# i-Tree Suite Change Log (2/24/2021)

Your version can be updated with the Software Updater or by downloading at [www.itreetools.org](http://www.itreetools.org)

| i-Tree Suite Version | Date | Application Version | Improvements |
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| **2021 suite V6.1.36** | 2/24/2021 | Eco V6.0.22 | 1. Carbon storage is calculated by using new carbon storage equations. Species shading factors and leaf area to leaf biomass conversion factors are updated by using new averaging approach. Added leaf biomass to tree biomass if a tree is evergreen or semi-evergreen. As a result, you will see changes of leaf area, leaf biomass, carbon storage and carbon sequestration in SAS estimation and forecast in this version. For detailed changes, please refer to separate related documents.<br>2. Species group equations are used in calculating crown width in forecast<br>3. Added tropical climate option (for calculating carbon storage and sequestration) in project setup form if and only if the location is identified as in a tropical climate area in location species database<br>4. Local copy of location species database (included in the installation) is now switched to a real time cached database from our i-Tree server.<br>5. “Forest” is added as an option of land uses.<br>6. Added back, forward, refresh and stop buttons to browser forms<br>7. Displayed location types in project overview form<br>8. Added a table that displays the rejected row numbers and reasons in inventory data importing<br>9. In energy reports, the note is changed to “Trees less than or equal to 10ft/3m tall or further than 60ft/18m away from buildings do not provide energy benefits to nearby buildings” |

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| | | | 10. Added a total row to forecast reports of pollutions, a total row to overall forecast carbon sequestration and carbon sequestration by strata report<br>11. Utilized global species list in the IPED reports.<br>12. Fixed enabling/disabling of Trees and Shrubs for plot-based sample projects.<br>13. .Net Framework is upgraded to version 4.6.1. Require windows 7 SP1 or newer.<br>14. Internal database accessing package NHibernate is upgraded to 5.4.0-alpha-3 with .JetDriver 3.3.0-alpha.5.<br>15. Replaced Firefox embedded browser with Chromium CefSharp<br>16. Updated some of help texts<br>17. Location Species database is updated to version 11.1.8<br>a. Species bio-emission rates are updated, which results in significant change bio-emission result<br>b. CO2 concentration are updated.<br>c. Corrected PM2.5 removal rate values for 109 locations<br>d. Pollution, health incidence and hydrologic benefit values changed for 3 counties in the Puget Sound area.<br>e. Update the cost of electricity values of US to 2020<br>f. Changed compensatory values of Canada<br>18. Weather database is updated to SVN revision 427<br>19. Server-side master pollution databases:<br>a. USA: added 2002 O3, PM2.5 and SO2 databases. Added 2003 O3, PM10, PM2.5 and SO2 databases<br>b. Canada: added 2018 databases<br>c. Senegal: added 2012 databases<br>d. Oman: added 2009 databases<br>e. Netherlands: added 2016, 2017 and 2018 databases<br>f. Italy: added 2018 databases and updated 2017 databases<br>g. Ethiopia: added 2017 databases |

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| | | | h. Colombia: updated 2016 databases<br>20. Server side user submitted precipitation files:<br>a. 2015: added one file<br>b. 2016: added one file<br>c. 2017: added six files<br>d. 2018: added five files |
| **2020 suite V6.1.35** | 4/14/2020 | Eco V6.0.21 | 1. Japan is added to the list of Canada, Australia, UK, Mexico, Korea and Columbia. Now NO2, SO2, O3 and PM2.5 are using BenMAP regression results.<br>2. Trees/Shrub tab now is disabled if no plots are entered for plot-based project.<br>3. Define plots via Google maps: fixed a bug of zero plot size when reading plots from web browser. International locale is also verified.<br>4. Fixed crash bug of importing trees into an inventory project with existing trees.<br>5. Fixed carbon storage unit bug in written report (changed from $/yr to $)<br>6. Fixed a discrepancy between health impact report and monthly pollution removal report.<br>7. Fixed Korea weather station selection bug by allowing non-digit of USAF and WBAN numbers<br>8. Fixed a bug of Individual Tree Energy report of lacking associated species list.<br>9. Fixed unit bug in Individual Tree Energy Avoided Pollution report<br>10. Meta report: removed the dependence of weather.mdb by retrieving weather station name from the server directly<br>11. Updated EULA form to use help.itreetools.org.<br>12. Updated the splash text for new project types.<br>13. Updated some of help texts<br>14. Eco Mobile Application:<br>a. Persist user settings across project reloads and new projects.<br>b. Added version number to the About page. |

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| | | | c. Added link to Online Help to the Options page.<br>d. Fixed project reload bug that was causing the application to stop responding after project reload.<br>15. Location Species database is updated to version 10.11.29<br>16. Weather database is updated to SVN revision 372<br>17. Server side master pollution databases:<br>a. Japan: added for 2016<br>18. Server side: added 67 weather files of Tokyo of year 2016. Updated 4 weather files of Tokyo of year 2016 by replacing PC01 value by local data. |
| **2020 suite V6.1.34** | 3/17/2020 | Eco V6.0.20 | 1. Supported Shrub-Only and Dead-Tree-Only projects<br>2. Implemented the carbon storage cap (both server side and application forecast side)<br>3. Changed Carbon Storage urban factor (0.8) replied only to trees with crown light exposure 4 or above<br>4. Used a scaled down unit for avoided pollution in Individual Tree Energy Avoided Pollution report,<br>5. Fixed unit bug for crown height in the report of Individual Tree: Composition and Structure of Trees<br>6. Fixed a bug in Individual Tree Energy Effect report<br>7. Fixed a bug in forecast when the project file name contains single quote.<br>8. Added version to What's New<br>9. Removed the restriction of starting and ending blank space in project name and series name in setting up a project<br>10. Added tree GUID and tree live top to the trees.txt file exported to SAS<br>11. Location Species database is updated to version 10.11.22<br>12. Weather database is updated to SVN revision 373<br>13. Server side master pollution databases:<br>14. Brazil: updated for 2014, 2015, 2016<br>15. Thailand: added 2017 |

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| | | | 16. Korea: updated for 2018<br>17. Iran: updated 2015<br>18. Server side: added some user submitted precipitation files of 2014, 2015, 2016, 2017, 2018 |
| **2020 suite V6.1.33** | 1/13/2020 | Eco V6.0.19 | 1. Energy calculation is available for all international projects<br>2. Columbia and Korea are joined as a whole country. BenMAP regression becomes available for pollution calculation.<br>3. Location Species database is updated to version 10.11.17 |
| **2020 suite V6.1.31** | 12/20/2019 | Eco V6.0.18 | 1. Plot reference form: allow single digit of the distance<br>2. Added warning message for planting projects in creating new projects<br>3. Forecast: changed the method of matching SAS result, maintained future tree growth.<br>4. Added 2017 and 2018 weather data.<br>5. Split energy report.<br>6. Fixed CSV export of Individual Tree Energy reports<br>7. Fixed some minor bugs<br>8. Location Species database: updated to version 10.11.14<br>9. Server side pollutant databases: updated Columbia for 2016<br>10. Server side pollutant databases: added China for 2014, Italy for 2017 |
| **2019 suite V6.1.30** | 10/23/2019 | Eco V6.0.17 | 1. Tree DBH and height is allowed to slow growth when a tree reach to mature size in Forecast model<br>2. Fixed a bug in calculating crown competition factor in Forecast which fixed the DBH growth issue in DBH Growth forecast report. Also updated growth rate values for slow, medium and fast growths.<br>3. Added a "Restore Defaults" button to the Actions section for the DBH and Crown Health report classes<br>4. Fixed a bug in inventory tree editing form<br>5. Eco Mobile: Dock the mobile log table into the layout so that it stretches with the form.<br>6. Updated project options and what is new<br>7. Updated notes for some reports |

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| | | | 8. Added crown height to the report of composition and structure of individual trees<br>9. Added additional location details to metadata report<br>10. Added CSV and KML export buttons in Ribbon which get enabled for all exportable reports.<br>11. Added Change Log button in Ribbon under Support<br>12. Refactored Help panel to display default help content if help is not available<br>13. Added Crown Height to Composition and Structure of Individual Trees report<br>14. Added Phoenix AZ and Albuquerque NM to Appendix III in written report<br>15. Fixed currency lookup bug in reports<br>16. Fixed totals in individual tree benefits summary report<br>17. Increased the performance of the application by adjusting threading in the code<br>18. Added some user submitted weather files of 2013, 2014, 2015, 2016<br>19. Added 2016 weather and pollution data added for US and Columbia<br>20. Added master pollutant databases of 2012~2016 for Brazil in the server<br>21. Added master pollutant databases of 2016 of Belgium in the server,<br>22. Added master pollutant databases of 2016 of India in the server<br>23. Updated master pollutant databases of 2013 of China in the server<br>24. Location Species database is updated to version 10.11.11<br>25. New weather stations are added to weather station selector |
| **2019 suite V6.1.28** | 6/12/2019 | Eco V6.0.16 | 1. Added Re-inventory functionality.<br>2. Added/Updated help texts for reports of Utility Conflict, Side Conflict, Maintenance Tasks, Maintenance Recommended, Avian Habitat Suitability, Hydro Effects, Custom Fields, and some other reports<br>3. Fixed a bug of creating new project (when an existing project is |

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| | | | displaying project configuration)<br>4. Location species database is update to version 10.11.3<br>5. Databases of Exampled Projects are re-calculated and updated |
| | | Hydro V6.3.4 | 1. Backend model<br>a. Updated interface and autocalibration to use Hydro+ as backend model. This is a major model architecture change. Testing shows that model results have negligible differences compared to the previous i-Tree Hydro version so long as each version is using identical input parameters.<br>2. User-Interface<br>a. Modified the model processing window that appears after Step 4, to avoid the Hydro program stalling and becoming unresponsive while the hydrology model runs. Note that this change requires user-input to proceed to second model run, either pressing OK after first run completes or enabling the “Hide this window automatically” option on the processing window.<br>b. Using USGS National Water Information System for all preloaded streamflow data; no longer using USGS Instantaneous Data Archive for 2005 to apx. 2007 as we had in the past.<br>3. Documentation<br>a. User manual updates to address technical support queries since the last update period<br>b. In-tool help-text and field names updated to improve clarity<br>c. XML configuration file comments changed and added to improve clarity<br>4. Bug fixes<br>a. Resolving a bug to enable multi-year simulations<br>b. Enabling working directory paths that include spaces<br>c. Resolving bug with format of Compare Calibration timeseries graph<br>d. Correcting preloaded soil texture parameters to match Green-Ampt |

