

## Release notes XBeach, version 1.22.4867, codename 'Kingsday'

Release date: 20 October, 2015

These release notes specify the changes with respect to the previous XBeach release, the v1.21.3657 Groundhog Day version (February 7<sup>th</sup> 2014).

### Changes

- Writing model output to file now had a dedicated process when using XBeach in MPI mode. So if  $n$  is the desired number of subdomains for a computation,  $n+1$  processes should be started. This is also the case when only 1 subdomain is desired (then 2 processes should be started).
- Default value for parameter 'tstart' is now 0 instead of 1 second
- Default value for parameter 'morphology' is set equal to the value of parameter 'sedtrans'
- *nonhspec* now computes for all wave directions, instead of directions from  $-\pi$  to  $+\pi$
- Use of keyword *bedfricfile* without the keyword *bedfriction* is no longer allowed

### Added functionality

- + Keyword *single\_dir* has been added. When set to 1, the wave direction is periodically solved in stationary mode. This mean wave direction is then used to propagate the short wave energy in instationary (surfbeat) mode. Users need to prescribe a single bin for instationary mode ( $dtheta = thetamax - thetamin$ ) and a higher resolution direction discretization for the stationary mode (keyword: *dtheta\_s*). This results in a significant decrease in computational demand.
- + Log messages now give more information about the cause when computational time explodes.
- + XBeach now checks whether the MPI subdomains contain enough cells. If not, an error message is given.

### Removed functionality

- Variable 'tm' was redundant, and is now removed.

### Bug fixes

- Parameters *ceqb* and *ceqs* are now correctly initialized (thanks to Roland Garnier for the suggestion!).
- Parameter *dtheta* is no longer erroneously overwritten when using the option "*single\_dir* = 1".