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Obtaining and Compiling Fluidity

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Session Overview

- Installing Fluidity from packages
- Obtaining Fluidity sourcecode
- GitHub and Buildbot
- Configuring, building, testing and installing
- A brief introduction to running Fluidity
- Updating Fluidity

How to obtain Fluidity

- **Binary** (release only)
  Prebuilt packages are available for Ubuntu 14.04 (LTS), and CentOS 6 and 7 (which should be binary-compatible with Red Hat Enterprise Linux).
- **Source** (release, master, or branch)
  Available from GitHub as a tarball (release only) or git repository

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Installing the Fluidity package: Ubuntu

Add the Fluidity package repository to your system:

```
sudo apt-add-repository -y ppa:fluidity-core/ppa
sudo apt-get update
```

Then install Fluidity:

```
sudo apt-get -y install fluidity
```

This is a ready-to-run binary package and comes with a PDF manual and the Fluidity examples.

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Installing the Fluidity package: CentOS/RHEL

Fluidity on CentOS/RHEL requires the EPEL repository to be enabled (see http://fedoraproject.org/wiki/EPEL).

Add the Fluidity repository to your system:

```
sudo yum-config-manager --add-repo \
  https://fluidityproject.github.com/yum/fluidity-rhel6.repo
```

(change ’6’ to ’7’ as appropriate). Then install Fluidity:

```
sudo yum install fluidity
```

This is a ready-to-run binary package and comes with a PDF manual and the Fluidity examples.

Downloading Sourcecode

The source code for the latest release of Fluidity can be downloaded from:

```
https://github.com/FluidityProject/fluidity/releases/latest
```

The latest development source for Fluidity ('master branch') can be cloned using git:

```
git clone https://github.com/FluidityProject/fluidity.git
```

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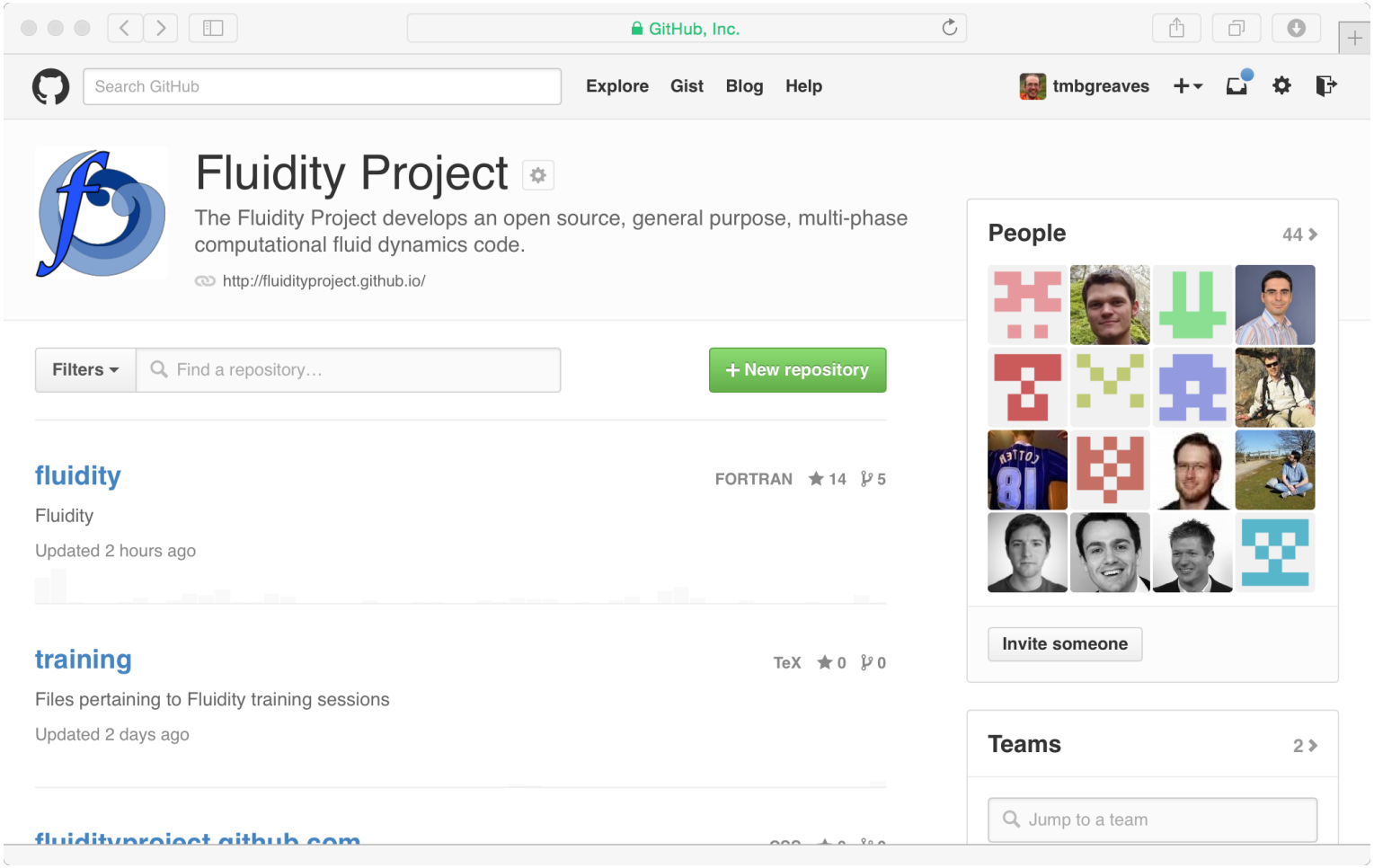
http://github.com/FluidityProject



