WISE Release 3.0
April 3, 2006

WISE Users,

We are pleased to announce our latest release of WISE. WISE Version 3.0 includes a number of new features, a new module, and dozens of bug fixes.

WISE 3.0 introduces a new way of storing data for the Open System Inventory module. Survey data is now imported to a new file with an .inv extension, referred to as a Survey Data File. Approximate (Limited Detailed) structures can now only be added or deleted in the Open Inventory module rather than in the Hydraulics or Closed System Inventory modules. For specific procedures, refer to the online Help for the Open System Inventory module. A new user guide for the Open System Inventory module entitled. *Managing Data for Riverine Systems* will soon be available for download at http://www.watershedconcepts.com/software/WISE/Documentation.lasso.

In the Hydraulics module, users can access survey data for Detailed structures, cross sections, and Approximate structures by selecting a Survey Data File that was created in the Open Inventory module and setting up temporary shapefiles for viewing. Data for Detailed structures and surveyed cross sections can be viewed in detail but not edited. Attribute data for Approximate structures can still be edited in Hydraulics, but Approximate structures can only be added or deleted in the Open System Inventory module. Multiple users can access, view, and edit (for Approximate structures) the survey data in order to speed the workflow process. A new user guide entitled, *Conducting Hydraulics Analysis* is under review and we hope to release it in the next few weeks.

WISE 3.0 presents a new Coastal module that enables users to automate data input and other front-end processes. This module could reduce the time required for the coastal mapping production process by 35 to 50 percent and also provides more accurate results. The most dynamic feature of the Coastal module is the Graphical Transect Editor, which enables the user to fine tune the data associated with the transect profile and allows versioning for each transect so the analyst can experiment with various scenarios. The module allows multiple users to view and edit the data in order to speed the workflow process. For specific procedures, refer to the online Help and the user guide for the Coastal module entitled, *Conducting a Coastal Flooding Analysis*.

This version of WISE also includes a tool to remap file paths after moving a Terrain Project and a variety of enhancements to Terrain, Open System Inventory, Hydrologic and Hydraulic tools.

These release notes describe the major changes in WISE since WISE 2.0.9 and provide information about upgrading existing WISE projects.

Upgrading to WISE 3.0

If you are using a stand-alone installation of WISE, you should uninstall the previous version and then install WISE 3.0. WISE now uses a new wizard that not only reduces file size for service pack downloads from www.watershedconcepts.com, but also boasts a new, easy-to-use installation dialog.

Like WISE 2.0.9, registration files upgrade automatically to show new menu items upon installation. WISE users will only need to generate a new registration file if their registration has expired or if they have purchased new modules.

Refer to www.watershedconcepts.com/software/documentation_general.html for instructions on installing, registering and configuring WISE.

If you are using WISE through Citrix, you can log in as usual.

Converting Projects from Previous Versions

The automatic conversion starts as soon as you open a project built with earlier versions. If you are converting a project from 2.0.x (other than Open System Inventory), you will be presented with the option to create a backup copy of the project. If you are converting a project from 1.9.x, then a backup copy of the project will automatically be created in the project folder (by default). The converted project will open in the plan view.

When you open an Open System Inventory project that was created in an earlier version of WISE (2.0.9 or earlier), a default data survey file (.inv extension) will automatically be created incorporating the data that was formerly stored in the .wse file for the project. The new .inv file will include the file paths to the shapefiles based on that data. While the data will be removed from the .wse file, a backup .wse file with the complete data will be saved that can be used if you need to re-open the project in a previous version of WISE.

After the conversion, you should re-create all shapefiles for Closed System Inventory projects. It is no longer necessary to re-create shapefiles for Scoping or for Open System Inventory. In Hydraulics, you need to select the corresponding Survey Data File (.inv) for Detailed structures, cross sections, and Approximate structures and set up shapefiles to view this data.

