



Amy Mikhail <amy.mikhail@gmail.com>

EPIET RAS module R updates

18 messages

Alex Spina <aspina@appliedepi.org>

15 April 2022 at 17:30

To: Amy Mikhail <amy.mikhail@gmail.com>

Cc: Neale Batra <neale.batra@appliedepi.org>

Hey Amy,

This will be a bit of a mind dump, sorry in advance.

This is the [google sheet](#) with the proposed timings/funds

1) Spatial sampling case study ("Roof Simple-Random sampling in Kario refugee camp")

I have emailed francesco to see if he can share his code, as this will save us some time.

If not, not to worry we already have most of the code necessary - and we can just follow the steps of francesco's case study.

- we agreed to use `{sf}` for (pat has posted some example code [here](#)) and use `{osmdata}` to get buildings within a bounding box area.
- Attaching the outdated `{sp}` based geospatial case study we made for MSF ages ago. In the appendix of the berlin case study there is a section on sampling from `osmdata` and also on drawing your own polygon (I think there is a better package to use for this than raster though! It might be one of the tmap or leaflet addon packages)

MSF Geospatial.zip

2) Vaccination case study

- we agreed to use `{janitor}` for basic descriptive tables (as in the applied epi intro course) and `{gtsummary}` for survey weighted tables.
- `{srvyr}` is a tidyverse wrapper of `{survey}` and we should stick to using that (both work with `gtsummary`).
- Note that calculating confidence intervals is still quite dense (there is a function in the old base case study that does it, but its not pretty). The `gtsummary` people are working on it, see this [discussion](#). I think I would just build the case study and we can add confidence intervals once function available (will definitely be done by june) and would just involve an extra pipe to `add_ci()`.
- `{epikit}` has functions for adding survey weights - but not on CRAN yet and think for the case studies is better to show how to calculate manually anyway.
- This is the `{r4epis}` pr that im updating the survey templates on, but it is still a complete mess. (mortality is a survey template)
- I believe there is a small section in the vaccination case study somewhere on sample size calculations. Alexandre Blake has also been working on a sample size chapter [here](#) - so try and align if possible please, but equally if you can find a nice package for sample size calculations that fits the bill, please highlight!

Hope this is somewhat coherent - happy to answer any and all questions!

Thanks

Alex

**Alex Spina**

Vice President, Applied Epi

A non-profit organisation, 501(c)(3)
Elevating grassroots epidemiology
[Applied Epi](#) | [Epi R Handbook](#) | [Twitter](#)

Amy Mikhail <amy.mikhail@gmail.com>

15 April 2022 at 17:35

To: Alex Spina <aspina@appliedepi.org>

Cc: Neale Batra <neale.batra@appliedepi.org>

Thanks Alex,

Will get back to you once I start working on it next week if any questions / thoughts and let you know how I get on.

Best,
Amy

[Quoted text hidden]

--

--

Amy Mikhail

Tel UK (WhatsApp): +44 781 417 6107

Gmail: amy.mikhail@gmail.com

Skype: amy.fwmikhail

Alex Spina <aspina@appliedepi.org>
To: Amy Mikhail <amy.mikhail@gmail.com>
Cc: Neale Batra <neale.batra@appliedepi.org>

26 April 2022 at 18:51

Hey Amy

Just checking in - have you had any time to sit down with this yet?

Thanks

Alex

[Quoted text hidden]

Amy Mikhail <amy.mikhail@gmail.com>
To: Alex Spina <aspina@appliedepi.org>
Cc: Neale Batra <neale.batra@appliedepi.org>

27 April 2022 at 13:47

Hi Alex,

I have started looking at it, but am about to be away for a long weekend, will be focusing on this exclusively once I'm back on Tuesday.

Best,
Amy

[Quoted text hidden]

Alex Spina <aspina@appliedepi.org>
To: Amy Mikhail <amy.mikhail@gmail.com>
Cc: Neale Batra <neale.batra@appliedepi.org>

27 April 2022 at 16:07

No worries - was just checking in because heading in to exam period again ... enjoy long weekend.

