CHAPTER **40**

SWAT ROUTING UNIT DATA: .RU

Routing units are defined as a collection of HRU's within a subbasin. The HRU's are defined for each subbasin in the .sub file (Chapter 5) and can have a unique soil, topography and management using the climate data specified for the subbasin. The routing unit data includes the fraction of each HRU that is contained within the routing unit. Routing unit output is calculated when the routeunit command is executed (see Chapter 2 or the .fig file). Once the hydrograph number is set in the .fig file, output from the routing unit can be routed through channels, reservoirs, or across the landscape. Routing units can be configured to route across the landscape, and are typically defined as grids or landscape units (i.e., a representative hillslope with a ridge, hillslope, and valley bottom). Significant computer run time efficiency can be achieved when defining routing units as subwatershed within a subbasin and performing channel routing is not used, the HRU's can be used in multiple routing units. The routing unit data also specifies inputs that are used to calculate sediment transport capacity when routing across the landscape.

Variable name	Definition
TITLE	The first line of the file is reserved for user comments. The comments may take up to 80 spaces. The title line is not processed by the model and may be left blank.
TCK	Sediment transport capacity coefficient (dimensionless - range 0-100)
DA_RU	Area of routing unit (ha) (range 0.1 – 10.0)
OVSL	Average slope length of the routing unit (m) (range 1 – 1000.0)
OVS	Average slope steepness of the routing unit (m) (range .00001 – 0.5)

Variable name	Line #	Format	F90 Format
TITLE	1	character	a80
TCK	2	real	free
DA_RU	3	real	free
OVSL	4	real	free
OVS	5	real	free
BLANK	6		
BLANK	7		
BLANK	8		
BLANK	9		
BLANK	10		
BLANK	11		

Then we have the fraction of each HRU contained in the routing unit (hru_rufr(iru,ihru)). Any HRU's that are contained in a routing unit that has flow routed across it, cannot be used in other routing units.