1. Open the project in WISE 3.0. When the Project Conversion prompt is shown, click Yes to convert the project. Note that the conversion was successful.
2. If you are working with a Closed System Inventory or Hydraulics project, go to Project Options.
3. To re-create Closed System Inventory, click the Setup Shapefiles button and click Yes. Replace all existing shapefiles.
4. To set up the Hydraulics module, click the Inventory Project tab on the Hydraulics Project Options. Click the open folder and select the appropriate Survey Data File. Select a directory and then click Setup Shapefiles.

If you had added photos in the Closed Inventory or Hydraulics modules, the paths for the photos will be not copied into the Survey Data File and corresponding shapefile when the project is converted to 3.0. You will need to add these photos in the Open System Inventory module and associate them with structures.

New Features by Module

A summary of new features and bug fixes by individual module follows these general notes.

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Major Enhancements and Bug Fixes in WISE 3.0

(Does not include all bug fixes and minor enhancements.)

Documentation Updates

- Online Help has been developed or expanded, where needed, for the changes listed here. New user guides for the Coastal Module and for FEMA Submittal Tools are available for review and use on the HSMM intranet.

General Functionality

- ID4675 – When you use the profile tool (available in all modules) the initial profile comes out as expected. If you want to use the Chart Setup tool under the File menu, it initially gives you an error and does not allow you to accomplish labeling. This problem was related to image layers on the plan view and has been corrected.
- ID4711 – When the user clicked the Add Theme tool, WISE did not remember the last file path location. Each time you use it, it deferred back to the default path. With WISE 3.0, after selecting the first theme, the dialog box will use the same directory for subsequent selections.
- ID4718 – Edit attributes in the Theme table has been replaced with the Attributes tool.
- ID5067 – A problem encountered when exporting from WSE to an Access database when using WISE through Citrix WISE has been corrected.
- ID2672 – When the user clicks on the Stop GPS item in the View menu, a message box confirms that the GPS unit is successfully disconnected.

Scoping

- ID4535 – When importing a Repetitive Loss Access database with all the requisite fields filled out (lat/long in decimal degrees) using the Import Repetitive Loss tool, an error was displayed because the table names included spaces. Version 3.0 accommodates spaces in these table names.
- ID4676 – Difficulties with MNUSS after moving a project and remapping were due to the leading zero in the CoFIPs. This problem has been corrected.
- ID4684 – If GIS Data Availability was "NO", the dialog box would not allow you to proceed by clicking OK. This problem has been corrected in 3.0. If you have a WISE 2.0.9 project, contact WISEHelp, and we will update your database so that each community will have GIS data availability that can be edited at will.
- ID4685 – When opening a .tiff image in a WISE installation on a PC, the program crashed. The fix required running a patch for the MapObjects component of WISE, which is available from WISEHelp. The patch has been incorporated into WISE 3.0.
- ID4693 – When opening a Tiff image in a WISE installation on a PC, the program crashed. This requires running a patch for the MapObjects component of WISE, which is available from WISEHelp. The patch has been incorporated into WISE 3.0.
- ID4707 – The Repetitive Loss dialog box and the Scoping database now include a RepType field with values of Rep, Single, and No Loss. This field was

also added to the associated RepLoss shapefile so users can query and view data by the type if desired.

- ID4709 – In the Team dialog box, the Teams Assigned to Study will be sorted alphabetically from now on.

Terrain

- Update Terrain Project – A new tool allows you to remap the paths recorded in the files of a Terrain Project after moving the files using Microsoft Explorer. This tool allows you to move Terrain Projects after their creation.
- Create Streams – The Create Streams tool now allows you to select the area of interest by drawing a polygon on the plan view. This allows you to create streams on irregularly-shaped watersheds without having to build the terrain for the entire extents.
- ID4625 – When importing large ASCII-format xyz LIDAR datasets (above 700 MB), WISE crashed and reported an "out of memory" error dialog. This was due to individual system limitations rather than a problem in WISE. A new tool to Divide XYZ file allows you to divide a large ASCII-format XYZ file into smaller files to import the data to a Digital Terrain Collection. This addresses possible system limitations for importing large files, such as those with tens of millions of points.

