WebStart WEPS: Remote data access and model execution functionality added to WEPS

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Major Users of WEPS

- USDA-NRCS (15,000 computers in 3,000 offices)
 NRCS Current Release 1.5.52 WEPS
 NRCS IET (Integrated Erosion Toolkit) WEPS
- Field to Market (https://fieldtomarket.org) Consortium of Retailers, Brands, Ingredient Processors, Ag Service Providers and Farmers – FieldPrint Calculator (WEPS)







Current WEPS Status

• WEPS 1.5.52 (Released in December 2016)

- Public (full) release
- NRCS release

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WEPS WebStart Goals (~2015)

- Provides remote access to data (CRLMOD access)
- Provides remote (server) execution of WEPS runs
- Allows access to WEPS application via a web browser
- Retains use of current WEPS desktop interface

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Run locations Servers Parameters	
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✓ Run windgen on server	https://infosys.ars.usda.gov/csip-windgen/m/windgen/1.0
✓ Run cligen on server	https://infosys.ars.usda.gov/csip-cligen/m/cligen/1.0
✓ Run weps on server	https://infosys.ars.usda.gov/csip-weps/m/weps/1.0







What is a Java WebStart application?

Java Web Start (also known as JavaWS, javaws or JAWS) Framework developed by Sun Microsystems (now Oracle) that:

Allows users to start application software for the Java Platform directly from the Internet using a web browser







Java WebStart Application features

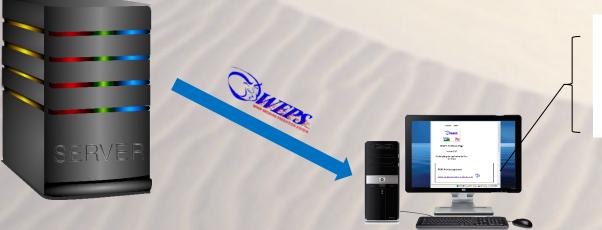
- Provides internet browser access
 - No "Administrator" install for WEPS required
- Provides automated updating services
 - User is always running latest WEPS release
- Provide "offline" execution access
 - Caches full copy of WEPS on local machine







How WEPS Java WebStart application works



WEPS WebStart Application
Launch the application here (or click the icon:)

After clicking on the URL link for the <u>first</u> <u>time</u> in a browser, it will download the Java WebStart application (WEPS bootloader) and cache a copy on the local computer







How WEPS Java WebStart application works

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The Java WebStart WEPS bootloader will then finish downloading WEPS and bring up the application (WEPS) on the local computer







How the WEPS Java WebStart application works



Subsequent clicks on the URL link in a browser will cause Java WebStart to check if the cached copy of the application (WEPS) is consistent with (same as) the current copy on the server







How the WEPS Java WebStart application works

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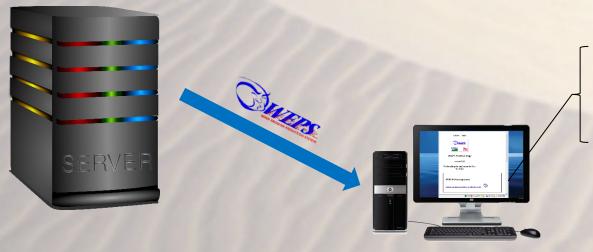
If so, it will immediately bring up the application (WEPS) from the cached copy on the local computer







WEPS Java WebStart (MSI) application



Windows MSI install package for WEPS Bootloader

MSI package will "install" the WebStart WEPS bootloader, which will then download and install a copy of WebStart WEPS on the local computer







Java WebStart (MSI) Application features

- Does not
 - Provide internet browser access to WEPS
- Now requires
 - An "Administrator" account install
- Provides automated updating services
 - User is always running the latest WEPS release
- Provide "offline" execution access
 - Caches copy of application on local machine







WEPS WebStart Enhancements CSIP services provide

- Remote access to NRCS CRLMOD data
- Remote access to NRCS Soil data
- Remote (server) execution of Windgen/Cligen generators
- Remote (server) execution of WEPS science model runs
- WEPS configuration settings for CSIP endpoints provided

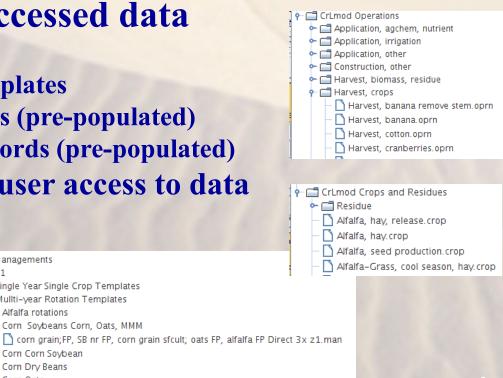




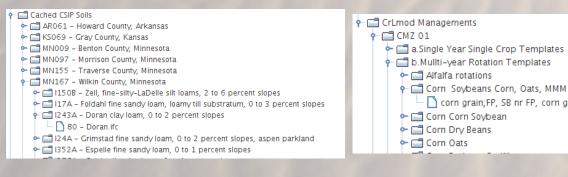




- Caching of remotely accessed data
 - CSIP Soil Service
 - CRLMOD Management templates
 - CRLMOD Operation records (pre-populated)
 - CRLMOD Crop/Residue records (pre-populated)
- Pre-population speeds up user access to data











- Map Viewer used to locate field lat/lon
 - Required for Soil CSIP service and Cligen PRISM adjusted data

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- Revised Map Viewer button text
- Added satellite imagery layer

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- Uses new multi-subregion science code
 - Current interface still limits us to single subregion mode
- Added "NRCS Crop Interval" rotation mode to MCREW

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	Jun 01, 01	Chisel, sweep shovel	•		0		
	Jul 01, 01	Codweeder	-		0		
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	Sep 01, 01	Cultivator, field 6-12 in sweeps	-		0		
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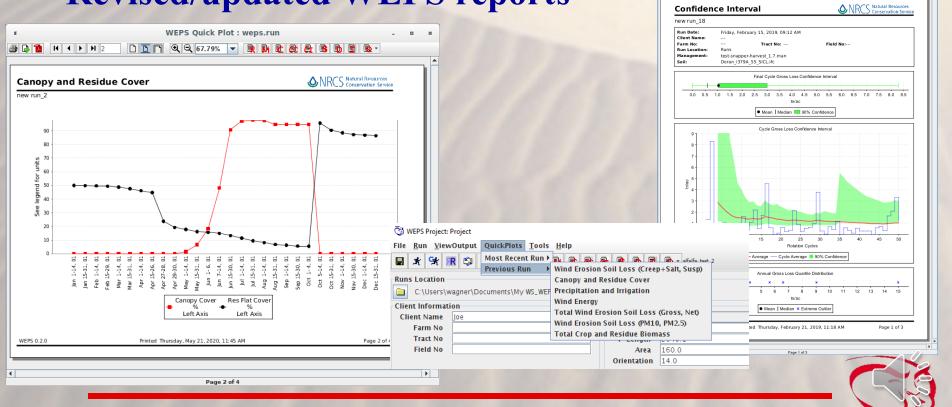




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- Added default QuickPlot access to WEPS GUI
- Revised/updated WEPS reports







- Enhanced Windgen generator and its database
 - Added Puerto Rico windgen stations
 - Added Alaska Windgen polygons
 - Updated Windgen to use a different random number generator
- Updated Cligen database
 - Updated to 40 year record Cligen database (2015)
- Added PRISM adjustment feature to Cligen records
 - 4k grid PRISM dataset
 - Monthly mean precipitation and max/min temperatures







Questions?



