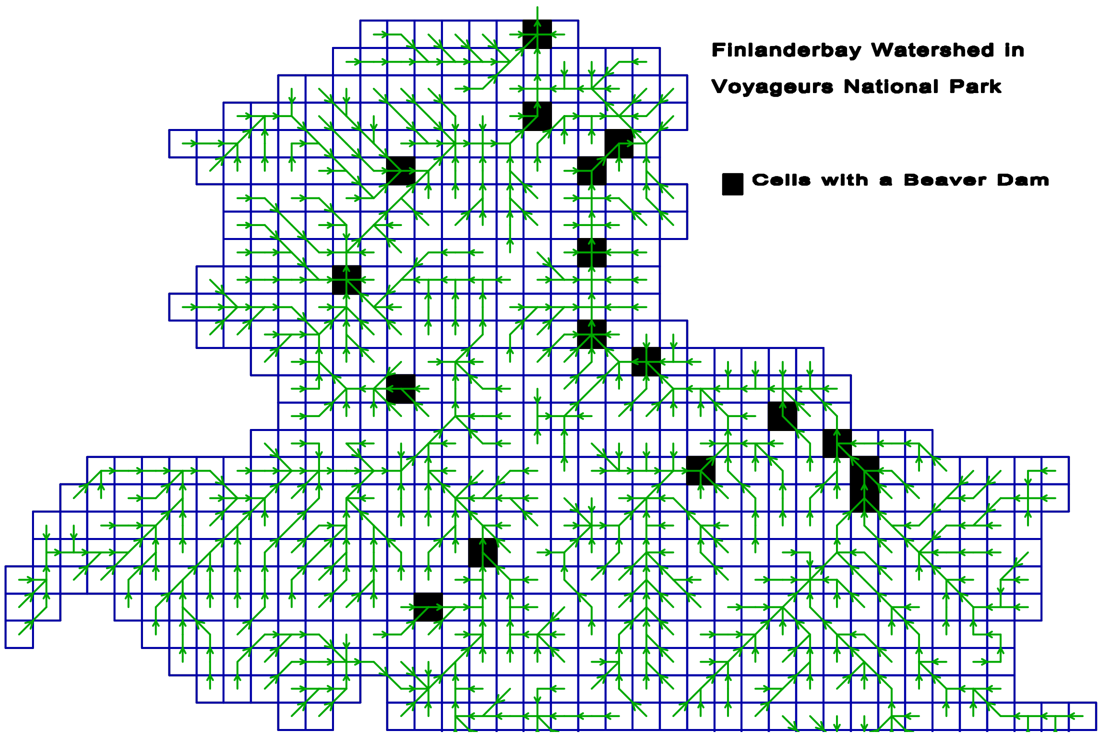
A Quarterly Report

AGNPS Newsletter

Spring 1993



The AGNPS Bullpen has been buzzing this spring in preparation for the release of two new versions, an upgraded single event version and the continuous simulation version. Both versions are still being finalized and tested, but there is light at the end of the tunnel! Look for more details on each version later in this Newsletter.

Notes On AGNPS Use

Over the past few months, a few minor modifications have been made to the current version of AGNPS, version 3.65.5. These changes were needed to exterminate "little bugs" that had been dormant over the winter months! Fortunately, none of these pesky little critters were lethal in the sense of lost data! A short description of each bug that was "zapped" follows.

1. A range check was added to the Storm Energy Intensity calculation function. The maximum EI value allowed now is 999.

2. For AGNPS users who keep their data files on floppy disks, the View Tabular utility can now read output files stored on floppy disks.

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.

3. Deleting the last cell in a data file was locking up the computer. This bug has been terminated.

4. For Impoundment drainage areas > 99.9 acres, the model was not reading these values correctly. To overcome this bug the file format for the Impoundment data had to be slightly modified. Therefore, if your data files contain impoundments you may be very interested in this latest update.

Another impoundment bug that was brought to our attention concerns large pipe outlet diameters. Currently you can enter outlet sizes up to 99 inches. But depending on various scenarios, outlet sizes > 50 inches may cause a Run-Time error when running the model. This error is caused by a data overflow error within the impoundment calculations. Due to the nature of this bug, it could NOT be corrected without completely overhauling the impoundment routines. Therefore, if you are having this problem you will have to lower your outlet size. Simple trial-and-error will result in an outlet value that is acceptable.

