**Revision 690 – September 12, 2023 (merged in code from : data\rev\_688\_commited\_mar\_9\_23)**

**NOTE: The following changes were made first to the Revision 688 code in the path above, then merged with our latest working code Revision 690.**

* command.f – code added in the ‘basins.bsn’ file for Srini’s simulations to read in previous run that SAVEed daily output in the fig.fig file. Code name is : ISUB\_SAV and if == 0, the model executes the subbasin command in fig.fig. If ISUB\_SAV ==1, it does not.
* modparm.f – deleted the function EXPO. This is due to comments from Steve Lionel’s research on Rev 688 with the debug and release outputs having different outputs.

Added ISUB\_SAV statement declaring it an integer;

* readbsn.f – Added the read for the new variable ISUB\_SAV
* alph.f – replaced expo with exp and added check

xx = (-125. / (preceff + 5.))

ajp = 1. - Exp(xx)

…

xx = (-125. / (preceff + 5.))

ajp = 1. - Exp(xx)

* eiusle.f – replaced expo with exp and added check  
  xx = (-125. / preceff)

ajp = 1. - Exp(xx)

* etact.f – replaced expo with exp and added check  
  xx = 2.5 \* (sol\_st(ly,j) - sol\_fc(ly,j)) / sol\_fc(ly,j)

sev = sev \* Exp(xx)

* pgenhr.f – replaced expo with exp and added check  
  xx = (-125. / (subp(jj) + 5.))

ajp = 1. - Exp(xx)  
…

xx = (2. \* tconc(jj) \* Log(1. - al5))

altc = 1. - Exp(xx)

* pkq.f – replaced expo with exp and added check  
  xx = (2. \* sub\_tc(iwave) \* Log(1. - al5))

altc = 1. - Exp(xx)  
…

xx = (2. \* tconc(j) \* Log(1. - al5))

altc = 1. - Exp(xx)

* readpnd.f - JGA commented the do/end do  
  !do while (is\_numeric(lid\_lus(nlid(i)))== .TRUE.)

nlid(i)=nlid(i) + 1

!END DO

* virtual.f – changed amax1 to max  
    
  surqno3(j) = max(1.d-12,surqno3(j))

latno3(j) = max(1.d-12,latno3(j))

no3gw(j) = max(1.d-12,no3gw(j))

surqsolp(j) = max(1.d-12,surqsolp(j))

minpgw(j) = max(1.d-12,minpgw(j))

sedorgn(j) = max(1.d-12,sedorgn(j))

sedorgp(j) = max(1.d-12,sedorgp(j))

sedminpa(j) = max(1.d-12,sedminpa(j))

sedminps(j) = max(1.d-12,sedminps(j))

* readfig.f – edited to be able to have unlimited save commands in the fig.fig file;

The unit numbers had to be changed to prevent affecting other files;

old:   
case (9) !! icode = 9 SAVE command: saves daily reach

!! constituent masses from a hydrograph node on

!! the channel network to an output file

day\_in = ""

read (102,5100) day\_in

call caps(day\_in)

if (inum1s(idum) <= 10 .and. inum1s(idum) > 0) then

open (40+inum1s(idum),file=day\_in,recl=350)

if (inum3s(idum) == 0) then

write (40+inum1s(idum),5400) title

write (40+inum1s(idum),5500)

else

iida = 0

iida = idaf

call xmon

write (40+inum1s(idum),5501) iyr, i\_mo,

& (iida - ndays(i\_mo))

end if

end if

new:   
case (9) !! icode = 9 SAVE command: saves daily reach

!! constituent masses from a hydrograph node on

!! the channel network to an output file

day\_in = ""

read (102,5100) day\_in

call caps(day\_in)

!if (inum1s(idum) <= 10 .and. inum1s(idum) > 0) then

open (30000+inum1s(idum),file=day\_in,recl=350)

if (inum3s(idum) == 0) then

write (30000+inum1s(idum),5400) title

write (30000+inum1s(idum),5500)

else

iida = 0

iida = idaf

call xmon

write (30000+inum1s(idum),5501) iyr, i\_mo,

& (iida - ndays(i\_mo))

end if

!end if

* save.f – edit for unlimited number of save commands in fig.fig; previous limit was 10 commands;  
    
  !if (inum1 <= 10 .and. inum1 > 0) then

if (ievent == 1 .and. inum2 == 1) then

!! Write subdaily values

do ii = 1, nstep

if (inum3 == 0) then

write (30000+inum1,5000) iida, iyr, ii-1,

& hhvaroute(2,ihout,ii),

* hru\_allo.f – extended the total number of management operations in the \*.mgt file from 1000 to 2000;

Additional changes in Rev 689 that were not included in Rev 688;

* ppet additional code;
* subbasin.f – Jeff removed these lines Srini added:

!!!! Srin’s irrigation source by application changes

irrsc(j) = irr\_sca(j)

irrno\_j) = irr\_noa(j)

!!!! Srin’s irrigation source by each application changes

* readfile.f: NEW output file (Srin/Arun) named: ‘monsoon\_plt.out’