Announcing FLORIS Version 3.1

The latest version of [FLOw Redirection and Induction in Steady State (FLORIS)](#) is v3.1, and it is now available for download. This update includes a number of important corrections and improvements to [FLORIS v3.0](#), including:

- Implementation of the [updated TurbOPark model](#)
- Improvements and fixes to turbine model cut-in and cut-out behaviors
- Addition of an International Energy Agency (IEA) 15-megawatt reference turbine model definition
- Improvements in key tool functions, including annual energy production calculation and visualization
- Support for partial wake model definitions, such as only velocity deficit with no deflection, to further speed up simulations that do not consider wake steering
- Inclusion of uncertainty, enabling robust optimization and statistical analyses
- Addition of backward compatibility for FLORIS v2.4 input files
- Bug fixes

How To Upgrade

If you have FLORIS v3.0 installed with pip or conda, you can update to the latest version using your package manager with the following code:

```
conda update floris
pip install floris --update
```

Alternatively, if you've installed FLORIS v3.0 by cloning the repository, then you can upgrade by pulling the latest release with the following code:

```
cd floris/

git fetch --all
```

```
# if you've made uncommitted changes to the source
code
git stash

# "origin" should be replaced by the appropriate
remote
git pull origin main

# restores any uncommitted changes stash above
git stash pop

# Install locally
pip install -e .
```

If you have not yet installed FLORIS v3, see the instructions for updating from v2 in the installation documentation.

Engaging With the FLORIS Community

FLORIS leverages the following features of GitHub to coordinate support and development efforts:

- Discussions. Collaborate to develop ideas for new use cases, features, and software designs and get support for usage questions.
- Issues. Report potential bugs and well-developed feature requests.
- Projects. Include current and future work on a timeline and assign a person to "own" it.

Generally, the first entry point for the community will be within one of the categories in Discussions. Ideas is a great spot to develop the details for a feature request. Q&A is where to get usage support. Show and Tell is a free-form space to show off the things you are doing with FLORIS. Guidelines for interacting with the repository with Git and GitHub are available in the Developer Guide.
If you have additional input, no longer wish to receive updates on FLORIS, or just discovered FLORIS and would like to start receiving updates, please send an email to Paul.Fleming@nrel.gov.