Closed System Inventory

- Approximate structures – Approximate structures are now added, deleted, or edited in the Open System Inventory module rather than in Hydraulics or Closed Inventory. The data can also be edited in Hydraulics (after the appropriate Survey Data File is selected in Project Options).
- ID4878 – When merging closed inventory projects, the tool now checks to determine if there is sufficient storage and displays a message if the merge is not possible for this reason.

Open System Inventory

- Project Options – The Project Options for Open Inventory has been changed to reflect the creation of a Survey Data File (.inv) and the addition of the Approximate structures shapefile. Approximate structures are now added or deleted in this module rather than in Hydraulics or Closed Inventory.
- Edit Attributes – The Edit Attributes button has been replaced by the use of the Identify tool in this module. To view or edit data for structures, click on the layer. Click the ID tool and then click on the structure.
- Survey shots – WISE automatically creates a shapefile and imports and displays the location of individual survey shots during the multiple survey import.
- Elevation Reference Marks – WISE automatically places the Elevation Reference Marks on the plan view for the user and associates them to the structures during the multiple survey import.
- Elevation Reference Marks – The Elevation Reference Marks (ERM) tool now includes a History tab to display changes to the data. For existing ERMs in projects converted from previous versions of WISE, the history notes that the

project was converted and the date. New ERMs created in WISE 3.0 are identified as Instance 1. ERMs do not have associated photos or sketches.

- High Water Marks – The High Water Marks dialog box (formerly Historical Witness Interview) now includes history and sketches tabs. Multiple sketches can be associated with a HWM. The sketch pad has been eliminated, as surveyors typically produce a sketch outside of WISE and import it as a .jpg or .bmp file.
- Merge tool – A new Merge tool has been added to merge data from another survey data file to the current survey data file.
- Export DCS – Exporting Open Inventory data to a DCS format inventory project has been added.
- ID819 – After drawing and importing a XS from Total Station equipment, the user was allowed to preview it but after clicking OK, no line showed up and the XS was not stored in the database. This function has been disabled and replaced by the Import Multiple Survey Files tool.
- ID1265 – The culvert that is part of the Riser was not being populated as a culvert in the NC database. It will now be populated in the InvClvrtPp.
- ID3087– After using the Detailed Historical Interviews Import, the Effective Date was not populated correctly. This was because the HWN spreadsheet did not contain an Effective date so WISE used the default of 12/30/1899. Now the Effective, Interview, and Event Date controls will default to the date the HWM was created.
- ID3089 – After using the Detailed Historical Interviews Import, the Witness Name was not populated correctly. This problem has been corrected.
- ID4435 – After importing the structure, the user noticed that a pipe was coded and a cross section view error was displayed. Now an outlet pipe will not be added unless the left 2 letters of the survey code are UI, UT, DI or DT. A "NULL" riser is not added unless outlet pipes are present and a riser is missing.
- ID4531 – After exporting the project to the NC Database, the Pipeline attributes were not populating correctly. Fields not being populated are WtrNmID, ClSta, XCoordCl, YCoordCl, Invert, and StrSta. This has been corrected.
- ID4584 – After using the Import Multiple Survey Files with one XS, the line was drawn as a large N. The survey appeared to be correct in WISE. The code has been corrected to draw the cross section correctly.
- ID4630 – After clicking on the Import Multiple Survey Files tool and selecting a directory, the user clicked on the Select Working Directory icon to change the directory, and it displayed an error. This problem has been corrected.
- ID4886 – If you delete a shapefile from the Plan View, it will not be added back into the Plan View if you re-open Project Options.
- ID4887 – A problem with importing photos with Limited Detailed Structures has been corrected and they now display correctly in the Plan View.
- ID4906 – When entering Limited Detailed Study data, clicking the VCE icon caused the dialog box to disappear behind the WISE window. This has been corrected.
- ID4990 – A problem was encountered when creating PDF files for the Bridge report using Citrix to access WISE. The problem has been resolved by upgrading to Adobe 7 on the Citrix servers.

