A Quarterly Report

AGNPS Newsletter

Spring 1994

Finally! The AGNPS Bullpen is happy to announce the long-awaited release of AGNPS Upgraid version 4.02. As you will see later in this newsletter, the technology of version 4.02 is far superior to that of earlier versions of AGNPS. At the same time, the look and feel of the AGNPS program has been kept very similar to that of version 3.65. Therefore, the upgraid will be easy to become familiar with. If you are interested in receiving a copy of AGNPS version 4.02, lease fill out the request form in the last page of this manual and send it to us. Please be sure to answer EACH of the questions about your computer system in the request form as the new version is quite machine specific due to memory configuration. Once again, we are very excited about this version and thankyou to everyone who has waited so patiently while we were ironing out the rough edges in AGNPS version 4.02.

AGNPS Verson 4.02

AGNPS version 4.02 came about as the need for new technology from AGNPS users increased along with computing size, power, and platform types. These improvements will increase the model efficiency and speed as well as allow use of extended (EMS) / expanded (XMS) memory to break the 1900 cell barrier of previous AGNPS versions! Here is a list containing some of the major changes with version 4.02:

- The addition of a triangular hydrograph to calculate flow rates.
- The option of using the SCS TR55 method of peak flow calculation.
- The ability to decay nutrients during channel flows.
- Channel scouring by particle size.
- Soil information entry.
- More precise data entry for values of infiltration rates, manning's coefficients, etc..
- An extended/expanded memory manager which allows as many as 32,000 cells depending on machine capabilities.

Another change that you will notice is in our AGNPS request form. We are now asking for information about your computer. The reason for this is in order to make AGNPS as efficient as possible, we have four different versions of the program. Once we know your machine's configuration, we will send you the AGNPS version best suited for your machine. We are also sending out copies of the AGNPS version 4.02 User's Guide on diskette. It will cut down on our shipping costs if you can print the manual out from your own system. The manuals will come in two versions: MicroSoft Word DOS version 5.0 and Word Perfect 5.2 for Windows. The reason for using WP 5.2 for Windows is this particular version is portable to both Word Perfect 5.1 and Word Perfect 6.0 for DOS. If your system is able to print from any of these formats, we encourage you to indicate so on the AGNPS request form.

Now that version 4.02 will be distributed, we will also begin a gradual shift of customer support away from version 3.65. This means that if a user is having trouble with AGNPS version 3.65 or earlier, we suggest they request a copy of version 4.02 in order to stay current with the available technology rather than call with questions about an outdated version of the program.

Please also note that we have successfully compiled a UNIX version of the 4.02 model. There is no user-interface with the UNIX version, but if you are interested in theis version please contact us via internet.

Other AGNPS Developements

The Annualized (Continuous Simulation) version of AGNPS has once again slid to the back burner. As the Single Event upgraid neared completion, attention moved away from the continous version. Now that we are releasing version 4.02 attention will once again focus on Annualized AGNPS. The technology in this model will be updated to match that of the new single event version. Due to the extreme size and complexity of a continous AGNPS sumulation, we began running into limitations of the current design. For this reason, it has been decided to redesign the continuous simulation model. The design process is reaching the analysis level and we hope to begin programming by mid May. We will concentrate on the model alone this summer and once the model portion is completed we will build appropriate user interfaces to fit. We have received several excellent suggestions for the input interface including a graphical input. Currently we are considering this in our design and are leaning towards X-Windows in the UNIX environment and MicroSoft Windows for the PC version. Any suggestions or comments are welcome.

Relating to the Annualized version of AGNPS, we have rewritten the winter simulation model. This model simulates snow, frost and thaw depths for each segment of a slope. Just a few of the improvements include an hourly time increment as well as multiple frost layers (up to 2 complete frost layers). This model will be implemented into Annualized AGNPS as well as a fortran version into WEPP (Water Erosion Prediction Project). We have also created a standalone winter simulation program which we are currently validationg and documenting. The standalone version will require a weather input file (Cligen format) and a land information data file. If you are interested in helping with verifactaion of this medel or in just receiving a copy of it, please contact Dr. Young or John Witte.

We have received several requests for a feference list of articles related to the AGNPS program. The lab has compiled a short list of know references and this list is available if you are interested, just request it when you send in the order form that coame with this nwsletter. Currently, we have 17 know references. This is an on-going list and if you know af any references that we have overlooked we would be glad to add them.

Some of your may have heard rumors about the personnel changes which have taken place in the Bullpen. Dr. Young officially retired in early January of this year. However, things haven't changed much as Dr. Young is working at the lab as a colaborator on the AGNPS project. He may be contacted the same as before. About the same time as Dr. Young's retirement, Basil Meyer accepted a postion as a programmer/analyst for a private company. We miss him around the Bullpen and wish Basil the best of luck. Currently we have 2 full-time programmers working in the Bullpen. Mike Koehler has been working extensively with the new AGNPS version 4.02 model, pesticide database, and source accounting. John Witte has been working on the user interfaces, winter routines, and Annualized AGNPS desgin. Jim Eklund has recently joined the Bullpen team while helping with support, documentation and computer programming.

Training

In our last few newsletters we have mentioned the possiblilities of putting together an AGNPS/GIS training session. Several of you responded favorably to such an idea. We are still hoping to have such a session available. However, due to the uncertainty of USDA funds, it has been postponed indefinately. We still want to hear any comments/suggestions that you may have. When we get a better idea of the budget situation we will let you know via the newsletter.

Other AGNPS Developements

Other AGNPS Developements

Other AGNPS Developements

• •

The AGNPS (Agricultural NonPoint Source) computer model was developed by the Agricultural Research Service (ARS) in cooperation with the Minnesota Pollution Control Agency (MPCA) and the Soil Conservation Service (SCS). The model was developed to analyze and provide estimates of runoff water quality from agricultural watersheds, simulating runoff, sediment and nutrient transport.

Acknowledgements

The AGNPS Newsletter is a cooperative effort supported by various agencies, including the USDA Soil Conservation Service (SCS), the Minnesota Pollution Control Agency (MPCA), the Legislative Commission on Minnesota Resources (LCMR) and the Environmental Protection Agency (EPA). The editors of this edition of the newsletter are John Witte. Mike Koehler and Jim Eklund.. The intent of this newsletter is to inform non-AGNPS users of the AGNPS program and to keep current users of AGNPS abreast of current developments and facilitate use of the model.