WEPS Bootloader 1.1 User Manual

The WEPS Bootloader was developed to provide Windows users an alternative installation and execution option for WebStart WEPS following Oracle's removal of the Java WebStart functionality from Java version 11. The WEPS Bootloader provides the required functionality needed to install WebStart WEPS that was provided by Java WebStart in Java 8.
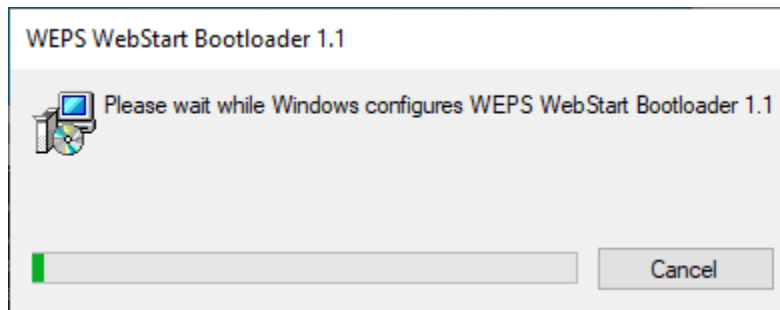
There are some caveats with using the Windows MSI installation of the WEPS Bootloader code, but they probably don't impact most WEPS users. The biggest issue is that the WEPS Bootloader itself must be installed separately on the user's system and normally requires "Administrator" privileges to install it. The Java WebStart method did not require elevated privileges to install WebStart WEPS nor did a user have to install any other program on their system besides Java to run WEPS, since it was a part of the Java package. There is now an open source project called OpenWebStart designed to replace the Java WebStart functionality removed from Java 11 and later versions of Java, but currently it must also be installed as a separate independent package as it is not yet included as a part of any OpenJDK Java packages at this time.
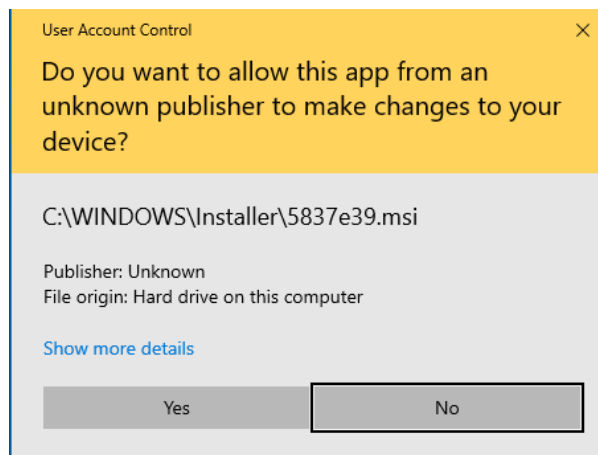
Installation

The WEPS Bootloader is an MSI file that installs the bootloader code onto a Windows computer. One must run the installation command with elevated "Administrator" privileges. The command to install the WEPS Bootloader from a Windows Command Prompt is:

>misexec /i WEPS_Bootloader.msi /l* WEPS_Bootloader.log

The user should see the following popup message during the installation process:
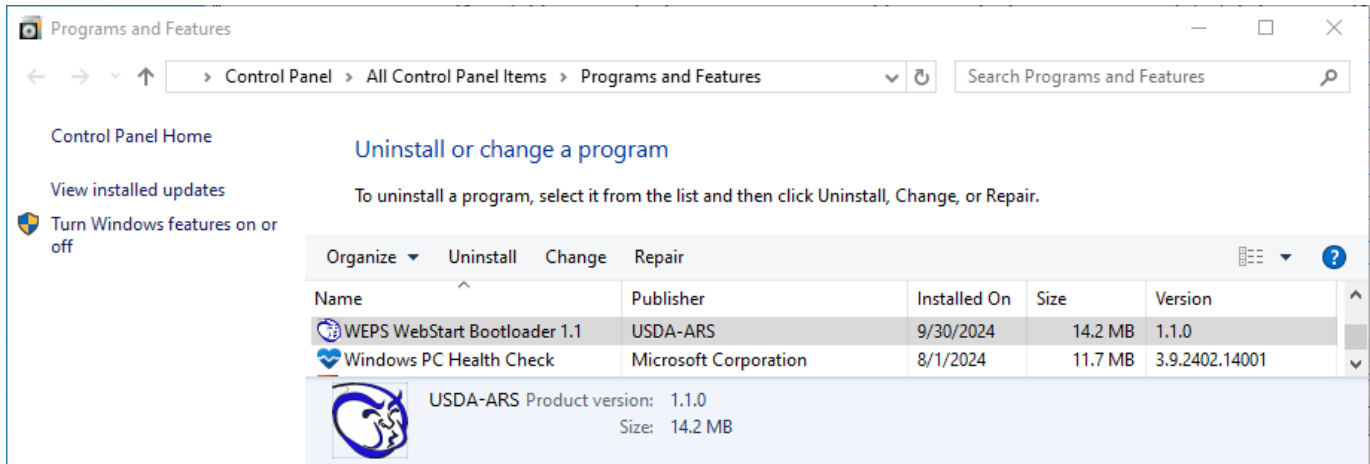

