ADMB and TMB downloads, then and now

Arni Magnusson

18 August 2017

(updated 21 August 2017)

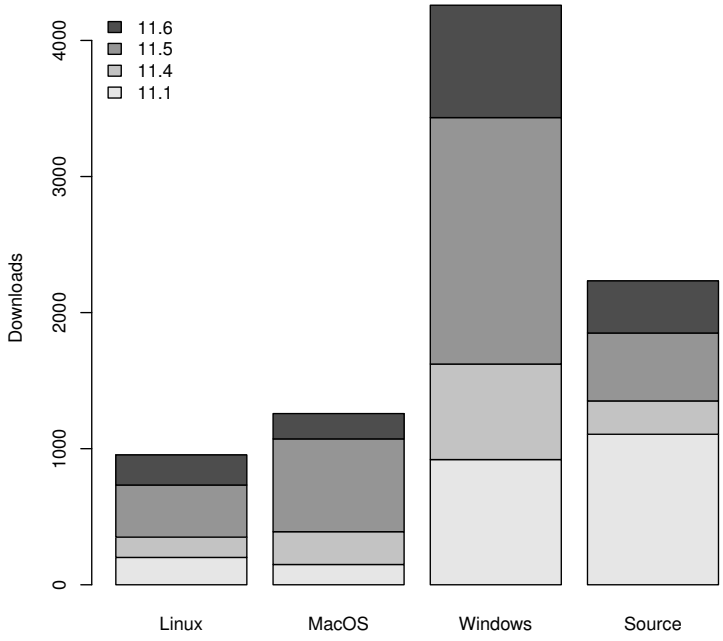
1 ADMB

Data on ADMB downloads come from two sources:

- Version 11.1: old snapshot (18 July 2014) of Google Code download counters, see Appendix
- Version 11.4 onwards: GitHub download counter
  `http://buildbot.admb-project.org/builders/benchmarks/builds/843/steps/shell/logs/stdio/text`

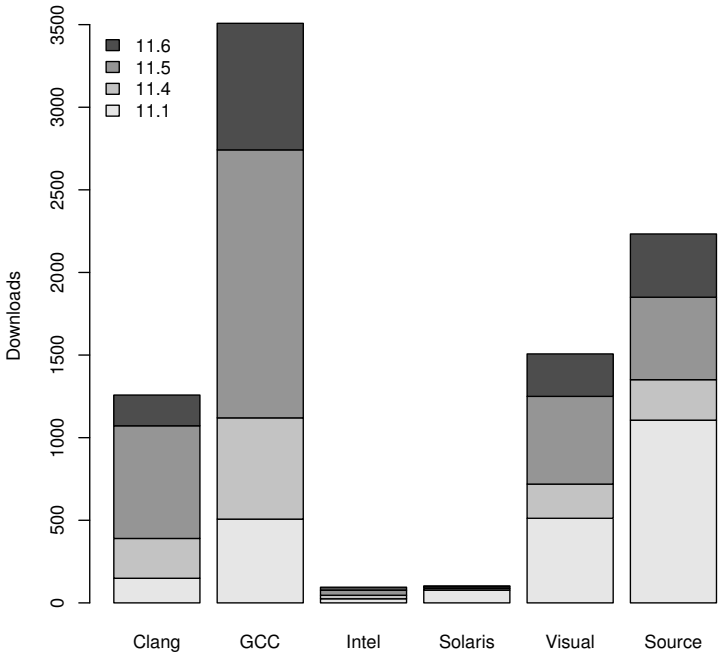
By OS

	11.1	11.4	11.5	11.6
Linux	201	149	383	221
MacOS	149	241	682	186
Windows	920	702	1811	826
Source	1106	245	499	383
Total	2376	1337	3375	1616



