

Run Fortran Model

Steps for running the fortran model (https://opensource.ncsa.illinois.edu/bitbucket/projects/VBD/repos/mir_model_f/browse)

- Original Code and setup on idea.

- **Steps in run process (cron)**

- The 3 routines that are run on the original server

- **Get forecast**

- /home/nan/WNV_WX/Not_smooth/run.get_forecast

- gets csv of forecast

- wget http://sats.nws.noaa.gov/~mos/mos/wnv/IL_divisions_all.csv

- copies (renames) to ILCD_<year><month><day> in same directory
 - then copies all IL* files to ../MIR_Model, ../MIR_cmb, and MIR_indiv

- **Get prism data**

- /home/nan/WNV_WX/MIR_model/run.cp_prism
 - get prism data

- /home/mtimlin/estSTCD/estCDwestnile/estCD.csh

- set d1 to 19810101 and d2 to `date +%Y%m%d` the get 4 files:

- curl -o estCD.dir/estCDp --data 'params={"state":"IL","sdate":"\$d1","edate":"\$d2","grid":"21","elems":{"name":"pcpn","area_reduce":"climdiv_mean"}}' <http://data.rcc-acis.org/GridData>
 - curl -o estCD.dir/estCDn --data 'params={"state":"IL","sdate":"\$d1","edate":"\$d2","grid":"21","elems":{"name":"mint","area_reduce":"climdiv_mean"}}' <http://data.rcc-acis.org/GridData>
 - curl -o estCD.dir/estCDx --data 'params={"state":"IL","sdate":"\$d1","edate":"\$d2","grid":"21","elems":{"name":"maxt","area_reduce":"climdiv_mean"}}' <http://data.rcc-acis.org/GridData>
 - curl -o estCD.dir/estCDt --data 'params={"state":"IL","sdate":"\$d1","edate":"\$d2","grid":"21","elems":{"name":"avgt","area_reduce":"climdiv_mean"}}' <http://data.rcc-acis.org/GridData>

- copy prism data

- from timlin directory cd /home/mtimlin/estSTCD/estCDwestnile/estCD.dir/110x where x=[1,9] where x is the climate division
 - to WNV_WX/Not_smooth/110x

- **Run Model**

- /home/nan/WNV_WX/MIR_model/run.cmp_n_nweek

- run the model
 - ./cmp_n_nweek 11 0x 2017 where x=[1,9]
 - rename plots
 - copy plots (rename) (110x_2017_plot 110x_YRcur_plot) to webapp directory

- **Step through fortran code**

Lines	Function	Important variables Description	Important variables names	Issues
38-185	initialize variables			
188-191	characters to int		ayearyear CD->icd	
194	?		c=','	
196-202	create 3 20x360 arrays	initialized as: t=temperature p=precipitation d=?	t,p = 999.9 d =0.0	
209-212	read week_days_2016.csv,	input days of week for year	wmonth(i),wday(i), wwweek(i),wyyear, wdate,wday	
216-231	create output files	normals MIR plot, (move to ./output)		
241-423	compute normals			
243-247	set some time period length values		bmon = 12 bday = 29 emon = 12 eday = 28 nday=365	
250-293	create 1d arrays for day and month convert fahrenheit to celcius convert inches to cm		dd(i) -day mm(i) - month	-running to the end of the file without indexes updating -added byear=1981, now finishes

297-327	calculate weekly averages for temp and precip	averages of weekly temps and precip	wt(k,j) wp(k,j)	
331-352	calculate weekly normals			
356-358	compute dw 30yr normals			
362-368	if weekly average > 22deg			
371-401	compute weekly 30 year normals			
404-417	compute seasonal weekly normals			
435	open ST//CD previous year quarterly temp and precip diffs			
436-439	instantiate 2 1d 366n arrays at 999.9		tmn(i)=999.9 ppt(i)=999.9	
445-452	get year previous to input year values		byear, nday, bday, bmon	
454-480	get daily means for previous year, convert to celsius, cm		tmn ppt	
485-509	compute weekly averages for previous year		wctmn wcppt	
511-530	initalize to 0			
533-560	compute seasonal averages			
564-571	compute quarterly previous year differences			
573-580	write to file <state><climdiv>w_<year>			
598	open ST//CD previous year quarterly temp and precip diffs (again)			
599-603	initialize 366d arrays		tmn(i)=999.9 ppt(i) =999.9 ddd(i)=0.0	
605-607	initialize 53d array		df_wkd=0.0	
610-617	set year values		byear nday bday bmonth	
620-698	calculate means for temp, precip			
700-826	forecaste data for 2017			
711-725	initialize		mntemp mxtemp prcpd	
730-735	open data/ILCD_20171024 read header line			
740-742	initalize 0 counters for min and max temp and precip			
743	loop climate divs			
744-777	validate counts for min and max templs and precip			
780-789	set values of prcpd		prcpd(x,j) x=[1,10], j=climatediv	
795-816	convert to celsius and calculated diff from 22 convert to cm			
830-884	compute weekly averages for analysis year			
887-899	compute weekly dw			

Fortran Help

command	inputs
read	(unit, format, if end goto)
write(*,	print to stdout