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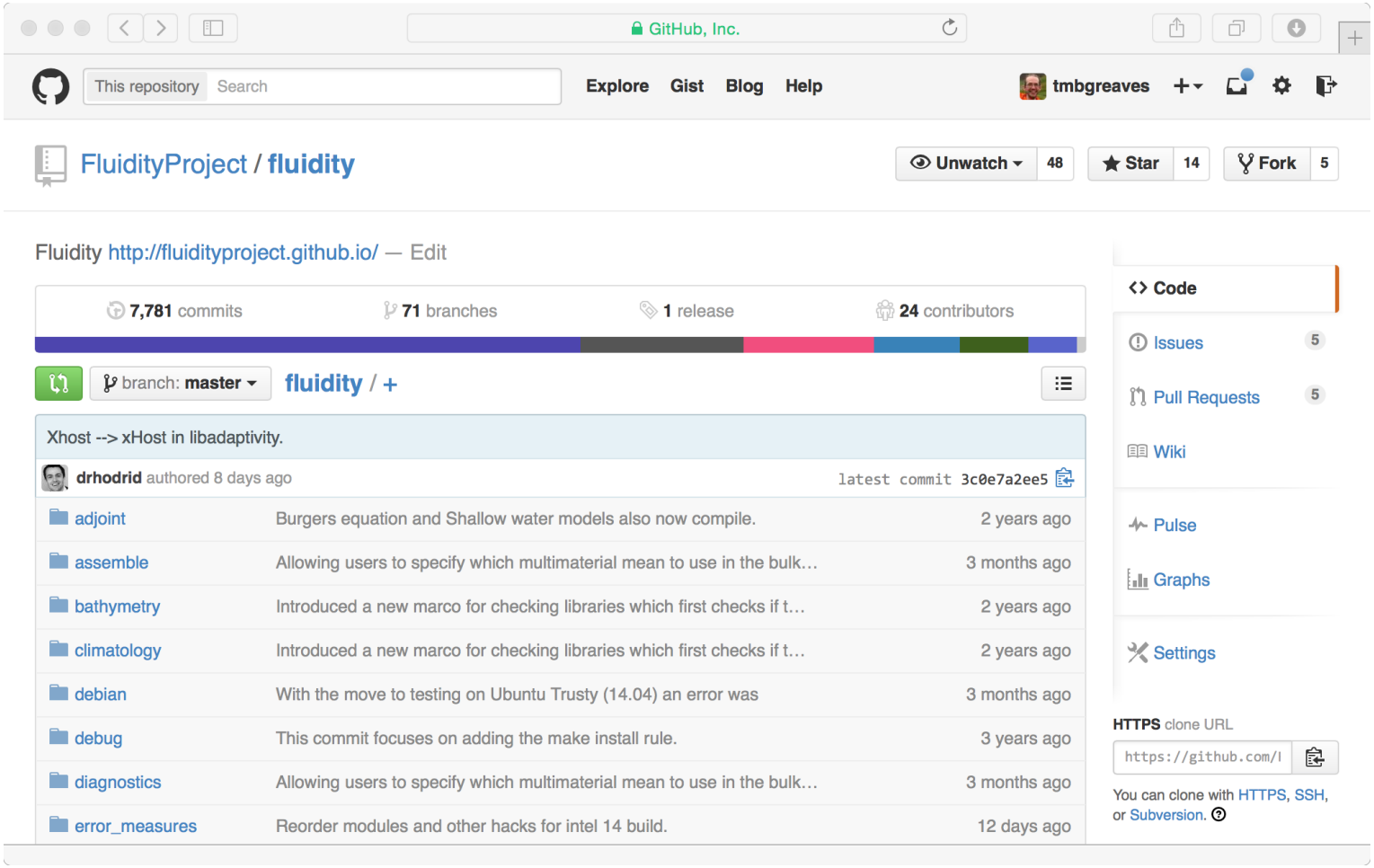

