

# R documentation

of ‘NEWS.Rd’

April 12, 2020

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NEWS

*R-INLA News*

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## CHANGES IN VERSION xx.xx.xx

### USER-VISIBLE CHANGES:

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### NEW FEATURES:

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### NEW EXPERIMENTAL FEATURES:

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### BUG FIXES:

- 

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### NEW FEATURES:

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### NEW EXPERIMENTAL FEATURES:

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### BUG FIXES:

- Small fix so that `result$mode$x` is written out in the case where `nhyper=0` and `num_threads>1`

**CHANGES IN VERSION 20.04.06****NEW EXPERIMENTAL FEATURES:**

- Added link `loga`. Not yet documented.
- First try on a new feature to more easily approximate the joint marginal for a subset of the latent field. This is a new option `selection` and corresponding `inla.rjmarginal()` to sample from it.

**BUG FIXES:**

- Added check that `model="linear"` is not used with `replicate` or `group`, which is not intention.

**CHANGES IN VERSION 20.03.29****USER-VISIBLE CHANGES:**

- MCMC mode is now disabled

**NEW FEATURES:**

- Skewness correction is now back as default, in `inla.posterior.sample()`

**NEW EXPERIMENTAL FEATURES:**

- Added family `xbinomial` that allow non-integer response.
- Likelihood model `bgev add` (not yet complete), and was renamed from the experimental likelihood model `gev2`.

**BUG FIXES:**

- If `inla.call="remote"` is set, then `INLA::inla.call.builtin()` is used if `inla.qinv()` and/or `inla.qsolve()` are used while constructing the model.

**CHANGES IN VERSION 20.03.17****BUG FIXES:**

- Updated file `jointdataCD4.rds` in `exampledata/`

**CHANGES IN VERSION 20.03.09****BUG FIXES:**

- Fixed a bug in the PIT calculations for the zeroinflated, type 0, of poisson, binomial and nbinomial.

**CHANGES IN VERSION 20.03.08****NEW EXPERIMENTAL FEATURES:**

- Added option `b.strategy` in `control.inla` to control what to do with the linear term when the `cmin` option is in effect
- Added in-interval observed event in `inla.surv`

**BUG FIXES:**

- Added `dplyr` as suggested package as `dplyr::bind_rows` can replace `INLA::inla.rbind.data.frames`

**CHANGES IN VERSION 20.02.19****USER-VISIBLE CHANGES:**

- Added argument `E`, or `log(offset)`, to likelihood `gammacount`, so its equal to family `poisson` for `alpha=1`.

**BUG FIXES:**

- Minor changes

**CHANGES IN VERSION 20.01.25****USER-VISIBLE CHANGES:**

- Added a check that discrete observations are indeed integers, like for `Poisson`, `Binomial`, etc

**NEW FEATURES:**

- The function `inla.binary.install` is now exported.
- Added new likelihood family, `xpoisson`, which allows continous response: see the documentation for details (and note the error-check now done for discrete observations)

**NEW EXPERIMENTAL FEATURES:**

- Added new likelihood `dgp` (discrete generalized Pareto)

**BUG FIXES:**

- Code clean-up (`contpoisson` and `qcontpoisson`)
- Made `inla.pardiso.check()` a bit more informative if there is an error.

**CHANGES IN VERSION 19.12.10****BUG FIXES:**

- Improved documentation of `inla.posterior.sample` and `inla.coxph`
- Fixed an issue with NA data in the family `gev2`

**CHANGES IN VERSION 19.12.03****BUG FIXES:**

- Updated some documentation about the `pc.gevtail` prior.
- Reverted `inla.posterior.sample` back to the old version, the new experimental version is available as `INLA::inla.posterior.sample.new`
- Error in `Epil` data-set, `y[31]` should be 23 not 21.

