**To do list for climwin V 0.0.2**

General

Coding

* Time estimator (a big problem is that in Windows the system timer is rounded to the nearest 10ms!! <- NOT GOOD ENOUGH! Not sure if we can overcome this issue as it’s a system issue. In Unix the system timer is much more precise)).
* Test coxph models.
* How can you deal with overdispersed data? (quasipoisson/binomial cannot use AIC, QAIC may work, but might require a rework? Or perhaps, if QAIC gives the same result as AIC when data is regularly dispersed, QAIC can be used as the standard metric of model strength instead?).
* **~~Speedup CMatrix build code (remove match() function). URGENT THIS IS CAUSING HUGE SPEED ISSUES. Match function is 2.7x slower than which function.~~**

This is now fixed but only for days, still needs work for weeks and months.

Also needs to be fixed for Xvar2

* Allow use of “I” and “LOG” FUNC when negative values are present.
* ~~When there are NA values and CMISSING = FALSE, we need a print out that tells you which dates are the problem, this can be very hard to debug data~~

Now returns an object ‘Missing’ that contains all dates where Xvar is NA. However, this can return irrelevant dates that aren’t actually used in the CMatrix.

* Include possibility for parallel processing?
* Integrate cvwin into climatewin, make a new base function
* In crosswin give an option to look at correlation between two different stats (i.e. correlation b/w min rain and mean temperature).
* Growing degree days (“gdd20”), with variable cut off point
* Estimate time taken (n \* (n + 1))/2 where n = furthest – closest + 1

Plotting

* Best plot uses mean values (±SE) when plotting large datasets?
* Print median climate window values on boxplots.
* Put a large title on the facet plot so we know which plot is for which model
* Best model plot doesn’t take additional factors into account.
* Create a new plotting code to show cross-validation for best model