

# AGENDA

- **1:15-2:00 pm (Seminar room)**

**FATES Practical Orientation:**

**“Running FATES: what do you need to know?”**

- **2:00 - 4:45 (Library)**

**Self guided FATES practical**

- **4:45 (Library)**

**CLM Tutorial Wrap Up**

- **5:15**

**Bus pick-up**

# RUNNING FATES: WHAT DO YOU NEED TO KNOW?

- NGEET/fates github website
- Navigating the code and folder system
- CLM <-> FATES compatibility
- Modifying a run:
  - FATES namelist
  - FATES parameters
- Modifying output (history)
- Practical sessions

# [HTTPS://GITHUB.COM/NGEET/FATES](https://github.com/NGEET/FATES)

NGEET / fates Private Unwatch 42 Star 3 Fork 18

[Code](#) [Issues 70](#) [Pull requests 2](#) [Projects 0](#) [Wiki](#) [Insights](#) [Settings](#)

repository for the Functionally Assembled Terrestrial Ecosystem Simulator (FATES) Edit

[Add topics](#)

802 commits 16 branches 12 releases 10 contributors

Branch: **master** New pull request Create new file Upload files Find file Clone or download

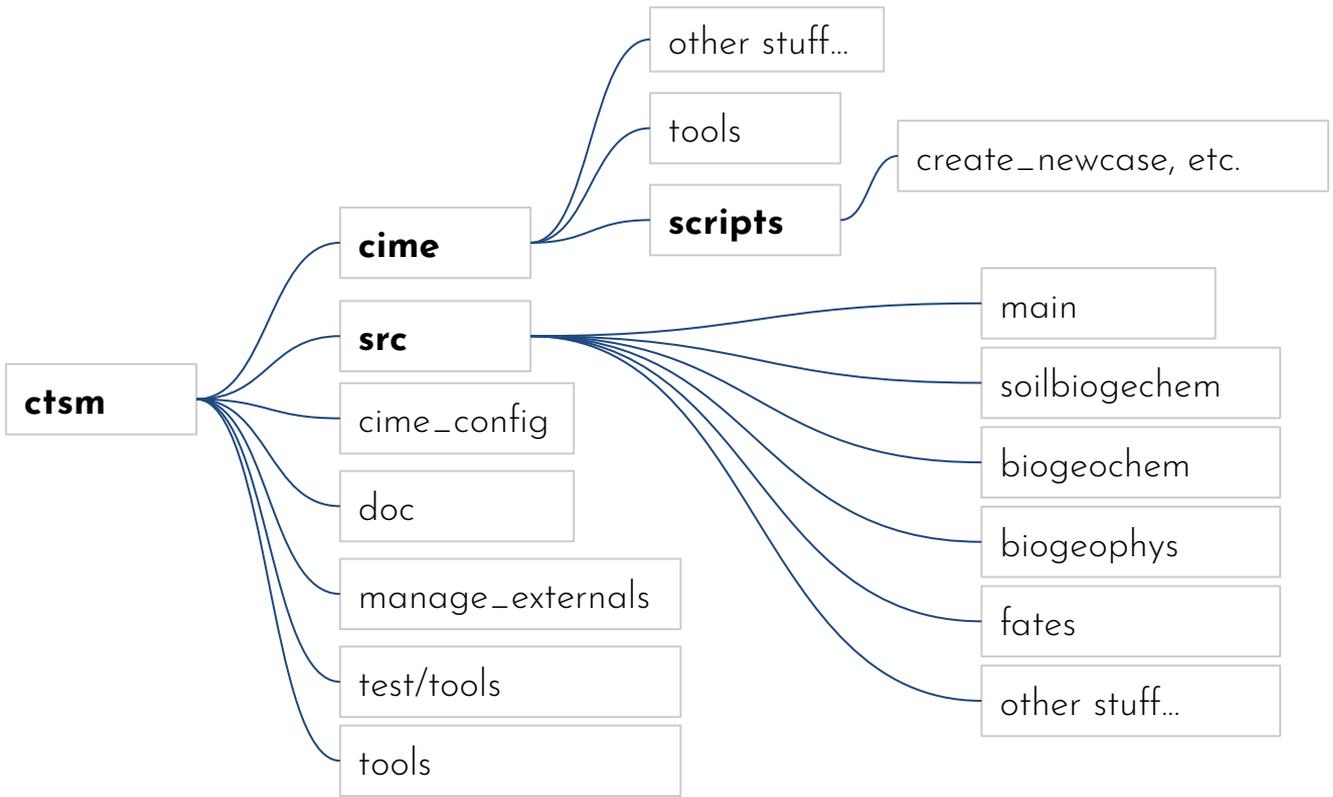
 **rgknox** committed 13 hours ago Merge pull request #327 from rgknox/rgknox-ncar-s1.4.1\_a3.0.0\_rev2 ... Latest commit 865431c 13 hours ago