Alex

[Quoted text hidden]

Amy Mikhail <amy.mikhail@gmail.com>
To: Alex Spina <aspina@appliedepi.org>
Cc: Neale Batra <neale.batra@appliedepi.org>

27 April 2022 at 16:30

Good luck with the exams!

I'll let you know how I get on.

Best,
Amy

[Quoted text hidden]

Alex Spina <aspina@appliedepi.org>
To: Amy Mikhail <amy.mikhail@gmail.com>
Cc: Neale Batra <neale.batra@appliedepi.org>

13 May 2022 at 15:16

Hi Amy

Just following up on this - have you managed to make any headway?

I did all the paper work for ecdc but haven't received contract from them yet, will chase now.

Thanks

Alex

[Quoted text hidden]

Amy Mikhail <amy.mikhail@gmail.com>
To: Alex Spina <aspina@appliedepi.org>
Cc: Neale Batra <neale.batra@appliedepi.org>

13 May 2022 at 17:13

Hi Alex,

I've made a start on the vaccine coverage case study, should be able to push something over the next few days and am sorting out the package install instructions in the first instance so that these can be circulated early - mid next week (essentially just an edit of the install guide we used for the course with the relevant packages).

I also had a meeting yesterday re spatial sampling and Geopop, is a bit clearer now how that part of the program fits together. Previously they had done the spatial sampling in QGIS, but the idea this time is just to use GeoPop and to provide some reference to an R script for the methods that Geopop doesn't cover (mainly t-square). There was also some discussion around how GeoPop samples from building units, which is not going to cover all circumstances such as when a camp has just been set up and coordinates are the only option. GeoPop can still take these if they are imported as though they were buildings, but currently it only uses one sampling method, they are adding others.

I'll let you know once I have pushed enough to review, will likely be this coming Monday pm.

Best,
Amy

[Quoted text hidden]

Amy Mikhail <amy.mikhail@gmail.com>
To: Alex Spina <aspina@appliedepi.org>
Cc: Neale Batra <neale.batra@appliedepi.org>

13 May 2022 at 17:15

P.s. forgot to add that GeoPop is a Shiny app, can't remember if you had the links already but here they are again in case not:

<https://apps-2.msf.net/geopop-learn/> - this is the about page

<https://apps-2.msf.net/geopop/> - this is the Shiny app.

[Quoted text hidden]

Amy Mikhail <amy.mikhail@gmail.com>
To: Alex Spina <aspina@appliedepi.org>
Cc: Neale Batra <neale.batra@appliedepi.org>

13 May 2022 at 17:31

P.p.s. - the links in the about page all return a 404 error, I think the repo may have been switched to private / internal.

[Quoted text hidden]

Alex Spina <aspina@appliedepi.org>
To: Amy Mikhail <amy.mikhail@gmail.com>
Cc: Neale Batra <neale.batra@appliedepi.org>

13 May 2022 at 17:48

Hey Amy,

Sounds good re install guide - hopefully we dont need to add any packages to them by the end of the review process!

Thanks for update re geopop - could you keep me updated about these types of meetings and decisions please?

When I had last discussed with Kostas he had said that we needed to make the equivalent R markdown study (as that is what is in our contract) - so am a bit surprised about that change, has Kostas agreed?

We have the material for doing [spatial sampling](#) (still needs a touch up of code) so we should make a case study independent of Geopop.

Geopop is nice, but as you just say its not really openly shared ...

Thanks
Alex

[Quoted text hidden]

Amy Mikhail <amy.mikhail@gmail.com>
To: Alex Spina <aspina@appliedepi.org>
Cc: Neale Batra <neale.batra@appliedepi.org>

13 May 2022 at 19:00

Hi Alex,

I think Kostas was not too sure exactly what GeoPop was until that meeting, when it became clearer that it does do spatial sampling as well, but only from identified buildings and its main purpose is to estimate the population density after household numbers are provided for the selected buildings. The t-square and quadrat methods have not yet been implemented in it, but will be in the future.

Originally, sampling by t-square and quadrat was being taught via the QGIS session, which in the original plan would have meant us preparing a parallel session in R. However, Iro and others found that the QGIS session was time consuming and that also the quadrat method was less useful as it is not being used much in the field these days. Given that previous RAS modules did not have GeoPop, it was decided that the GeoPop session would be sufficient to demonstrate the principles of spatial sampling, and that further details on alternative methods (such as tsquare) could be provided in reference materials or a case study that participants could work through or refer to in their own time.

