



SYSTEM DIMENSIONS	CHEMICAL AND PHYSICAL	BIOLOGICAL COMPONENTS	HUMAN USES
Extent Pattern	Nutrients, Carbon, Oxygen Contaminants <b>Physical</b>	Plants and Animals Communities Ecological Productivity	Food, Fiber, and Water Recreation and Other Services

## ⊖ Soil Salinity

### What Is This Indicator, and Why Is It Important?

This indicator would report the percentage of cropland with different levels of salt content, measured in decisiemens per meter (dS/m). A map showing the percentage of land in each major cropland region with elevated salt levels (i.e., over 4 dS/m), would accompany the nationwide data.

Excess salt has the same effect on plants as drought: too much salt in soil reduces the ability of plants to take up water, which interferes with their growth and reduces their vitality. Excess salt in soils can also enter groundwater and surface water. Highly saline water is hazardous to freshwater fish, and waterfowl accustomed to freshwater avoid it. Some salts, like those containing sodium, can change the physical condition of the soil, reducing infiltration, increasing runoff and erosion, and impairing biological activity. Soil salinity, along with organic matter content (p. 99), erosion (p. 100), and soil biological condition (p. 102), is a key indicator of soil quality.

Soil salinization often results from irrigated agriculture, and it is generally a problem in arid areas. Water used for irrigation contains small amounts of salt, and when water evaporates from the soil surface or from the leaves of plants, it leaves salt behind in the soil. In arid areas, these salts can accumulate and cause problems. In areas with greater rainfall, salts are drained from the soil by the larger volumes of water flowing through the soil, and tend not to accumulate to high levels.

Although much less widespread, salinization can occur in the absence of irrigation. Some areas have naturally high salt content in their soil, while saline seeps can occur when water moves through the soil, picking up salts, and then emerges at a seep or spring.

**Why Can't This Indicator Be Reported at This Time?** Salinity measurements are often included in routine soil tests conducted by farmers, government agencies, and researchers. However, there is no unified effort to collect these data and incorporate them into a national database to monitor trends over time.

The technical note for this indicator is on page 235.

