

Release notes for ShakeMap r1394:

This should be a relatively straightforward update for those that are already at r1208 or later (if you aren't, please see the r1208 announcement for complete install instructions). All that should be needed is “*svn -r1394 update*” and “*make*”. There may be some minor edits needed to config files – see your *make* output for specifics.

Changes included in this release (vs. r1260):

- **New output products from grind.** Grind now produces additional uncertainty grids. These are the grids of the GMPE/IPE inter- and intra-event uncertainty, and an event-specific uncertainty for each parameter. If the GMPE (or IPE) does not have separate terms for inter- and intra-event uncertainty, the inter-event grid will be all zeroes, and the combined uncertainty will be in the intra-event grid. The grids are stored as extra columns in *uncertainty.xml*, and the GMT grid files are in the event's 'richter' directory as “<param>_gmpe_<inter|intra>_std.grd”. Note that the uncertainties are given in (natural) log units, except for intensity, which is in linear units.

There are also new tags “*event_specific_uncertainty*” in all of the XML grid files, one for each parameter. This is the (weighted, L2, log) residual of the observations (and converted observations) from the biased GMPE/IPE. If there were insufficient stations to compute a GMPE/IPE bias for a parameter, this value will be -1. The number of stations contributing to the residual is also included.

- **The function of some of grind's command line flags has changed.** The flag *-gmlesc* now affects only the application of site corrections to the GMPE parameters. There is a new flag, *-ipesc*, that applies to the IPE. These flags allow independent selection of the type of site corrections applied to the ground motions and intensity, and was necessitated because most IPEs don't have native site terms (recall that if *-gmlesc* (or now *-ipesc*) is selected and the GMPE/IPE does not have its own site correction terms, then no site corrections will be applied). The flag *-nativesc* now has the effect of turning on both *-gmlesc* and *-ipesc*. Please check your configurations to make sure that they are doing what you expect.

There is also a new parameter in *grind.conf* “*use_ipe_sc*” which has analogous function to the existing “*use_gmpe_sc*” (but note that *use_gmpe_sc* now only applies to the GMPE).

- **Changes to queue.** A new config parameter, ‘*use_db,*’ allows queue to be used with non-AQMS systems. If *use_db* is set to ‘*false,*’ the queue will not attempt to query the database, it will instead seek the event parameters from *event.xml* in the event's input directory. The file needs to exist before queue is signaled with *shake_alarm*. The config parameter ‘*delete_orphans*’ determines whether the event directory is deleted when an event fails the criteria for processing (e.g., its magnitude is too small). See *queue.conf* for more details. For those of you with AQMS systems, the defaults of the new parameters should maintain the current behavior of the program.

queue also has a new config parameter “max_process_wait” that sets the time (in seconds) that queue will wait for a shake process to complete. If the process exceeds that time, it will be killed. This should help prevent hung processes from clogging up the queue. The default is 600 seconds. A message is written to the log when a process is killed.

queue also now creates new log files for the individual shake runs. In <shake_home>/logs, the output of the shake process (and its sub-processes) will be found in files named like “shake.log.<evid>”. The output is appended to the files, so multiple runs will be included in the sequence in which they were run. Hopefully this will help with diagnostics and event post-mortem analysis.

- **Added a new IPE – AWW14_mmi (Atkinson, Wald, and Worden; BSSA, December 2014).** AWW14 has two region-specific versions, AWW14_ENA and AWW14_WNA for Eastern and Western North America, respectively.
- **Changes to getnsmp.** The –dir flag now behaves exactly as the default version except on the specified directory rather than the default (/home/shake/ShakeMap/data/unassoc). In particular, unlike its previous behavior, it moves files from the specified directory to the subdirectory _temp, and from _temp to _trash if they are older than 14 days. To get the old, nondestructive behavior when using –dir, the new flag –notrash prevents files from being moved to _temp and _trash.
- **Changes to nsmp2xml.** Now uses the N.S (Network_ID.Station_Code) convention to designate station codes, as is the convention with other ShakeMap programs. Also now has better handling of varying “net” and “netid” attributes in the input XML.
- **trigger_pdl has been added to the distribution.** If you want to use PDL to trigger ShakeMaps, this is a useful program. Contact me for details.
- **WGRW11 GMICE mods.** Added limits (min 3.0, max 7.3) to the range of magnitudes used in the residual corrections.
- Changed “VALUE” to “PARAMVALUE” in the shape files to avoid name collision in SQL.
- **Changes to db2xml.** Added new config parameter “adhoc_file” to specify the name of the file containing the adhoc list. The default is the same as has been the convention all along: “adhoc.lis”.

(Pete L.) Fix bug that caused the process to quit when child processes timed out.

- **Changes to shake.** zone_config or zoneconfig2 can now be the first process shake runs (followed by retrieve). This allows zone-specific versions of retrieve.conf

(whereas, previously, zone_config was typically placed in retrieve.conf and run by retrieve, which didn't allow for zone-specific retrieve.confs).

- Fix some problems with versions and scenarios.
- **pending** is now deprecated. I have been slowly moving away from supporting the program 'pending' for some time, but now I am officially recommending that you remove it from your processing. The program generates a home page that says we're currently processing event XYZ, and then transfers it to the web. But processing is so fast these days that all pending does is slow things down, and it is a difficult program to support. While it still works in this release, I'm going to remove all the code and make it a no-op in the next release, so please take this opportunity to remove it from shake.conf or anywhere else you have it configured.
- **Added new GMICE for Turkey: BilalAskan14 (BSSA, Bilal and Askan, February 2014).** Note that the module uses the simple form of the equations, not the versions that include magnitude and distance terms.
- Fix bugs in the way MMI bias is calculated. Also fix bugs in the L1 norm bias calculations.
- Miscellaneous fixes and enhancements. See change log for details.