This gives extra time for the practical parts of the exercise (interviews at sampled points and tree counting etc). The participants will be given pre-selected sampling points for that exercise as opposed to selecting them themselves (which is the part that was previously done in QGIS). Logistically that works better because the facilitators leading that session will preselect the points to ensure that the 25 pairs are well spaced apart in the area to be surveyed.

So the upshot is that we still need to provide reference material that demonstrates how to do spatial sampling, but the participants will work through it in their own time. This was agreed by Kostas.

Hope that makes it a bit clearer, sorry for the slightly garbled explanation. The meeting was mainly about planning the logistics of the field exercise for Thursday and Friday, so I hadn't fully appreciated this would be on the agenda, though it is great that it was as I think I was not the only one that was slightly confused about how the different components would feed into each other. There will be another meeting next Wednesday evening to demonstrate GeoPop, I will forward you the invite when I get it.

Best,
Amy

[Quoted text hidden]

Amy Mikhail <amy.mikhail@gmail.com>
To: Alex Spina <aspina@appliedepi.org>
Cc: Neale Batra <neale.batra@appliedepi.org>

13 May 2022 at 19:03

P.s. - just saw Francesco's reply, Laurie was at this meeting so I can fish out his email.

Best,
Amy

[Quoted text hidden]

Alex Spina <aspina@appliedepi.org>
To: Amy Mikhail <amy.mikhail@gmail.com>
Cc: Neale Batra <neale.batra@appliedepi.org>

14 May 2022 at 07:56

Hey Amy

Amazing thanks for the update - that all makes sense now.

In that case we can pull together a case study using Alexandre Blake's code for the handbook chapter. I have some old code for doing tsquares will try and fish it out.
Unfortunate they can't share the geopop sourcecode but heyho.
Not sure there's much to discuss with Laurie but if there's a detailed email might be useful.

Will get back to you if I find code!

Thanks again

Alex

[Quoted text hidden]

Amy Mikhail <amy.mikhail@gmail.com>
To: Alex Spina <aspina@appliedepi.org>
Cc: Neale Batra <neale.batra@appliedepi.org>

14 May 2022 at 09:11

Hi Alex,

One thing we could ask Laurie to confirm is what method GeoPop is using to do the sampling - they did have an about page which was supposed to explain all this and for some reason those links are not working any more, probably because they forgot to make the github feed for them public or something. It is also possible they are updating them and maybe that's why they were taken down.

Maybe he can also share what packages they use (though you can sort of see a list of them in the app itself, annoyingly it doesn't scroll to the bottom).

Best,
Amy

[Quoted text hidden]

Alex Spina <aspina@appliedepi.org>
To: Amy Mikhail <amy.mikhail@gmail.com>
Cc: Neale Batra <neale.batra@appliedepi.org>

15 May 2022 at 18:21

Hey Amy,

Yes that might be worthwhile asking - though I would be surprised if they are using anything other than {sf} for sampling, along with {mapedit} and {leaflet}.

I imagine from francesco's reply that they made it private intentionally - maybe because it would be too costly to maintain the shiny server if it was used outside msf/epiet. Or because they are migrating to the epicentre github org.

If you do reach out to Laurie could you copy me please? just out of interest

Thanks

Alex

[Quoted text hidden]

Amy Mikhail <amy.mikhail@gmail.com>
To: Alex Spina <aspina@appliedepi.org>
Cc: Neale Batra <neale.batra@appliedepi.org>

15 May 2022 at 19:45

Hi Alex,

Will do, will write to him tomorrow. Had a bit of a slower weekend than planned as I have finally managed to catch covid (not that I was trying!).

Best,
Amy

[Quoted text hidden]

Alex Spina <aspina@appliedepi.org>
To: Amy Mikhail <amy.mikhail@gmail.com>
Cc: Neale Batra <neale.batra@appliedepi.org>

20 May 2022 at 20:19

Hey Amy,

Just following up again - any luck?

Thanks

Alex

[Quoted text hidden]