By compiler

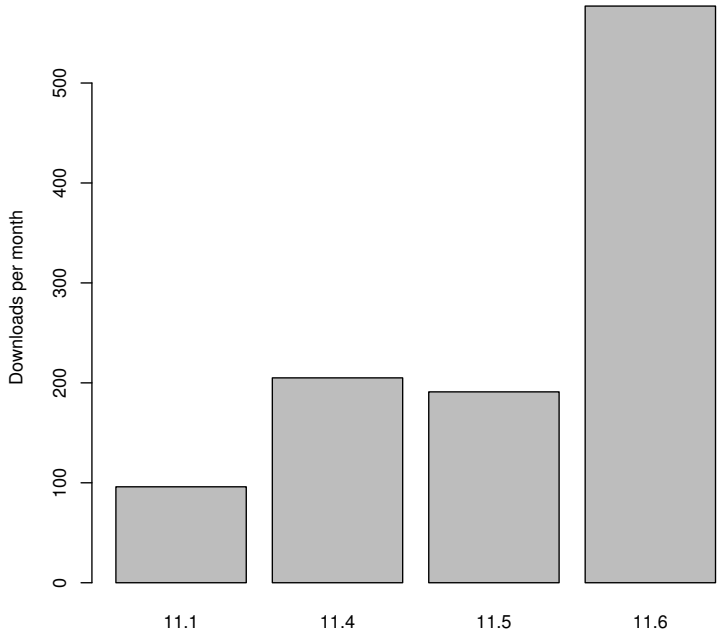
	11.1	11.4	11.5	11.6
Clang	149	241	682	186
GCC	507	613	1622	766
Intel	25	21	31	18
Solaris	77	10	10	6
Visual	512	207	531	257
Source	1106	245	499	383
Total	2376	1337	3375	1616



By month

	11.1	11.4	11.5	11.6
Released	2012-07-06	2015-05-30	2015-12-12	2017-05-25
Measured	2014-07-18	2015-12-12	2017-05-25	2017-08-17
Days	742	196	530	84
Downloads	2376	1337	3375	1616
Per month	96	205	191	577

The number of downloads for version 11.1 were measured 742 days after its release, so downloads per month are calculated as $2376/742 \times 30 = 96$. In the calculations above, days are only counted until the next version is released.



ADMB-IDE

The only download data that exist for ADMB-IDE were measured on 18 July 2014, for version 10.1 (released 2 March 2012), see Appendix.

ADMB-IDE 10.1	Downloads
64 bit installer	971
64 bit zip	189
32 bit installer	814
32 bit zip	305
Total	2279

2279 downloads over 868 days is equivalent to 79 downloads per month.

Comments (ADMB)

The ADMB download rate appears to be increasing, from around 100 per month in 2012–2014 to around 200 per month in later years. These numbers are excluding ADMB-IDE downloads, which were 79 per month in 2012–2014, so the overall download rate of ADMB + ADMB-IDE in recent years can be estimated somewhere around 280 per month. Over the last three months, though, the download rate has been around 600 per month, when ADMB and ADMB-IDE are both included.

The total number of downloads (not per month) is somewhat higher for version 11.6 than 11.4, even though 11.6 has only been available since this spring. This is another indication of increasing download rates.

Based on the downloads of recent versions of ADMB, Windows is the most common OS, with about as many downloads as Linux + MacOS + Source combined. Also based on the downloads recent versions of ADMB, GCC is the most common compiler, with about as many downloads as Clang + Visual + Source combined. More users are downloading OS- and compiler-specific distributions of ADMB, rather than the source release. The proportion of users downloading the source has decreased from around half in 2014 to a quarter of the downloads.

Caveats: An initial surge can be expected in the first weeks after a release, and a rapid decline in downloads of a given version after a newer version has been released. This makes it difficult to compare monthly download rates between versions. ADMB-IDE download counts are not available since 2014, and git-pull downloads of the development version of ADMB are not included in the download data.

2 TMB

CRAN Logs

CRAN Logs is a web service that can generate a badge showing the latest monthly download counter for a given package:

```
https://cranlogs.r-pkg.org/badges/TMB
```

One can also query a specific period, e.g., 1 January 2017 to 31 January 2017:

```
http://cranlogs.r-pkg.org/downloads/total/2017-01-01:2017-01-31/TMB
```

R code

The following function returns the number of package downloads in a given month.

```
downloads <- function(pkg, month)
{
  beg <- as.Date(paste0(month, "-01"))
  end <- seq(beg, by="month", length=2)[2] - 1
  query <- paste0("http://cranlogs.r-pkg.org/downloads/total/",
                  beg, ":", end, "/", pkg)
  string <- scan(query, what="", quiet=TRUE)
  count <- as.integer(gsub(".*downloads\":([0-9]*).*", "\\1", string))
  count
}
```

