RESonate Background

RESonate is an open-source toolbox for ArcGIS 10 that was developed through a partnership between The University of Kansas, Kansas Biological Survey (KBS) and the U.S. EPA National Exposure Research Laboratory (EPA-NERL), Cincinnati, Ohio. Research and development was funded primarily by the U.S. EPA through Student Services and consulting contracts from the U.S. EPA Office of Research and Development (EPA-ORD). Additional funding was provided by a student grant from the Kansas Academy of Sciences and an NSF EPSCoR grant to the Kansas University Center for Research (EPS-0553722). The tools contained within RESonate are intended to facilitate data collection for large-scale hydrogeomorphic analyses of river corridors, specifically; identification of functional process zones (FPZs). These tools are free to use FOR RESEARCH PURPOSES ONLY. COMERCIAL AND NON-RESEARCH USE IS STRICTLY FORBIDDEN. The tools may be modified by users; however, credit must be given to the original creators (see original reference below).

Questions relating to RESonate and may be sent to James H. Thorp (thorp@ku.edu ) or Bradley S. Williams (bradw0051@yahoo.com). Additional information on RESonate and FPZs may be found in the following publications and references therein.

---------------------------------------------Original reference---------------------------------------------


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**System Requirements** –

*Minimum System Specifications:*
- Operating System: Windows XP 64 or 32-bit
- Processor: 2GHz quad-core processor
- Memory: 4 GB
- Primary Hard Drive: 250 GB, 7200 RPM, 32 MB cache, non-RAID
- Secondary Hard Drive: 250 GB, 7200 RPM, 32 MB cache, non-RAID

*Ideal System Specifications:*
- Operating System: Windows 7 64-bit
- Processor: (2) 2.33 GHz Xeon quad-core processors
- Memory: 8 GB
- Primary Hard Drive: (3) 250 GB, 7200 RPM, 32 MB cache, RAID 0
- Secondary Hard Drive: 250 GB, 7200 RPM, 32 MB cache, non-RAID

**Software Requirements** –

*ArcGIS 10 with the Spatial Analyst and Network Analyst Extensions*

*ArcHydro Tools and the App Framework*
[ftp://ftp.esri.com/ArcHydro/Setup10/2.0.1.133_2.0_Final/](ftp://ftp.esri.com/ArcHydro/Setup10/2.0.1.133_2.0_Final/)

*RESonate Toolbox*
[http://web.ku.edu/~riverecology/index.html](http://web.ku.edu/~riverecology/index.html)

*FLDPLN*
[http://web.ku.edu/~riverecology/index.html](http://web.ku.edu/~riverecology/index.html)

*Useful Statistical software packages*

*PATN 3.11*

*PRIMER*

*R*

**Installation –**

1) Save and then unzip the files to a directory of your choice
2) Open ArcGIS 10 and simply add the RESonate toolbox. Instructions for adding toolboxes to ArcGIS 10 may be found here: