

10/30/24/JPR – Improvements: The **Flow Path (Drainage Net) Map**, **3D Flow Diagram**, **Flow Table**, and **Upgradient Drainage Area** programs within the **Utilities / Hydrology** menu group have been revamped as follows;

1. Drainage nets are computed significantly faster. Consequently, larger grids based on DEMs or LiDAR can be modeled in a reasonable amount of time.
2. It is now possible to plot color-coded 2D and 3D flowlines in proportion to the upstream discharge area (Figure 1). This will produce maps and diagrams that use the hotter colors (e.g., red) to denote portions of the drainage with higher discharge (Figure 2).

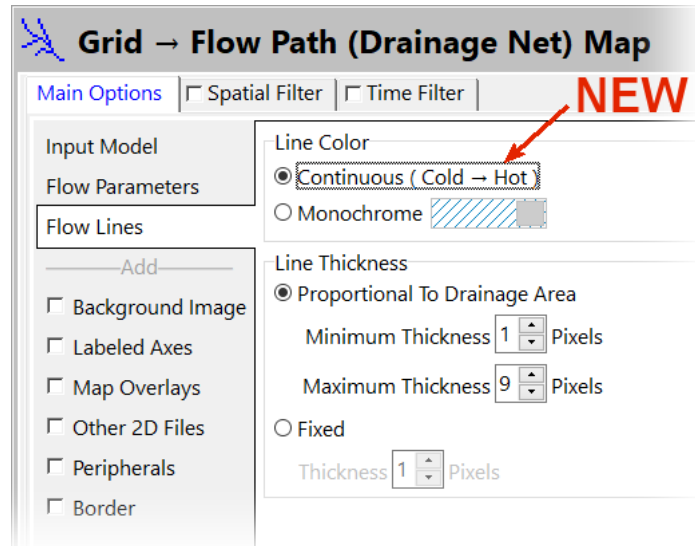


Figure 1

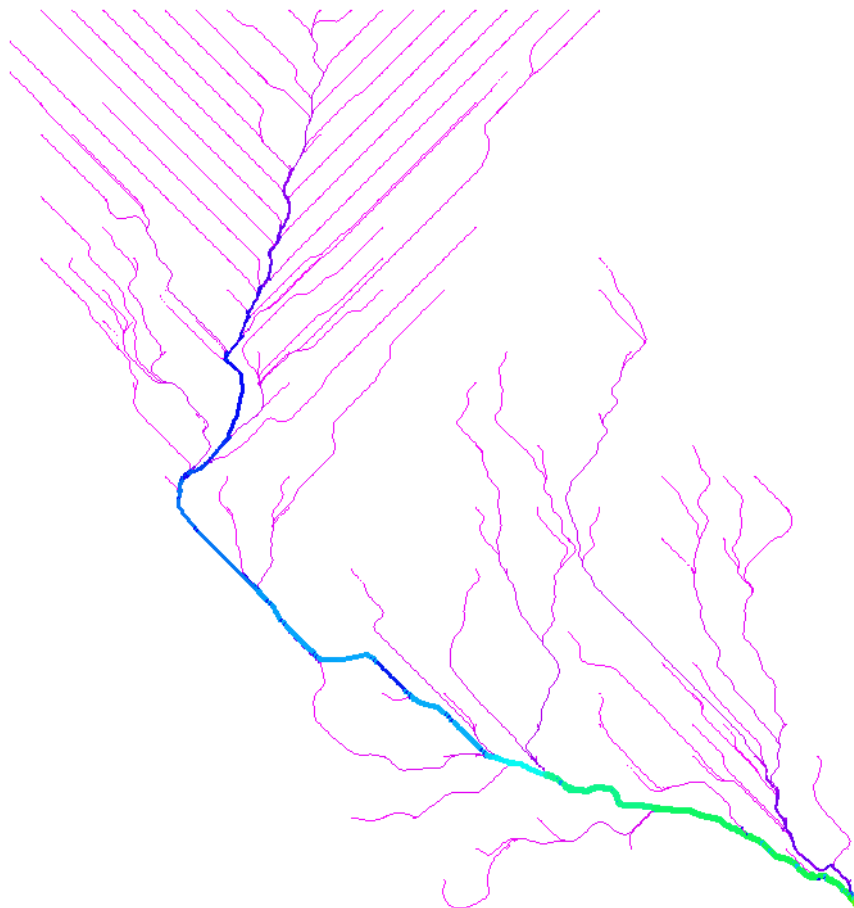


Figure 2

3. The Flow Parameters tab now includes an option to specify the **Sample Interval** or resolution at which points along the flow path are calculated and connected to form a line (Figure 3). Smaller spacings will take longer and create larger files (Figure 4). Note: The option is not available within the Upgradient Drainage Area program which samples every cell.