In addition, the user will normally be requested to answer yes to the "User Account Control" popup window to complete the installation process:
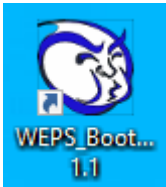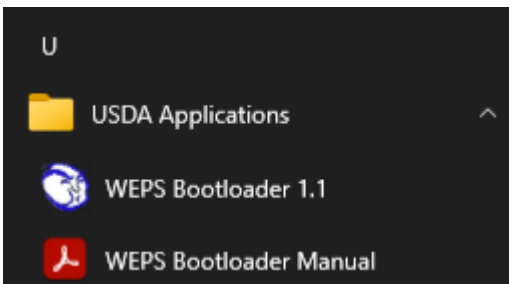
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Once the installation is complete, it will have added an entry into the Control Panel's "Programs and Features" listing:

In addition, a desktop icon will be installed:

As well as a menu entry under "USDA Applications" for the WEPS Bootloader and a PDF version of this User's Manual:

Executing the WEPS Bootloader

There are two modes of operating the WEPS Bootloader, one intended for normal WEPS users in the U.S. and a second option for advanced users such as WEPS developers/testers, scientists, foreign researchers, etc. needing access to the latest and/or alternative WEPS builds.

The first mode only provides access to the approved NRCS Release build of WebStart WEPS. The user can simply click on the installed icon or Windows menu entry "WEPS Bootloader 1.0" from within the "USDA Applications" folder. It will install WebStart WEPS upon the first invocation of the WEPS Bootloader code and then bring up an instance of the WEPS NRCS Release build. Subsequent invocations of the WEPS Bootloader will first check to see if updates are available and if they are, install those updates prior to bringing up an instance of the WEPS NRCS Release build.
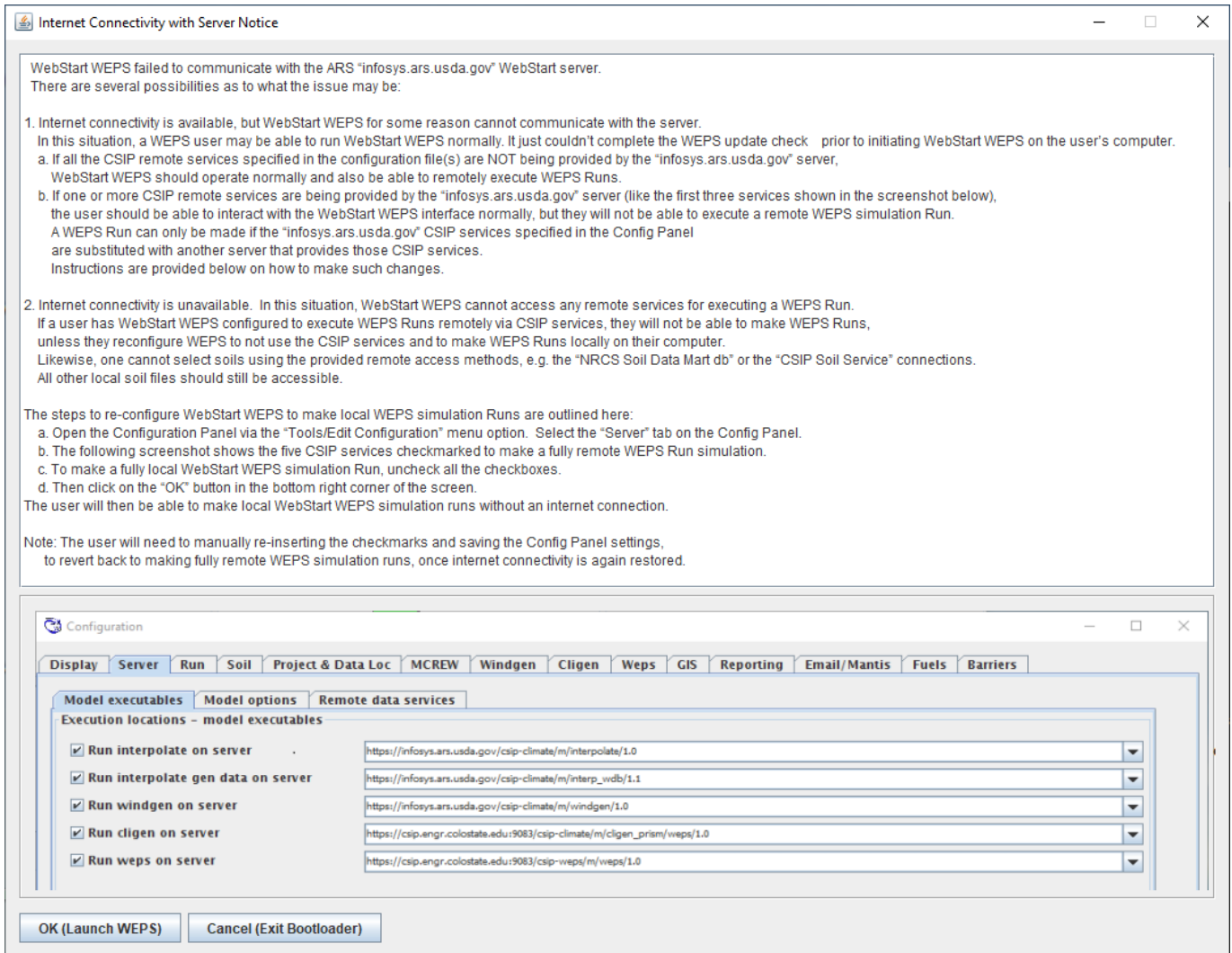
A popup window will always appear displaying text about the progress of the installing/updating and launching processes. Here is an example of that popup window:

