**Output Files**Written by E. R. Abbott with contributions from T. Goded; modified 24 April 2018.

.xml output files contain the most organised output with the most complete set of information, I think. However, .csv files are more processing-friendly both in terms of data usage and readability by other programs. All of these files should appear in the output directory you specified in your input file.

OpenQuake has streamlined itself such that it only outputs mean logic tree output by default. To output the results for the full logic tree, please refer to this list of commands to find the appropriate one: <https://github.com/gem/oq-engine/blob/master/doc/oq-commands.md>. More details will follow (someday, when Lizzie has time).

NOTE: most of these are structured to accommodate when there is a logic tree involved. Usually, when there is only a single GMPE per tectonic region branch and one source model, either no realization will be mentioned, OR the only realization will be labelled 000.

1. Hazard Curves
   1. Your average hazard curve:

[type of output]-rlz-[realization number]\_[calculation number]-[spectral period].xml

Ex. hazard\_curve-rlz-321\_13-PGA.xml

NOTE: the csv files follow the same structure per realization, but contain ALL spectral periods in one file.

* 1. Mean hazard curves
     1. If you’re using a logic tree, you will get a mean, which will use the following structure

[type of output]-mean\_[calculation number]-[spectral period].xml

Ex. hazard\_curve-mean\_6-SA(1.0).xml

* 1. Quantile curves
     1. Hazard curves at whatever percentiles you specified in your input file.

[type of output]- [quantile]\_[calculation number]-[spectral period].xml

Ex. quantile\_curve-0.84\_6-SA(1.0).xml

NOTE: the csv files follow the same structure per realization, but contain ALL spectral periods in one file.

1. Spectra
   1. Your average uniform hazard spectra:

[type of output]-rlz-[realization number]-[probability of exceedance]\_[calculation number].xml

Ex. hazard\_uhs-rlz-321-0.28\_6.xml

NOTE: the csv files follow the same structure per realization, but contain ALL probabilities of exceedance in one file.

* 1. Mean hazard curves
     1. If you’re using a logic tree, you will get a mean, which will use the following structure

[type of output]-mean-[probability of exceedance]\_[calculation number].xml

Ex. hazard\_uhs-mean-0.28\_6.xml

* 1. Quantile curves
     1. Hazard spectra at whatever percentiles you specified in your input file.

[type of output]- [quantile]-[probability of exceedance]\_[calculation number].xml

Ex. quantile\_uhs-0.84-0.28\_6.xml

NOTE: the csv files follow the same structure per realization, but contain ALL probabilities of exceedance in one file.

1. Maps
   1. Your average map:
      1. xml

[type of output]-rlz-[realization number]-[probability of exceedance]-[spectral period]\_[calculation number].xml

Ex. hazard\_map-rlz-321-0.28-PGA\_64.xml

* + 1. csv
       1. All probabilities of exceedance and all spectral periods will be contained in a single file per realization.

[type of output]-rlz-[realization number]\_[calculation number].csv

Ex. hazard\_map-rlz-000\_64

* 1. Mean maps
     1. If you’re using a logic tree, you will get a mean, which will use the following structure:
        1. xml

[type of output]-mean-[probability of exceedance]-[spectral period]\_[calculation number].xml

Ex. hazard\_map-mean-0.28-SA(1.0)\_6.xml

* + - 1. csv
  1. Quantile maps

Hazard spectra at whatever percentiles you specified in your input file.

* + 1. Xml

[type of output]- [quantile]-[probability of exceedance]-[spectral period]\_[calculation number].xml

Ex. quantile\_map-0.84-0.28-SA(1.0)\_6.xml

* + 1. Csv

[type of output]-[quantile]\_[calculation number].csv

Ex. quantile\_map-0.84\_64.csv

1. Deags

NOTE: ALWAYS ALWAYS ALWAYS run your deags with csv as an output.

NOTE: the disaggregation calculator does not produce means or quantiles at this stage.

* 1. Hazard curve files are always produced (not totally sure why).
  2. Xml files

poe-[probability of exceedance]-rlz-[rlz number]-[spectral period]-[longitude]--[latitude]\_[calculation number].xml

ex. poe\_0.095-rlz-0-PGA-173.773--42.278\_6.xml

NOTE: xml files will contain all combinations of data you could get for a deag (ie. lat, lon, tectonic region type (TRT), magnitude, distance, epsilon).

* 1. Csv files

poe-[probability of exceedance]-rlz-[rlz number]-[spectral period]-[longitude]--[latitude]\_[what deag info the file contains]\_[calculation number].csv

ex. poe-0.095-rlz-0-PGA-173.773--42.278\_Mag\_Dist\_6.csv

ex. poe-0.095-rlz-0-PGA-173.773--42.278\_Lon\_Lat\_TRT\_6.csv

1. For csv, for each rlz-spectral period combo, all of the following ‘what deag info the file contains’ will be produced:

* Dist
* Lon\_Lat
* Lon\_Lat\_TRT
* Mag
* Mag\_Dist
  + Usually what you will want.
  + Magnitude numbers are the bottom level of each bin.
  + Distance numbers are the middle of each bin.
  + Probabilities of exceedance are the numbers provided (for those who are familiar, this is similar to your Fortran code SPY file)
* Mag\_Dist\_Eps
  + Same as Mag\_Dist but also includes epsilon
* Mag\_Lon\_Lat
  + Probability of exceedance per coordinate grid cell, with probabilities per magnitude.
  + This does not identify specific sources (ie. fault or distributed seismicity) contributing to each cell, but each row corresponds to a different source
* TRT
  + Total probability of exceedance for all sources in each tectonig region type (ie. Active Shallow Crust, Volcanic, Subduction Interface, Subduction Slab)