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| | | | Infiltration Parameters<br>e. Correcting the interface between “Effective Porosity” (previously called “Wetted Moisture Content”) in GUI and DWSMI parameter in XML configuration file. |
| **2019 suite V6.1.27** | 3/29/2019 | Eco V6.0.15 | 1. STREETS features integrated: user defined DBH classes, user defined condition classes. Relative editing form, data importing, data collection and reports are modified accordingly. Replaced mid-point use of DBH classes by user entered actual DBH value in estimation.<br>2. Dieback (now dieback/condition is renamed to Crown Health) is factored in calculating crown width and crown height when the project is configured not to collect crown size. This change affects hydro reports, pollution removal reports and wild life report.<br>3. In forecast, Tree Growth is changed to using a growth rate of 0.0222% of the base growth when it reaches the maximum tree height to allow slow growth.<br>4. Changed the minimum value or mortality rate in Forecast Basic Option form from 0.1% to 0.0%.<br>5. DBH class and Health class reports are regrouped in Ribbon tabs.<br>6. In DBH class report, it is now upper value inclusive (it was lower value inclusive) to match SAS estimation.<br>7. Default dieback for Excellent tree condition is set to 0% only (it was 0~1%)<br>8. Changed reports menus from “Benefits Summary By Species” to “Benefits Summary of Trees By Species”, “Benefits Summary By Stratum and Species” to “Benefits Summary of Trees By Stratum and Species”<br>9. In written report: corrected Carbon Avoided from avoided runoff in summary page.<br>10. Change “measured Tree Details” to “Individual Level Results” in Ribbon.<br>11. Changed “Wildlife Suitability” to “Avian Habitat Suitability” |

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| | | | 12. Fixed a bug in data editing related to DataGridView.<br>13. Fixed a bug during results retrieval when strata names contain "." or other special characters, a stratum has no single plot completed and a stratum in full inventory project does not have a single tree.<br>14. Improved the efficiency of application.<br>15. Help texts are accordingly changed due to new features and new model improvement.<br>16. Exampled projects included in the installation are calculated<br>17. Location species database is now version 10.10.8 (many new locations and species added)<br>18. Project database is updated to version 10.0.11. |
| **2019 suite V6.1.26** | 11/29/2018 | | 1. New shortcut for i-Tree County<br>2. New shortcut for i-Tree Projects |
| | | Eco V6.0.14 | 1. Fixes crash in Individual Tree Benefits report for international users.<br>2. Fixes bug in command argument passing for launching x64 bit version of Eco. |
| **2019 suite V6.1.25** | 11/26/2018 | Eco V6.0.13 | 1. Updated the project processing url<br>2. Fixed bugs in pollution removal and individual tree reports |
| **2019 suite V6.1.24** | 11/21/2018 | Eco V6.0.12 | 1. Updated What's New content<br>2. Carbon calculation adjustment is using Crown Light Exposure (CLE) now instead of using land use previously. Users may notice the result change in carbon storage, carbon sequestration.<br>3. Weather data handling is changed to max-6 hours precipitation. Users may notice the result change in reports of Hydro effects, pollution removal and air quality health impacts and values<br>4. Users are required to upgrade their Eco application to reflect the changes of CLE and weather data handling<br>5. Master pollutant databases for European countries are re-generated. It has more pollutant monitoring stations now.<br>6. USA Carbon price is changed from $143 per tonne to $188 per tonne |

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| | | | 7. Increased energy interaction from 3 to 4<br>8. Added UserId for trees and plots in data editing form and individual reports (if it is configured to have UserId)<br>9. Renamed three “Avoided Runoff” reports to “Hydrology Effects”<br>10. Added hourly bioemission (isoprene, Monoterpene) reports<br>11. Added maintenance report by species<br>12. Added maintenance recommended report<br>13. Added maintenance report by tasks<br>14. Added maintenance utility and sidewalk conflicts reports<br>15. Added pollutant monitoring stations in ProjectMetaReport<br>16. Submitting project form is more user friendly by loading previous contact information automatically<br>17. Disabled unit selection after a project is created<br>18. Fixed a bug when entering 0 as valid %<br>19. Fixed a bug of data validation during the middle of tree data entry.<br>20. Improved map display performance<br>21. Fixed some of spelling in comment<br>22. Location species database is now version 10.10.3 (many new locations and species added)<br>23. Project database is updated to version 10.0.9. Previous project databases will be prompted to upgrade during the time of open |
| | | Hydro V 6.1.13 | 1. Removed redundant code reading XML schema for .iHydro projects. This fixed a bug that caused some project files to only partially open, resulting in incomplete inputs being loaded in from saved files. No change needed in .iHydro project files. |
| **2018 suite V6.1.23** | 9/7/2018 | Eco V6.0.11 | 1. Added lat/lng collection and editing<br>2. Added lat/lng and notes/comments in numerous reports<br>3. Added Spanish translation in forecast<br>4. Restricted the text length in editing form to match database fields’ length<br>5. Map browser (IE) is replaced by Gecko XulFx. More robust. |

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| | | | 6. Fixed a bug from international characters in result retrieving<br>7. Fixed a bug in forecast when a species is lack of mature height in the species database<br>8. Fixed a bug in forecast when a project is configured not to collect crown size<br>9. Fixed a bug in sending data to Mobile collector for full inventory project<br>10. Fixed a bug in server processing side when a location refers to a pollution monitor from a different country<br>11. Blacklisted 2016 MS Access engine due to the fault multiple threading support<br>12. Species Location database is updated to version 10.9.13 (many new locations and species added)<br>13. Project database is updated to version 10.0.6. Previous project databases will be prompted to upgrade during the time of open<br>14. Weather station data is updated in the server |
| | | Hydro V 6.1.2b | 1. User interface (UI): standardized processed weather file export/import to use no linebreak between header & data rows.<br>2. UI: canopy parameter defaults synchronized for all scenarios.<br>3. UI: changed text for topographic input options based on user feedback.<br>4. UI: browsing for raw streamflow data now displays all filetypes by default.<br>5. UI: changes to ensure weather preprocessor re-runs if certain step 1 or 2 inputs change.<br>6. UI: resolved bug that was blocking valid preloaded streamflow data from working.<br>7. UI: replacing sample project's DEM with one built using bilinear projection.<br>8. Legacy project importer (LPI): corrected issue with land cover beneath canopy being imported incorrectly.<br>9. LPI: corrected issue with imported project keeping its v5 name instead |

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| | | | of its updated v6 name.<br>10. Model run: corrected issue with run log printing incorrect infiltration rate decay method.<br>11. Model run: corrected issue with program needing user to press “OK” to trigger running 2nd scenario when two scenarios are being simulated from the user interface.<br>12. Code management: using DaveyTree.sln for externals rather than directly referencing externals, to keep up-to-date with changes made to those externals for other i-Tree Tools.<br>13. Known issue: preloaded streamflow data prior to October 1, 2007 is not loading properly due to changes in USGS IDA service. While we’ve taken some steps to address this issue, it is still not resolved. |
| **2018 suite V6.1.22** | 6/8/2018 | Eco V6.0.10 | 1. Spanish version of the application made available. Previous projects will be automatically updated to Spanish when it is opened in a Spanish version of application<br>2. Country Mexico is added. All projects from Mexico will be processed like USA, Australia, Canada, United Kingdom. A new exampled project “Merida, Mexico” from Mexico is added.<br>3. “What’s New” content is updated on application launch.<br>4. Model “Grassland” is re-rephrased to “Grass/Herbaceous”.<br>5. Removed “Report a bug” under menu Support in main form. Changed “Feedback” to “Feedback & Bugs”. Also updated the offline screen shorts for various support pages.<br>6. A warning message is displayed in main form when a project uses invalid locations.<br>7. Reports’ names under Pest Analysis reworded in main form.<br>8. Prevented possible duplicates in full inventory tree editing form<br>9. Limited strata description size to the size of database field length in strata editing form<br>10. Total incidence is added in “Air Quality Health Impacts and Values” |

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| | | | reports.<br>11. “Model Notes” report is disabled if the project is not processed or the location used is invalid.<br>12. Fixed energy saving value (missing cooling value previously) in written report.<br>13. Fixed a bug in calculating carbon avoided (added missing part from wind break).<br>14. Fixed the bug when retrieving results if there exists a species with species code “CODE”.<br>15. Fixed a bug of individual tree bio-emission in result retrieving<br>16. FIPS code validated before submitting projects for processing.<br>17. Removed bio-emission columns in pollution removal reports.<br>18. Carbon price and avoided run-off price of USA will be used for international projects if they are not configured.<br>19. HUPO species is added back in location species database<br>20. Location species database is updated to version 10.9.10 (many new locations and species added) |
| **2018 suite V6.1.21** | 2/9/2018 | Eco V6.0.9 | 1. Grasslands Model along with associated help texts/manual is added for pollution removal. Four new grasslands reports are added (they are available only to sampled projects with Ground Cover is collected in 48 US continental states). Air Quality Health Impacts and Values report is split to four reports (By Tree, By Shrub, By Grass, Summary)<br>2. In some reports related to VOC emission, the column title of “VOC removed” in exported csv files is corrected to “VOC emitted”.<br>3. Added lat/lng and comments columns on Individual Tree Benefits Summary report<br>4. In tree import: added unit in Total Height; added existing record count in information display before importing; improved exception handling; made sure that the final transaction is committed when an exception occurs.<br>5. Enabled deletion of existing strata with cascading deletion of |

