Windows and Rtools 4.0
Install error on R-devel-ATC

Error: package or namespace load failed for 'PLNmodels' in library.dynam(lib, package, package.lib):

DLL 'Rhdf5lib' not found: maybe not installed for this architecture?

Error: loading failed

https://github.com/grimbough/Rhdf5lib/issues/24
Rtools 4.0

- New experimental toolchain for R on Windows based on gcc 8 and msys2
- [https://cran.r-project.org/bin/windows/testing/rtools40.html](https://cran.r-project.org/bin/windows/testing/rtools40.html)
- Can be installed alongside Rtools 3.5 without conflict
- You can use pacman for installing system dependencies
Windows is special

- Rhdf5lib has a pre-compiled version of libhdf5.dll which is copied during Windows installation
- I build this manually when I change HDF5 version (using Rtools 3.5)
  - Hard to get BioC Windows builder to match my setup
  - Is Rhdf5lib the only package that does this?
- Seemed likely that there was some incompatibility between Rtools 3.5 & 4.0
Reported issues with several BioC packages

- zlibbioc, Rhtslib, Rprotobuflib, Rhdf5lib
- [https://github.com/r-windows/checks/issues/43](https://github.com/r-windows/checks/issues/43)
- No comments since August 2019 until yesterday
R-testing.exe

- Super straightforward to experiment with the ATC
- The daily build of R-testing is a modified version of R-devel configured for the new toolchain.
- For now, R-testing automatically sets the PATH in R to use make and gcc from **Rtools 4.0**
Rhdf5lib is fine!

- Package builds and installs for both x86 and x64
- All tests in rhdf5 pass

“The error message from R DLL 'Rhdf5lib' not found means that the package was built in single-arch mode, which is the default if the package has a configure.win”

- R CMD build --merge-multiarch should fix this issue
rwinlib

- Static libraries for building R packages on Windows
- [https://github.com/rwinlib](https://github.com/rwinlib)
- I don't really know how to use these, except:

  "These packages [magick, pdftools] automatically download binaries from rwinlib, and I have put the static libs in the corresponding folder names" - @jeroen

- Is this distinct from using pacman?
Do we need to do anything?

- Should we experiment with building BioC packages using ATC?
  - I think CRAN may be doing this already: "However as we are now in the toolchain transition, CRAN is temporarily also building the Bioc packages." - @jeroen

- Would of our ‘library’ packages be more flexible if they use the rwinlib binaries
  - Maybe some could be retired?