 .github	Edited language in the PR template	12 days ago
 biogeochem	Conflict resolution merging NCAR/NGEET. Trivial, resolution, both sid...	14 hours ago
 biogeophys	modular allometry: moved some prep functions to outside the specific ...	4 months ago
 fire	Changed file permissions on fire	3 months ago
 main	Conflict resolution merging NCAR/NGEET. Trivial, resolution, both sid...	14 hours ago
 tools	added execution permission on pftindexswapper and added silent mode o...	11 days ago
 CONTRIBUTING.md	added link to developer repo policy and fixed a couple typos	11 days ago
 LICENSE.txt	updated copyright year in license file to 2018	12 days ago
 README.md	Update README.md	27 days ago

 **README.md**

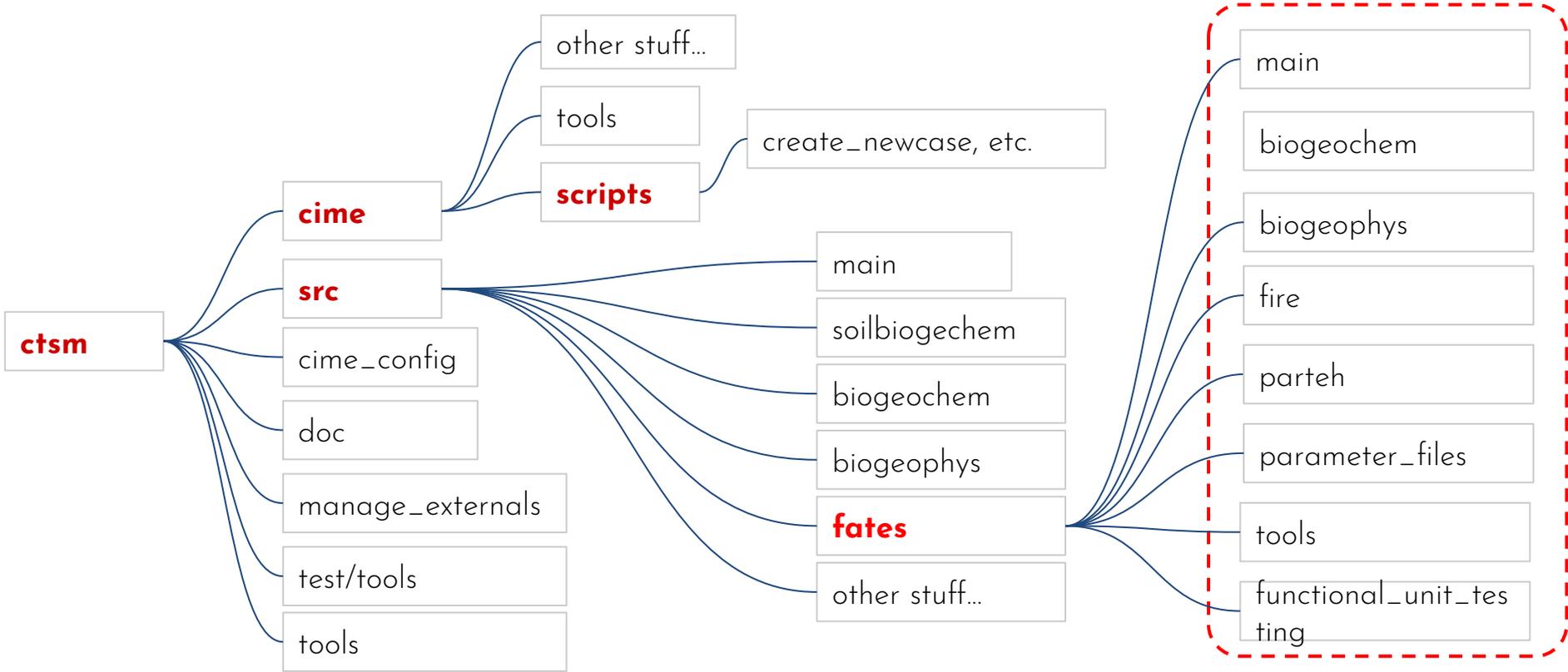


# WHERE DOES THE FATES CODE LIVE? (IN CTSM)



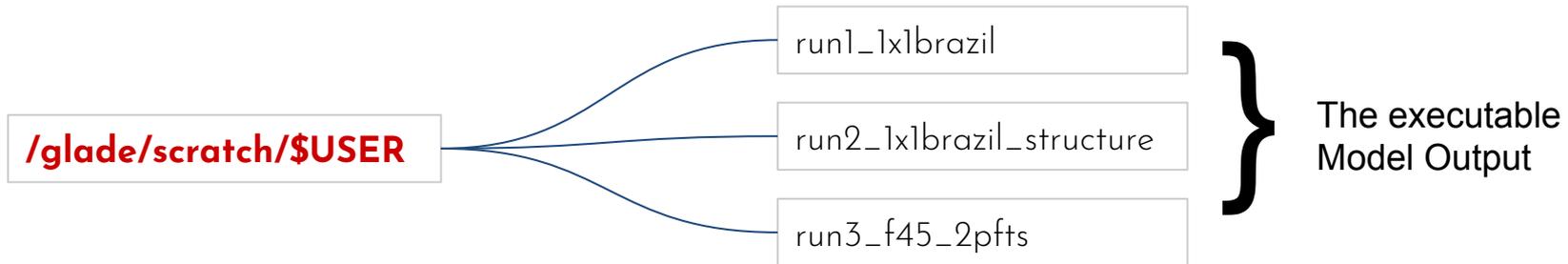
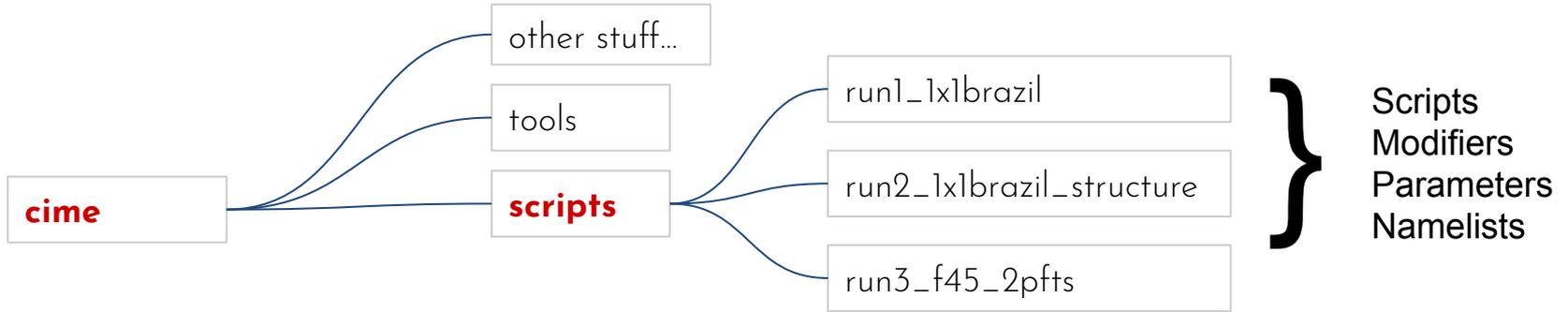


