**Phil Weinstein / Accomplishments -- December 2015 -- Edit 01-05-2015**

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| **General Development Accomplishments** |

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[I.A] New/Enhanced Software
   USACE-SWD Task 3.e:  SCT Threshold Exceedance Ornamentation
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In December, design and implementation work was started for support of special series slot cell coloring for values below or above designated threshold values unique to each series slot in the SCT. This is essentially an extension to SCT Custom Slot/Timestep Cell Colors (manually applied to selected cells) developed for RiverWare 6.8 in September.

As a preliminary step, that previously implemented SCT Custom Slot/Timestep Cell Colors capability was enhanced to allow optional application of only the foreground (text) color to be specified, allowing the series slot timestep color to remain visible. This minor enhancement will be available in RiverWare 6.8.

Beyond that minor enhancement, the new "threshold" capability will allow a variable number of value intervals to be associated with any series slot in the SCT. A named custom cell color will be associated with each interval. Threshold values can be specified as either a constant value, or as a slot reference. Development is proceeding in January 2016.

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[I.A] New/Enhanced Software
   USACE-SWD Task 4:  Trapezoidal Teacups
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The initial implementation of the Output Canvas, in RiverWare 6.6, supported "teacup" graphics strictly as vertical rectangular bars. Starting in November 2015, and completed in December, options were added to support the display of teacups as trapezoids. Two trapezoid geometry options are provided, uniformly applied to all teacups within a teacup group. (Note that an output canvas can have more than one teacup group). Teacup groups now support selection between these three geometry options:

1. Rectangular (as provided in RiverWare 6.6)
2. Trapezoidal, Congruent
3. Trapezoidal, Constant Top and Bottom Widths

Trapezoidal teacups development in December included:

1. Made optional: gap between the inner "current" region (rectangle or trapezoid) and the outer "maximum" region.
2. Modified appearance of "overflow" region, when the "current" value exceeds the "maximum" value.
3. Trapezoidal appearance of a teacup group's legend graphic (when a trapezoidal geometry is in use).
4. Testing and correction of trapezoidal geometry computations from slot values.

This document more fully describes support for the trapezoidal teacup graphics, as completed in December:

* **Trapezoidal Teacups in RiverWare Output Canvases -- RiverWare 6.8**
R:\doc\Output\OutputCanvas\2015\TrapezoidalTeacups-RW68.doc

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| **Maintenance Accomplishments / December 2015** |

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[II] RiverWare Software Maintenance / Software Updates / Bug Fixes
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The following bugs was fixed:

* Bug 5690: Unable to add columns to table slot with numeric headers
* Bug 5694: Open Object Dialog: sort by Slot Type no longer works

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[II] RiverWare Software Maintenance / Software Updates / Plotting Appearance Improvements
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The border and spacing around and inside RiverWare plot panels, and in between the plot panel and the axes, have been removed.  This simplifies the appearance of plots. This is a followup from updating our Qwt plotting library from Qwt 5.2.3 to Qwt 6.1.2, also being done for RiverWare 6.8.

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