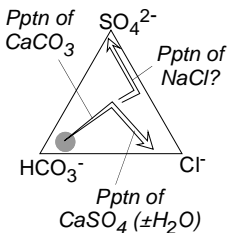


Chemistry of lacustrine waters

These plots show the molar proportions of the major anions and cations in a selection of lacustrine waters (waters in lakes) around the world. These lakes range from the relatively dilute to the very briny, as the legend shows. The small triangles suggest hypothetical pathways for the evolution of many of these waters.

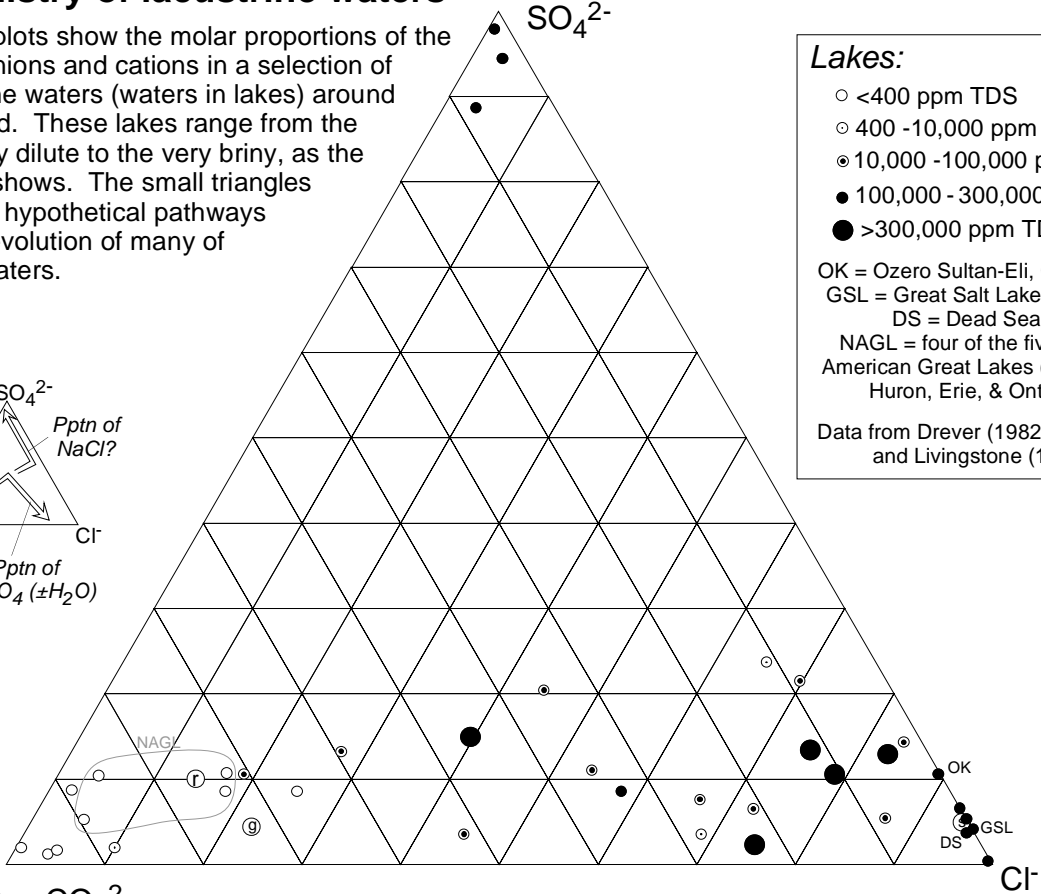


Lakes:

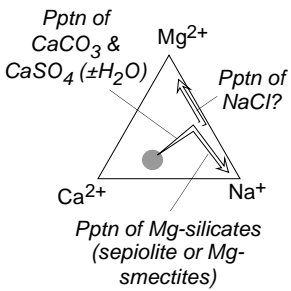
- <400 ppm TDS
- ◉ 400 -10,000 ppm TDS
- ⊙ 10,000 -100,000 ppm TDS
- 100,000 - 300,000 ppm TDS
- >300,000 ppm TDS