# WHERE DOES THE FATES CODE LIVE? (IN **CTSM**)





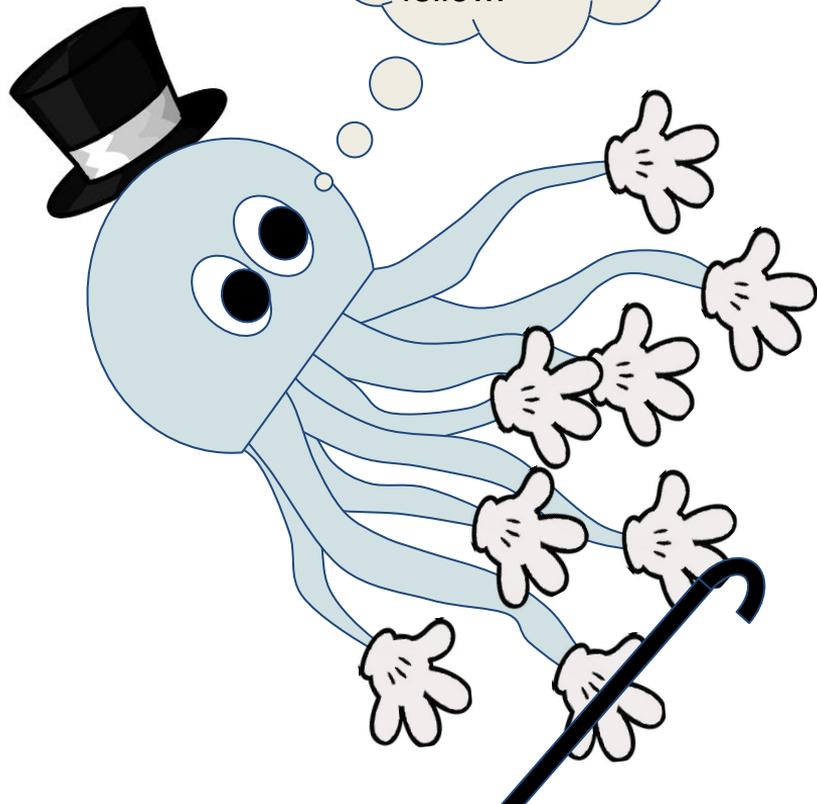
# WHERE WILL OUR PRACTICE RUNS LIVE?



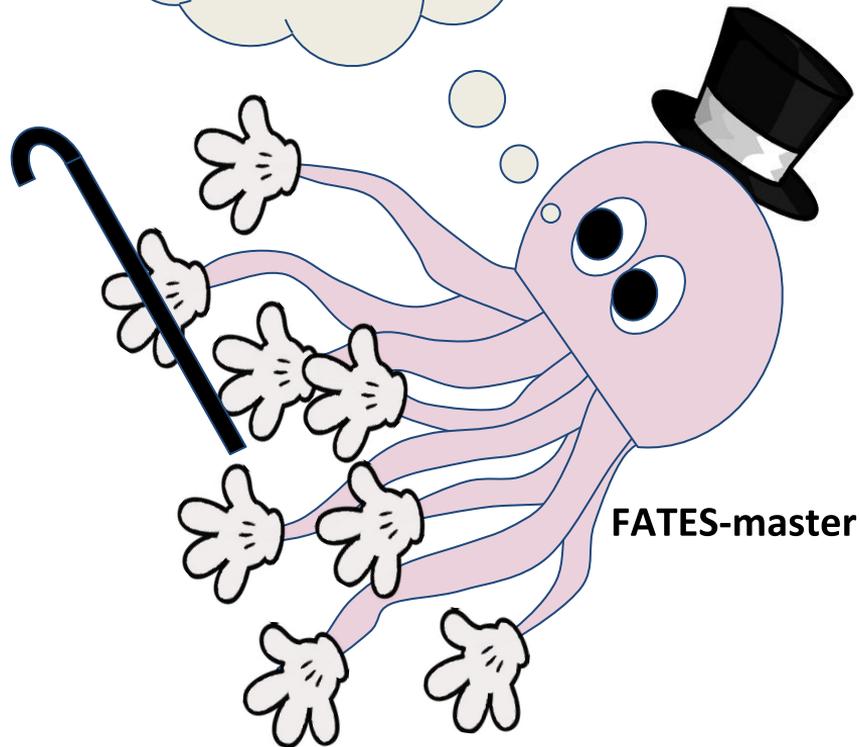
CLM <-> FATES COMPATIBILITY

CLM-master

Master  
FATES,  
shake my  
hand good  
fellow.