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| | | | plots/trees associated and added default plot size to the application settings in manually defining plots<br>6. Added the ability to detect if Microsoft Access 2016 Database Engine is currently active, and tell users to install the Microsoft Access 2010 database engine.<br>7. In defining plots via Google maps, it is more smooth now if users leave the form without doing anything<br>8. Added verification of projects opened from the “Recent Projects” menu prior to attempting to open them.<br>9. Fixed KML export for inventory trees.<br>10. Fixed the bug of hard coded “Lenawee county” display at the end of Appendix VI in written report. Now it displays the actual county name.<br>11. Fixed help text linkage with Individual Tree Benefits Summary report.<br>12. Fixed file association for opening projects<br>13. Fixed editing of all Lookup style fields.<br>14. Added two species (PLAC1 and PYUS1) back to the location species database that is missing from previous release. The location species database is versioned 10.4.2 for species part now. |
| | | Streets V5.1.7 | 1. Fixed CSV export for project data for 64 bit version.<br>2. Fixed CSV IPED issue for 64 bit version.<br>3. Upgraded Crystal Reports to fix crash in 64 bit version.<br>4. Fixed file association for opening projects |
| | | Hydro V 6.1.1b | 1. Fixed bar graph generation.<br>2. Fixed crash for 64 bit version<br>3. Fixed file association for opening projects |
| **2018 suite V6.1.20** | 11/15/2017 | Eco V6.0.8 | 1. Added a report of Benefits and Costs -> Foodscape Benefits of Trees<br>2. Fixed following bugs<br>a. Tree number is one less in written report for full inventory<br>b. Unable to enter public/private in tree editing form for Plot-Based projects<br>c. Pollutant unit price discrepancy in the charts of the report Benefits |

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| | | | and Costs -> Pollution Removal by Trees and Shrubs -> Monthly Removal (chart display)<br>d. Credentials when trying to obtain the exchange rates from our server (now the user default credentials are used)<br>e. Discrepancy of two tables in Appendix III<br>f. Forecast bug when Record Tree Condition is configured to false<br>g. BenMAP results adjustment for projects of non-continental US cities, UK, Canada and Australia<br>h. ftp error when retrieving results<br>3. Location Species Database is upgraded to version 10.4.1: new international cities and species are added; Carbon value updated to 2016 in Canada.<br>4. Help texts are updated |
| | | Streets V5.1.6 | 1. Fixed crash due to Microsoft Jet database driver.<br>2. Added 64bit version for compatibility with 64bit versions of Microsoft Office. |
| | | Hydro V6.1.0b | <u>Hydro software</u><br>1. Major user interface changes with associated backend changes as needed.<br>a. General<br>i. Various adjustments to make the user-interface more user-friendly.<br>ii. Added 'Change Warning' prompt when user edits project they've already processed and have outputs available for.<br>iii. Updated weather preprocessor to use the latest i-Tree Suite version and to execute at the completion of Step 2 if any changes are made and not previously preprocessed from Steps 1 & 2. Includes updates to the way Hydro connects with its location database and weather data server.<br>iv. Redesigned permanent save files (.iHydro, param.dat, |

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| | | | LandCover.xml, test.xst) to shift toward XML formats for long-term project data storage. ProjectName.iHydro saves all project information; param.dat is generated per scenario based on settings from Step 4 and values in .iHydro; and LandCover.xml serves a similar function as param.dat but as an XML file for land cover inputs, likely to replace param.dat entirely in the future.<br>v. Updated sample project to Hydro v6.0 auto-calibrated Rock Creek, Washington, DC.<br>b. Support<br>i. Updated user manual and inline help text through the user interface.<br>ii. Added info page in user interface to explain beta status and upcoming development tasks.<br>c. Version 6 Project Setup, Step 1: Project Area Information<br>i. Re-organized to include only core project area settings and inputs and to be more user-friendly.<br>ii. Accepts preprocessed weather and streamflow timeseries in .CSV format only, which is much easier for users to customize to meet research or international needs.<br>d. Version 6 Project Setup, Step 2: Land Cover Inputs<br>i. Re-organized to include all land cover inputs in one place.<br>ii. Enables users to save up to 4 land cover scenarios in one project.<br>iii. Enables users to give land cover scenarios unique names.<br>iv. Provides users option to toggle on/off or reset individual land cover scenarios, making it easier to experiment with multiple scenario's and save one's work part-way through the formation of a scenario.<br>v. Enables users to enter green infrastructure (GI) land cover types (disabled until GI model is completed and goes through peer- |

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| | | | review).<br>vi. Evergreen %s can be set for each land cover scenario independently.<br>vii. Provides a DCIA calculator to suggest DCIA values per land cover scenario based on level of development density, Impervious Cover %, and Sutherland Equations.<br>e. Version 6 Project Setup, Step 3: Hydrological Parameters<br>i. Includes a calibration timestep setting (previously under Help>Options).<br>ii. Includes new interface to view national pollutant coefficients or edit and use user-defined pollutant coefficients.<br>iii. Updated parameter ranges and defaults to better suite a wider diversity of potential project areas.<br>iv. Updated PEST auto-calibration to integrate changes to Hydro's param.dat file; to include singular-value decomposition; and to reduce the number of parameters being calibrated from 17 to 4 (now only calibrating the scale parameter of soil transmissivity; soil transmissivity at saturation, maximum root zone storage deficit, and percent of soil surface with macropores).<br>f. Version 6 Project Setup, Step 4: Run Hydro Model<br>i. Re-designed to include choosing which scenarios and parameter sets to simulate (up to 2, based on user-defined names).<br>g. Outputs<br>i. Added Evergreen %s to Executive Summary.<br>ii. Reorganized Outputs menus by topic > chart style > scenarios.<br>iii. Built “Advanced Outputs” charts to display results from what is referred to in the model back-end as “extended outputs” for each scenario. This includes: a vegetation hydrology timeseries |

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| | | | displaying hourly data on interception, evapotranspiration, and more; a subsurface hydrology timeseries about flows related to soils; and will eventually include green infrastructure (GI) hydrology timeseries about the flows associated with each GI type once GI becomes available in Hydro.<br>iv. Removed DEM 2D/3D Visualization tool as users did not find it useful and it did not work on a wide range of supported computers.<br>2. Added new auxiliary tools into i-Tree Hydro.<br>a. Legacy Importer tool automatically updates .iHydro project files from i-Tree Hydro v5.1.1 and enables automatic project updates in future editions of i-Tree Hydro.<br>b. Design Rain tool enables users to easily lookup rainfall amounts associated with user-defined Intensity-Duration-Frequency (IDF) settings for a specified location.<br><u>Hydro model executable</u><br>1. Added green infrastructure (GI) hydrology routines including: tree pits; rain gardens; green roofs; rain barrels; and porous pavement. These are disabled in the user interface until the GI model is completed and goes through peer-review.<br>2. Added extended outputs (e.g. WaterInRootZone_VWB.csv) generated in simulation working directories that highlight the water balance of the different hydrological routines.<br>3. Refactored (restructured without modifying functionality) semi-distributed model code based on Object Oriented Design principles. Primarily the refactoring puts cell-type specific processes within their associated cell-types, so each cell gets its own processes based on its cell-type.<br>4. Expanded “Time Constant for Surface Flow” parameters from only Alpha and Beta for all Surface Flow, to Alpha and Beta for Pervious |

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| | | | Surface Flow (SSQ_RT_A/B) and for Impervious Surface Flow (DCIAQ_RT_A/B). |
| **2017 suite V6.1.19** | 9/5/2017 | Eco V6.0.7 | 1. Fixed a bug in loading plots with negative coordinates when they are loaded from GIS files<br>2. “Bioemission” and “Bioemissions” are changed to “VOC emission” and “VOC emissions” in help texts and manual.<br>3. Fixed the bug of species scientific name switch in reports “Annual carbon storage by species”, “Annual carbon sequestration by species” and “Annual carbon net sequestration by species”<br>4. Avoided carbon benefits are added to Individual Tree Energy Effects and Individual Tree Benefits Summary reports.<br>5. FIA projects are integrated.<br>6. Location species database is updated to version 10.2.2: fixed a data type error in location species database. New species added. |
| **2017 suite V6.1.18** | 6/27/2017 | Eco V6.0.6 | 1. i-Tree Database (ITDB) support has been integrated. Processing of all international projects with approved locations is now automated.<br>2. Some of state (or province) abbreviations of Australia, Canada and United Kingdom in the location-species database have been modified in order to eliminate the duplicates to continental abbreviations. This fixes native-to-state reporting issues.<br>3. All projects submitted by Eco v6.0.5 or earlier after 6/27/2017 are now rejected and users are notified via email to upgrade. Upgrade is required in order to maintain the consistency of location-species databases between the application and the processing server.<br>4. Projects in locations without pollution data now can be submitted and processed. Users are warned of missing pollution removal results when the project is submitted for processing.<br>5. Project configuration form has been improved significantly. Users can now select and save an unsupported location. This feature allows users to proceed to do data collection until the appropriate data has been submitted to and integrated from i-Tree Database. |

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| | | | 6. The method of calculating carbon avoided has been modified. It is now calculated from MMBTU avoided and MWh avoided directly, using e-grid transmission rates for electricity and fuel.<br>7. Fixed some bugs of energy saving calculation (such as the slight modification of the equation in terms of the use of transmission loss, carbon avoided calculation, wind break and shade effect calculation etc.)<br>8. Hardcoded weather and pollution text in written report for Australian projects has been removed.<br>9. Location-species database has been updated to version 10.1.4<br>10. All example projects have been re-processed. |
| **2017 suite V6.1.17** | 5/8/2017 | Eco V6.0.5 | 1. Default dieback/condition (instead of null) is used in data editing if the project is not configured to record tree health.<br>2. Fixed a bug in written report of DataScaler's Average() call if the list is empty<br>3. Fixed save and bulk delete issues in inventory Trees form<br>4. In sampled projects, users can not add/modify shrubs or trees if there aren't any plots<br>5. Fixed unmapped values count in inventory importer<br>6. Validated that project name and series name does not start or end with a space (a starting/ending space causes data exchange issue between the application and SAS server)<br>7. Required users to specify a valid land use code, description, and category<br>8. Required users to specify a valid ground cover id, description, and category<br>9. Fixed international SAS retrieval issue due to the culture of number formatting<br>10. Removed restriction on plot id and tree id length.<br>11. Added adjustment of BenMAP results based on user entered population |

