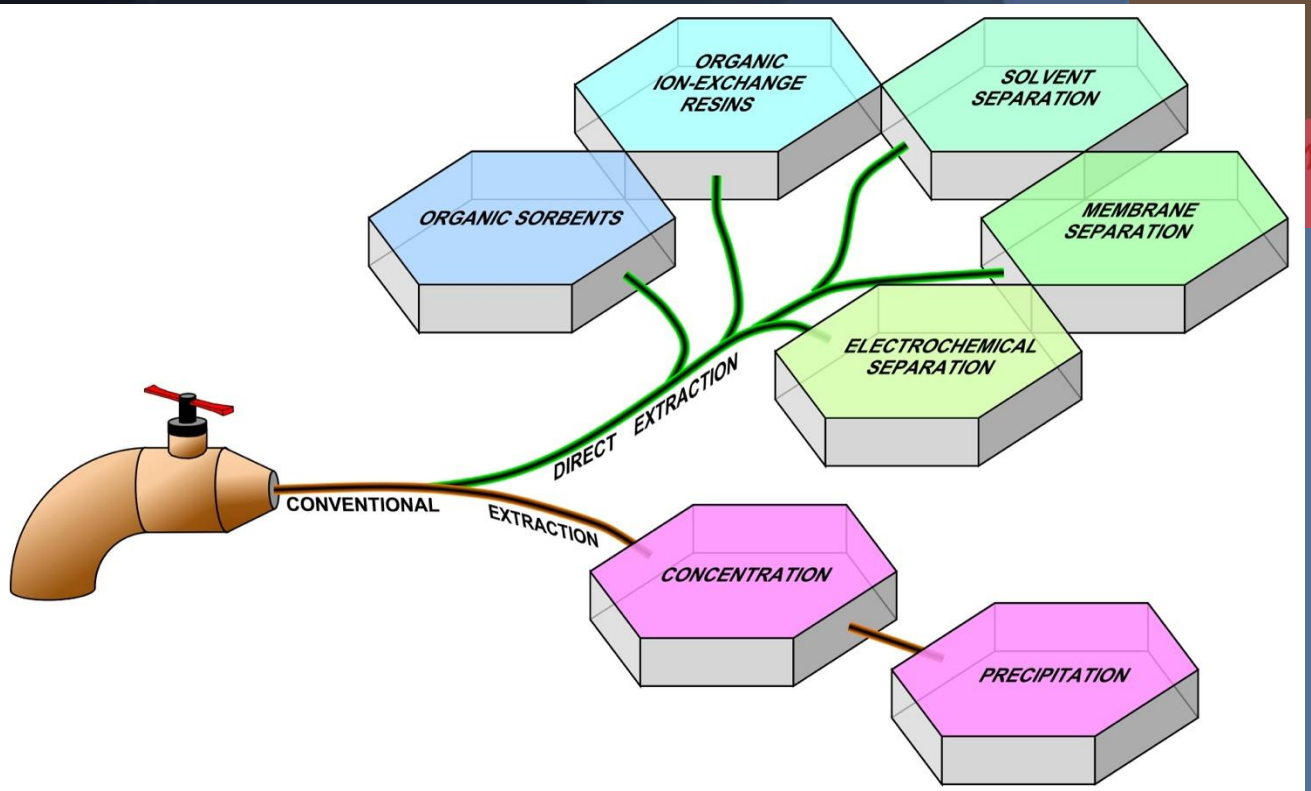
Litio in fluidi «termali» dell'Appennino Settentrionale





Perché cercare il litio nei geofluidi ?





Dobbiamo esplorare le risorse italiane (ed europee), anche se di dimensioni modeste, per differenziare le zone di approvvigionamento e ridurre i rischi geopolitici per le filiere industriali continentali (CRM Act)

Produzione di shale gas negli USA e lisciviazione litio