RAPID Arrays

By Cédric H. David (cedric.david@jpl.nasa.gov)
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	Rivers (always active)		
	Name	Number of rows	Value range
Input files with IDs	rapid_connect_file	(IS_riv_tot)	ϵ **N**
	riv_bas_id_file	(IS_riv_bas)	ϵ **N**
Arrays with IDs	IV_riv_tot_id	(IS_riv_tot)	ϵ **N**
	IV_riv_bas_id	(IS_riv_bas)	ϵ **N**
Conversion arrays			
	IV_riv_index	(IS_riv_bas)	ϵ [1,IS_riv_tot]
	IV_riv_loc1	(IS_riv_bas)	ϵ [0,IS_riv_bas-1]

	PETSc vector	Rivers in basin	Input file	Rivers in input file
Conversion				
	ZV_Vlat	(IV_riv_loc1)=	ZV_read_riv_tot	(IV_riv_index)

	Observations (active w/ IS_opt_run=2)		
	Name	Number of rows	Value range
Input files with IDs	obs_tot_id_file	(IS_obs_tot)	ϵ **N**
	obs_use_id_file	(IS_obs_use)	ϵ **N**
Arrays with IDs	IV_obs_tot_id	(IS_obs_tot)	ϵ **N**
	IV_obs_use_id	(IS_obs_use)	ϵ **N**
	IV_obs_bas_id	(IS_obs_bas)	ϵ **N**
Conversion arrays			
	IV_obs_index	(IS_obs_bas)	ϵ [1,IS_obs_tot]
	IV_obs_loc1	(IS_obs_bas)	ϵ [0,IS_riv_bas-1]

	PETSc vector	Rivers in basin	Input file	Rivers in input file
Conversion				
	ZV_Qobs	(IV_obs_loc1)=	ZV_read_obs_tot	(IV_obs_index)

	Forcing (active w/ BS_opt_for=.true.)		
	Name	Number of rows	Value range
Input files with IDs	for_tot_id_file	(IS_for_tot)	ϵ **N**
	for_use_id_file	(IS_for_use)	ϵ **N**
Arrays with IDs	IV_for_tot_id	(IS_for_tot)	ϵ **N**
	IV_for_use_id	(IS_for_use)	ϵ **N**
	IV_for_bas_id	(IS_for_bas)	ϵ **N**
Conversion arrays			
	IV_for_index	(IS_for_bas)	ϵ [1,IS_for_tot]
	IV_for_loc2	(IS_for_bas)	ϵ [0,IS_riv_bas-1]

	PETSc vector	Rivers in basin	Input file	Rivers in input file
Conversion				
	ZV_Qfor	(IV_for_loc2)=	ZV_read_for_tot	(IV_for_index)

	Human (active w/ BS_opt_hum=.true.)		
	Name	Number of rows	Value range
Input files with IDs	hum_tot_id_file	(IS_hum_tot)	ϵ **N**
	hum_use_id_file	(IS_hum_bas)	ϵ **N**
Arrays with IDs	IV_hum_tot_id	(IS_hum_tot)	ϵ **N**
	IV_hum_use_id	(IS_hum_use)	ϵ **N**
	IV_hum_bas_id	(IS_hum_bas)	ϵ **N**
Conversion arrays			
	IV_hum_index	(IS_hum_bas)	ϵ [1,IS_hum_tot]
	IV_hum_loc1	(IS_hum_bas)	ϵ [0,IS_riv_bas-1]

	PETSc vector	Rivers in basin	Input file	Rivers in input file
Conversion				
	ZV_Qhum	(IV_hum_loc1)=	ZV_read_hum_tot	(IV_hum_index)

	Dam (active w/ BS_opt_dam=.true.)		
	Name	Number of rows	Value range
Input files with IDs	dam_tot_id_file	(IS_dam_tot)	ϵ **N**
	dam_use_id_file	(IS_dam_use)	ϵ **N**
Arrays with IDs	IV_dam_tot_id	(IS_dam_tot)	ϵ **N**
	IV_dam_use_id	(IS_dam_use)	ϵ **N**
	IV_dam_bas_id	(IS_dam_bas)	ϵ **N**
Conversion arrays	IV_dam_pos	(IS_dam_tot)	ϵ [0,IS_riv_bas-1]
	IV_dam_index	(IS_dam_bas)	ϵ [1,IS_dam_tot]
	IV_dam_loc2	(IS_dam_bas)	ϵ [0,IS_riv_bas-1]

	PETSc vector	Rivers in basin	Input file	Rivers in input file
Conversion	[ZM_Net*ZV_Qout]	(IV_dam_pos)=	ZV_read_dam_tot	(:)
	ZV_Qdam	(IV_dam_loc2)=	ZV_read_dam_tot	(IV_dam_index)

Further information

RAPID website: http://rapid-hub.org/
RAPID source code: https://github.com/c-h-david/rapid/