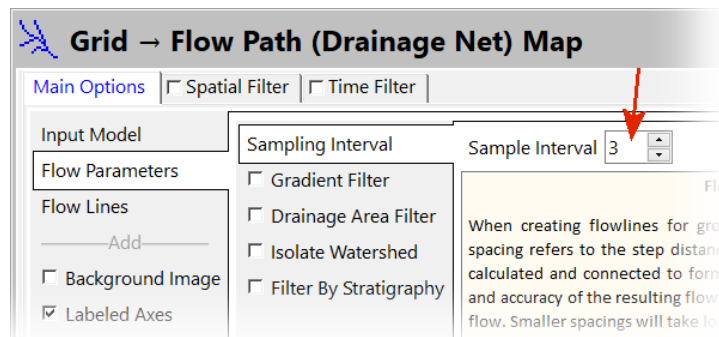


Figure 3

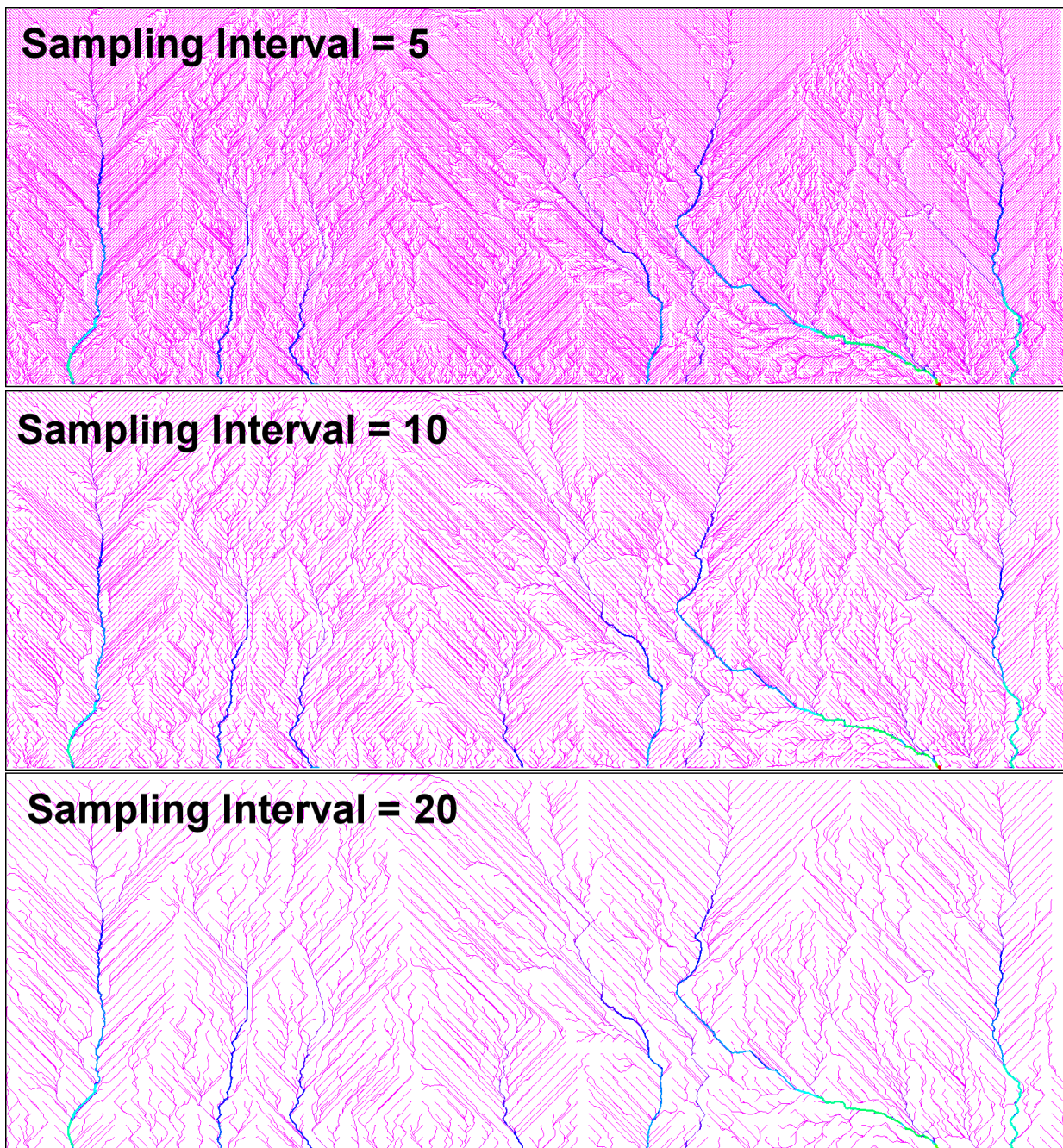


Figure 4

4. The stream segment azimuths are now computed and added to the output table (Figure 5) for subsequent use by other programs such as the *Utilities / Linears / Rose* programs (Figure 6)

Row#	Use	X1	Y1	Z1	X2	Y2	Z2	Azimuth	Gradient	Area
1	<input checked="" type="checkbox"/>	437,073.0	4,394,485.0	2,891.82	437,074.0	4,394,484.0	2,891.81	135.0	-26.9	34.0
2	<input checked="" type="checkbox"/>	437,301.0	4,394,807.0	3,007.06	437,302.0	4,394,807.0	3,006.86	90.0	-11.1	1,239.0
3	<input checked="" type="checkbox"/>	437,088.0	4,394,957.0	3,132.85	437,089.0	4,394,956.0	3,131.91	135.0	-33.5	720.0
4	<input checked="" type="checkbox"/>	437,906.0	4,394,523.0	2,819.06	437,905.0	4,394,522.0	2,818.79	225.0	-10.8	2,530.0
5	<input checked="" type="checkbox"/>	436,519.0	4,394,537.0	2,929.29	436,520.0	4,394,536.0	2,928.83	135.0	-18.2	393.0