- ID5060 – The user was unable to delete duplicate structures and cross sections because they had a tab character after the name. The function will now filter out these characters.

Coastal

The new WISE Coastal module provides dialog boxes and menus that enable users to automate data input and other front-end processes, which reduces the time required for the coastal mapping production process by 35 to 50 percent, and provides more accurate results. The calculations that are automated or assisted by the WISE Coastal module include: Mapping, RUNUP, WHAFIS and Erosion. Supporting a user base that has experience with coastal modeling and programs such as WHAFIS, the primary procedures in the Coastal module are:

- Setting up a Coastal Project
- Creating Transects
- Creating WHAFIS Points
- Editing Transects and WHAFIS Points in Plan View
- Using the Graphical Transect Editor to Finalize Transects and WHAFIS Points
- Defining Heel, Toe and Crest of the Primary Frontal Dune
- Running Erosion Calculations
- Importing Existing CHAMP Projects
- Importing Existing WHAFIS and RUNUP Projects into CHAMP
- Creating Reports
- Creating Mapping Line Shapefiles

The WISE Coastal module optimizes the process for setting up coastal studies with transect features. This process had not been well integrated in existing coastal mapping utilities. Users can add transects one at a time or automatically place transects perpendicular to the coastline based on user-defined spacing intervals. (Automatic transect placement depends on available terrain data to check elevation.) Users can also begin projects in the Coastal module with existing CHAMP data or WHAFIS/RUNUP files.

WHAFIS points can be automatically added and a default card value can be defined in Study Settings to speed up the process.

The most dynamic feature of the Coastal module is the Graphical Transect Editor, which enables the user to fine tune the data associated with the transect profile. The Graphical Transect Editor includes a profile display of ground elevation, transect points and land use zones. A synchronized, dynamic snapshot of the plan view transect, complete with an aerial photograph or additional information displayed in the plan view, is also available on the Graphical Transect Editor, as well as additional data tabs for Points, WHAFIS, RUNUP and Photos.

The user can save different versions of each transect to compare scenarios. Different versions of CHAMP output can be imported for the same transect and results can be combined to optimize mapping.

A Runup Scale Factor option enables users to multiply all runup elevations by a factor after they are imported into WISE from CHAMP.

Multiple users can edit the database and view the data in order to speed the workflow process.

Hydrology

- Basin Delineation Setup – The Basin Delineation Setup now allows you to select the area of interest by drawing a polygon on the plan view. This allows you to delineate basins in irregularly-shaped watersheds.
- Data Capture Standards Export > Models tab – This tool now allows you to paste an Excel spreadsheet of flows (Q) for various floods into the Results Editor grid.

Hydraulics

- Project Options – The Project Options for Hydraulics now provides new options for users to select a Survey Data File and create shapefiles to display the data. This allows Hydraulics users to use the Identify tool to view data collected by surveyors in the Open Inventory module.
- Detailed Structures and Cross Sections – Detailed structures and surveyed cross sections are now only added, deleted, or edited in the Open Inventory module. Data for these features can now be viewed in the Hydraulics module (after the appropriate Survey Data File is selected in Project Options).
- Approximate structures – Approximate structures are now added, deleted, or edited in the Open System Inventory module rather than in Hydraulics or Closed Inventory. The data can also be edited in Hydraulics (after the appropriate Survey Data File is selected in Project Options). Updating the stream station and associating TOR and US cross sections now must be done in the Hydraulics module as these are disabled in the Open Inventory.
- Create Detailed Model, Create Approximate Model – In building Detailed Model or Approximate models, these tools now copy survey information from an Open Inventory structure or associated cross section to a current hydraulic cross section with only topographic information. Previously these tools only used cross section data.
- Create Detailed Model – You can now specify an overbank shapefile as the basis of calculating overbank distances. These are used to estimate friction losses in HEC-RAS.
- Create Detailed Model – You can now specify the minimum topwidth and minimum depth to be used in describing geometry for unsurveyed cross sections.
- Create Limited Detailed Model – The dialog box to create Limited Detailed models has been updated to accurately reflect the source data used in developing this type of model.
- HydraMAX > Model Setup > Steady Flow Data Tab – This dialog box now allows you to paste a spreadsheet of discharges into the Flow Block grid. The spreadsheet must match the grid for the number and order of columns.
- HydraMAX > Model Setup > Globally Adjust Stream Stations (on toolbar) – A new tool is provided that allows you to adjust all stations in a model by a specified amount. This is useful if the initial station on a tributary must be adjusted to reflect downstream stations on the main branch of the stream.