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WEPS Install Message Window   ☒

WEPS Message Window

```
WEPS is starting up...
Boot Loader version: 2.0.0
WEPS already installed
New WebStart WEPS build version to be installed: 1.6.18
Trying to connect to the WEPS server. This may take up to 10 seconds: Connected
Downloading File (jnlp): launch-local-weps-NRCS_release.jnlp
Trying to connect to the WEPS server. This may take up to 10 seconds: Connected
Downloading File (jnlp): boot-local-weps-NRCS_release.jnlp
Downloaded Boot Version obtained from jnlp file: 2.1.11
Checking for updates.
Updating/installing required libraries?
```

Download Speed

1.0 MB / sec

Current download speed:

0

MB / sec

Download progress:

If internet connectivity to the WEPS server is unavailable, it cannot check and install any WEPS updates. So the Bootloader will ask the user if they want to execute the current local copy of WEPS. If the CSIP services are still accessible, the user can run WebStart WEPS just fine. If internet connectivity is unavailable, the user can temporarily configure WEPS to execute all functions locally, rather than remotely in the cloud via CSIP services, etc. A popup message will appear that describes the options available to the user and how to re-configure WEPS to run locally, etc. Here is an example of that popup window:
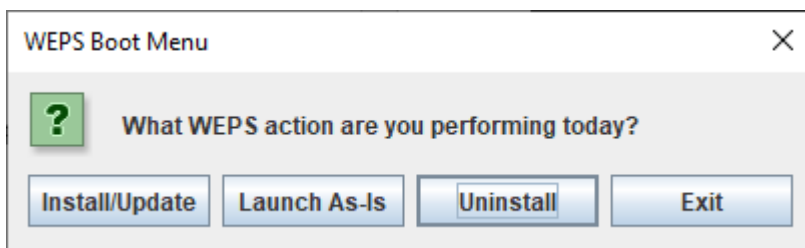
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The second mode provides options to install various WebStart WEPS builds configured for specific users, WEPS developers/testers, etc. This Bootloader mode is enabled by simply copying a "WEPS_Bootloader_choices.cfg" named file into the user's "WEPS_Bootloader" folder. This folder's location is created during installation here (where "user.name" is the user's Windows user account name):

