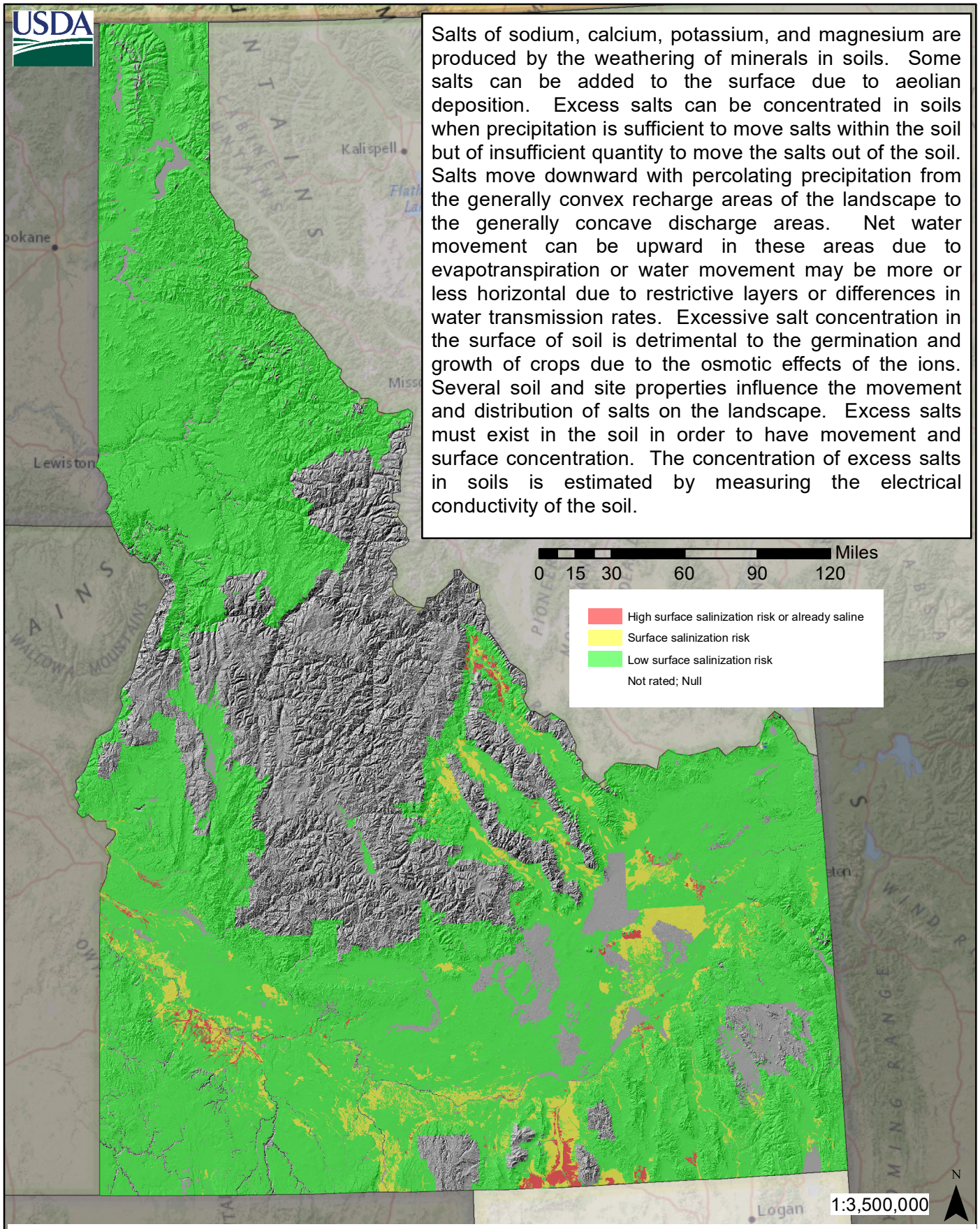
Surface Salt Concentration



Salts of sodium, calcium, potassium, and magnesium are produced by the weathering of minerals in soils. Some salts can be added to the surface due to aeolian deposition. Excess salts can be concentrated in soils when precipitation is sufficient to move salts within the soil but of insufficient quantity to move the salts out of the soil. Salts move downward with percolating precipitation from the generally convex recharge areas of the landscape to the generally concave discharge areas. Net water movement can be upward in these areas due to evapotranspiration or water movement may be more or less horizontal due to restrictive layers or differences in water transmission rates. Excessive salt concentration in the surface of soil is detrimental to the germination and growth of crops due to the osmotic effects of the ions. Several soil and site properties influence the movement and distribution of salts on the landscape. Excess salts must exist in the soil in order to have movement and surface concentration. The concentration of excess salts in soils is estimated by measuring the electrical conductivity of the soil.

Soil Survey Staff. Gridded Soil Survey Geographic (gSSURGO) Database for Idaho. United States Department of Agriculture, Natural Resources Conservation Service. Available online at http://datagateway.nrcs.usda.gov/. 20190917 (FY2020 official release).