What is this  
rubbish, who  
holds their  
cane in their  
7th hand!

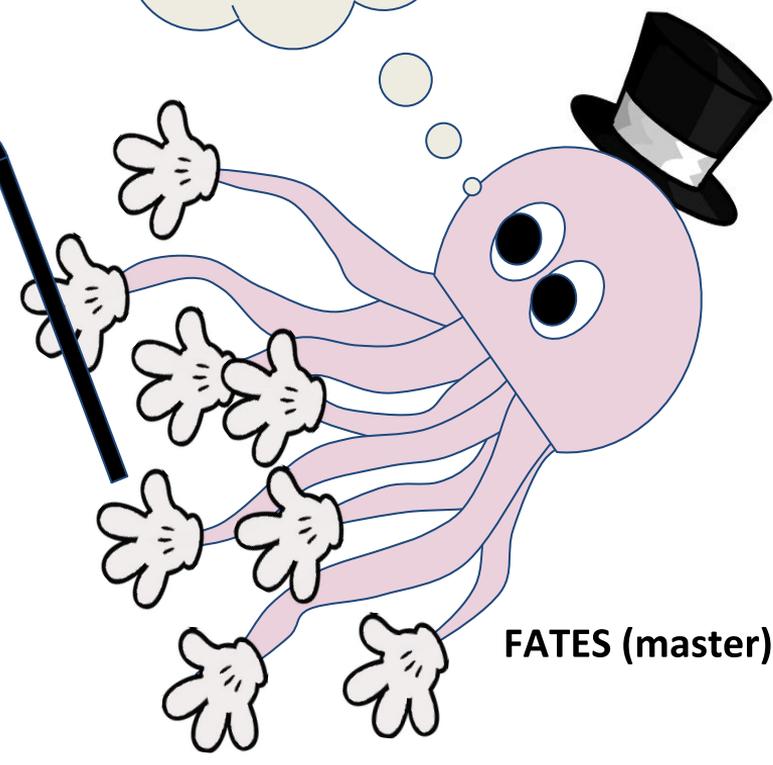
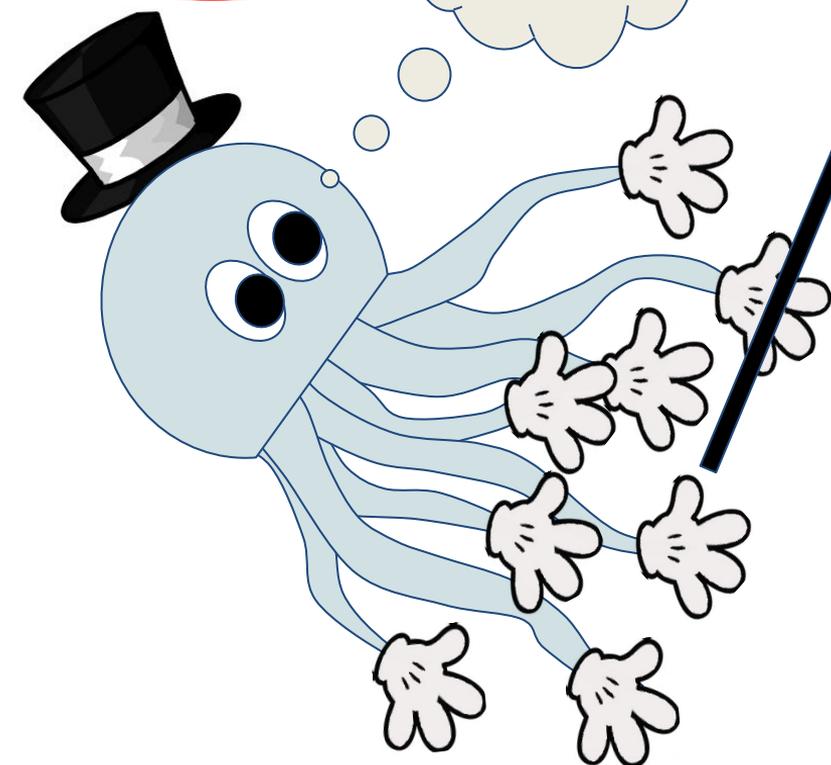


