The design and operational conditions for the majority of sailing ships are based currently on the *Global Wave Statistics (GWS)* visual observations (Hogben et al. 1986) collected from ships in normal service all over the world since 1949. Today in addition to the ship observations two other sources of global metocean climate are available: data from numerical wave prediction models and satellite data. These data sources have recently been utilized in development of several global wind and wave databases (some provide also current and/or sea water level). The databases include numerical data calibrated by measurements (in-situ data, satellite data), a mixture of numerical and instrumental data or pure instrumental (satellite) data. The advantages of them are that they cover the world ocean, or large parts of it and contain information about wave directionality. In the present study extreme wave characteristics derived from recently developed global wave databases are compared with the ones estimated from the *Global Wave Statistics* visual observations as well as Shipborne Wave Recorder and satellite data. The related uncertainties are discussed. Particular attention is given to climate change. The study is limited to a selected ocean area in the North Atlantic.