

ACTIVITY 1: Mapping Our Human Footprint

Students learn about the *Human Footprint Atlas*, analyze a map showing where and to what extent humans have influenced Earth, and participate in a class discussion. They make connections between patterns of human influence and geographic factors.

Materials:



- World map from the *Human Footprint Atlas: World* (wcs.org/humanfootprintatlas)



- Additional country or regional map(s) from the *Human Footprint Atlas* (optional)



- Overhead or computer projector to display map(s)



- 20-30 minutes for class discussion

DIRECTIONS

1. Introduce. Scientists with the Wildlife Conservation Society/Columbia University's Human Footprint Project mapped degrees of human influence over every square kilometer of Earth's surface (1 square kilometer = .39 square mile).

- Four factors were evaluated—population, travel routes, land use, and lights. While humans affect Earth in many ways, these four have the most immediate impact on wildlife and wild lands.

2. Display *Human Footprint Atlas: World map*. Review the legend, explain that green signifies areas of *lesser* human influence; red signifies areas of *greater* human influence:



Discussion prompts:

- Find your hometown. What color is it on the map? How great is the human influence? *Answers will vary.*
- What areas are *less* influenced by humans (shaded green)? *Possible answers: the Amazon Rainforest, the Sahara Desert, Northern Canada, Northern Russia, and central Australia.*
- What connections can students make between areas of *less* influence (shaded green) and geographic factors (e.g., climate, physical landscape). Encourage students to notice that these areas tend to have a harsh climate and are remote and/or inaccessible due to physical features (e.g. Arctic Circle, Sahara Desert, the Himalayas, the Amazon rainforest).
- Will areas with *lower* degrees of human influence remain this way (remind students that this map reflects four factors: population, travel routes, land

use, and lights)? Which factors are likely to change over time? Each factor could increase, decrease, or remain unchanged over time. The *Human Footprint Atlas* will need to be constantly updated to reflect these changes.

- In which areas is the degree of human influence *greater* (shaded red)? *Possible answers: Europe, India, Southeast Asia, and the eastern coast of South America.*
- What connections can students make between areas of *greater* influence (shaded red) and geographic factors (e.g., climate, physical landscape). Encourage students to notice that these areas tend to have a moderate climate, arable land, and proximity to oceans. They are also close to sources of fresh water and are easily accessible.

For Further Discussion

- This map does not show population, but areas that have been affected by human populations. Have students compare this map to a world population map. What differences do they see?
- Have students compare two continents and hypothesize reasons for different levels of human influence.
- Have students compare one or more regional or country maps from the *Human Footprint Atlas*.
- Ask students to visualize (or draw) a map of human influence of their hometown. What gradient or color is their school neighborhood? The nearest park? The nearest shopping area?