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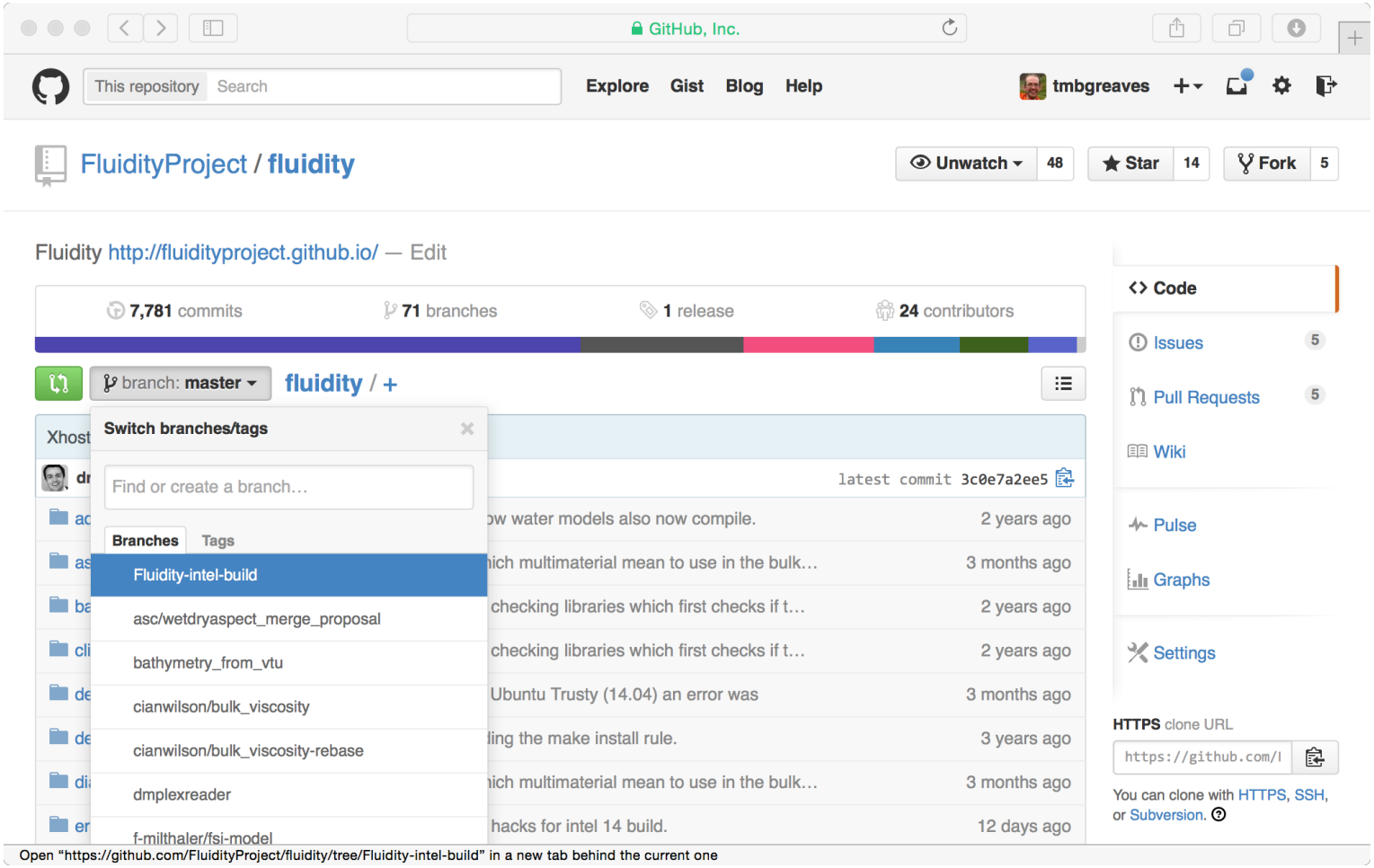

