

Short-Range Weather (SRW) App v3.0.0 Plots & Postprocessing Walkthrough

Priya Pillai
Aug 4, 2025



Introduction

- SRW App targets predictions of atmospheric behavior on regional spatial domain and on time scales from minutes to several days
- In this tutorial, we'll focus on cloning and building the SRW App from the EPIC GitHub repository
- Three Key sections of this tutorial:
 - Cloning SRW App from EPIC GitHub Repository & Building it on Tier-1 Platforms
 - Model Configuration Setup
 - Outputs and Plot Walkthrough

Tier 1 Platforms
Derecho
Gaea-C6
Ursa*
NOAA Cloud
Orion/Hercules

*While Ursa is a Tier-1 platform, the SRW App isn't yet supported on it

Prerequisites (External Users): SRW App Non-containerized Version

- In addition to Intel Compiler, MPI, and Rocoto workflow manager prerequisites:
- Users who are not working on EPIC Level 1 platform will need to install the prerequisite software stack using ****[spack-stack](#)**
- Refer [spack-stack documentation](#) for installation instructions
- Refer [Section 2.1.1. Install the prerequisite software stack](#) of the SRW App Users Guide: <https://ufs-srweather-app.readthedocs.io/en/release-public-v3.0.0/UsersGuide/>
- Users may also post questions in the [UFS-Community Discussions](#) hosted on the EPIC Community Portal (ECP), epic.noaa.gov

****Please be aware that, due to potential conflicts with Intel's end-user licensing agreement, all content and repositories related to EPIC containers have been made private. This impacts our spack-stack, SRW, Land DA, and HSD containers. We apologize for any inconvenience and are actively working toward a solution.**



“Out-of-the-box” Test case

Build and run an “out-of-the-box” weather forecast for June 15-16, 2019

- Predefined 25-km Continental US (CONUS) grid (RRFS_CONUS_25km)
- Global Forecast System (GFS) version 16 physics suite (FV3_GFS_v16 CCPP),
- FV3-based GFS raw external model data for initialization

Copying the input data on HPCs

```
cd /path/to/input/data/
```

```
mkdir inputdata
```

```
cd inputdata
```

```
wget https://noaa-ufs-srw-pds.s3.amazonaws.com/experiment-user-cases/release-public-v3.0.0/out-of-the-box/fix\_data.tgz
```

```
wget https://noaa-ufs-srw-pds.s3.amazonaws.com/experiment-user-cases/release-public-v3.0.0/out-of-the-box/gst\_data.tgz
```

```
hercules-login-1.hpc.msstate.edu - PuTTY
***** N O T I C E *****
End of banner message from server
Keyboard-interactive authentication prompts from server:
Password:
Duo two-factor login for prpillai
Enter a passcode or select one of the following options:
1. Duo Push to XXX-XXX-9084
Passcode or option (1-1): 1
End of keyboard-interactive prompts from server
Pre-authentication banner message from server:
Success. Logging you in...
End of banner message from server
Success. Logging you in...

NOTICE:
Hercules is a cluster system running Rocky 9.1 configured as follows.
512 nodes, 1024 processors, 40,960 processor cores

Last login: Fri Aug 1 14:57:13 2025 from 173.67.10.184

NOTICE:
Hercules is a cluster system running Rocky 9.1 configured as follows.
512 nodes, 1024 processors, 40,960 processor cores

prpillai@hercules:~$
```

Under “inputdata/” directory, unpack the tar balls as follows:

```
tar -xzf fix\_data.tgz
```

```
tar -xzf gst\_data.tgz
```

Get Code ▾

Get Support ▾

News & Events ▾

AI ▾

About EPIC ▾

User Support

Each Unified Forecast System (UFS) application, model, or component has its own code repository on GitHub, and each repository includes a wiki, question forums, and bug reporting. EPIC provides user support for many UFS repositories. Check out our [GitHub Registration and Posting Guidelines](#) to get started on GitHub, or [learn more below about the repositories we support!](#)

Request New Feature

Contact Us

Don't know where to begin? Contact us on the [ufs-community](#) GitHub Discussions or by [email](#) and we will point you in the right direction!

Email us! support.epic@noaa.gov

Ask a Question

Post a question in GitHub forums under Q&A

[UFS Community](#)

[UFS Weather Model](#)

[Short-Range Weather Application](#)

[Land DA System](#)

[Unified Workflow Tools](#)

[Unified Post Processor](#)

[Hurricane Analysis and Forecast System](#)

Developer Resources

Visit GitHub wikis to learn about developer resources

[UFS Weather Model](#)

[Short-Range Weather Application](#)

[Land DA System](#)

[Unified Workflow Tools](#)

[Unified Post Processor](#)

[Hurricane Analysis and Forecast System](#)

Report a Bug

Report a bug in the code or request a feature

[UFS Weather Model](#)

[Short-Range Weather Application](#)

[Land DA System](#)

[Unified Workflow Tools](#)

[Unified Post Processor](#)

[Hurricane Analysis and Forecast System](#)