FATES-master

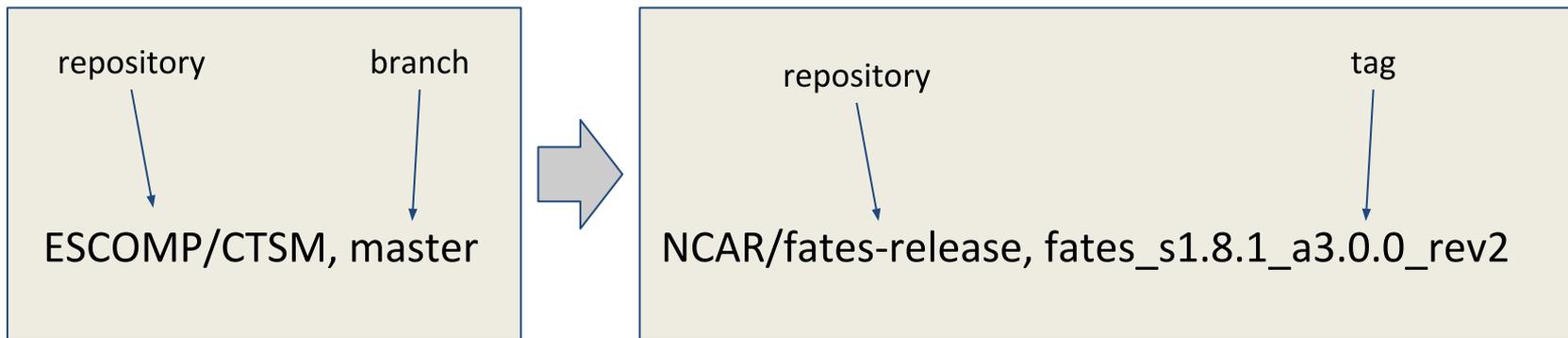
CLM (fates\_next\_api)

Yes, yes,  
much  
better

Yes indeed.



FATES (master)

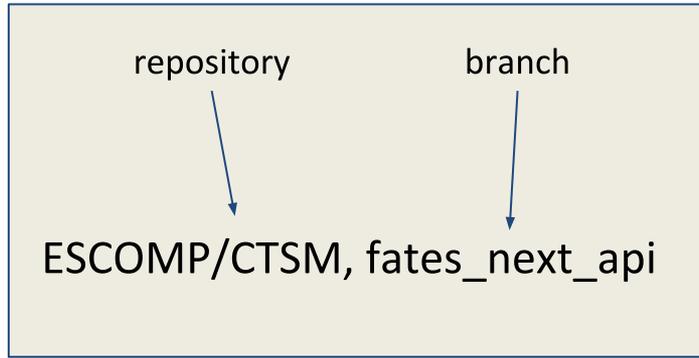


Cutting edge

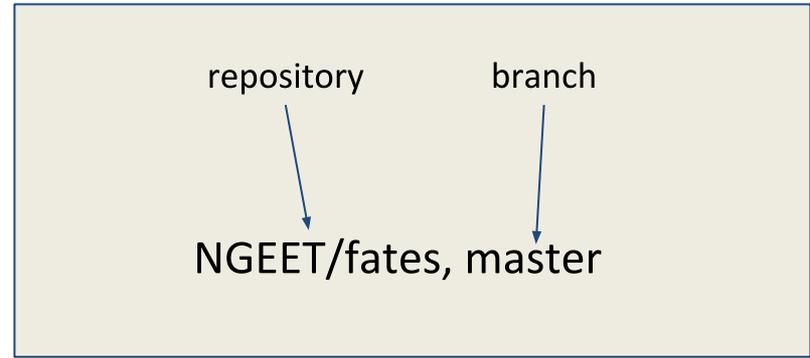
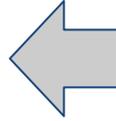
Not cutting edge