OK = Ozero Sultan-Eli, Crimea;
 GSL = Great Salt Lake (Utah)
 DS = Dead Sea
 NAGL = four of the five North American Great Lakes (Superior, Huron, Erie, & Ontario)

Data from Drever (1982) Table 9-1 and Livingstone (1963)

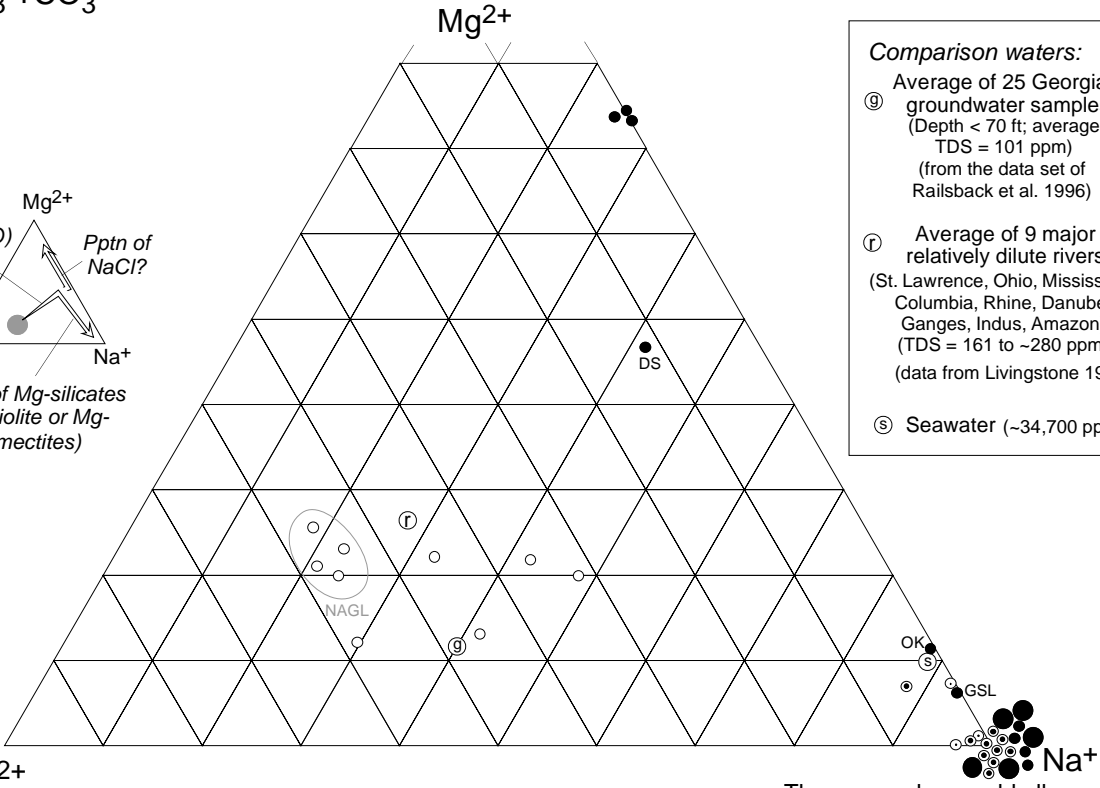


$\text{HCO}_3^- + \text{CO}_3^{2-}$



Comparison waters:

- ⑨ Average of 25 Georgia groundwater samples (Depth < 70 ft; average TDS = 101 ppm) (from the data set of Railsback et al. 1996)
- Ⓡ Average of 9 major relatively dilute rivers (St. Lawrence, Ohio, Mississippi, Columbia, Rhine, Danube, Ganges, Indus, Amazon) (TDS = 161 to ~280 ppm) (data from Livingstone 1963)
- Ⓢ Seawater (~34,700 ppm)



Ca^{2+}

These samples would all overlap on the Na^+ corner.