

McCall

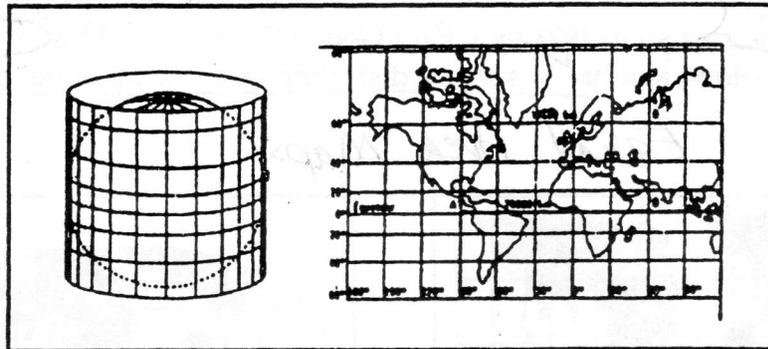
## An Explanation of the Peters World Map

Congratulations on selecting the Peters Projection World Map! You have in your hands one of the most stimulating, and controversial, maps in use today. This flier is designed to give you a fair and balanced perspective on the Peters map. When the map was first introduced by historian and cartographer Dr. Arno Peters at a Press Conference in Germany in 1974 it generated a firestorm of debate. The first English-version of the map was published in 1983, and it continues to have passionate fans as well as staunch detractors.

→ The earth is round. The challenge of any map is to represent a round earth on a flat surface. There are literally thousands of map projections. Each has certain strengths and corresponding weaknesses. Choosing among them is an exercise in values clarification: you have to decide what's important to you. That is generally determined by the way you intend to use the map.

Let's look at the challenge of understanding map projections. Imagine a light bulb in the center of a globe of the earth. Then wrap the earth in a cylinder. The globe's surface gets "projected" out onto the cylinder. One of the first map projections was created in 1569 by Mercator (who's name was actually Gerhard Kremer, 1512-1594). His projection was created for navigators who were sailing on the oceans in wooden ships, powered by the wind, and navigating by the stars. One could draw a straight line from point "A" to point "B" on the map, follow that line with a compass and arrive at the predicted destination. A tribute to this cartographic breakthrough is that today the Mercator map is still the only map used for navigational purposes.

The Mercator Projection



From A New View of the World: A Handbook to the World Map - Peters Projection, Ward Kaiser, 1987, page 7.  
Available from ODT, Inc., PO Box 134, Amherst MA 01004 (1-800-736-1293).

The Mercator projection is the most widely used, and widely known, map in the world today. This is actually quite peculiar because the map is irrelevant to us non-navigators. Cartographers recognize the value of the map's "angular accuracy" for sailing, but generally agree that the map is useless for those of us on land. Why has this image stayed with us so persistently, when it is so specialized and out of date?

One reason may be that the Mercator map pushes the equator down below the 50% mark on the vertical axis of the map. This ends up squashing the Southern Hemisphere into a more compressed space, and EXPANDING the Northern Hemisphere to appear much larger than it really is. This was convenient, psychologically and practically, through the eras of colonial domination when most of the world powers were European. It suited them to maintain an image of the world with Europe at the center and looking much larger than it really was. Was this conscious or deliberate? Probably not, as most map users probably never realized the Eurocentric bias inherent in their world view.

By stretching the scale to emphasize the size of the European countries, map users from those countries were able to see the relationships among their immediate neighbors in greater detail (a trait that was surely important to them). The Mercator was also a "conformal" map. This means that it showed shapes correctly, at the cost of distorted sizes. The Mercator map is notorious for its extreme size distortions at the higher latitudes.

Unfortunately, any map with angular accuracy cannot possibly be accurate in terms of land mass area. That's why, on Mercator's map, Greenland looks like it is the same size as Africa when, in fact, Africa is really 14 times larger.