> C:\Users\user.name\AppData\Roaming\.weps\WEPS_Bootloader

The user can execute the WEPS Bootloader from either the desktop shortcut or the menu entry. With the "WEPS_Bootloader_choices.cfg" file installed, the Bootloader program will bring up the initial popup window:
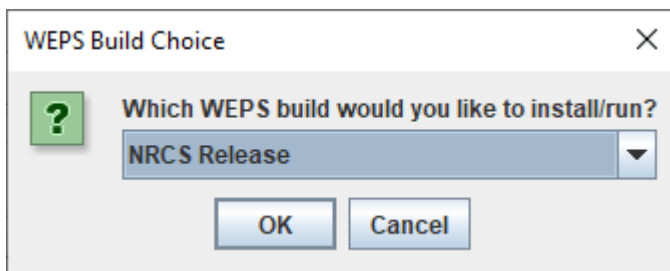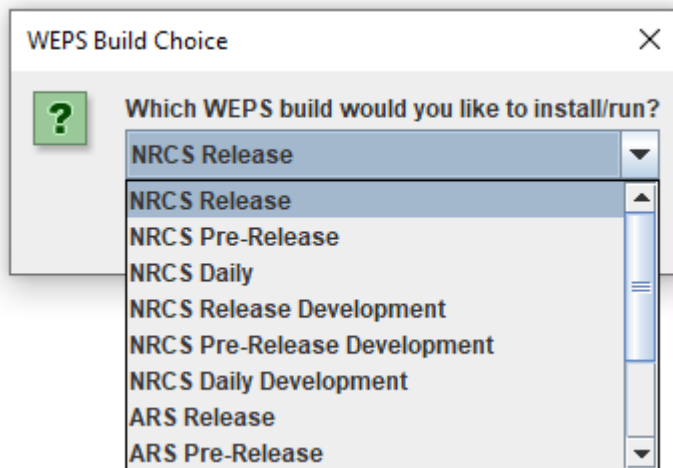
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The button options are:

- Install/Launch
  - Will install or launch the selected WebStart WEPS build (next popup provides selection options). A popup window will appear displaying text and a vertical download speed bar during the install/updating process.
- Launch As-is
  - Will launch the currently installed selected version (next popup provides selection options) of WebStart WEPS without checking for possible updates. A popup window will appear displaying text showing the progress of the WEPS launching process.
- Uninstall
  - Will uninstall the selected WebStart WEPS build (next popup message provides selection options).
- Exit
  - Exits the WEPS Bootloader.

Selecting the "Install/Launch" button brings up the following popup message:

The choice options are shown here:

Where:

- NRCS Release
  - Default selection. It is the most stable NRCS build. This build is configured per NRCS needs/requirements and recommended for most WEPS users.
- NRCS Pre-Release
  - A test release consisting of new features, bug fixes, etc. This pre-release build will eventually get promoted to the "NRCS Release" build after successful testing.

