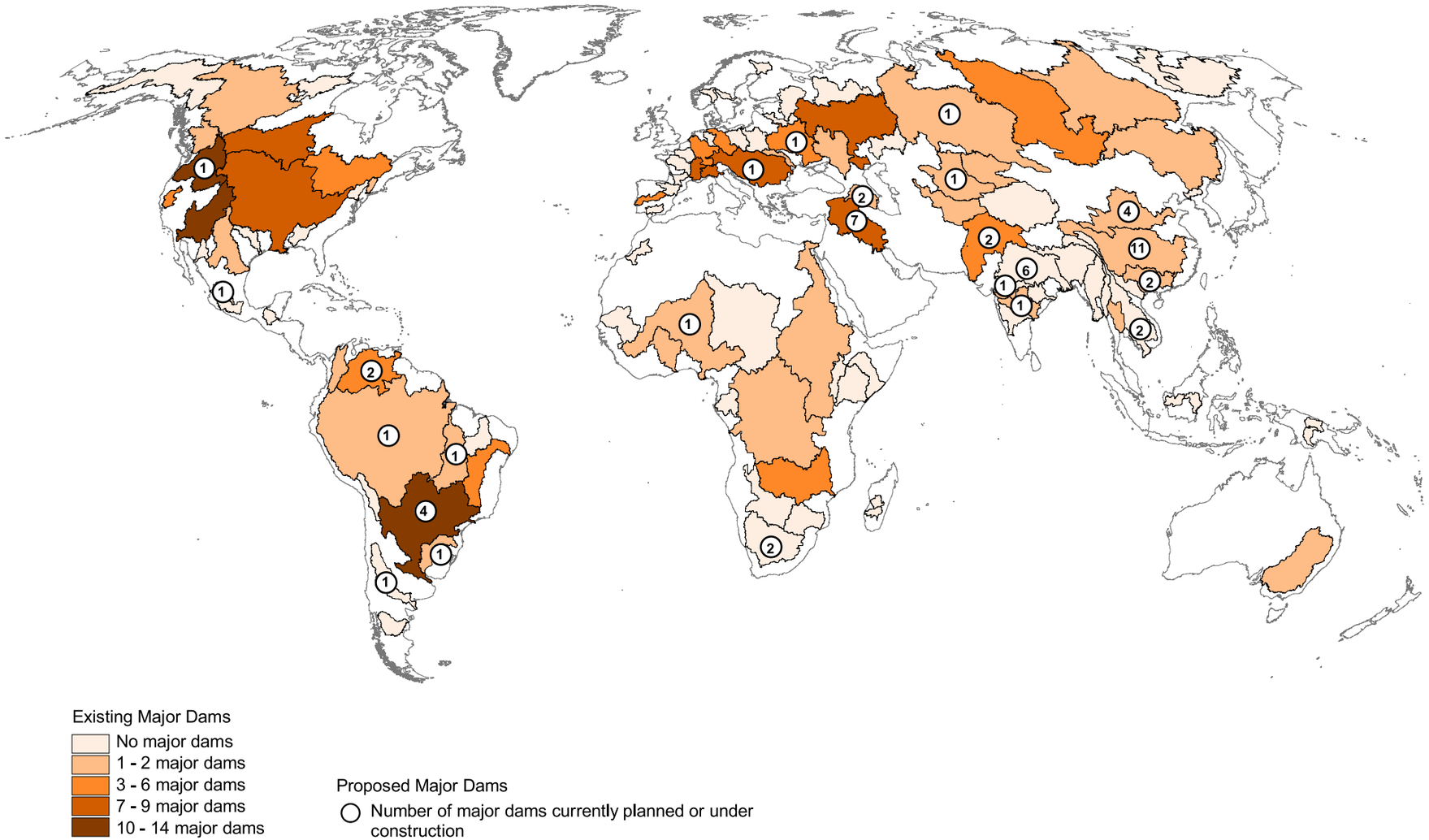
Watersheds of the World - Existing and Proposed Major Dams



Map Projection: Robinson

Citation: Revenga, C., S. Murray, J. Abramovitz, and A. Hammond, 1998. Watersheds of the World: Ecological Value and Vulnerability. Washington, DC: World Resources Institute.

Analytical Overview:

A complete digital dataset of 306 major dams was created for this project using the list, "The World's Major Dams and Hydro Plants," from the International Water Power and Dam Construction Handbook, 1995. A small subset of 56 major dams planned or under construction in 1994 was selected using the list, "Large Dams Under Construction," from the same publication. Each major dam was selected using the following criteria: dam height was greater than 150 meters, water volume was greater than 15 million cubic meters, reservoir storage capacity was at least 25 cubic kilometers, or generating capacity was greater than 1,000 megawatts. It is important to note that information on dam construction for many countries was not available.

Source:

Revenga, C., S. Murray, J. Abramovitz, and A. Hammond, 1998. Watersheds of the World: Ecological Value and Vulnerability. Washington, DC: World Resources Institute, based on data from "The World's Major Dams and Hydro Plants" and "Dams (>15m) Under Construction," International Water Power and Dam Construction Handbook, 1995; ArcAtlas: Our Earth database, Environmental Systems Research Institute, 1997; and National Inventory of Dams database, Army Corps of Engineers, 1995-1996.

Description:

This map shows the number of existing and planned major dams by basin as of 1994. A major dam is defined as having a height greater than 150 meters, a water volume greater than 15 million cubic meters, a reservoir storage capacity of at least 25 cubic kilometers, or a generating capacity greater than 1,000 megawatts. All major dams are included in the map. However, rivers are also fragmented by hundreds of large dams (those that are over 15m high) and thousands of small dams (those with a height below 15m). There are more than 40,000 large dams worldwide, and up to 800,000 small dams. A comprehensive list of large and small dams, however, is only available for the United States; therefore, these are not included in this map.

Dams can be indicators of the degree of modification of a river. Most major rivers in the world have been heavily dammed. Of the 106 watersheds analyzed, 46 percent have been modified by at least one major dam. Most of the major dams in the world are found in North America, Europe, and the Paraná basin in South America. The Paraná basin alone has 14 major dams. As of 1994, 56 additional major dams were planned or under construction around the world. Just five watersheds account for the majority of the 56 proposed dams-- led by the Yangtze with 11, the Tigris and Euphrates with 7, the Ganges with 6, and the Hwang He and Paraná with 4 each. It is important to note that information on dam construction for many countries was not available.