climada module **eq\_global** 5 Dec 2014

<https://github.com/davidnbresch/climada_module_eq_global>

[david.bresch@gmail.com](mailto:david.bresch@gmail.com)

This module implements a raw global earthquake model, see other files in docs for details. Consider climada module GDP\_entity[[1]](#footnote-1) to generate the centroids for the earthquake model. Please consider module country\_risk, too.

* eq\_isc\_gem\_read reads the ISC-GEM database[[2]](#footnote-2), see help eq\_isc\_gem\_read
* eq\_centennial\_read reads the centennial database (see docs/centennial.pdf)
* eq\_signigeq\_read reads the signigeq database (and help eq\_signigeq\_read)
* eq\_global\_probabilistic creates the probabilistic epicenters (see help eq\_global\_probabilistic for details)
* eq\_global\_hazard\_set creates the climada hazard event set and calls eq\_global\_attenuation for each event (see also docs/Po-Shen Lin and Chyi- Tyi Lee, 2008)

all-in-one, you can run the module as:

**hazard=eq\_global\_hazard\_set(eq\_global\_probabilistic(...**

**eq\_isc\_gem\_read,99,0))**

Please consider climada\_create\_GDP\_entity1 to generate the centroids and basic assets data in order to run the earthquake module.

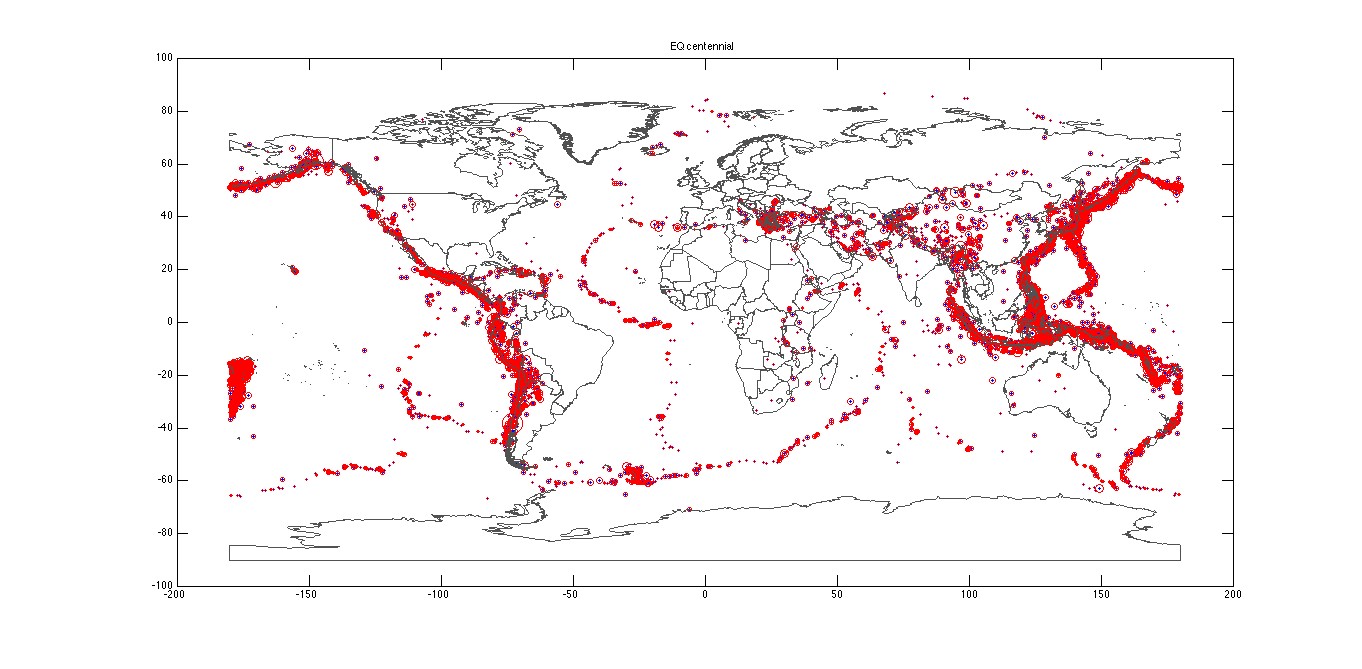


Figure: centennial database, epicenter overview. Figure created with the command eq\_data=eq\_centennial\_read('',1)