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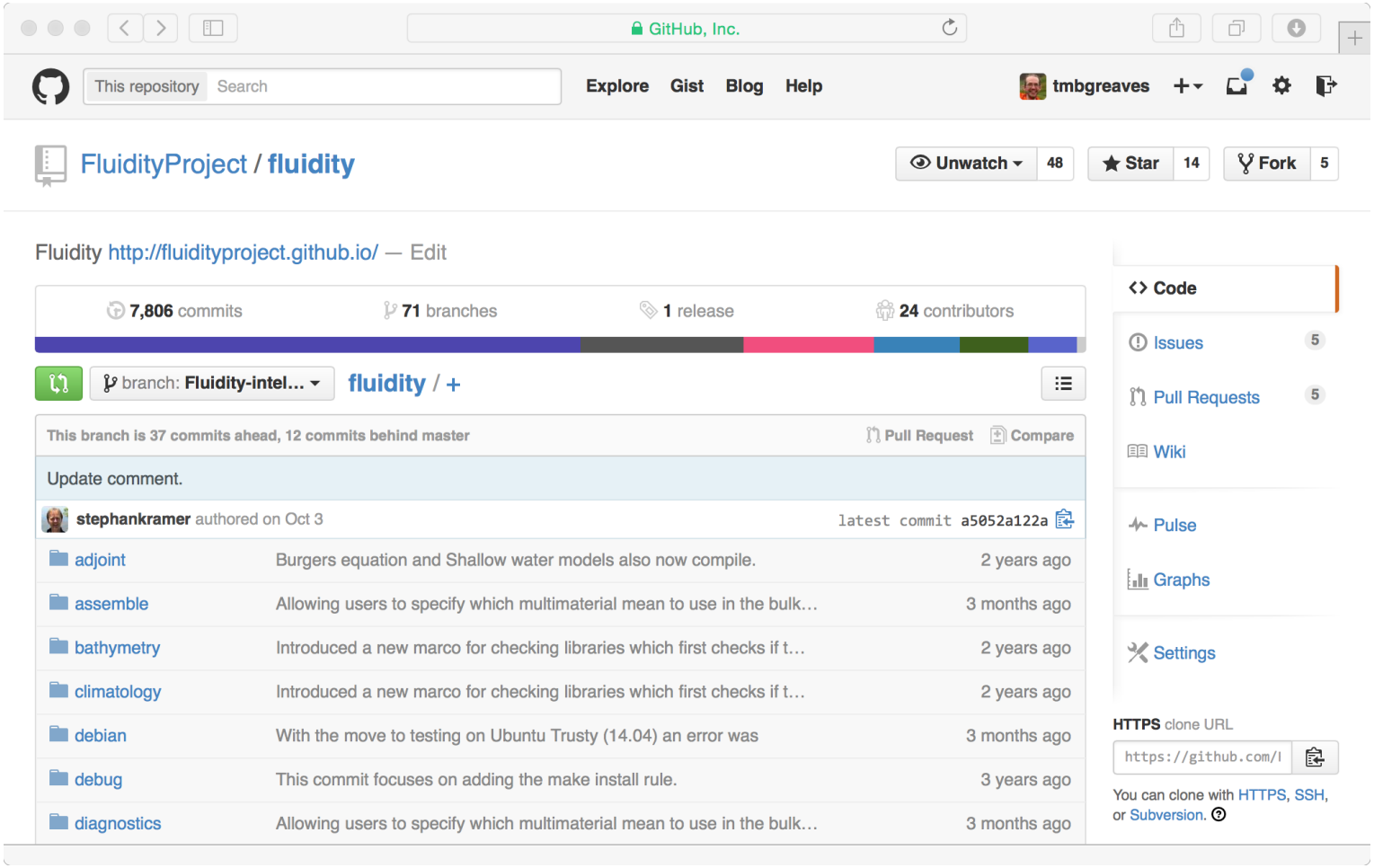