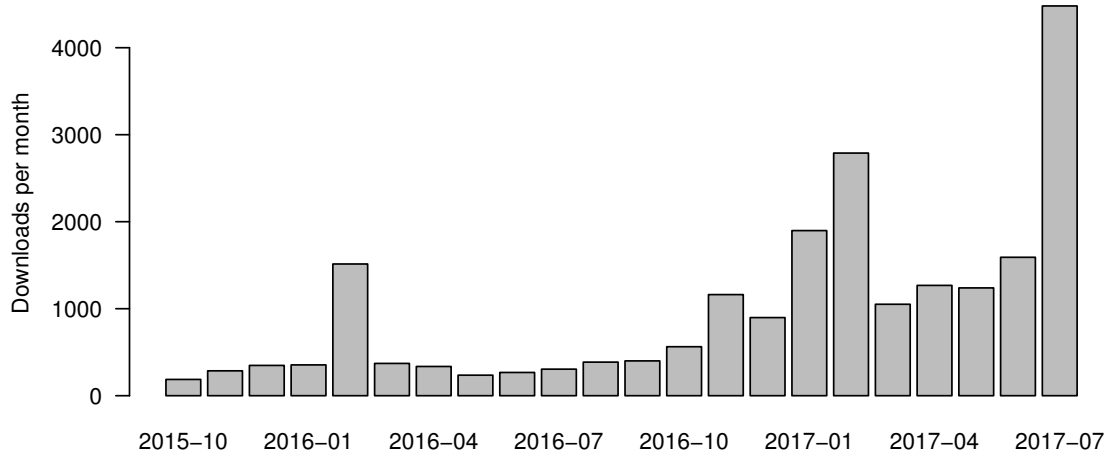
Tabulate downloads from every month since TMB was released to CRAN:

```
tmb <- data.frame(Month=substring(seq(as.Date("2015-10-01"),
                                      as.Date("2017-07-01"), by="month"), 1, 7))
tmb$Count <- sapply(tmb$Month, downloads, pkg="TMB")
```

Monthly TMB downloads

Monthly download count for the TMB package (released to CRAN on 15 Oct 2015).

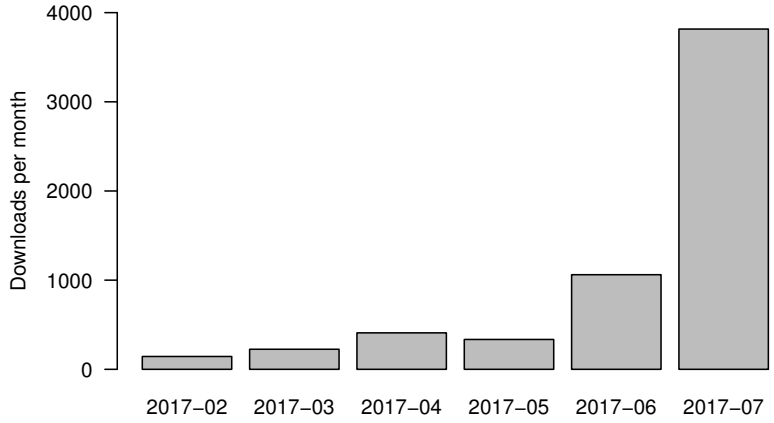
Year	Month	Count
2015	Oct	187
	Nov	286
	Dec	348
2016	Jan	354
	Feb	1514
	Mar	371
	Apr	336
	May	236
	Jun	267
	Jul	305
	Aug	386
	Sep	400
	Oct	563
	Nov	1162
	Dec	898
2017	Jan	1898
	Feb	2789
	Mar	1051
	Apr	1268
	May	1239
	Jun	1591
	Jul	4480