6	<input checked="" type="checkbox"/>	436,512.0	4,394,717.0	3,050.84	436,511.0	4,394,716.0	3,049.14	225.0	-50.2	245.0
7	<input checked="" type="checkbox"/>	437,675.0	4,394,719.0	2,962.44	437,676.0	4,394,718.0	2,961.6	135.0	-30.9	56.0
8	<input checked="" type="checkbox"/>	437,890.0	4,394,555.0	2,838.17	437,891.0	4,394,554.0	2,837.64	135.0	-20.6	2,114.0
9	<input checked="" type="checkbox"/>	436,710.0	4,394,584.0	2,944.74	436,711.0	4,394,583.0	2,944.15	135.0	-22.5	7,479.0
10	<input checked="" type="checkbox"/>	436,837.0	4,394,659.0	3,021.35	436,836.0	4,394,658.0	3,020.28	225.0	-36.9	58.0
11	<input checked="" type="checkbox"/>	436,908.0	4,394,532.0	2,961.53	436,907.0	4,394,531.0	2,960.84	225.0	-26.1	41.0

Figure 5

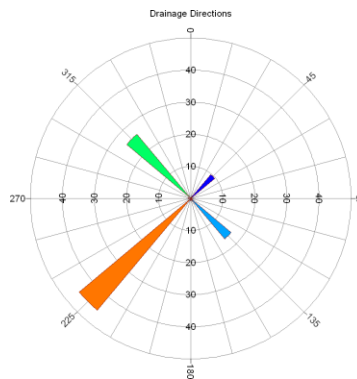


Figure 6

5. The following items have been removed from the menus;
- sink-filling,
 - polyline smoothing, and
 - decimal-places within the segment table.