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| | | | 12. Updated example projects<br>13. Corrected the export of the RecordTreeAddress option to mobile devises<br>14. Adjusted mobile processing to correctly handle deletions with insertions |
| **2017 suite V6.1.16** | 3/24/2017 | Eco V6.0.4 | 1. Manual and help text updated<br>2. Ground cover customization: users are able to add/edit/delete ground cover types. An additional ground cover type “Other Impervious” is added to the standard ground cover type category.<br>3. Land use customization: users are able to add/edit/delete land use types<br>4. Up to version 6.0.3, the user-defined dieback categories were grouped into 7 standard report dieback categories BEFORE any calculations were run on the data. In v6.0.4 onward, calculations use an expanded set of dieback categories for running the calculations and LATER group the results into the 7 standard report categories. With this change, carbon sequestration and compensatory results are impacted because dieback values may be broken into different categories for calculation as compared to the 7 static categories in v6.0.3. https://forums.itreetools.org/viewtopic.php?f=19&t=1324<br>5. Written report: improved so that it displays benefit values appropriately regardless the value range.<br>6. A method to capture the user email address is added so that users can be notified in case the submitted project is corrupted<br>7. Tree DBH: multiple-stem combined DBH is validated to 100 inches (254 cm) maximum. Any combined DBH beyond this limit will have a warning message. Trees with diameters beyond this limit will still be processed but carbon storage and sequestration estimates will be based on a 100 inches (254 cm) dbh value. Tree importing and tree editing is no longer generating errors when dbh value is above 500.<br>8. Free benefit prices and annual cost data entry: users are free of |

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| | | | changing benefit prices and annual costs without resubmitting projects for processing. The changed benefit prices and annual costs will be immediately reflected in related reports on fly.<br>9. Benefit price editing form is revamped. It is more user friendly.<br>10. Users now can export benefit prices to csv files for future review.<br>11. Weather station validation: uses proxy if available. Should solve the issue from some users that weather stations cannot be verified in submitting projects for processing<br>12. Added informational message to the importer about required fields during the mapping process<br>13. Added data validation of plot level tree cover percentage. If all plots of entire study area have zero plot level tree cover percent entered, users will be prompted to correct before submitting for processing. SAS controller also added a detection of entire study area tree cover percentage and leaf area index. If SAS outputs a zero percent of tree cover of entire study area or leaf area index, users will be notified to correct tree/plot data.<br>14. LocationSpecies database is updated to version species: 9.2.25 and locations: 9.2.25<br>15. i-Tree Eco database is upgraded to version 10.0.2<br>16. Minor report updates: footer notes are added to all avoided runoff, energy, pollution removal and structural value related reports; unnecessary head row display is removed in reports<br>17. Bug fixes: benefit form bug in 64 bits operating system (being not able to change benefit prices); database size limit bug caused by transaction of large inventory project submission and forecast; default tree condition is unified to 87%; NHibernate bug fix; inconsistency of default avoided runoff and electricity prices in reports when prices are not customized; Species distribution DBH report crash; percent axis of figure 3 in written report; Relative performance index report bug for large inventory; a potential hang in Report Viewer form if the form |

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| | | | becomes disposed while the report is being generated.<br>18. Performance improvements: large inventory import performance (up to 300K trees); large inventory result retrieving performance; large inventory data submission performance; large inventory forecast performance; tree data editing performance.<br>19. Five FIA specific fields are added (transparent to users) |
| **2017 suite V6.1.15** | 12/02/2016 | Eco V6.0.3 | 1. New Science Models:<br>a. New Hydro Features: added features for rain interception, evaporation, transpiration and potential evapotranspiration.<br>b. Ultraviolet (UV) model: UV reports and charts are available for US, Canadian, Australian and UK projects (Strata must be configured to collect in project configuration in order to view reports).<br>c. Wildlife Model: Wildlife reports (plot level and strata level) are available for US sampled projects (ground cover and percent shrub must be configured to collect in project configuration).<br>2. Major Fixes and Improvements:<br>a. Large inventory memory issue (application crash of large inventory tree editing) is fixed.<br>b. Locale issue (culture difference in number representing) is fixed in google sampling, csv exporting, and data submission to server for process.<br>3. Minor Fixes:<br>a. Project configuration layout is changed slightly<br>b. Forecast reports fix: when all tree died before reaching to forecast years.<br>c. Forecast configuration fix: deleting a mortality rate is now working<br>d. Removed Annual Net Carbon report for full inventory<br>e. Fixed a bug in Relative Performance Index report if condition is not being collected<br>f. Fixed a bug in rain charts (depth is changed from millimeters to centimeters) |

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| | | | g. Other miscellaneous fixes and improvements |
| **2016 suite V6.1.14** | 9/22/2016 | Eco V6.0.2 | 1. Added Individual Tree Benefit Summary report.<br>2. Removed herbaceous species from the application since they are not processed in SAS.<br>3. Tree/Shrub editing form: added a species error indicator and displayed invalid species code.<br>4. Plot/Tree Address collection option: the option is added to the configuration form and users now have the choice to collect or not.<br>5. Fixed MDC duplicated plot issue.<br>6. Location Species database: ending spaces of species codes are trimmed. International characters that cause data transferring issue between application and SAS are removed from the database.<br>7. Pest form: fixed unnecessary scrolling issue.<br>8. Sending data to SAS: fixed a bug in exporting %leaf of dead trees to SAS to prevent false leaf area calculation.<br>9. Tree height validation: fixed a bug when Crown Size is configured not to record.<br>10. Tree condition and percent crown missing validation: fixed a bug in validation.<br>11. Currency exchange rate validation: added for non-US projects<br>12. Sending data to SAS server / Retrieving results from server: ftp request is set to UsePassive mode to fix some issues caused by users' network proxy configuration.<br>13. In energy report, the foot note is changed to "Trees less than 20ft/6m tall or further than 60ft/18m away from buildings do not provide energy benefits to nearby buildings."<br>14. In Google plot generator, locale issue is fixed. The bug is reported from a user of Columbia.<br>15. Strata Form: strata area vs the sum of plot size is now only validated in sampled projects. Fixed a bug of validating from a full inventory project. |

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| | | | 16. Fixed 64 bit system running issue. |
| | | Hydro V5.1.1 | 1. Added hydrological parameters PMacro (soil macropore percentage) and B (time constant for subsurface flow).<br>2. Added extended output files in project working directory which includes .csv files to show various aspects of the water budget in time-series and summed form, as a 1-dimensional stack (identified by suffix _VWB for Vertical Water Budget) and in statistically-distributed form (identified by suffix _Final for Final Model Results).<br>3. Updating sample project to auto-calibrated Rock Creek, Washington, DC for 2012.<br>4. Revised and updated user manual and inline help text.<br>5. Minor graphical user interface revisions.<br>6. Modified acceptable hydrological parameter ranges for manual- and auto-calibration.<br>7. Upgraded DEM-to-TI processing routine based on the robust TI calculation routines in WhiteBox GAT (Lindsay, 2014). Substantial improvement from the routine previously used to calculate TI values from a user's DEM. This does alter baseflow by changing the mean & distribution of TI values (both spatially before conversion to histogram and within the histogram), which of course affects the total flow. This also affects how moisture is distributed through the unsaturated zone between timesteps, because the size, spread, and membership of the histogram bins is different. Currently using the D-Infinity algorithm in the TI calculation process to calculation flow direction patterns and flow accumulation.<br>8. Closed a leak in the code for snowmelt, interception, and evaporation routines. This should change results only by a small amount (5-10 mm) for each of those categories.<br>9. Closed leak in the MacroPore code, which is a parameter first being enabled in v5.1<br>10. Correcting evapotranspiration (ET) bug by resetting evapo- |

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| | | | transpiration after each timestep. The code was incorrectly accumulating ET from timestep to timestep in the past. Changing this could greatly affect the pervious flow. This is due to the fact that the cumulative infiltration calculation was (has also been altered): cumInfilQt = cumInfilQt-1 + InfilQt - 0.1*(BQt-1 + rETt-1). With an incorrectly steadily increasing ET, we underestimated cumulative infiltration which allowed for greater infiltration at each timestep and underestimated pervious area saturation excess & infiltration excess runoff.<br>11. Cumulative infiltration calculation is now tracked according to this equation: cumInfilQt = cumInfilQt-1 + InfilQt - (rootZoneFlowt-1 + rETt-1)<br>12. Added additional loops to the surface and subsurface routing routines (distributes the flow in time according to alpha, beta, b parameters) to decrease the gain or loss of flows stemming from limitations in the numerical solution used to route the flows in time.<br>13. Added extended outputs that highlight the water balance of the different hydrological routines. Each extended output is explained in the manual.<br>14. Fixed a bug in the power-based TI's infiltration excess routine that caused an overestimation of infiltration at timesteps where cumulative infiltration was already equal to the root zone's storage deficit. This overestimation was only affecting an extremely small number of timesteps, but could still lead to unusual responses in certain routines (i.e. predicted infiltration excess runoff, predicted infiltration amount, predicted actual ET calculations, and predicted flow into the unsaturated zone) |
| **In 2016 suite** | 7/28/2016 | Eco 5.2.0 | In Model Note report: added explanation of deleted records of herbaceous trees<br>Updated energy database<br>Peg the version of map control used to the one that doesn't rely on ACE |