- HydraMAX > Data Viewer and Graphical Viewer. When you move a point in the Graphical Viewer, a comment is added to the Data Viewer for that point with details on who made the change, when it occurred, and the previous value.
- Merge HydraMAX Models– The option to Add GIS Sections in the Update Data window of the HydraMAX Model Setup window has been replaced by a new function to Merge HydraMAX Model files. This function detects differences between two HydraMAX XML files and copies structures and cross sections to the XML model that is currently open in HydraMAX. It eliminates the need to recreate the model from scratch with the new cross sections or structures.
- Export Hydraulics to DCS – The dialog box now populates the shapefiles automatically, based on the project that is currently open in WISE. The check boxes have been changed to radio buttons to reflect the choices and today's date is used as the default.
- Export Hydraulics to DCS – On the Simulations tab under Models, you can right-click and find all files to populate the details of the model. This function requires you to follow standardized conventions in naming the files.
- Export Hydraulics to DCS – You can load an existing XML file to provide the settings for an export.
- Compare Cross Section Elevations to Terrain – You can now select between Appendix L and North Carolina formats for this function. An option to specify the sampling interval for the comparison is provided. The results are saved to a comma-delimited spreadsheet that can be opened in Microsoft Excel with x, y, ground, wsel, difference and absolute differences listed for each error, and with a summary of points tested, points failed, and points passed. In addition, a shapefile of error points is produced.
- Manage FIS Profiles – This new tool expands the functionality of the Import ESRI Profile tool. It allows you to import digitized effective FIS profiles to a WISE project for use in developing flood boundaries and checks the imported data for inconsistencies. This functionality has been enhanced to eliminate duplicate profiles that were formerly produced by successive imports and the database is now password protected, as the user will not need to delete duplicate profiles. The tool now also allows you to delete unwanted profiles and to export selected profiles using a user-provided datum shift to a dxf file for further editing.
- Create BFE Markers – The accuracy of creating BFE Markers for Redelineation studies has been significantly improved and consequently the Redelineation tab of this tool has been re-enabled. This tool now allows you to extend BFE markers to the extents of the floodplain by referencing a 2-D mapping boundary shapefile.
- ID4300 – The new Internal Agreement Checker tool compares floodway data tables, profiles and mapping products for internal agreement and generates an Excel report.
- ID4884 – When merging XML files in HydraMAX, the tool has been changed so that it only checks the invert data table to match active inverts when needed.
- ID4897– The Approximate Model Builder now compares the approximate structure shapefile to the stream shapefile and adds all structures intersecting the selected stream to the model. In previous versions, structures were only added if the stream name was correct in the approximate structure

shapefile, so an individual user had to edit the stream names in the approximate structure shapefile to match the stream shapefile.

