

# barren land

Haiti's dependence on cutting its trees for charcoal has led to massive deforestation and one of the most severe ecological disasters in the world. Today, the same rainstorms that once fed forests and replenished aquifers now send tons of valuable topsoil rushing to the ocean.



Border

Haiti's trees have been stripped away, turning once-lush forests into desert.

The Dominican Republic's forests are threatened by Haitians who cross the border to harvest wood for charcoal.

STARK CONTRAST: The border between Haiti and the Dominican Republic is more than a political boundary. Above, a composite satellite image from NASA shows the extent of deforestation on the Haitian side of the border.

## Path of destruction

Erosion begins in the mountains but the effects are felt wherever water flows through the landscape. A look at the stages of environmental damage:

### 1 Deforestation

In a healthy environment, trees protect topsoil by catching the rain, slowing its fall and absorbing water through their roots. When trees are removed, the rain hits the soil directly and flows down the mountainside.

### 2 Erosion

The unchecked water flow eats away at the terrain, exposing bedrock and causing mudslides. As the topsoil and its essential nutrients wash away, reforestation becomes impossible.

### 3 Siltation

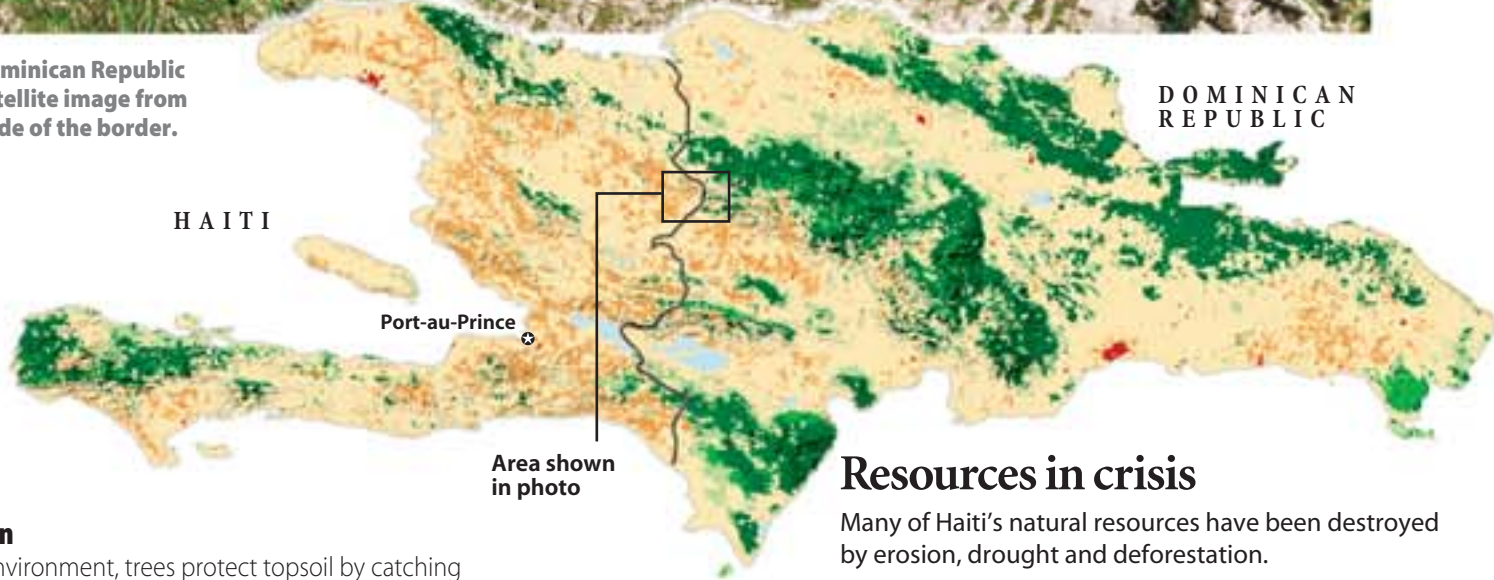
The runoff carries the soil into streams, rivers and lakes where it blocks out sunlight, kills aquatic plants and smothers fish habitat.

### 4 Flash floods

As the rivers and lakes fill with silt, they lose their ability to channel runoff from the storms. This results in flash floods that destroy crops and wash away livestock.

### 5 Pollution

The muddy water rushes through city streets, picking up trash and debris that is carried into the ocean. The polluted water covers reefs, killing coral and wiping out fishing grounds.



HAITI

DOMINICAN REPUBLIC

Port-au-Prince

Area shown in photo

## Resources in crisis

Many of Haiti's natural resources have been destroyed by erosion, drought and deforestation.

### Forests

Estimated land cover for Haiti and the Dominican Republic in 2000.

- Evergreen forest
- Mixed forest/wood land
- Crop land
- Deciduous forest
- Grass/shrubland
- Urban/bare

### Agriculture

Haiti's farmlands have also been affected by flooding.

Most severely degraded areas in 2000



Normally, rainwater seeps into the ground and enters the aquifer, replenishing water supplies.

Existing water is pushed slowly toward the ocean, creating pressure that keeps salt water at bay.

## The effects on Haiti's water supply

Erosion can also wreak havoc under ground. When rain rushes to the ocean, less water is available to sink into the ground and replenish aquifers. This reduces the water available to wells and increases the risk that salt water will seep in and contaminate an aquifer.

Water pressure drops when an aquifer is depleted.

Pumping water from wells further reduces the pressure.

Salt water can then seep into the aquifer and render the water undrinkable.

SOURCES: NASA/Goddard Space Flight Center Scientific Visualization Studio, World Food Program, United States Agency for International Development

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