Winegrape Projections

Date of study
started summer 2015, published article in Feb 2020

Public date of archive
May 1st 2020

Update 30 Nov 2023: Lizzie here, I am moving this to `Completed' folder as I think we have done what we can pretty well. I am leaving all the notes below and (bottom) the last email exchange about how/if to post the projections.

Goal
To generate projections of suitable winegrowing regions and predict suitability of varieties for growing in the future.

Last modified: 26 November 2020 (1 Dec 2024: Lizzie made a Google Drive comment below)

Contributors

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See related article: Morales-Castilla *et al.* 2020, Diversity buffers winegrowing regions from climate change losses. Page 2 of the supplement includes links and references to Data availability for BEST (also shown below), winegrowing regions distributions (Anderson & Aryal 2015 and published as doi:10.5063/F1SX6BH1), phenological data (NEED TO ADD INFO BELOW).

Commented [1]: Can we add info below in the data and code section for where to find the data from Parker, as well as the refs (Bock, Malherio, Ruml, Napa and Davis) in the Github repo?

General Files

File	Where	What
Overview	Google Drive -- Update 1 Dec 2024: this linked file is called 'The future of wine' and Lizzie is keeping a copy (The future of wine.pdf) on her computer.	Overview of project, general goals and analyses, authorship, etc.

Data and Code

Github: https://github.com/lizzieinvancouver/vin/climatefuture
https://github.com/MoralesCastilla/FutureWinegrapePhenology
https://github.com/MoralesCastilla/PhenoDiversity
W drive: WeldShare > Wolkovich Lab > Vitis
RC storing: /n/wolkovich_lab/climatefuture/
/n/wolkovich_lab/Lab/Nacho/

File	Where	What
Vassal phenology data	WeldShare < Wolkovich lab < Vitis < Vassal_Phenology_Records; Google Drive	Raw phenology files/records; Phenology data compiled from Domaine de Vassal long term records
General circulation models	Research Computing: /n/wolkovich_lab/climatefuture	Set of several different climate projections from 1950-2100
brinparams.csv wangengelparams.csv	Github: analyses/input	Model parameters for phenology models of nine winegrapes; generated by Inaki
Winegrape_vars_2010_KvLJV-1.xlsx	Github: adelaide/analyses	File with high quality wine grape assessments
climate_projections_maps.R	Github: analyses/WineRegions/winemaps	R code to build wine regions map that we conduct our analyses across
.R files	Github: climatefuture/analyses	R code to run analyses for climate projections
General circulation models bias-corrected	Research Computing: /n/wolkovich_lab/climatefuture/corrected_GCMs	GCM climate projections from 1950-2100 after bias correction (to conform to BEST)
Phenology projections (2006-2100)	Research Computing: /n/wolkovich_lab/climatefuture/corrected_GCMs	Projections of phenology from 2006-2100 for each GCM
BEST dataset	http://berkeleyearth.org/data/	Daily max/min temperatures

Commented [2]: Can you briefly describe difference between these?

Commented [3]: Nacho, do you think it's worth me saving these from Odyssey?

Commented [4]: Or can we link to just some description of these?

Commented [5]: Again, should I pull these off Odyssey? I also wondered if you have the most recent versions on your machine? In which case we could just make a note that you have them for now?

Commented [6]: Again, should I pull these off Odyssey? I also wondered if you have the most recent versions on your machine? In which case we could just make a note that you have them for now?

	Research Computing: /n/wolkovich_lab/climatefuture/BEST	from 1950-2013
GCM climatologies	Research Computing: /n/wolkovich_lab/climatefuture/GCM_climatology	Averaged min max temps across 30 years for each GCM. Data to perform bias correction analyses
Preliminary results and figures	Github: climatefuture/analyses/projections/output/figures	Results from validation analyses and virtual variety within Vassal
winefuture.tex; winefuture_supp_inf.tex	Github: climatefuture/docs/manuscript	Manuscript and supporting information
Sest of .nc files with precipitation data from CMIP5	Research Computing: /n/wolkovich_lab/climatefuture/precipitation	Precipitation data
Sets of .nc files with temperature simulation data from CMIP5 (pre-1850)	Research Computing: /n/wolkovich_lab/climatefuture/pre-industrial	Pre-industrial climate
Climatology.precipitation.RData	Research Computing: /n/wolkovich_lab/Lab/Nacho	Precipitation climatology (climatology for precipitation .RData file with raster data on averaged precipitations for modelling maturity)
Set of files with maturity projections corresponding to each GCM simulation and each warming threshold (i.e. period)	/n/wolkovich_lab/climatefuture/maturity/	.RData files with projections of niche maturity for different warming scenarios (0C, 1.5C, 2C, 4C), years and varieties.

Commented [7]: Same questions as above? Do we need to keep these? If so, which ones and where should we put them? (And are the ones on Odyssey the most recent?)

