

Status report on the  
preparation of the GEBCO  
Globe

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## **Report: The GEBCO Globe, as of October 2011**

The General Bathymetric Chart of the Ocean (GEBCO) Project began in 1903, and continues into the 21<sup>st</sup> Century. The purpose of GEBCO is to develop and produce the best public domain representation of the bathymetry (depth) of the world's oceans. GEBCO has progressed through the publication of five editions of printed maps of the world ocean floor, and now publishes those maps digitally, on CD ROM, along with viewing software. In addition, gridded data bases of world bathymetry, along with software for creating and viewing maps, are available for free download from the GEBCO web site [www.gebco.net](http://www.gebco.net).

In 2009, GEBCO initiated a project to produce a terrestrial globe featuring GEBCO bathymetry. All flat map projections suffer distortion since they are an attempt to portray a three dimensional data base in two dimensions. The larger the area portrayed, the greater is the distortion. A terrestrial globe is a map of the earth printed onto a sphere, which closely approximates the true shape of the earth. As such, a map of the earth presented as a globe suffers no distortion.

As of October 2011, GEBCO has worked with two globe companies – one in the UK and one in China – to produce prototypes of GEBCO globes. The seafloor data portrayed on the globes is derived from the GEBCO one-half-arc-minute digital data base; the land areas portrayed on the globe are NASA's Blue Marble Next Generation cloud free photo mosaics.

Prototype globes have been produced in various sizes – The Chinese globe company DongXin has produced prototype globes of 62cm, 32cm, 14cm, and 10.5cm diameter. The UK company Greaves and Thomas has produced a GEBCO globe of 110 cm diameter for a science museum in Houston, Texas. After review, it has been decided to pursue further development of the Chinese globes, and not the ones produced in UK.

The Chinese company DongXin globes (of Shenzhen, China) produced a prototype 62 cm globe which was presented at the GEBCO meeting in Brest, France in 2009. That same globe was exhibited in the NOAA booth at the American Geophysical Meeting in San Francisco in December 2009. In 2010, GEBCO paid DongXin to produce a second prototype of the 62cm globe, for exhibit at the 2010 AGU meeting. This globe is presented at the 2011 GEBCO meeting in San Diego. The differences between the #1 and #2 prototypes are improved hypsometric color map; addition of latitude/longitude grid; and the addition of labels on seafloor features, continents, oceans and seas. In keeping with GEBCO protocol, no political information (country boundaries or names) are included on the globe. Also, for the AGU meeting in 2010, DongXin provided (at no cost) samples of a 32cm, a 14cm, and a 10.6cm globe. These smaller globes are also presented at the 2011 AGU meeting.

The 62 cm globe was well received by the academic community at the AGU meeting. Since then, ten orders for such globes have been received. These globes are on order from the company in China and are expected to be delivered in late November . Quantities of the 32 cm and 14 cm globes have also been ordered, and will be delivered to Seattle concurrently with the large globes. Orders for the 62cm globes are being handled by the Naturebrella LLC company.

Minor revisions to the smaller globes are the subject of ongoing discussions with DongXin. For example, the information label on the smaller globes is not readable due to the small font size, so it will be placed on the base of the globe. For the 14 cm globe, all the text labels are too small to be legible, and so probably will be eliminated. DongXin is expected to set up a distribution system whereby orders for small quantities of the 32 cm or 14cm globe can be placed with a company in Hong Kong.