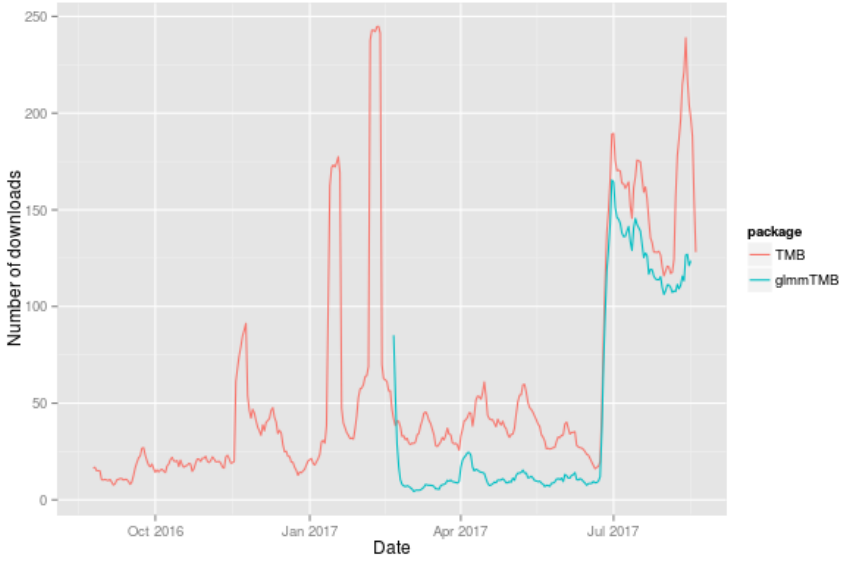
glmmTMB

Monthly download count for the glmmTMB package (released to CRAN on 20 February 2017).

Year	Month	Count
2017	Feb	144
	Mar	225
	Apr	409
	May	335
	Jun	1061
	Jul	3816



The following plot from `https://dgrtwo.shinyapps.io/cranview/` shows the download rate of TMB and glmmTMB on the same plot:



Comments (TMB)

The average TMB downloads per month were 270 in 2015, increased to 570 in 2016, and reached more than 2000 downloads per month on average for the first seven months of 2017. The highest download rate per month so far was last month, around 4500, more than double that of any previous month.

The average glmmTMB downloads per month has increased rapidly since it was released in February, from a few hundred in the first months to around 3800 last month.

Caveats: CRAN Logs only include download data from the RStudio CRAN repository, but downloads from other CRAN mirrors are not included. Also, git-pull downloads of the development version of TMB are not included. Limiting the count to one (commonly used) mirror results in an underestimate of the overall download count.

3 Discussion

Both ADMB and TMB are frequently downloaded and monthly download rates have been increasing over the last few years. For the last three months, the current download rate for ADMB can be estimated around 600 per month and for TMB around 2000 per month. The download rate for TMB last month (July 2017) was around 4500 per month, and this can be expected to continue to increase in the months and years to come.

It can be expected that many users that are developing random-effects models will prefer TMB over ADMB for that. This does not, however, mean that the ADMB user base is declining; the download data indicate that the ADMB user base has approximately doubled from 2012–2014 to 2015–2017.

The TMB user base is several times larger than of ADMB, and growing much faster. A recent surge in TMB downloads is closely related to the increased downloads of the glmmTMB package. When users install glmmTMB, they automatically install TMB as well.

The download counts presented here are noisy data, but nonetheless useful metrics for the user base of the two software projects.

Appendix

ADMB downloads from Google Code

From 18 July 2014:

File	Date	MB	Count
admb-11.1-rev1.pdf	2014-07-03	2.0	726
admbre-11.1-rev1.pdf	2014-07-03	0.8	280
autodif-11.1-rev1.pdf	2014-07-03	1.2	219
admb-11.1-windows-vc10-32bits.exe	2013-05-11	10.2	107
admb-11.1-windows-vc10-64bit.exe	2013-05-11	12.0	186
admb-11.1-windows-mingw-32bit.exe	2013-05-11	11.9	172
admb-11.1-windows-vc11-64bit.zip	2013-05-11	38.7	78
admb-11.1-windows-vc10-64bit.zip	2013-05-11	32.3	82
admb-11.1-windows-vc10-32bit.exe	2013-05-11	10.2	59
admb-11.1-windows-mingw-32bit.zip	2013-05-11	14.8	236
admb-11.1-macos10.8-xcode4.6-64bit.zip	2013-05-11	14.1	108
admb-11.1-macos10.8-xcode4.6-32bit.zip	2013-05-11	14.1	41
admb-11.1-linux-solarisstudio12.3-32bit.zip	2013-05-11	14.2	77
admb-11.1-linux-intel2013-64bit.zip	2013-05-11	15.2	25
admb-11.1-linux-gcc4.7-64bit.zip	2013-05-11	14.5	55
admb-11.1-linux-gcc4.6-64bit.zip	2013-05-11	14.4	44
admb-11.1.zip	2013-05-11	9.5	1106
admb-ide-101-win64.exe	2012-03-02	83.9	971
admb-ide-101-win64.zip	2012-03-02	107.0	189
admb-ide-101-win32.exe	2012-03-02	73.7	814
admb-ide-101-win32.zip	2012-03-02	91.9	305
admb2r-1.15.zip	2009-11-01	0.5	347