*Date of study*
Started in 2019, ongoing

*Date of Public Archiving:*
Data are mainly Carl Bogdanoff's, so need to discuss with him

*Last modified*:
30 November 2023 (before June 22 2022)

**Update 30 Nov 2023: Lizzie here, I am moving this to `NotCompleted_butArchived' folder as this work was not funded and we don't plan to continue it.**

*Goal*

1. Build and publish a winter hardiness dashboard for communication with growers

*Contributors*

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*General Files*

| File | Where | What |
|---|---|---|
| `Dashboard2022Overview.tex` | Github: dashboard/docs | A general overview of what where the dashboard was in June 2022 by Faith, including instructions for managing it |
| `PublishingDashboardFromRstudio.pdf` | Github: dashboard/docs | instructions on how to publish changes made to the dashboard to the server using R studio. This is what you need, for example, if you want to change plots on dashboard-cloud.Rmd |
| `UploadToServerAndTiming.pdf` | Github: dashboard/docs | Info from Hoai Huong on how to upload extra variety models |
| `UploadingFilesToServer.pdf` | Github: dashboard/docs | Info from Sandy on how to upload files that ARE NOT models to the server (data files) |

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|---|---|---|
| 2021-2022OkanaganHardiness.csv | dashboard/dashboard-sandy | Hardiness data for the first season we trialed the dashboard, as provided by Carl. This file is duplicated on the data shows up on our live dashboard. See ../doc/UploadingFilesToServer.pdf for info on how to do this |
| dashboardIdeas.pdf/txt | Github: dashboard | Files relating to the live updating Shiny-R dashboard that uses Carl's cold hardy models |

*Data and Code*

Give info on how to track down all locations given in table below (even if link fails). Two good examples given below -- delete these for your file!

**Github** https://github.com/lizzieinvancouver/bcvin/hardiness

# Data

| File | Where | What |
|---|---|---|
| Nov25-26_2020 Hardiness_Variety_Growers EM-1.pdf | Github: fromCarl/Hardiness2020Data | A data spreadsheet sent from Carl's lab of recorded LTE 50 for varieties on Nov 25-26 2020 |
| 2021-2022OkanaganHardiness.csv | Github: dashboard/dashboard-sandy | The data sheet we used to upload cold hardiness data to the dashboard as Cral sent it to us. If teh name changes, you need to change the reading in line of the dashboard R file too. |
| _2012-2022 Okanagan Bud Hardiness Data.xlsx | Github: dashboard/dashboard-sandy | A spreadsheet sent from Carl for the hardiness data between 2012 and 2022. |
| 2012-2018_PENTICTON_WEATHER_EM.csv | Github: analyses/input | Weather data from the Penticton agCanada weather station between 2012-2018 that Carl used to build his hardiness model. |

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| | | Missing Penticton weather data was usually filled in with Env Canada Summerland weather data. You might already have thi |
| `Budhardiness2012to13.csv to budhardiness2020to2021.csv` | Github: analyses/input | Bud cold hardiness provided by Carl from 2012 to 2021 in separate csv files for each winter season. They mostly come from 'Bud Hardiness Chardonnay Model FINAL FINAL-v16.xlsx' under the `Hardiness Tables 2012-18' tab, then under:<br>2012 - 2013 Winter Grape Bud Hardiness Okanagan. Valley BC. Newer data comes from `_2012-2022 Okanagan Bud Hardiness Data.xlsx` |
| `climhist_19812010.csv` | Github: analyses/input | Historical climate data between 1980 and 2010 that Carl used as his historical baseline in his model |
| `DummyTempChard.csv` | Github: analyses/input | Simulated data for Chardonnay used for getting Carl's hardiness model working |
| `envcanada_penticton.csv` | Github: analyses/input | The same as `2012-2018_PENTICTON_WEATHER_EM.csv` but a without missing data filled in. |
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| `meanTemps2013toLastYear.csv` | Github: analyses/input | Two day average temperatures used in Carl's hardiness models |

# Dashboard - Current Version

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| `dashboard-cloud.Rmd` | Github: dashboard/dashboard-sandy<br><br>AND | The Main Dashboard code. This code is set to run automatically during the winter |