Users should also note that the total drainage area of impoundments within a cell **SHOULD** be less than the size of the cell. If the total drainage area of impoundments within a cell is greater than the cell size, the overland runoff will be duplicated for the area larger than the cell! We eventually plan on implementing new Impoundment routines into the newer versions of AGNPS which will allow for larger drainage areas and pipe outlets.

Some clarification is needed in the meaning of Channel Indicators. In earlier versions of AGNPS (3.50 and 3.51), the Channel Indicator represented the **number** of channels within the cell. However, in version 3.65 the Channel Indicator represents the **type** of channel within the cell. The type of channel does **NOT** affect the calculations, except for a No Definitive Channel where the channel dimensions are calculated within the model. The channel type is merely for the Grafix Utility in highlighting different types of channels within the watershed. Also, version 3.65 assumes only one major channel per cell. If there is more than one major channel in a cell, the cell should be divided. The AGNPS manual (Conservation Report 35) is based on version 3.51 and thus, still refers to the Channel Indicator as the number of channels within the cell.

Current AGNPS Developments

The upgraded single event version of AGNPS, version 4.00, is nearing its debut! The nutrient routines are being validated by SCS, and we anticipate a release soon after they are approved. Version 4.00 will make use of the DOS Protected Mode Interface (DPMI) and also the Phar Lap 286|DOS-Extender development tool. This will allow the program to use all of a computer's memory up to 16 Mb. You will be happy to know that this means that the current cell limitation of AGNPS will be virtually nonexistent! Recall that version 3.65 has a 1900 cell limitation and can only access up to 640 Kb of RAM! However, you should note that there will be some changes in the minimum system requirements for Version 4.00. These minimum system requirements will be:

- an 80286 or later processor
- 2 Mb of available extended memory
- MS-DOS 3.0 or later

The Annualized version of AGNPS (ANNAGNPS) is also nearing its long awaited debut. The winter simulation routines, which are done on a hourly basis and simulate snow depth, frost depth, thaw depth, multiple frost layer depths, infiltration capacity, snow drift amounts, snow melt and amount of water melt taking place (just to name a few!), are nearing completion. Once they are verified, a beta-version of ANNAGNPS will be released. We anticipate using DPMI and Phar Lap 286|DOS-Extender with ANNAGNPS too. Therefore, ANNAGNPS will most likely have the same or similar system requirements as version 4.00. However, due to the amount of inputs required, there may still be a cell limitation for early releases of ANNAGNPS depending on the amount of memory on one's computer.

If you would like to be a beta-version tester for version 4.00 and/or ANNAGNPS and haven't already notified us, contact Basil Meyer at 612-589-3411 or FAX 612-589-3787. We will then notify you when each version is ready for testing. Otherwise, watch for official release information on each version in future AGNPS Newsletters.

AGNPS Bulletin Board System

We have updated the AGNPS Bulletin Board System (BBS) with a 14,400 baud modem! This will allow you to download and upload files MUCH faster than before (as long as your modem's baud is higher than 1200). The BBS number is 612-589-2854. We are testing a couple of different BBS's and, therefore, would appreciate any comments on preferences. Currently on the BBS we only have version 3.65.5, it's user's guide and the last two Newsletters. However, we eventually plan on having all versions of AGNPS (3.65, 4.00 and ANNAGNPS), their manuals and copies of each Newsletter on the BBS. Feel free to leave messages, questions, and/or suggestions on the BBS and direct them to the "SYSOP".

For those of you who use Internet, you may send AGNPS related Email to us at the following Internet address:

"USDA_ARS@CAA.MRS.UMN.EDU"

Please note that this is a multiple user account for our lab. Therefore, you need to clarify in your message that it is AGNPS related so it will be forwarded to us here in the AGNPS Bullpen.

User's Paragraph

A link between AGNPS and PC-ARC/INFO has been developed by the Geography Department at the University of Idaho. PC-ARC/INFO 3.4D is required to run the integration prototype. For additional information contact:

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208-885-6452

Training

In the last newsletter we included a questionnaire form for a possible AGNPS/GIS training session. The response from our users indicates there is a strong interest in having such a training session. However, due to the government spending freeze, the AGNPS/GIS workshop has been put on hold, possibly until the summer of 1994. However, there will most likely be a training session held for version 4.00 once it is released and we may include some AGNPS/GIS training at this session. Tentatively, a training session for version 4.00 is being planned for late summer. If you are interested in attending this training session, contact Basil Meyer at 612-589-3411 or FAX 612-589-3787.

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 Basil Meyer, John Witte and Mike Koehler. 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.