

Aim: What causes reduction in soil quality and arable land?

ARABLE LAND – land that can be plowed and used for farming (U.S. #1)

<p>1. soil erosion</p>	<p>Soil Erosion - movement of soil components – especially surface layers (O and A)</p> <p>In the U.S., soil is eroded 16X faster than it forms</p> <p><u>Natural Causes</u> - water, wind, gravity, and ice (glaciers)</p> <p><u>Anthropogenic Causes</u> - poor soil management practices (farming, logging, deforestation, overgrazing, construction) (anything that destroys plants which help anchor soil in place)</p> <p><u>Associated Negative Effects</u> - soil is less fertile, less able to retain water sediment causes water pollution, less drinkable water, kills fish, increases flood potential</p> <p>1930's Dust Bowl – Great Plains poor cultivation practices (plowing and overgrazing) and prolonged drought (1926-1934)</p> <p>1935 Soil Erosion/Conservation Act – established the Soil Conservation Service (SCS) which promoted sound soil conservation practices</p> <p>1994 – SCS name changed to National Resources Conservation Service (NRCS) – reflects broader mission to improve, protect, and conserve natural resources (with a focus on agriculture)</p>
<p>2. salinization</p>	<p>- saltwater intrusion into soils</p> <p>- natural weathering of rocks and minerals</p> <p>- accumulation of salts from irrigated water</p> <p>- stunts growth and lowers crop yield (radish lab!!!)</p> <p>- most impact: Australia, Arabian Peninsula, India, China, Latin America</p>
<p>3. desertification</p>	<p>- decline in agricultural potential of semiarid lands (arable → desert)</p> <p>- caused by overgrazing, deforestation, irrigation practices that increase erosion</p> <p>- which causes a lack of water retention</p> <p>- most impact: Africa</p>
<p>4. waterlogging</p>	<p>- irrigation water or precipitation saturates soil</p> <p>- water table rises to root levels – restricts air flow and “suffocates roots”</p> <p>- root rot</p>

can be accelerated by overextracting groundwater

as water flows over surface, it picks up salts that get deposited in the farmland when water evaporates