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| | | | driver<br>Export to SAS: in tot.txt file, replaced multiple empty spaces in map landuse description to one empty space. Guaranteed more than one empty space between column map landuse description and column area<br>Fixed a bug when all trees within a genera are dead trees<br>Allowed users not entering plot address<br>Fixed a bug in calculating PM10 for Canadian projects<br>Fixed a “HeatClimate added twice” bug in individual energy report<br>Plot size exporting now has 5 decimal digits<br>Updated weather station database for Australia<br>Fixed some bugs in energy dll<br>Fixed a bug in primary diversity index report |
| | 7/28/2016 | EcoV6 6.0.1.0 | Marked all US sample projects as Urban<br>Version information is always checked in 32 bit registry<br>Fixed a bug in carbon storage equation when XVariable is 7<br>Fixed a bug when running forecast immediately after an event (replant, mortality, storm and pest) is deleted<br>Fixed a bug of which country to calculate individual tree energy in data retrieving |
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| **V6.0.10** | 12/19/2014 | Eco 5.1.8 | Fixed MACLASS error while running energy report<br>EnergyDatabase.mdb is updated for MACLASS |
| **V6.0.9** | 10/20/2014 | Hydro 5.0.9 | Removed second pollution chart title in executive summary<br>Fixed pollution title when no alternative case defined<br>Fixed pollution chart scaling<br>Fixed scaling in Predicted Runoff Components Base Case vs. Alternative Case<br>Fixed crash when generating executive summary report with no alternative case<br>Set FracInfiltA default to 65% |

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| | | | Corrected location of OK/Cancel on land cover form<br>Extended catchment area field to 10 decimal places<br>Keep size of topographic index form fixed |
| **V6.0.8** | 10/01/2014 | Eco 5.1.7 | Alaska pollution analysis is included. |
| | | iTreeUpdater v1.0.2 | Fix XP path escaping<br>PDA users are reminded to stay in V5 since V 2015 stops the support of PDA data collection. |
| | | Hydro 5.0.8 | Fixed Y2 scale in predicted streamflow components chart in executive summary<br>Added metadata to Executive Summary – Streamgage ID and Weather Station ID<br>Position DEM/TI buttons more intuitively in Raw Data Input form<br>Added glossary to Executive Summary<br>Set location from Raw Data Input TI form when possible<br>Executive summary respects units selected by user<br>Fixed legend sizes to prevent scrollbar display |
| **V6.0.7** | 7/22/2014 | Eco 5.1.6 | Local currency exchange rate text is improved from version 5.1.5 in the benefit element price form |
| **V6.0.6** | 2/21/2014 | Canopy 6.1 | Added new carbon sequestration rates.<br>Updated national carbon storage rate.<br>Improved performance for adding and editing of points, most noticable over slow internet connections. |
| | | Eco 5.1.5 | Local currency exchange rate text is revised in benefit element price form<br>Energy database is updated by adding the new locations<br>Loading plots from GIS output files are revised. A background area conversion is conducted based on the specified unit in strata file<br>In data importing for full inventory, fixed a bug of field landuse letter case issue<br>Added MSSTDFMT.DLL to installation package |
| | | Hydro 5.0.5 | Corrected calculation of the Volumetric Efficiency |

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| | | | Corrected Daily and Weekly calibration |
| | | Streets 5.1.5 | Fix the import of streets created by users with the mobile app.<br>Allow up to 10 characters in the Street Number field.<br>Fix calculation of Total Released for CO2 benefits report. |
| **V6.0.5** | 5/30/2014 | Eco 5.1.4 | Fixed the location database with adding a dummy tertiary partition if a secondary partition doesn't have a tertiary partition |
| **V6.0.4** | 3/14/2014 | Eco 5.1.3 | Fixed "Invalid Null" error in submitting international project<br>Fixed "bad file name or number" error in open project when file drive letter is not mapped<br>Structural value for international projects is converted to local currency<br>Price of runoff customized price is applied for international projects<br>Fixed duplicated FIPS code issue in Location Database |
| **V6.0.3** | 3/10/2014 | Hydro 5.0.3 | Fixed intermittent project save issue |
| **V6.0.2** | 3/7/2014 | Hydro 5.0.2 | Update Topographic Index database, now provides true area of each TI boundary<br>Add validation for processed weather files<br>Add validation for processed stream gage files<br>Add functionality to load processed stream gage data<br>Add functionality to load processed weather data<br>Set initial directory for file dialogs to location of .iHydro project file<br>Add help text for calibration interval<br>Update stream gage help text with link to file format<br>Update weather/evaporation data help text with link to file formats<br>Add condition where if no data is changed, weather and stream gage data aren't processed<br>Set platform target to x86 for all libraries |
| **V6.0.1** | 2/12/2014 | Streets 5.1.3 | Fix crash due to index out of bounds error if 10 DBH classes are defined in the generation of the Benefit reports and the Replacement Value report |
| **V6.0.0** | 1/20/2014 | Eco 5.1.0 | Fixed pie chart labels missing in exporting pdf files.<br>Fixed pest detection report bug when individual land uses do not have trees. |

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| | | | Fixed bug in written report and other tables when individual land uses do not have trees. |
| | | Streets 5.1.2 | Fixed reporting bug preventing the calculation and display of CO2 Avoided benefits.<br>Corrected growth functions for Lower Midwest Climate Zone.<br>Corrects invalid DBH codes when calculating benefits.<br>Fixed reporting issues in the Land Use, Relative Performance Index, and Replacement Value reports where no inventoried trees exist.<br>Fixes crash while creating report images in Excel due to a “0” height range. |
| | | Canopy 6.0 (web app) | Adds benefit estimations based upon calculated tree canopy. |
| | | Design 6.0 (web app) | Adds option for multiple structures.<br>Trees and structures can be placed using new drag-drop interactions.<br>Help text added.<br>Cumulative and to-date benefit reporting added.<br>Reporting revised to reflect current year benefits, future year benefits, future cumulative benefits and to-date benefits.<br>Pollution avoided benefits algorithm revised to reflect energy savings model results. |
| | | Hydro 5.0.0 | Graphical user interface revised.<br>Added onscreen help guidance.<br>Added executive summary reporting.<br>Simplified user input options.<br>Non-gaged watershed support added.<br>Added modeling capabilities for direct topographic index configuration.<br>Bolstered weather data to include years 2005-2012.<br>Added stream gauging data for years 2005-2012.<br>Incorporates model updates.<br>New sample project.<br>Updated and simplified manual. |
| **V5.0.9** | 9/6/2013 | Eco 5.0.9 | Fixed Appendix III units (from lb to ton in English copy of written report) |

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| | | | Added exporting to csv files for all pest reports |
| | | Streets 5.1.1 | Removed duplicate rows from Bole Ht sheet in the SpeciesCode.xls file for the<br>LowMidWXXX region. Fixes the resulting crash upon running the Replacement<br>Value report.<br>Fixed the bug preventing CO2 Avoided benefits from being calculated.<br>Fixed a bug in detecting a project's version, which causes issues when upgrading old<br>Stratum projects.<br>Correct the bug causing the export of the Species Distribution report to crash if a zone does not contain any trees. |
| **V5.0.8** | 7/18/2013 | Streets 5.1.0 | Rewrite all reports to use stratified sampling when calculating citywide estimates.<br>Remove "Other Species" categories from the reports.<br>Remove the Summary option of the Population Summary report.<br>Add reporting by Zone to the Species Population Summary report.<br>Allow users to display Zone names.<br>Fix bug causing Zones, Species, Trees, and Streets to be deleted if they were modified twice before saving.<br>Fix bugs causing intermittent crashes due to failing to dispose of closed forms.<br>Fix crash upon save when deleting an existing zone and recreating it. |
| | | Eco 5.0.8 | Creating reinventory project is added in the project setup form.<br>Ground Cover entry is taken off since current data processor doesn't handle extra ground covers. |
| | | Eco Mobile utility v1.0.2 | Display the number of Plots and Trees currently selected.<br>Will not allow users to reduce the size of the utility window beyond the default size.<br>Display sampled plots in Green and unsampled plots in Black. Highlight selected sampled plots in Green and unsampled plots in Blue. |

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| | | | Provide the user's default credentials when making web requests (in the background). This allows the utility to work from behind proxy servers that require authentication.<br>Add an option to display All Plots, Sampled Plots, and Unsampled Plots.<br>PercentShrubCover is made default to 0. Eco doesn't expect a value of -1.<br>Require the user to provide a password before attempting to retrieve the list of available data.<br>Simplify the error message given during data retrieval. This also corrects the bug in the String.Format statement. |
| **V5.0.7** | 6/13/2014 | Eco 5.0.7 | Avoided runoff section added in the written report.<br>Rainfall (rev. 82, server side) interception routine is corrected in handling precipitation fell on canopies, drip from canopies, and directly fell on the ground (no canopy cover), and now divide the volume of these portions of precipitation into those fell on impervious and pervious covers.<br>Full inventory energy is using climate region emission factor (before it is using local emission). In addition, the division factor for KWH is slightly changed.<br>PM10 (less than 10 microns) is annotated as “less than 10 microns and greater than 2.5 microns”<br>CSV export format is corrected for Pollution effect summary by species table in full inventory<br>Stratified sampling and user drawn study area sampling are added in Google Plots generator<br>Fixed a compatibility bug in written report of pollution removal to the project created in V4<br>The discrepancy of pollution dollar values between written report and tables/charts are corrected.<br>Fixed CSV exporting bug in Rainfall avoided runoff by Land Uses table<br>Quotes are checked and not allowed in the entry in the Managing Landuse form.<br>Currency Exchange rate is added in the Benefit Price form for international project. This currency exchange rate will take effect if the individual pollutant |

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| | | | or other item price is not entered.<br>The sample projects' names are renamed.<br>Web form's bug for missing trees are corrected<br>International studies are now capable to handle the case that UFORE B and Water Interception are not calculated.<br>Fixed the bug that International countries don't have currency symbol.<br>The local price customization form now allows to enter a portion of elements' price and have a help button to explain how customized price works.<br>The Dataset View is automatically set to what the data loaded to after users successfully loaded the data from the server. |
| | | Rainfall Runoff (server) | Modified the impervious percentage relation |
| | | Streets 5.0.2 | Fixed bug in linear interpolation algorithm used by Storm water and Carbon benefit reports.<br>Limit Street Number to 10 characters.<br>Limit Location Number to 9 characters.<br>Prevent a race condition while displaying the user's chosen location. This prevents the application crash in some cases.<br>Increase the maximum total number of segments from 46340 to 3,037,000,499.<br>Fixed retrieval of multiple data submissions from the Streets Mobile utility. |
| **V 5.0.6** | 11/12/2013 | Eco 5.0.6 | Fixed a bug of pollution reporting in written report, monthly pollution chart (earlier only contains tree. After correction, it contains both tree and shrub)<br>Fixed a bug on non-printable currency symbol of 7 countries. It is replaced by the currency abbreviation.<br>Fixed a bug on data loading on species that exist in trees but shrubs<br>MapLanduse area is checked so it must be bigger than sampled area<br>MapLanduse abbreviation is checked so it must not contains empty space<br>In loading plots from files, it now accepts the heading with both $U4STAR! and $ U4STAR! (with a blank space between $ and U)<br>Fixed a bug in data loading from PLOTINV2.OUT file when the values |