**CHANGES IN VERSION 19.11.17****USER-VISIBLE CHANGES:**

- Updated the vignette about the multinomial distribution

**NEW EXPERIMENTAL FEATURES:**

- New experimental windows binary built with `x86_64-w64-mingw32-gcc`, version 7.3, and linked with the `pardiso` library. Its stored in `bin/windows/experimental`

**BUG FIXES:**

- Updated `inla.qreordering` and updated `leuk-demo.R` example file (and the corresponding zip-file).

**CHANGES IN VERSION 19.11.10****NEW EXPERIMENTAL FEATURES:**

- Cache values of `qgamma` to speedup Gamma quantile regression

**CHANGES IN VERSION 19.10.30****USER-VISIBLE CHANGES:**

- Added a scaling constant for the precision parameter in the `qkumar` likelihood (to avoid instabilities). See updated documentation for details.

**NEW FEATURES:**

- `inla.posterior.sample` now correct for possible skewness by default: see `?inla.posterior.sample` for details.

**CHANGES IN VERSION 19.10.16****NEW EXPERIMENTAL FEATURES:**

- Likelihoodmodel `betabinomialna`

**CHANGES IN VERSION 19.10.15****USER-VISIBLE CHANGES:**

- Default prior for the tail parameter in likelihood model `gp`, have changed to `pc.gevtail`, and the name change from `shape` to `tail`. It is now required to define a interval for the tail parameter, similar to `pc.gevtail`.

**CHANGES IN VERSION 19.10.06****BUG FIXES:**

- Code-improvement for the `loggamma`-function
- `barrier.R` updated (minor fix and code edits)

**CHANGES IN VERSION 19.10.02****BUG FIXES:**

- Disable some debug output

**CHANGES IN VERSION 19.10.01****BUG FIXES:**

- Fixed a bug in the `nmixnb` likelihood.
- Preserve names in `inla.posterior.sample.eval` if present.

**CHANGES IN VERSION 19.09.18****BUG FIXES:**

- More work on the skew-normal link model

**CHANGES IN VERSION 19.09.15****NEW EXPERIMENTAL FEATURES:**

- `INLA::inla.binary.install()` is a new interactive tool to install alternative Linux builds.

**CHANGES IN VERSION 19.09.10****NEW EXPERIMENTAL FEATURES:**

- Added skew-normal link-model `sn` for binary data, with its PC-prior

**CHANGES IN VERSION 19.09.03****NEW EXPERIMENTAL FEATURES:**

- Added `robit` link model.

**BUG FIXES:**

- Improved the stability of the saturated deviance calculations
- Fixed `INLA:::inla.is.list.of.lists` to cover the case where the arguments are a list of named lists

**CHANGES IN VERSION 19.07.27****NEW FEATURES:**

- New (experimental) likelihood: `gev2`

**BUG FIXES:**

- Fixed, again, an issue with (parallel) PARDISO and many linear combinations.
- Minor code changes in `doc.R`

**CHANGES IN VERSION 19.07.21****USER-VISIBLE CHANGES:**

- Removed must-be-enabled warnings in some survival models, from Oct 25 2017

**NEW FEATURES:**

- Added PC-prior for the Weibull likelihood models. The prior is derived for `variant = 1`, which is the good parameterisation.

**BUG FIXES:**

- Added missing `to.theta` and `from.theta` functions in likelihoods `sn` and `sn2`
- Fix some documentation in `marginal.R` (referring to the obsolete function `inla.marginal.transform`)
- Fixed an issue with (parallel) PARDISO and many linear combinations.

**CHANGES IN VERSION 19.05.19****BUG FIXES:**

- Set `StagedInstall:no` to work around installation problems for MacOS and R-3.6

**CHANGES IN VERSION 19.05.17****USER-VISIBLE CHANGES:**

- The internal parameterisation of the alpha-parameter for the Weibull likelihood families, has been redefined/scaled, to fix some optimisation issues. This means that the default prior has changed (a little) and user-defined priors has to change to account for this new internal parameterisation (sorry about that). See the documentation for details.

**CHANGES IN VERSION 19.05.16****NEW FEATURES:**

- Option `short.summary` will use a version of summary with less output, maybe more suitable for Markdown documents.