Greenland: 0.8 mill. sq. miles



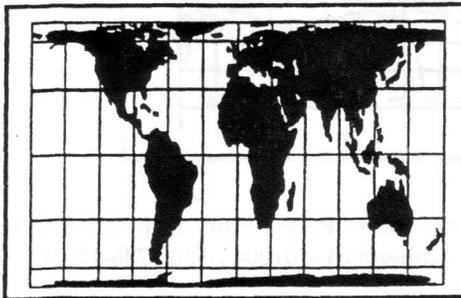
Africa: 11.6 mill. sq. miles

Adapted from *A New View of the World: A Handbook to the World Map - Peters Projection*, Ward Kaiser, 1987, page 7. Available from ODT, Inc., PO Box 134, Amherst MA 01004 (1-800-736-1293).

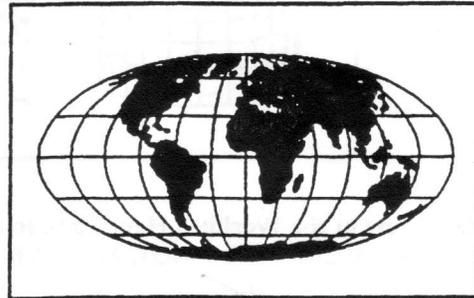
A different type of map is an "Equal-Area" map. This shows sizes accurately while sacrificing the accuracy of shape. The Peters Projection is one type of equal area map. Is it the only one? No, there are hundreds of others, but only a handful of others are in common use. The Mollweide projection, developed in 1805, is commonly used for displaying distributions (people, telecommunications equipment, the world's religions, etc). Karl B. Mollweide (1774-1825) specifically sought to improve upon the weaknesses of the Mercator projection. The Eckert IV is another equal area projection developed in the 1920's by Max Eckert (1868-1938). This has the advantage of less shape distortion near the equator and the poles. A fourth equal-area map is Goode's Homolosine created in 1921 by J. Paul Goode (1862-1932). This interrupted map looks like an orange peel (see figure below) and has less shape distortion than the other equal area maps.

### Equal Area Maps

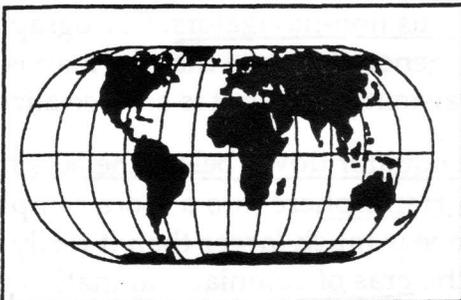
Peters



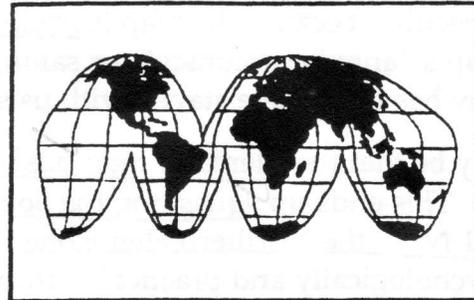
Mollweide



Eckert IV



Goode's Homolosine



Projections adapted from *The Nystrom Desk Atlas*, 1999 edition, pages 138 - 139. Available from Nystrom, 3333 Elston Avenue, Chicago IL 60618 (1-800-621-8086).

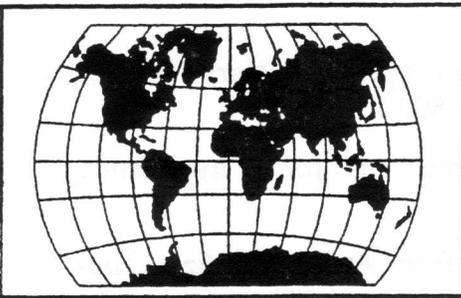
Is one map "better" than another? No! There are simply different projections for different purposes. The Peters map is commonly used in contrast to the Mercator map, and is visually engaging because it is so jarringly different. At ODT, Inc. we prefer it above other equal area projections because it shocks viewers into questioning their assumptions, about maps specifically and about life in general. It helps people to "think outside of the box" by exploring how what they see is predicated on what they expect to see.

ODT, Inc. has been involved in exploring the biases in perception as they occur in a variety of business contexts: performance appraisal, strategy & planning, market research, corporate culture change, and leadership development. Our management training and cultural diversity programs are designed to help people recognize that there are many different valid points of view. People can communicate better with others when they recognize that there are many perspectives from which to view the world. When you believe that your own view is the only valid one, you cut off effective communication with others who may not share your cultural assumptions and perspective.

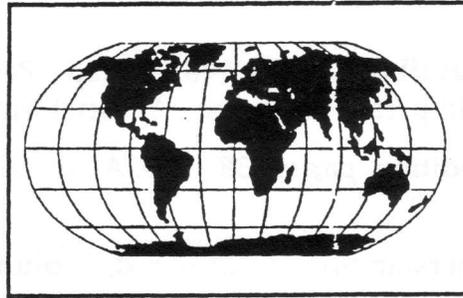
Other projections in use today include "Compromise" projections: maps that try to achieve some degree of accuracy of shape and not distort the land mass areas too dramatically. The Van der Grinten projection was developed in 1904 and was the official projection of the National Geographic Society from 1922 to 1988. From 1988 to 1998 the National Geographic Society used the Robinson projection (created in 1963 by Arthur H. Robinson). Recently the National Geographic Society adopted the Winkel Tripel projection. Oswald Winkel developed this projection in 1921, and it has the advantage of minimizing shape distortion in the polar areas.

*Compromise maps*

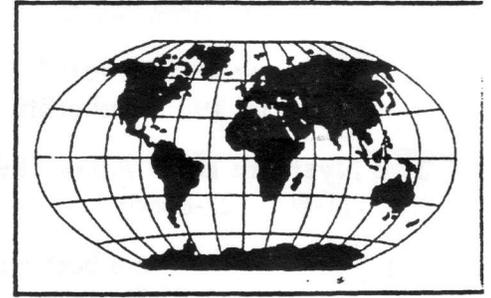
*Van der Grinten*



*Robinson*



*Winkel Tripel*



Projections adapted from *The Nystrom Desk Atlas*, 1999 edition, pages 138 - 139.  
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The implications of any projection are enormous. Images we see shape our perceptions of the world. It's enriching to see a variety of points-of-view. Have you ever seen a map with Australia on top? The Upside-Down world map comes in a variety of projections, but reverses the poles. Whoever said that North must be "up"? Maps are based on a variety of assumptions, most of which are subliminal and below our threshold of consciousness. We hope all students will benefit from challenging implicit assumptions and deciding for themselves what maps of the world are valid and useful for them.

*The Upside Down World Map challenges basic notions of "up" and "down".*



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World mission and aid-giving agencies use the Peters map because it serves to represent the developing countries at their true size and proportion. People feel pride in their country when its size is shown accurately. The Peters map has been widely adopted over much of the world. There are over 80 million copies in circulation. Then why is it not better known in North America? Among related factors are these: (1) our resistance to join the rest of the world on the metric system (even the British have changed from inches and Fahrenheit to centimeters and Celsius), (2) national surveys showing U.S. schoolchildren have among the lowest levels of geography awareness of all developed nations, and (3) many professional cartographers have resented the "politicization" of their field. Arno Peters was one of the first to assert that maps are political, not simply objective and scientific.

We hope you'll explore many different points of view. Lots of great free materials are available from the U.S. Geological Survey. They are at 1-800-USA-MAPS and have a fax-on-demand system at 1-703-648-4888. Check out their web site at [www.USGS.gov](http://www.USGS.gov). The National Geographic Society has materials at [www.nationalgeographic.com](http://www.nationalgeographic.com). Also check out [www.terraserver.com](http://www.terraserver.com) and [www.NystromNet.com](http://www.NystromNet.com). For questions regarding the Peters map, please call the ODT teacher support hot-line at 1-800-736-1293.

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