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| | | | represented as a single dot.<br>The “Add Page” is added in the shrub editing. Now there is no limit for the shrub data entry |
| | | Streets 5.0.1 | Fix issue with SoCalCSMA's resource file.<br>Fix deletion of Site Types<br>Fix bug resulting in crash while adding new Zones. |
| **V 5.0.5** | 10/4/2012 | Eco 5.0.5 | Fixed a bug of full inventory energy table for Western Australia<br>Word “Beta” is removed from the form caption for Australia projects<br>Fixed a bug of sending trees to web server in mobile utility<br>Fixed a bug of submitting data for processing for Western Australia projects |
| **V 5.0.2** | | Eco 5.0.2 | A setting bug is fixed in mobile utility for sending full inventory project<br>Fixed a bug “no data” bug in table "Condition of trees by DBH and land use"<br>Fixed a bug in table "Energy effects" |
| **V 5.0.0** | | Eco 5.0.0 | Mobile utility is developed. Users are able to collect data through web interface by smart phones (iPhone, Android etc)<br>Google Map plot generator is added.<br>Report menu is reorganized.<br>BenMAP air quality public heath report is added for US projects.<br>Added function for customizing carbon, therm, kwh and pollutants prices.<br>Pest analysis tables are added<br>Fixed bug. Now reference dbh allows decimals<br>Fixed bug. Now the dbh of tree is allowed to be more than 200 but less than 500 in metric unit<br>In sending data for online processing, phone number format is no longer restricted. A confirmed email is now required for verification<br>Now tree height must be more than 20 feet before entering building interaction data<br>Plot notes field changed the type from text to memo. It can hold more than 250 characters.<br>Added integrity check with map landuse abbreviation and description<br>A new section “Pest Susceptibility” is added to the written report |

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| | | | Options of project configuration are changed. The ability of modifying options of projects is added.<br>The sample projects are updated by pest sample added.<br>Rainfall interception report is added<br>Standard PM2.5 (air particles less than 2.5 micrometers) and biogenic volatile organic compound (BVOC) emissions are added.<br>Extended Australia and new Canada functionality |
| | | PDA App 5.0.0 | Check that stems exist before Edit or Delete<br>Allow 0 for Height to crown base<br>Allow distance to plot center >= 0 and <=100<br>Update reference objects to allow up to 1000m away |
| | | Eco PDA Utility 5.0.0 | Update to Year table in Input Database is removed while loading data |
| | | Vue 5.0.0 | Summary report for regular NLCD stats<br>Summary report for all the analysis options<br>Updated the user interface<br>Updated the processing text on the main screen - hopefully prevents the screen from locking up where it looks like Vue has frozen. I.e. keeps flashing...<br>Added help text to that same processing text when some tool buttons are pressed<br>Analysis Options switchboard (replaces the drop down) and help text<br>Added help descriptions of Analysis Options<br>Added a button that takes user to i-tree website-based Vue News page<br>Define project AOI / NLCD Clip functionality streamlined<br>Google view and Google find panning with images<br>Extent rectangle on Google Find/ Google Vue<br>Printer dialog now instead of shooting straight to default printer<br>Updated extrinsic pollution values<br>On reports, if land cover classes have 0 acres, not displayed<br>Land Cover Change tool |

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| | | Streets 5.0.0 | Added Mobile Web Forms and utility. Users are able to use smart phone to collect data through web interface.<br>Fixed bug preventing changing a Non-Tree into a Tree. |
| | | Canopy (web app) | Added "Define Project Area" functionality<br>Added "Change Survey" analysis via Google Earth. |
| | | Design (web app) | Integrated i-Tree Forecast function for projecting tree benefits in future years<br>Ability to add multiple trees around a parcel<br>Functionality for Canadian users<br>Display of priority planting zones based on net tree benefits |
| **V4.1.7** | | Eco 4.1.6 | Fixed bug in tables of missing “City Total” row in five tables. This error is introduced when SAS processed data is being loaded. |
| | | Hydro 4.0.5 | Removed reference to ManagementCatchmentArea as it was not always reset properly and unnecessary |
| **V4.1.6** | | Eco 4.1.5 | Data editing error message (removed -1 from the valid entry such as tree height, dbh etc) |
| | | Hydro 4.0.4 | Reverse chart legend order so rain is at the top |
| | | | EMC units corrected to g/hr and 10^-3*lb/hr in chart and table |
| | | | Allow sorting on all columns in output table, automatically clear total rows on sorting. |
| | | | Updated Hydrology.exe which will now properly handle NODATA values and other bug fixes |
| | | Streets 4.0.4 | Correct benefit values for SoCalSMA region |
| | | Vue 4.0.1 | **Miscellaneous**<br>• App file path changes<br>• Add LEAD Tools Copyright text to About screen<br>• Fix Google code - Right click not working on LC pixels<br>• Fix Google code - Distance and Bearing not working over top of pixels<br>• On clip window, map windows for TC/IC/LC are out of alignment<br>• Negative value for Dev Hi Intensity Avail Space after adjustment of TC/IC.<br>• New NLCD zones (Kuelhler msg) implement Al's suggestion of note at bottom of Adjustment form<br>• ArcGIS v10 clipping protocol |

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| | | | • Re-Clip Washington in ArcGIS v10 for colors/eliminate gray palette<br>• Updated updater code<br>• Help Button not visible on adjustment form<br>• Printer dialogs added to choose printer<br>• Fix truncation of: O3 (C/P) "per poun" in reports<br>• Add i-Tree Canopy suggestion for TC/IC adjustment %s on adjustment screen help<br>• Report: for LC classes with 0 acres – no longer included in reports |
| | | | **Google Enhancements**<br>• Clip: NLCD footprint rectangle on Google<br>• Find/Vue/Clip: Current Vue view extent rectangle on Google window on zoom<br>o (Need to make this rectangle move with pan – v5 release)<br>• Toggle legend button from Google Vue window<br>• GoogleVue: buttons to toggle pixels visible/invisible<br>• GoogleVue - re-write LC, TC, IC, AnalysisOutput to Google API v3 to support pan and zoom<br>• GoogleVue: pan Google window to Lat/Lng coordinates of NLCD image centers<br>• GoogleVue: zoom to extents of NLCD images (given differing Google Maps window size)<br>• GoogleFind - re-write to Google API v3 for pan/zoom<br>• GoogleFind: Pan/NLCD<br>• GoogleFind: Zoom/NLCD<br>• Clip: check if FIRST user point is inside NLCD image area as well as subsequent points<br>• Clip window - re-write to Google API v3 to support pan and zoom<br>• Clip: zoom to NLCD image extent on NLCD image extents button<br>• Clip: auto zoom to NLCD image extent when first loaded/clip window first opened<br>• Clip: simplified draw polygon process -added delete vertices functions (no more separate delete last vertex button)<br>• Clip: simplified draw polygon -added drag vertices functions –on-the-fly adjustment of polygon<br>• Clip: simplified draw polygon - no more close/finish polygon button – coordinates update with each polygon change/edit<br>• Clip: on hitting Draw AOI on NLCD button, make Google AOI drawing visible, but no longer editable (lower right Reset button becomes only option to start COMPLETELY over)<br>• Clip: streamlined the onscreen help text, reduced steps & numbered steps now match with numbered buttons on screen |
| **V4.1.5** | | Eco 4.1.4 | Fixed the “no current record” bug in written report while generating two dominant ground cover percentages if there are less than two actual ground |

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| | | | covers. |
| | | | Species Name Format: have choice in View menu for Scientific Name and Common Name |
| | | | In written report: a message to close Microsoft Office Software will pop up if clipboard accessing error encountered |
| | | | Sending and Receiving for SAS online processing: ftp error is fixed in Window 7 operation system |
| | | | Fixed the bug when tree id or plot id is more than 5 digits |
| | | Eco PDA utility v4.1.2 | Properly handle null values when the Pocket PC's XML file is updated with IPED fields. |
| **V4.1.3** | | | Corrected version of WeatherStations.mdb included in installer |
| **V 4.1.2** | | Streets 4.0.3 | Force upgrade to i-Tree Streets PDA v4.0.1 |
| | | Streets PDA 4.0.1 | Write Project Data File in UTF8 format to fix issue with international characters |
| | | Hydro 4.0.3 | Change the weather data query to the range of gauge station data range |
| | | | Fixed the bug of location database reader in hydro pollution data processing |
| | | Eco 4.1.2 | Added New South Wales of Australia on SAS online processing |
| | | | Fixed cvs export standard error data missing in one table |
| | | | "Beta" word added to the application title for Australia projects |
| | | | Written report and tables/charts now reflect the local currency symbols |
| | | | SAS online now have trees and shrubs processed for pollution separately |
| | | | Fixed a leaf area density discrepancy bug between tables "Per-Area Estimates for Trees" and "Leaf Area and Biomass for Trees and Shrubs" when a project is configured to use variant plot size and shrubs are not collected. |
| | | | Hourly pollution charts are now enhanced by offering additional selections by trees, shrubs or combined. |
| **V 4.1.1** | | Eco 4.1.1 | In project creation form, if an existing location is selected, the controls in Location frame are disabled, so as Series frame and Year frame<br>Fixed the bug when submitting for model process of international projects |

