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Electrical Conductivity of Natural Waters

EC CONVERSIONS
 dS/m = mS/cm = mmho/cm
 µS/cm = µmho/cm
 10 mS/cm = 1 S/m

0.097 dS/m Lake Superior
 0.15 dS/m Columbia River (Wenatche)
 0.16 dS/m Sacramento River (Tisdale)
 0.41 dS/m Snake River (Minskaka)
 0.85 dS/m Lake Mead
 1.06 dS/m Colorado River (Yuma)
 1.16 dS/m Río Grande River (El Paso)
 3.21 dS/m Pecos River (Carlsbad)
 43 dS/m Atlantic Ocean
 158 dS/m Great Salt Lake

EC @ 25°C dS/m	Sodium Chloride ^a g NaCl/kg H ₂ O	Potassium Chloride ^b g KCl/kg H ₂ O
0.1	0.0455	0.0466
0.2	0.0910	0.0930
0.5	0.2421	0.2456
1	0.4870	0.5120
2	1.0206	1.0603
5	2.6413	2.8186
10	5.4232	5.6738
20	11.1351	12.2490

USEFUL EQUATIONS
 Concentration vs. EC for NaCl^a
 C_{g NaCl/kg H₂O} = 0.867 EC^b (EC in dS/m)
 Concentration vs. EC for KCl^b
 C_{g KCl/kg H₂O} = 0.532 EC^b (EC in dS/m)
 Concentration of total dissolved solids for typical natural waters vs. EC^c
 C_{mg solids/kg H₂O} = 0.85 EC^b (EC in dS/m)
 EC in all cases is assumed to be the value at 25°C

Temperature correction of EC^b
 $EC_c = \frac{EC}{1 + 0.025(T-25)}$
 where T is Celsius temperature and EC_c is the EC at that temperature

^aUnits based on an assumption of temperature of water and that only NaCl is dissolved in the water.
^bUnits based on an assumption of temperature of water and that only KCl is dissolved in the water.
^cUnits based on an assumption of temperature of water and that only NaCl and KCl are dissolved in the water.

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