



CARTS – the database of CARibbean Tsunami depositS

Max Engel (1,2), Jan Verheul (2), and Christian Willmes (2)

(1) Royal Belgian Institute of Natural Sciences, Geological Survey of Belgium, Brussels, Belgium
(max.engel@naturalsciences.be), (2) University of Cologne, Institute of Geography, Cologne, Germany

Comprehensive tsunami hazard assessment in the Caribbean Basin suffers from a relatively short historical record and a rather low intensity of regional palaeotsunami research (=the study of geological traces of past tsunamis). Reliable information on frequency-magnitude patterns is fragmentary, while the range of potential triggering sources is broad, including megathrust earthquakes, explosive submarine volcanism, strike-slip faulting or edifice collapse at volcanic islands. In a recent attempt, existing accounts on extreme-wave deposits in the Caribbean Basin have been compiled and re-evaluated (Engel et al., 2016). In a further step, we aim at transferring this exhaustive reappraisal of geological evidence for tsunamis into useful and easily accessible information not only for researchers, but also for coastal planners, hazard managers and the general public. Where possible, the database of CARibbean Tsunami depositS (CARTS) gathers data on minimum inundation distances from past coastal flooding (from tsunamis and other types of extreme waves), the specific type of sedimentary archive and evidence, age estimates of the event(s), reliability of the record along with references to all original sources. As a public interface to CARTS, a website that allows to visualize the data on an interactive map, as well as functionalities for querying and exporting the data as open data is being developed. The website is built using state-of-the-art open source software. Technically, the data is stored and managed in a relational data base (MariaDB), the website itself is developed in PHP/HTML/JavaScript/CSS technology and the interactive map for visualization of the data is implemented using the Leaflet JavaScript library. Twice per year the database will be updated by the authors in order to include the latest research in the field. The WebGIS is scheduled to go online in mid-2018.

Reference

Engel, M., Oetjen, J., May, S. M., and Brückner, H.: Tsunami deposits of the Caribbean - towards an improved coastal hazard assessment, *Earth Sci. Rev.*, 163, 260–296, 2016.