**CHANGES IN VERSION 19.05.13****NEW EXPERIMENTAL FEATURES:**

- Added `exampledata` directory for various example datasets

**BUG FIXES:**

- Code cleanup and improved some input-error checking.

**CHANGES IN VERSION 19.04.16****BUG FIXES:**

- Fixed an error in the cache-system for `model="rgeneric"` and `model="dmatern"`. Most notably with option `openmp.strategy="pardiso.parallel"`.

**CHANGES IN VERSION 19.04.14****BUG FIXES:**

- Removed the weight correction for the computation of the cpo for `int.design="user.expert"`

**CHANGES IN VERSION 19.04.09****NEW EXPERIMENTAL FEATURES:**

- Option `int.strategy="user.expert"`, see the vignette about user-defined integration points.
- Merge also cpo and po results in `inla.merge()`

**CHANGES IN VERSION 19.04.01****BUG FIXES:**

- Fixed an issue with AR-model and group

**CHANGES IN VERSION 19.03.16****BUG FIXES:**

- Small fix in model `dmatern`

**CHANGES IN VERSION 19.03.04****BUG FIXES:**

- Redirect error output of some warning messages in the remote-future section from MacOSX to Linux.
- Faster return when `mu` is zero for `rgeneric`

**CHANGES IN VERSION 19.03.02****BUG FIXES:**

- Changed from `PARDISO.PARALLEL` to `PARDISO.SERIAL` in `inla.qsample`
- Optimize the `nhrs` for `inla.qsolve` for `PARDISO`

**CHANGES IN VERSION 19.02.28****BUG FIXES:**

- Several fgn-models are now fine
- Fixed CPU timing with the PARDISO library

**CHANGES IN VERSION 19.02.26****BUG FIXES:**

- Do not need to optimize reordering when PARDISO is used.

**CHANGES IN VERSION 19.02.17****BUG FIXES:**

- Fixed input-test using `inla.qsample` with `selection`-argument.
- Added back `family = "normal"` which is now translated to `family = "gaussian"` internally.

**CHANGES IN VERSION 19.02.14****BUG FIXES:**

- More work and fixes in `inla.merge`

**CHANGES IN VERSION 19.02.12****USER-VISIBLE CHANGES:**

- Simplified `print.inla` output

**NEW EXPERIMENTAL FEATURES:**

- New method `merge` and function `inla.merge`, for merging `inla`-objects

**BUG FIXES:**

- Store `control.family` after processing, in the `result$.args` argument, not just the calling value.

**CHANGES IN VERSION 19.02.09****NEW FEATURES:**

- New parameter for Gaussian likelihood: Fixed offset in the variance.

**BUG FIXES:**

- Updated `envir` definition in the `rgeneric` documentation and examples.

**CHANGES IN VERSION 19.02.06****USER-VISIBLE CHANGES:**

- Removed testing code for likelihood model `testbinomial1`

**NEW EXPERIMENTAL FEATURES:**

- Added new likelihood `gamma.surv`

**BUG FIXES:**

- Cleaned up the use of temporary dir and files
- General code clean-up

**CHANGES IN VERSION 19.01.29****USER-VISIBLE CHANGES:**

- Increased maximum number of covariates in likelihood models `nmix` and `nmixnb` from 10 to 15

**CHANGES IN VERSION 19.01.24****BUG FIXES:**

- Added a new test-script

**CHANGES IN VERSION 18.12.12****NEW EXPERIMENTAL FEATURES:**

- New models, `loggamma` and `mloggamma` in `mix`.

**BUG FIXES:**

- Minor changes in some build scripts.

**CHANGES IN VERSION 18.12.01****NEW EXPERIMENTAL FEATURES:**

- New option `mk1` in `inla.setOption()` to chose MKL-buildt binaries.
- Linux binaries now buildt with Ubuntu1804.
- MKL-versions are included for MacOSX, and Linux (both dynamic and static).