- NRCS Daily
  - The NRCS daily build. It contains new features and bug fixes being developed for eventual testing as new pre-release builds. This build is updated frequently with little testing conducted, so it is not a selection normal users should select.
- NRCS Release Development
  - The NRCS development release build enables additional features/functionality normally withheld from the normal NRCS configured builds. Used for evaluating advanced features in the NRCS release build.
- NRCS Pre-Release Development
  - The NRCS development pre-release build enables additional features/functionality normally withheld from the normal NRCS configured builds. Used for testing/evaluating new features and bug fixes for upcoming NRCS release builds.
- NRCS Daily Development
  - The NRCS development daily build enables additional features/functionality normally withheld from the normal NRCS configured builds. Used for testing new features under development and bug fixes for future NRCS pre-release and release builds.
- ARS Release
  - Public build with all WEPS features enabled. It is the most stable of the public ARS builds. It is recommended for users needing access to additional features not provided/allowed in the NRCS builds.
- ARS Pre-Release
  - A public ARS build test release consisting of new features, bug fixes, etc. This pre-release build will eventually get promoted to the "ARS Release" build following successful testing.
- ARS Daily
  - The public ARS daily build – contains new features and bug fixes being developed for eventual testing in new pre-release builds. This build is updated frequently with little testing conducted so it is not a selection normal users should select.
- ARS International Release
  - Public international build with all WEPS features enabled, but defaulting to SI (metric) units for model inputs/outputs. It is the most stable of the public ARS international builds. It is recommended for users needing access to additional features not provided/allowed in the NRCS builds and desiring the model inputs/outputs be in SI units.
- ARS International Pre-Release
  - A public ARS international build test release consisting of new features, bug fixes, etc. It defaults to SI units for user inputs/outputs. This pre-release build will eventually get promoted to the "ARS International Release" build following successful testing.
- ARS International Daily
  - The public ARS international daily build – contains new features and bug fixes being developed for eventual testing in new pre-release builds. It defaults to SI units for user inputs/outputs. This build is updated frequently with little testing conducted so it is not a selection normal users should select.
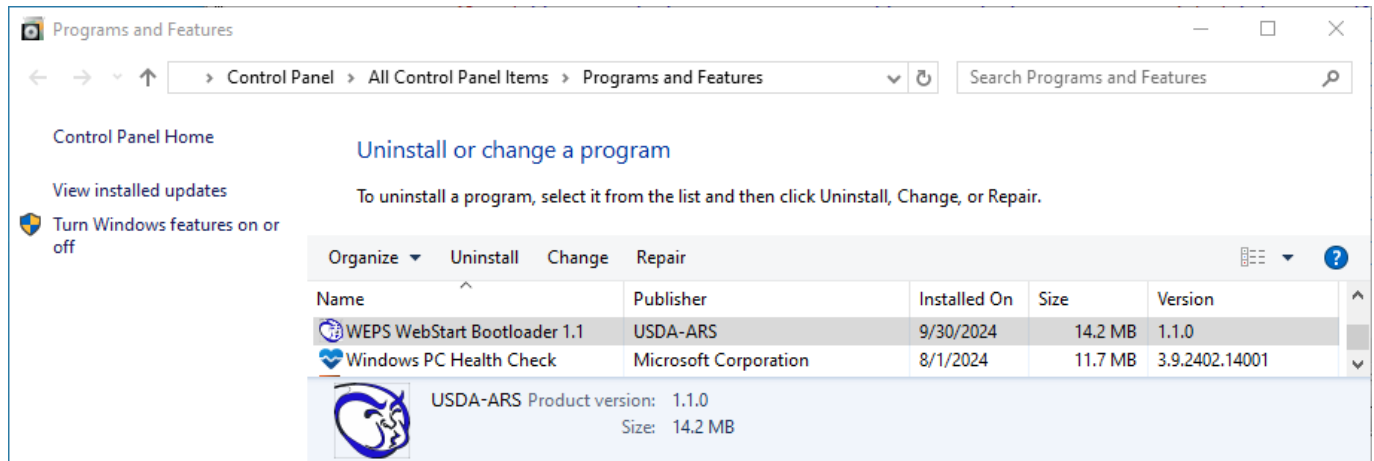
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Here are the contents of a "WEPS_Bootloader_choices.cfg" file containing all possible choices. It is simply an ASCII text file consisting of one WEPS build name per line. The file can contain a subset of the following entries:
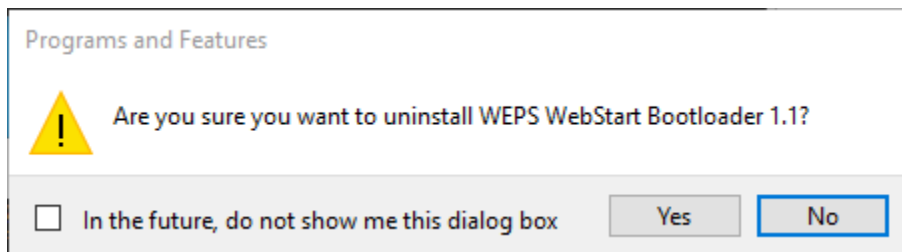
> *NRCS Release*
> *NRCS Pre-Release*
> *NRCS Daily*
> *NRCS Release Development*
> *NRCS Pre-Release Development*
> *NRCS Daily Development*
> *ARS Release*
> *ARS Pre-Release*
> *ARS Daily*
> *ARS International Release*
> *ARS International Pre-Release*
> *ARS International Daily*

Uninstalling the WEPS Bootloader

To uninstall the WEPS Bootloader, go to the Control Panel's "Programs and Features" listing and double click the mouse button on the WEPS Bootloader entry (note that the user will require "Admin" privileges to perform a successful uninstall of the WEPS Bootloader program):
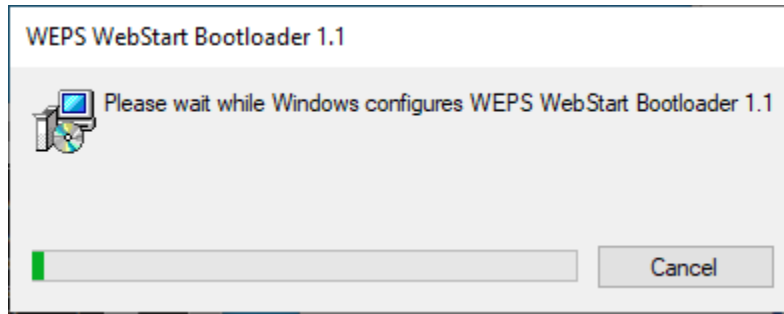

That will bring up the following popup message:

Answering yes will bring up another popup window showing the progress of the uninstallation process:

In addition, the user will normally be requested to answer yes to the "User Account Control" popup window to complete the uninstall process: