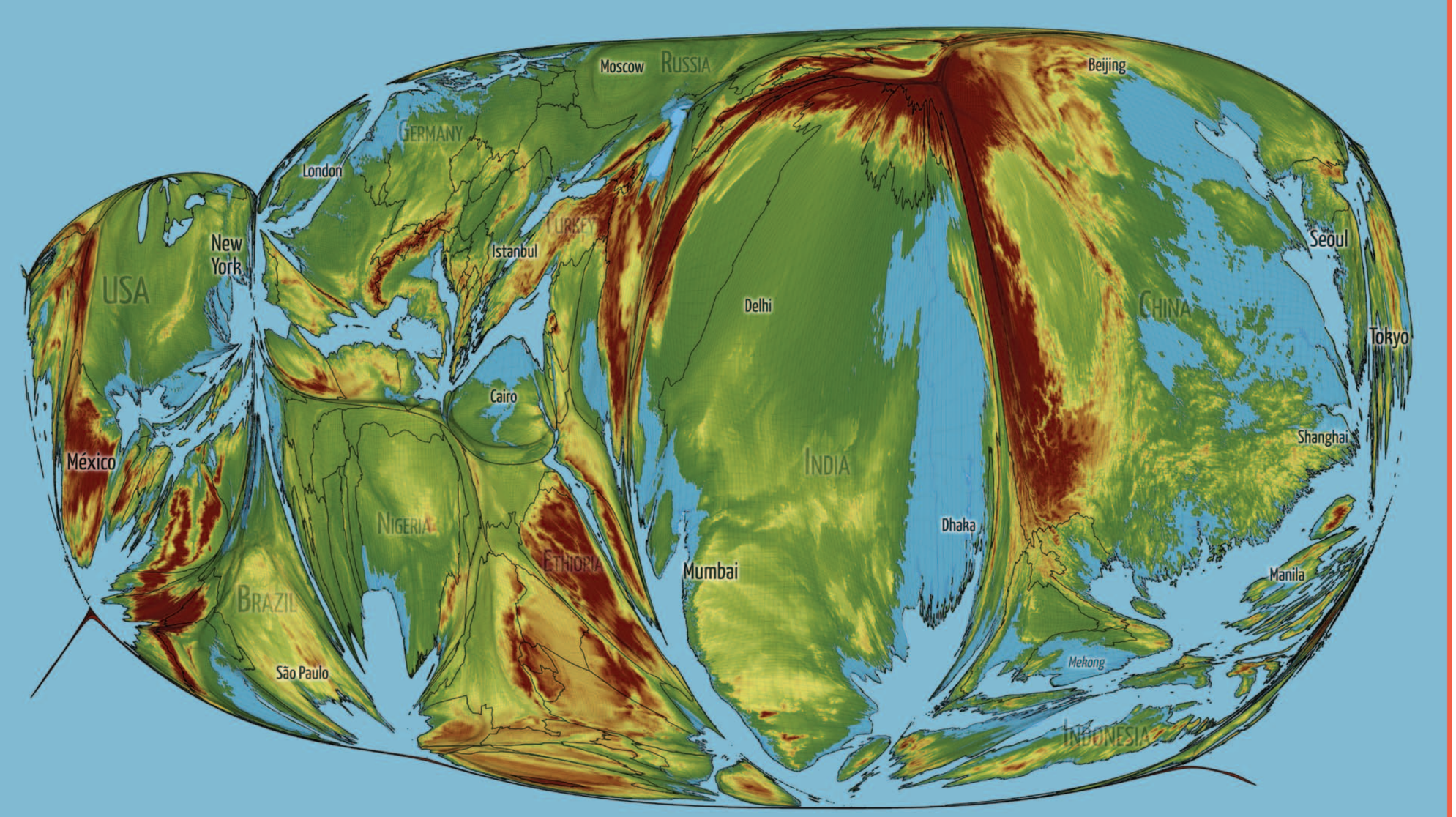

CARTOGRAMS

PEOPLE AND THE SEA

BY BENJAMIN HENNIG

Medieval European maps of the world (*mappae mundi*) were schematic perceptions of the world at the time. While they were not meant to be accurate or precise representations, they tell the stories of the Middle Ages.

But what would a *mappa mundi* of our times look like? While the European dominance is fading in its global relevance, moving the perspectives away from our century-old imagination of the world, the largest population centres in Asia as well as the growing populations on the African continent define the present and future of our planet. With the growing awareness of environmental issues, these issues of global environmental and social change are the stories of our time. A modern equivalent of such a map would have to focus on those spaces of our planet where these issues take place. The above cartogram, generated over the whole surface of Earth, could be such a contemporary depiction of the world. It divides the world into equal spaces of population realigning the map view to show the human planet in a similar way as *mappae mundi* showed the world centuries ago.

The sea areas are reduced to a minimum, only leaving space for preserving the outlines of the continents. This map shrinks the oceans down to take up hardly any space at all, leaving plenty of room for the land. It then re-projects the land so that area is proportional to population and drapes over that new projection an image of the elevation of the land so it is possible to see how many people live at each altitude and where. Further highlighted, in slightly darker blue than the seas, are those populations that live on land that is less than 50 metres above sea level, symbolising the exposure of humankind to climate change.

New images can help to concentrate attention. Eastern China, Bangladesh and parts of western India, much of the Mekong Delta, the Nile Delta, northwest Europe, and the east and south coast of the USA all contain relatively large populations living at relatively low altitudes. It may not be as much sea levels rising that matter here as water from storms draining more slowly when rainfall increases and land is low-lying. But in this new way you see a picture that is almost entirely made up of people and where almost everywhere some are at greater risk than others as environmental circumstances change.

Benjamin Hennig is a senior research fellow in the School of Geography and the Environment at the University of Oxford. He is involved in the Worldmapper project and maintains the visualisation blog www.viewsoftheworld.net

LIGHTNING

SPARKING INTEREST

Lake Maracaibo in northeast Venezuela experiences the most lightning in the world. Almost every night, the clouds crackle with 100,000 to 400,000 volts of energy, lighting up the sky for miles

Surrounded by mountains on all but one side, Lake Maracaibo is a lightning trap. Warm winds rushing off the Caribbean smash into the cooler air from the nearby Andes. The warm air is forced upwards where it condenses into thunderclouds, which average 1.2 million strikes per year.

The atmospheric phenomenon is known as the Lighthouse of Maracaibo. Since at least the 16th century it has been lighting up the night sky, foiling the invasion attempts of Sir Francis Drake in 1595 and exposing the arrival of a Spanish fleet during the Venezuelan war of independence in 1823. Its longest absence in living memory was during the El Niño of 2010, when it was thought that the surrounding drought prevented clouds from forming for six weeks. When the drought ended, the lightning returned in full force and today can occur for ten hours a night, 160 nights per year.

The lightning is bringing a vein of tourism to an otherwise unfrequented area. Rocked by political uncertainty and economic instability, Venezuela is often avoided by visitors. The Venezuelan government's long history of prioritising oil revenue has neglected other industries and left tourism threadbare. However, the strong chance of seeing the Lighthouse of Maracaibo has attracted the attention of plenty of storm chasers.

This year, it has ousted the Congolese town of Kifuka as the place with the world's most lightning bolts per year in the Guinness World Records. Locals hope the new title might support independent tours of the area and its surrounding natural parks.

SHUTTERSTOCK