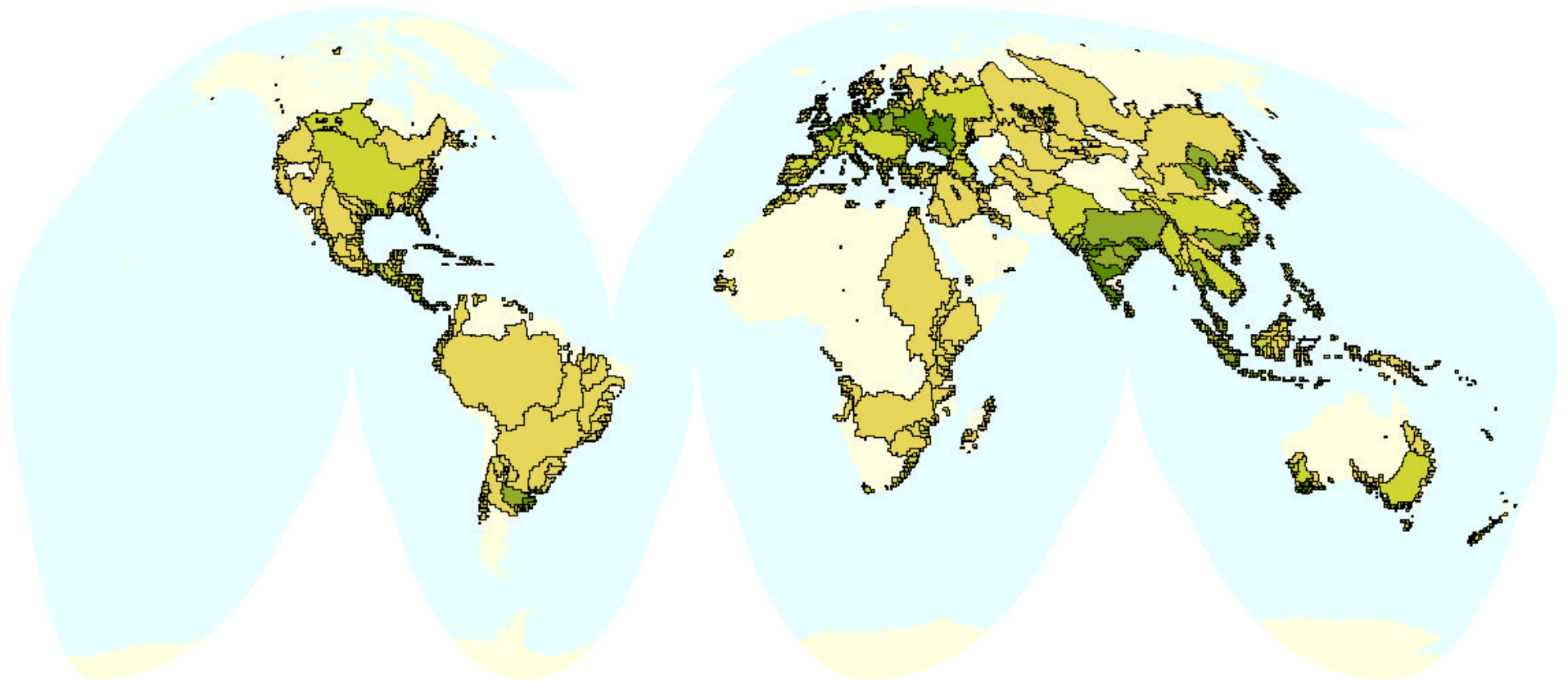


## Cropland Area by River Basin

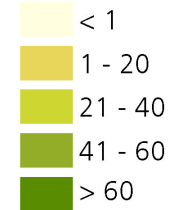


**Map Projection:** Interrupted Goode's Homolosine

**Citation:** World Resources Institute - PAGE, 2000

**Notes:**

Percentage of  
cropland area  
by basin



**Map Description:**

Freshwater systems are influenced not only by modifying rivers, lakes, and wetlands directly, but also by changing land-use patterns in the whole watershed. The pattern and extent of cities, roads, agricultural land, and natural areas within a watershed influences infiltration properties, transpiration rates, and runoff patterns, which in turn impact water quantity and quality. For example, expanding impervious areas increases the volume and rate of runoff of receiving streams and impacts the water quality and biodiversity of freshwater systems. This map presents the distribution of watersheds containing intensive agriculture. Watersheds with intensive agricultural development are likely to experience water quality degradation from pesticide and nutrient runoffs and increased sediment loads. This map shows that intensively cropped land is concentrated in five areas: Europe, India, eastern China, Southeast Asia, and the midwestern United States, with smaller concentrations in Argentina, Australia, and Central America. Africa is striking in its lack of intensively cropped land, with the exception of small patches along the Mediterranean coast and in South Africa. This reflects the minimal use of chemical inputs and the low level of agricultural productivity in most African countries.

**Analytical Overview:**

Agricultural areas were extracted from the IGBP version of a global one-kilometer resolution land-cover characteristics database (GLCCD 1998). These cropland areas exclude those with more balanced mosaics of cropland and natural vegetation. Percentage cropland area was aggregated by large river basins to produce global maps. Basin boundaries come from Fekete et al. 1999.

**Source:**

1. GLCCD, 1998. Global Land Cover Characteristics Database, Version 1.2.. Loveland, T.R., B.C. Reed, J.F. Brown, D.O. Ohlen, Z. Zhu, L. Yang, and J. Merchant. 1998. "Development of a Global Land Cover Characteristics Database and IGBP DISCover from 1-km AVHRR Data" International Journal of Remote Sensing 21(6-7): 1303-1330. Available On-line at: <http://edcaac.usgs.gov/glcc/glcc.html>. Global Land Cover Characteristics Database, Version 1.2.
2. Fekete, B., C.J. Vörösmarty, and W. Grabs. 1999, Global, Composite Runoff Fields Based on Observed River Discharge and Simulated Water Balance. Koblenz, Germany: WMO-GRDC.