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| | | | “Primary Partition Name (or State name) can not be Null”<br>PEST module is developed.<br>Full Inventory Importing is developed.<br>In menu View/Dataset, 20 items limitation is removed.<br>Victoria of Australia is treated as in USA now for SAS online model processing<br>Manual is updated.<br>FieldLanduse “N” (Industrial) from version 3 is changed to “C” (Commercial/Industrial) in FieldLanduses and Trees tables in exporting to model process<br>Fixed bug “subscript out of range” when species is less than 10 in written report |
| | | Eco PDA Utility 4.1.0 | PEST Module is developed |
| | | Eco PDA 4.1.0 | PEST Module is added for data transferring |
| | | Streets 4.0.2 | Changed Company Name to “iTree”<br>Moved location of IPED data to i-Tree\Streets folder within the use’s application data folder<br>Updated climate zone map<br>Fixed crash upon failing to load IPED Matrix<br>Check for PDA version 4.0.0<br>Improved support for GPS devices in PDA<br>Fixed potential crash upon save due to .NET bug in PDA<br>Improved backup support |
| | | Hydro 4.0.2 | Set currently selected parameters in configuration form<br>Ignore current time zone for StartDate and EndDate in Raw Data Import Form<br>Set download progress dialog box to be modal in Raw Data Import Form<br>Allow 0% tree cover/evergreen values in Raw Data Input form<br>Bug fix when using data spans two or more years |
| **V 4.0.1** | | Eco 4.0.1 | Model Processing is automated. |
| | | | In the input database, a field PercentMeasured (long type) is added in |

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| | | | SubPlots table |
| | | | MDE is now allowing to enter percent measured for plot |
| | | | The form Plot generator is rewritten for manual plot adding |
| | | | In the input database, fields WeatherStationID and YearOfWeatherData are added |
| | | | In Menu “Edit”, a sub item called “Manage Map Landuse” is added |
| | | | Google map component is added for selecting weather station. In project setup, user is required to select a weather station id for UFORE-D process |
| | | | In MDE, “Delete Plot” is added |
| | | | In MDE tree data entry form, “Delete” tree and “Undo” edit buttons are added. |
| | | | A new chart “Hourly pollutant removal by trees and shrubs” is added for UFORED result report |
| | | | The chart “Monthly pollutant removal by trees and shrubs” and the table “Pollutant Removal” are rewritten |
| | | | A report “Model Processing Notes” is added in the Reports menu |
| | | | Label NR is changed to STAT in MDE tree data entry form |
| | | | Paper collection form for sampled project has corrected some typos |
| | | | A sample project for full inventory is added. A sample project for plot based (or sampled) project is rebuilt. Menu under File for opening sample projects is change. |
| | | | Updated user manual |
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| | | Eco PDA Utility 4.0.0 | Updated the PDA utility’s plot import form to use VSFlexGrid instead of DBGrid which was not displaying values (only empty cells.) |
| | | | Changed dialog boxes to be modal instead of hiding the main form. This avoids the program left running in the background when the user clicks the “X” in the upper right to close dialog. Forms are explicitly loaded and unloaded now. |
| | | | Added X for surveyor form |
| | | | Handled -1 as default SubPlotSize (should never happen, but it did in a test |

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| | | | project I had.) |
| | | | Insert value for Percent Measured into input database |
| | | | Updated user manual |
| | | PDA Application 4.0.0 | Allow single digit direction in Compass Control's manual entry |
| | | | Backup: Use API to find storage card |
| | | | Add I, P, and U as status |
| | | | Shrub details sum of percent in entering data must be 100%. |
| | | Streets 4.0.0 | Add new dynamic IPED reports |
| | | | Add "Create New" and "Select Existing" project database options |
| | | | Update About Screen and User's Manual |
| | | Vue 4.0.0 | added "google find" to identify the point location on Google maps |
| | | | added "Google vue" to mosaic 11x11 pixels of NLCD data onto Google maps |
| | | | added the ability to tie into ECO project |
| | | | added a simple clip function |
| | | | created map tool buttons |
| | | | added TC and IC correction factors |
| | | | interface update |
| | | Hydro 4.0.0 | New application in Version 4 |
| | | Species 4.0.0 | Added user interface for International users |
| | | Storm 4.0.0 | Updated display. |
| **V3.0.19** | | Streets v3.0.15 | Fix potential crash in City Information dialog if invalid location information is encountered. |
| | | | Fix misplaced project version check during import inventory. |
| | | | Fix type of PestId in the IPED XML schema definition file so that it is imported properly. |
| | | | Add globalization support for reading default benefit values. |
| | | | Add globalization support for reading pest matrix. |
| **V3.0.18** | | Eco v3.0.15 | In project configuration setup, single quote and double quote now is |

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| | | | prevented from entering in Location, Series fields |
| | | | Handled comma, dot, and blank in SAS output numeric values when loading data from Forest Service |
| | | | Added a function to check the duplicated species in SAS output files when loading data from Forest Service for reporting |
| | | | Delete button added In MDE |
| | | Eco PDA Utility v3.0.12 | Changed the distance to plot center to decimal |
| | | | Filtered out industrial landuse to match to MDW |
| | | Streets v3.0.14 | Fixed crash while trying to delete a large number of trees. |
| | | | Fixed incorrect calculation of # of Segments Sampled. Also fixed Zone editing/modification, and possible errors in Annual Benefits reports. |
| | | | Added Export Inventory options (CSV, & XML) |
| | | | Added online IPED updates. |
| | | | Added Footnote to Carbon Stored report. |
| | | | Renamed NetCarbonStorage sheet to CarbonStorage during export. |
| | | | Fixed opening of Stratum 3.4 based projects. |
| | | | Updated project format to include project versions and IPED dates. |
| | | | Fixed crash during reporting when a Null species code in encountered. |
| | | Streets PDA v3.0.13 | Used API to auto-detect storage device in backup form replacing previous hard coded storage device. |
| | | | Prevent Pocket PC from entering low power mode while GPS is running by reset system idle timer when GPS receives data |
| **V3.0.17** | | Eco v3.0.14 | Added Print Plot button in Sample Plot MDE |
| | | | Added Comments for trees in Sample Plot MDE |
| | | | Moved comments editing from plot notes to Tree notes internally |
| | | | Changed DS from integer to decimal |
| | | | Data loss for multiple page tree editing in MDE |
| | | Eco PDA Utility v3.0.11 | Fixed unknown species bug (unknown species detection) |

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| | | | Refresh ground covers on PDA when retrieving data |
| | | | Solved DS decimal rounding issue when sending/retrieving data |
| | | Eco PDA v3.0.11 | Fixed inventory tree search |
| | | | Fixed Inventory/sample re-measurement status field |
| **V3.0.16** | | Eco v3.0.13 | Removed undesired post stratification |
| | | | Fixed location database (added missing table Temperature) |
| | | Eco PDA v3.0.10 | Changed "No Trees on Plot" to only modify actions menu, instead of disabling the “% Tree Cover” combobox and setting it to 0. Actions combobox menu will be modified when “% Tree Cover” > 0 and “No Trees on Plot” is not checked |
| | | Eco PDA Utility v3.0.10 | Changed PDA version check to 3.0.10 |
| | | Species v3.0.5 | Fixed location database (added missing table Temperature) |
| | | | Resize suite version label to fit all version numbers |
| | | Streets v3.0.13 | Fix crash in Species Distribution report when there aren't at least 5 different species types in each zone |
| | | | Fix crash in Relative Performance Index report when there are no trees to report on |
| | | | The Manual is updated |
| **V3.0.15** | | Eco v3.0.12 | Input database changed Crownbase to limit 450, TreeHeightLiveTop limit to 450, TreeTotalHeight to limit 450, CrowWidth (EW,NS) limit to 300. MDE also changed accordingly. |
| | | | Ground Cover data input in MDE is changed to Grid. |
| | | | A new report table “Most Important Species” is added |
| | | Streets v3.0.12 | Added Central Florida climate region |
| | | Species v3.0.4 | Main form screen resized to have height compatible to 600 pixel screen |
| | | | Location database is now using a shadow database to avoid exclusive access violation |
| | | Eco PDA | Constrain tree values to match input database rules |

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| | | v3.0.9 | |
| | | | Fix crash on nonalphabetic character in search box |
| | | Eco PDA Utility v3.0.9 | Unknown Species code checking is only applied to completed plots. The data for all uncompleted plots will remain the same in PDA application allowing users to edit for the second chance. |
| | | | Brought back the groundcovers editing form (which modifies input database now). The editing form will not allow edit the standardized ground covers. It allows to add/edit/delete customized ground cover with ground cover ID starting from 51. |
| | | | Switched ground cover editing grid to VSFlexGrid, which eliminated the occasional grid data invisibility to users |
| | | | PDA application version check is now conducted through a .NET method which directly retrieves the version from PDA application itself, eliminated the version inconsistency (previously it reads from version.txt file in PDA causing possible inconsistency). The .NET version checking method is contained in new MDBDAndS.dll. |
| **V3.0.14** | | Eco PDA v3.0.7 | Updated all version information to be consistent with Eco PDA Utility |
| | | Eco PDA Utility v3.0.8 | Removed “Import information from Location Database,” “Add/Edit/Delete Additional Ground Cover Types,” and “Populate Field Input Database with Cover Types” dialogs from the Project Setup tab. Necessary code runs automatically. |
| | | | Changed version check for PDA Application |
| **V3.0.13** | | Eco v3.0.10 | Fixed error “item not found in collection” in Sending data to Forest Service |
| | | | Added EAB susceptibility report |
| | | | In MDE, 13 pages limit of trees editing per plot is no longer exist. |
| | | | In MDE data editing, species editing now allows the toggle between species code, botanic name and common name |
| | | Streets v3.0.11 | Refresh current report after modifying annual costs. |
| | | | Fix crash that can occur upon running reports. |