CTSM master will automatically checkout a compatible FATES tag from their repository when you run:

`./manage_externals/checkout_externals`



Not cutting edge



Cutting edge

To use the cutting-edge FATES code. You will need the master branch from the NGEET/ repository, and use git commands to checkout:

**fates\_next\_api**

MODIFYING A RUN - NAMELIST

# FATES NAMELIST CONTROLS

<https://github.com/NGEET/fates/wiki/Namelist-Options-and-Run-Time-Modes>

Contact: [jkshuman@ucar.edu](mailto:jkshuman@ucar.edu)

Contact: [maoyi.huang@pnnl.gov](mailto:maoyi.huang@pnnl.gov)

Contact: [cxu@lanl.gov](mailto:cxu@lanl.gov)

Contact: [rgknox@lbl.gov](mailto:rgknox@lbl.gov)

Contact: [cdkoven@lbl.gov](mailto:cdkoven@lbl.gov)

Contact: [rgknox@lbl.gov](mailto:rgknox@lbl.gov)

Contact: [rgknox@lbl.gov](mailto:rgknox@lbl.gov)

Option	Type	Default w/FATES compset	Description
use_fates	true/false	.true.	Turns on/off fates!
fates_paramfile	String (filepath)	default file	path to an alternative netcdf fates parameter file
use_fates_spitfire	true/false	.false.	SPITFIRE fire model
use_fates_logging	true/false	.false.	Turns on/off the logging module
use_fates_planthydro	true/false	.false.	Turns on/off the plant hydrodynamics module
use_fates_ed_st3	true/false	.false.	Turns on/off Static Stand Structure mode
use_fates_ed_prescribed_phys	true/false	.false.	Turns on/off Prescribed Physiology mode
use_fates_inventory_init	true/false	.false.	Turns on/off initialization from plant inventory data
fates_parteh_mode	integer	1	Specifies which plant allocation model to use
fates_inventory_ctrl_filename	String (filepath)	blank	When inventory initialization true, points to control file

# FATES PARAMETER FILES & MANIPULATION

[https://github.com/NGEET/fates/tree/master/parameter\\_files](https://github.com/NGEET/fates/tree/master/parameter_files)

<https://github.com/NGEET/fates/wiki/Useful-Stuff>

FATES HISTORY VARIABLES,  
WHERE THE MAGIC HAPPENS.

<https://github.com/NGEET/fates/blob/master/main/FatesHistoryInterfaceMod.F>

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WHAT IF I WANT TO BE A DEVELOPER?

<https://github.com/NGEET/fates/blob/master/CONTRIBUTING.md>

# RUNNING FATES: A WALK THROUGH, FEBRUARY 2019

[HTTPS://GITHUB.COM/NGEET/FATES/WIKI/RUNNING-FATES:-A-WALK-THROUGH,-FEBRUARY-2019](https://github.com/NGEET/fates/wiki/Running-Fates:-A-Walk-Through,-February-2019)

## MODEL RUN 1 - (GETTING A RUN GOING)

1. Learn how to execute a simple fates run
2. Two optional methods of evaluating output

## MODEL RUN 2 - (STUDYING OUTPUT)

1. Learn about different sorts of FATES output
2. Learn about adding new history variables.
3. Plotting up FATES-specific size-structured output (python)

## MODEL RUN 3 - (STUDYING PARAMETERS)

1. Learn about FATES PFTs
2. Learn about changing PFT file.
3. Do a global run
4. Plot output of global run. (matlab)

EXTRA SLIDES



# WHERE DOES THE FATES CODE LIVE? (IN E3SM)