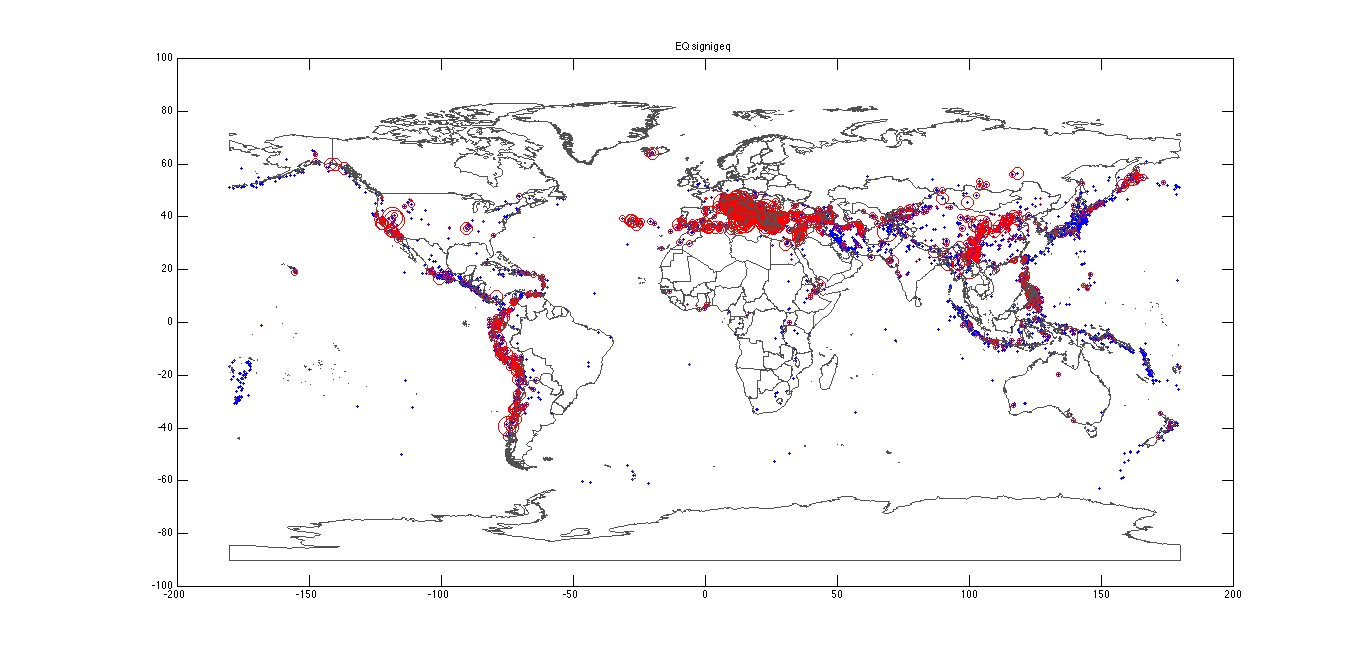


Figure: signigeq database, epicenter overview. Figure created with the command eq\_data=eq\_signigeq\_read('',1)

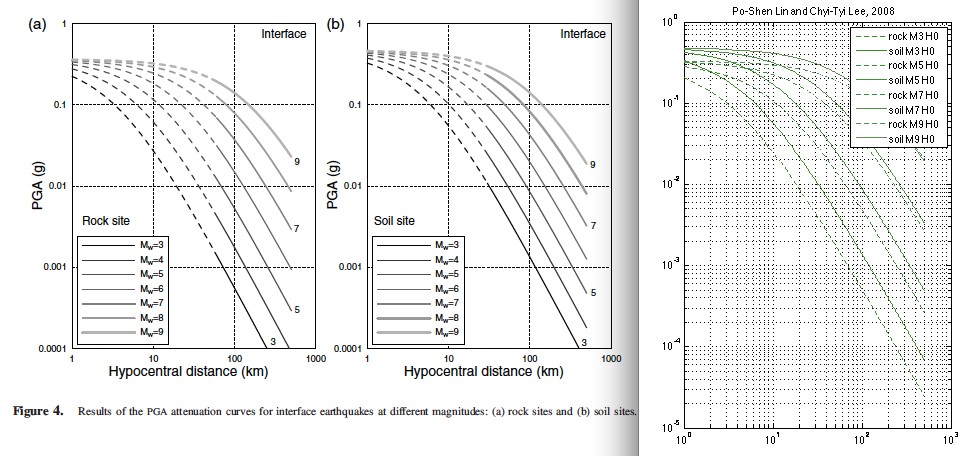


Figure: the attenuation function currently used, left the publication (Po-Shen Lin and Chyi-Tyi Lee, 2008), right the climada eq\_global module implementation (the user can in fact specify what he wants, see code eq\_global\_attenuation)

1. See <https://github.com/davidnbresch/climada_module_GDP_entity> and climada\_high\_res\_entity from module <https://github.com/davidnbresch/climada_module_country_risk> [↑](#footnote-ref-1)
2. see [www.isc.ac.uk/iscgem/index.php](http://www.isc.ac.uk/iscgem/index.php) [↑](#footnote-ref-2)