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| **V3.0.12** | | Eco v3.0.9 | |
| | | | Fixed data editing bug when species name starting with letter x |
| | | | Allow user to enter species for dead tree hardwood and dead tree softwood |
| | | | Fixed the bug in written report for international users when energy option is not available |
| | | | Includes updated Eco user's manual v3.1 |
| | | Eco PDA Utility v3.0.6 | Use API to launch external applications, fixes Windows 7 Compatibility |
| | | | Fix Send Tree Data form to only show trees from current Eco project |
| | | | Add MACLASS/PICLASS (Dead unknown hardwood/dead unknown softwood) to species database on PDA; always send Species Database to PDA when sending configuration |
| | | | Alter Middle Database to accept species code of 8 characters |
| | | Streets v3.0.10 | Fix crash in Define Species dialog due to duplicate species codes with differing cases. |
| | | | Correct spelling of "short holes" to "shot holes" in Insect Signs options. |
| | | Streets PDA v3.0.10 | Add GPS API option to support buggy GPS devices. |
| | | | Allow GPS Direct entry after Start GPS fails. |
| | | Storm v3.0.4 | Fix incorrect PDA application version issue. |
| **V3.0.11** | | Streets PDA v3.0.9 | Fix crash upon save due to a bug in .Net CF |
| | | | Correct display of the Comment panel on square displays. |
| | | | Clear all held location fields upon clicking the Clear Location button. |
| | | | Store the averaged GPS coordinate values rather than the last received values. |
| **V3.0.10** | | Eco v3.0.8 | Fixed the issue with species code "none" when loading reporting data from forest service |
| | | Streets v3.0.8 | Refresh current report after importing records from the PDA. |
| | | Streets PDA | Fix potential crash upon exit. |

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| | | v3.0.8 | |
| | | | Fix high-resolution display issue with Comment box. |
| **V3.0.9** | | Eco v3.0.7 | fixed read only issue for species and location databases |
| | | | fixed naming issue for chart "Carbon Sequestration Density by Land USE" |
| | | | fixed plot size issue in page 21 of report writer |
| | | | fixed ordering issue in input data editing |
| | | Streets v3.0.7 | Display unmatched species codes in uppercase on reports. |
| | | | Add validation for GPS coordinates. |
| | | | Prompt for unmatched species codes after importing data. |
| | | | Only allow a record to be duplicated at most 9999 times. |
| | | | Update RPI report to use Condition factors. |
| | | | Correct the Population Summary report. |
| | | | Add pest common name to Inventory Details form. |
| | | | Remove duplicated summary lines from pest summary reports. |
| | | | Correctly import SurveyorID as a String and not an Integer. |
| | | | Updated sample project. |
| | | | Implement new IPED protocol. |
| | | Streets PDA v 3.0.7 | Return to the Edit Tree form after editing a tree. |
| | | | Ensure changes are made only when the user has made them. |
| | | | Add Pest common name selection field. |
| | | | Update pest tabs for new IPED protocol. |
| | | | Correct display issues as a result of modifications added for square displays. |
| | | | Correctly handle canceling an edit of Pest data. |
| | | | Fix bug in GPS control resulting in data loss. |
| | | | Update GPS control to accept GPS coordinates in either +-Decimal Degrees or Decimal Degrees + Direction. |
| | | | Display invalid GPS coordinates to the user in the status pane. |
| | | | Display previously recorded GPS coordinates to the user when the GPS is ready to capture. |

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| | | Storm v3.0.3 | Export Rural indicator as Y/N rather than yes/no. |
| | | | Correct Standard Error estimates provided by the template. |
| | | | Ensure rural trees are counted separately from all other trees. |
| | | | Correct tree removal estimates on the Post Analysis sheets. |
| | | | Extrapolate tree estimates on the Post Analysis sheets where possible. |
| | | | Correct the Brush Adjust lookup table to match the descriptions. |
| | | | Add Standard Error estimates for debris estimates. |
| **V3.0.8** | | Eco v3.0.6 | Community Map is brought back available |
| | | | Adding plots loop is changed to more intuitive way |
| | | Streets v3.0.6 | Corrected extrapolation for sample inventories for Pest, Maintenance, and Conflict reports. |
| | | | Moved report generation to its own thread. Removes race condition in user interface thread. |
| | | | Replaced Site Type reports. |
| | | | Replaced Other reports. |
| | | | Replaced Land Use reports. |
| | | | Replaced Pest Summary reports. |
| | | | Clarified report headers of all new reports. |
| | | | Updated export of Site Type, Other, and Land Use reports for Excel. |
| | | Eco PDA 3.0.5 | Added backup functionality |
| **V3.0.7** | | Eco v3.0.5 | Added ‘Pack Project’ sub menu in ‘File’ menu for data sharing |
| | | | If the input database and estimate database are not found in opening a project, it pops up file dialog box for browsing. |
| | | | Fixed a bug in table of Leaf Area and Biomass For Trees by DBH and Landuse |
| **V3.0.6** | | Streets v3.0.5 | Replaced Conflict reports. |
| | | | Replaced Maintenance reports. |
| | | | Fix crash while trying to delete existing Zones |
| | | | Mark all zones with errors on User Define Fields dialog |
| | | | Fix compatibility issues with Microsoft Excel 2007. |

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| | | | Display the correct zone for the Pest Summary report. |
| | | | Fix crash in Species dialog for LoMidWXXX region. |
| | | | Fix crash upon opening the User Define Fields dialog as a result of a .Net bug. |
| | | Streets PDA v3.0.6 | Add support for square displays. |
| | | Eco v3.0.4 | Fix the "." Issue in the SAS output file |
| **V3.0.4** | | Streets v3.0.3 | Skip recording of DBH for non-trees. |
| | | | Abort export of reports if Excel is not installed. |
| | | | Replace charts in reports with place holder if Excel is not installed. |
| | | | Refresh current report after modifying benefit prices, city info, or annual costs. |
| | | | Refresh current report after switching between English to Metric or Common to Scientific modes. |
| | | | Add Pest Symptom Details reports. |
| | | | Fix crash while trying to modify the Average Home Resale's Value |
| | | | Fix crash in exporting Maintenance Summary reports. |
| | | | Use correct units during export of Canopy Cover report. |
| | | | Correct chart displayed on exported Canopy Cover report. |
| | | | Display correct charts for Site Type reports. |
| | | | Fix graph displayed on Canopy Cover report. |
| | | | Correct tree types displayed on Population Summary report. |
| | | Streets PDA v3.0.4 | Skip recording of DBH and default Primary Pest field to None for non-trees. |
| | | Eco v3.0.3 | Save Plot Size to series table's DefaultSubPlotSize field (this was not being saved anywhere.) Because this is by series and not year, if they modify the previous series DefaultSubPlotSize in PlotGenerator, they are prompted and informed that the size is by series and asked if they are sure that they want to change this. |
| | | Eco PDA v3.0.4 | Crash bug fixed when saving an edit without Hydro Option enabled |

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| | | | Stem Edit button corrected, was referencing Tree ID in the query instead of Stem ID. |
| | | Eco PDA Utility v3.0.4 | (Grabbing Plot Size) First check if subplot exists, if it does get size from subplot. If no subplot, check DefaultSubPlotSize. If DefaultSubPlotSize is not -1 (default value,) then use default plot size of .1 or .04 (metric or English units). |
| **V3.0.3** | | Eco V3.0.2 | MDE: added dead tree status (R, H, C, L) data validation. Set Total Height (-1), Live Top (-1), Crown base height (-1), Crown width (N/S & E/W) (-1), Crown missing (100), Crown Dieback (100), Crown Light Exposure (-1), % Impervious Below Crown (-1), % Shrubs Below Crown (-1) to the default values |
| | | | Added suite version and app version in the About screen |
| | | | Added the rule: when a tree is added, tree status can only be “O”. When a tree is edited, “O” can be changed to other status. |
| | | | Fixed a species record (SubGenus=x Cupressocyparis) in SubGenus table in species database |
| | | | Fixed the crash if DR and DS are empty |
| | | | Enable "Collected Data Permanent" in Inventory to let users set remeasurement on trees |
| | | | Allow PDA dead tree values in sample mode |
| | | | Use user’s temp folder for 64 bit computers |
| | | Eco PDA Utility v3.0.3 | Updater set to check suite version |
| | | | Check for Wow64 and install appropriate device center on Vista |
| | | | Properly Remove completed plots from Pocket PC |
| | | | Add suite and app version info to splash/about form |
| | | Eco PDA App v3.0.3 | Fixed some bugs for GPS |
| | | | Added a “Direct Entry” button for manual entering of GPS coordinates |
| | | Streets v3.0.2 | Removed requirement of CityManaged field for existing Stratum projects |

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| | | | Strip spaces from column names in Stratum_Inventory format |
| | | | Fix floating New button on Define Species dialog |
| | | | Add i-Tree Suite version to About form |
| | | | Fix reporting after creating a new project and then immediately importing data |
| | | | Prevent importing of Stratum_Inventory format if no SpCode column is present |
| | | | Ignore records whose species code is NULL or an empty string during import |
| | | | Correct species code comparison bug in Stocking Level report |
| | | | Ensure data sent to the PDA still exists in the project if it was modified and re-add it if necessary |
| | | | Refine entire reporting interface and prevent the application from crashing while running a report |
| | | | Fix an index out of bounds issue in Maintenance Top 5 report |
| | | | Correct issues in the Species Distribution report and the Canopy Cover reports when there is no data to report on |
| | | | Auto refresh the current report whenever the user modifies data and remove the refresh button |
| | | | Updated default list of species codes for various regions. Reconciled species code inconsistencies for Streets |
| | | | Fixed reporting issues when projects were initiated with one tree. |
| | | Streets PDA App v3.0.3 | Fixed some bugs for GPS |
| | | | Added a “Direct Entry” button for manual entering of GPS coordinates |
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| | | Storm v3.0.2 | Save template as "Excel Workbook" |
| | | | Set file attributes to normal after copying the template |
| | | | Add suite version to about screen |
| | | | Updater set to check suite version |
| | | Species v3.0.3 | Add suite version |
| | | | Updater to check suite version |

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| | | Vue v3.0.2 | Adjusted About screen and added suite version |
| | | | Added “Loss!”: indicator appearing at wrong times on Developed, Classes Tree % change form |
| | | | Fixed run-time error via a Data Type mismatch on Developed, Classes Tree % change form |