**CHANGES IN VERSION 18.11.28****NEW EXPERIMENTAL FEATURES:**

- New latent model `intslope`

**CHANGES IN VERSION 18.11.22****BUG FIXES:**

- Improved `control.mix` interface and code

**CHANGES IN VERSION 18.10.29****NEW EXPERIMENTAL FEATURES:**

- Likelihood model `nbinomial2`

**CHANGES IN VERSION 18.10.28****NEW EXPERIMENTAL FEATURES:**

- New function `inla.priors.used`

**CHANGES IN VERSION 18.10.17****NEW FEATURES:**

- Export class `inla`



**CHANGES IN VERSION 18.10.16****NEW EXPERIMENTAL FEATURES:**

- New latent model: `dmatern`

**BUG FIXES:**

- Improved the numerics for computing the scaling of the RW1 and RW2 models.

**CHANGES IN VERSION 18.10.09****USER-VISIBLE CHANGES:**

- New option `control.inla=list(tolerance.step=)`, to control the RMS of the step-size for the inner optimization.
- Changed, slightly, the initial values for the exponent in the Weibull likelihood models, to a value close to zero instead of zero.
- New vignette about how to deal with multinomial data.

**NEW EXPERIMENTAL FEATURES:**

- Added option `verbose` to `inla.qsample()` and `inla.posterior.sample()`

**CHANGES IN VERSION 18.09.24****BUG FIXES:**

- Performance improvement using the PARDISO library

**CHANGES IN VERSION 18.09.21****NEW EXPERIMENTAL FEATURES:**

- Argument selection in `inla.posterior.sample` and `inla.qsample`.

**CHANGES IN VERSION 18.09.19****BUG FIXES:**

- Fix for `num.threads` in `inla.qinv()`

**CHANGES IN VERSION 18.09.18****BUG FIXES:**

- Allow better user control of sparse matrix library in `inla.qinv()`, `inla.qsample()` and `inla.posterior.sample()`

**CHANGES IN VERSION 18.09.14****USER-VISIBLE CHANGES:**

- New example added to `inla.posterior.sample()`
- Slight changes in the default print, and summary for an `inla-object`

**BUG FIXES:**

- Fixed the issue when `lincomb.derived.only=FALSE` and then using `inla.posterior.sample()`

**CHANGES IN VERSION 18.08.26****USER-VISIBLE CHANGES:**

- Added 32-bit builds for windows (upon request)

**NEW EXPERIMENTAL FEATURES:**

- Added function `inla.posterior.sample.eval()`

**CHANGES IN VERSION 18.08.09****USER-VISIBLE CHANGES:**

- Added new function `inla.pardiso.check()`
- Added COPYRIGHTS file

**NEW EXPERIMENTAL FEATURES:**

- Separated the quantile link for the binomial response, into individual (`model="quantile"`) and population (`model="pquantile"`)
- Added new strategy control `inla=list(strategy="adaptive")` which use the `simplified.laplace` approximations for fixed effects and low-dimensional model components, and the `gaussian` approximation otherwise. The argument `adaptive.max` in `control.inla` determines what is low-dimensional in this context (default 10).

**BUG FIXES:**

- Removed some code not used anymore

**CHANGES IN VERSION 18.07.27****USER-VISIBLE CHANGES:**

- NEWS page created (see `news(package="INLA")`)
- Added vignette about the conditional logit model (thanks to Stefani Muff)
- Fixed missprints in the documentation for model `ar1c` (Thanks to Virgilio Gomez Rubio)
- Fixed documentation about argument `blas.num.threads` in `inla()`

**CHANGES IN VERSION 18.07.12****USER-VISIBLE CHANGES:**

- Package built with R-3.5, both stable and testing

**CHANGES IN VERSION 18.07.11****USER-VISIBLE CHANGES:**

- Package built for R-3.4, both stable and testing.

**CHANGES IN VERSION 18.07.12****NEW EXPERIMENTAL FEATURES:**

- Likelihood model `pom` (proportional odds model)

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