Commented [8]: Same questions as above? Do we need to keep these? If so, which ones and where should we put them? (And are the ones on Odyssey the most recent?)

Commented [9]: Same questions as above? Do we need to keep these? If so, which ones and where should we put them? (And are the ones on Odyssey the most recent?)

Commented [10]: Same questions.

No longer relevant files (but I just don't want to delete references to them)

File	**Where**	**What**
Task list	Teamwork	To-do list for analysis work and data processing [As of 26 November 2020 Lizzie checked this and saw **nothing relevant**, she

		downloaded VitisTeamwork_ProjectReport_26November2020.pdf to her computer.]

29 November 2023

Email from Ben Cook on 29 Nov 2020:

Hi Lizzie!

I don’t think we need to keep the GCM data since it’s already ina public repo. I would just make clear where it was downloaded from, and which specific files or ensemble members were used.

~Ben
On Nov 27, 2020, 9:43 PM -0500, Elizabeth M Wolkovich <wolkovic@mail.ubc.ca>, wrote:
Hi Ben!

Happy belated American Thanksgiving.

Nacho (cc-ed) and I are wrapping up documentation of all the data, code etc. we used for his PNAS paper this year. Most of the data is not our to publish or published already so tickmark there. Nacho cleaned up much of the code in advance of publication (yay). We're now debating how many of the massive input and output projection files to keep. If you have any opinions, please let us know.

In particular, the raw GCMs weigh in at several Tb. Do you think we need to keep these? Or in a pinch can we just point people to where they are publicly stored and save the Tb of hard drive space ....

Thanks,

Lizzie

-------- Forwarded Message --------

Subject: RE: Where datacode live!
Date: Fri, 27 Nov 2020 09:50:14 +0000
From: Morales Castilla Ignacio <ignacio.moralesc@uah.es>
To: e.wolkovich@ubc.ca <e.wolkovich@ubc.ca>

[CAUTION: Non-UBC Email]

Hi Lizzie,

I see your point and had not thought much about RC, but sure, we need a more stable 'repository' where to leave the data. Your plan to keep bias corrected GCMs and code seems reasonable, and I would add the projections for the varieties. I don't think I have access to Oddissey anymore, but what's there that I don't have stored myself, are the raw GCMs (prior to bias correction). Keeping those files can be useful but they weight a few Tb, so I guess it is up to you if you want to move them to Midge.
I'm happy to upload what's needed to Midge and will keep (and organize) all that data in my new server (still thinking of names, however I can't buy it until Feb due to Spanish bureaucracy). I did not finished the process to access Midge, so I'll get back to it and let you know if I need anything else.

Best,

Nacho

-----Original Message-----
From: Elizabeth M Wolkovich <wolkovic@mail.ubc.ca> Sent: Friday, November 27, 2020 2:51 AM

To: Morales Castilla Ignacio <ignacio.moralesc@uah.es>
Subject: Re: Where datacode live!

Hi Nacho,

I looked at you WhereDataCodeLive file (here:
https://docs.google.com/document/d/1rT1v28ex8c7LvkRyZbec-chYkVnQ_xJTGYx0OyrgNbI/edit)
but I think it needs a few things. You'll see my requests in the comments (basically add some info on the repos, add some github links to the phenological data and what to do about Odyssey).

I don't want to finalize it just now as it's a little incomplete and it links to a bunch of Harvard RC (Odyssey) files that won't be accessible soon. *Are the files on RC even up to date?* I thought perhaps towards the end you ran things on your own machines ... Basically I think we should hold onto some of the main files that underlie the paper: the bias corrected GCMs, the projections underlying the results. I am not sure we have to keep ALL of them forever, but perhaps keep most for say, 3-5 years and keep the the bias corrected GCMs a long, long time?

I can make space on our server to keep them or if you feel you can keep them somewhere that works too.

I am assuming between the code and bias corrected GCMs we could rebuild all the results, yes? I think we definitely want to keep all the files you'd need re-do the analyses ...

You know these files much better than me, so let me know what you think.

Happy to chat over WhatsApp or Skype or such sometime if easier that way.

All the best,
Lizzie

On 11/24/20 9:08 AM, Morales Castilla Ignacio wrote:

> [CAUTION: Non-UBC Email]
>
> Hi Lizzie,
>
> I'm finally ending the big load of teaching for the semester (still some to do next week and on January), and getting back on track with super delayed stuff. I've been checking the file and I think it actually could be under 'complete'.
>
> Regarding your question about ospree files to pull, I'm not sure what files exactly do you mean. I'm guessing you may refer to the ranges project shapefiles and climate data. If so, please confirm and I will send them to you (perhaps through a wetransfer link) so you can upload them to the server.
>
> All the best,
>
> Nacho
>
> Ps. Talking about servers, I now have some research money of my own and am thinking about buying a server for myself and my students. I have not much idea about what to purchase, so if you have any pointers or specs about midge you can share, that would be really helpful!