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| | The AWL server (This is where the code runs live) | |
| `hardiness_stab.R` | Github: dashboard/dashboard-sandy | Faith and Lizzie's first attempt to convert Carl's Chardonnay 2020 model to R. This code was used as a framework for the other newer models |
| `dashboard-stub.Rmd` | Github: dashboard/dashboard-sandy | The Rmd file where Sandy's tester dashboard runs. It sources historical data rather than live updating. |
| `dataSubmissionApp.R` | Github: dashboard/dashboard-sandy | Sandy was trialling a way to add data to the dashboard using R. we didn't pursue this more. |
| `temperture2017.csv` | Github: dashboard/dashboard-sandy | Historical Penticton weather data Sandy is using to get her Dashboard ready |
| `test_scraping.R` | Github: dashboard/dashboard-sandy | Sandy working on getting web scraping working |
| `historicLTEdata Folder` | dashboard/historicalLTEdata | A copy of the LTE data provided by Carl, used for building Carl's hardiness model. Rund from 2013 to 2020. |
| `dummyboard.Rmd` | dashboard/dashboard-sandy | A very basic R shiny dashboard to we built as an early trial |
| `meanHardiness.R` | dashboard/dashboard-sandy | Code to calculate average hardiness from the historical hardiness data. This is then used to run the model on the server. |
| `updateWeather_Final.R` | dashboard/dashboard-sandy | Code that scraped weather data and adds it to csv file WeatherInfo.csv that is on the server. This data is then used to run the model along with MeanHardiness.R data |

# Dashboard - Adams version (never live)

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| `mainDashboard.R` | Github: dashboard/AdamsDashboard | The Dashboard written by Adam. I (Faith) dont think it was quite finished? This R file is where the main stuff happens. But it sources a lot of other code in this folder to scrape data and run Carl's Model. |
| `moreFunctions.R` | Github: dashboard/AdamsDashboard | Functions supporting `mainDashboard.R` |
| `runDaily.R` | Github: dashboard/AdamsDashboard | Code to get daily climate data from the internet |
| `saveHistoricData.R` | Github: dashboard/AdamsDashboard | This script is the rendition of mainDashboard.R that will be called by midge. The goal is to remove unnecessary variables so that things can be more automated without having to make annoying assign functions |
| `testingIdeas.R` | Github: dashboard/AdamsDashboard | Adam playing around with some ideas |
| `verifyingModel.R` | Github: dashboard/AdamsDashboard | Script & tips to compare withAdams version of Carls model with Carl's spreadsheet model output |
| `visualizations.R` | Github: dashboard/AdamsDashboard | Various plots Adam made, not all relating to the dashboard. SOme relate to climate visualisations, and this file seems to be in /bcvin/analyses/climate_projections as well. |
| `app.R` | Github: dashboard/AdamsDashboard/hardinessDashboard | The shiny app Adam built that will run the Dashboard. |

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# From Carl

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| `Newsletter Varietal Hardiness Ranking - new draft to edit 4_16_2020.pdf` | Github: fromCarl | A document Carl sent us where he ranks cold hardiness of each variety according to his model. Really useful for referring back to our model! |
| `Jan 2020 - Climate Characteristics of Grape Production Regions (Bogdanoff Bowen Estergaard AAFC-Summerland).pdf` | Github: fromCarl | The title says it all. A document laying out climate characteristics of Grape Growing Regions. |
| `GDD_email.pdf` | Github: fromCarl | Extra info on where GDD numbers come from in Car's model |
| `emailsCarlHardiness.txt` | Github: fromCarl | Some ideas from Carl |
| `CarlMeetingSep020.pdf /txt` | Github: fromCarl | A document prepared by Faith to update Carl on where hardiness modeling was in mid 2020 |
| `2012-2018 PENTICTON WEATHER.xlsx / 2012-2018 PENTICTON WEATHER 1.xlsx / 2012-2018 PENTICTON WEATHER EM.xlsx` | Github: fromCarl | Penticton historical data where Carl has done some of hist excel wizardy. |
| `Nov2020CarlModels Folder` | Github: fromCarl/Nov2020CarlModels | As of November 2020, these are the most up to date models of winter Hardiness Carl has sent us. Everything happens on the Excel Spreadsheet. Carl did not send us written instructions for these models but teh instructions in `older/Chardonnay Hardiness Model` |

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| | | `Instructions for v16-4.docx` should be mostly relevant |
| `Older Folder` | Github: fromCarl/older | Various iterations of the Model's Carl has been working on this year. There are written instructions to accompany the xlxs files. |

# Analysis

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| `CarlModelMay2020` | Github: analyses/CarlModelMay2020 | R code written by Adam to re-create the version of Carl's Merlot model that Carl sent us in May 2020. See README.txt and howTheModelWorksMay2020.pdf for full details. This model was used to build Adam's dashboard, but is now outdated |
| `ColumnCC_function.R`<br>`ColumnCE_function.R`<br>`ColumnCF_function.R`<br>`ColumnCG_function.R` | Github: analyses/oldCarlModel | These R files contain longwinded loops to replicate Carl's excel spreadsheet model<br>ColumnCC_function.R<br>ColumnCE_function.R<br>ColumnCF_function.R<br>ColumnCG_function.R - this one does the rest of the columns as well in one giant loop. |