- ID4901– The Redelineation profile dxf has been enhanced to reduce the need for editing. Now the XS Hexagons can be identified with numbers or letters, the FIS field station is divided by 100 and then rounded to yield numbers like 003, the road labels are placed in the second major grid cell from the top, and the X scale labels show commas (as 3,000).
- ID3584 – When points at the end of a cross section were made inactive in HydraMAX, the channel bank stationing in the RAS geometry plan view did not import to the correct location. This did not impact the water surface or calculations in any way, but affected viewing. It has been fixed in WISE 3.0.
- ID3646 – When cross-sections were added using the add GIS XSCs under add/remove data, they were brought in to the wrong centerline station if the stations have already been adjusted using translate data. This functionality has been replaced by the XML Merge tool.
- ID4051 – The Map Flood Boundaries tool would create a WSEL raster; however it would not work when the WSEL Raster box was checked and generated an error "Subscript out of Range, Form Module: frmMapProfiles;BatchMapWiseRaster.“ The problem has been corrected.
- ID4391– The default n-value for concrete culverts has been changed from 0.015 to 0.012, which is more widely accepted.
- ID4403 – The Auto-Approximate tool would not call up RAS to perform the calculations using this version of HEC-RAS. WISE 3.0 now accepts HEC-RAS 3.1.2 and handles this routine correctly.
- ID4434 – WISE "locked-up" when attempting to run the Map Flood Boundaries tool with an older format cross-section shapefile. The field called "BY" should have been called "BY_" in the cross-section attributes. Once changed, user was able to proceed. This error was not reproducible. Mapping works in 3.0 with either BY or BY_ field with no problems or error messages.
- ID4521 – When performing Redelineation using the revised topo method, the user was checking profile shapefiles in the Hydraulics module for digitization errors. An error window was displayed, but the error window was not scrollable and could not be copied. The dialog box now has a scrollable text box for the list of warnings. The print font has been increased to 12 pt. A copy button was added. The form was enlarged for easier viewing.
- ID4545 – WISE abruptly terminated when the user tried to network map the floodplain boundaries for model streams. Also, WISE failed network mapping if the total stream length is more than 20 miles. Users should use the “Map by Stream” option as a work-around.
- ID4604– When the user created an approximate model in WISE, and tried to create a permanent ineffective in HydraMAX and then exported the model to HEC-RAS 3.1.2, the ineffectives are not exported as permanent. The problem has been corrected.
- ID4605 – The user created the HEC-RAS output table using the column headings that were required and tried to create a Floodway Data Table using the "Create Floodway Data Table" function. WISE shut down. However, the error could not be reproduced. The user’s computer must have MS Word on it to use this tool.

- ID4619 – HydraMAX can now accept zero values or missing values for the Chan_Depth field in the WISE stream shapefile. In these cases, a satisfactory stream geometry is built based on the minimum values specified when building the model.
- ID4712 – Using the Delete Approximate Structure tool in Hydraulics caused an error for project location to display. The tool has been replaced by the Delete a Feature tool in Open Inventory and the problem has been corrected.
- ID4988 – A problem was encountered when creating PDF files for the Limited Detailed Study report using Citrix to access WISE. The problem has been resolved by upgrading to Adobe 7 on the Citrix servers.
- ID4930 - An average deck size, rather than the actual low chord survey points, was being used in the HydraMAX modeling file if the number of LC points exceeded the number expected by WISE. The tool to create a HydraMAX model now handles an unlimited number of low chord survey points from the Open System Inventory data.

Planning Tools

- ID3776 – A problem with associating polygons with impervious data and populating them with parcel data has been corrected.

Administration

- ID3184– In the dialog box for creating a new user, the abbreviation for Alaska has been corrected and an abbreviation for Puerto Rico has been added in the list of states.
- ID3467– If you enter the address for a user in the second line of the street address, you will no longer be prompted for the address.
- ID3469– If you expand the treeview in the Administration dialog box, the view is stored and retrieved when the Administration dialog box is re-opened.
- ID4555– After adding a stream reach to a Scoping project and re-launching WISE, the message "Provider cannot be found…" was displayed. A message that the shapefile was locked also occurred when attributing stream reaches in the Effective layer. These problems occurred with the Citrix servers and have been fixed.
- ID4736 – The Add User dialog box in Administration has been modified to handle alphanumeric user IDs. Error messages generated by phone numbers have been fixed.

Release notes for all versions of WISE are available through our Web site at:
www.watershedconcepts.com

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