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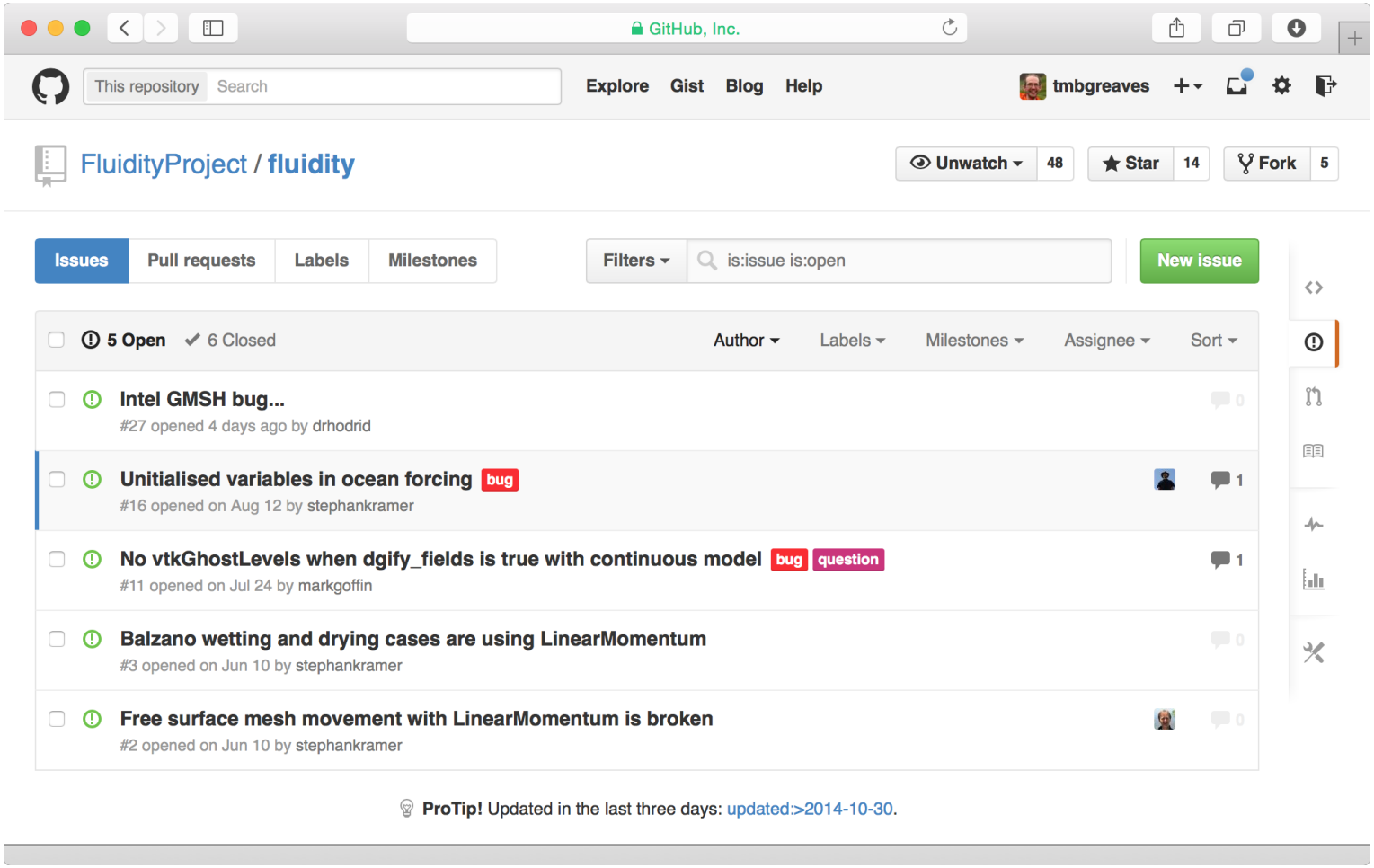

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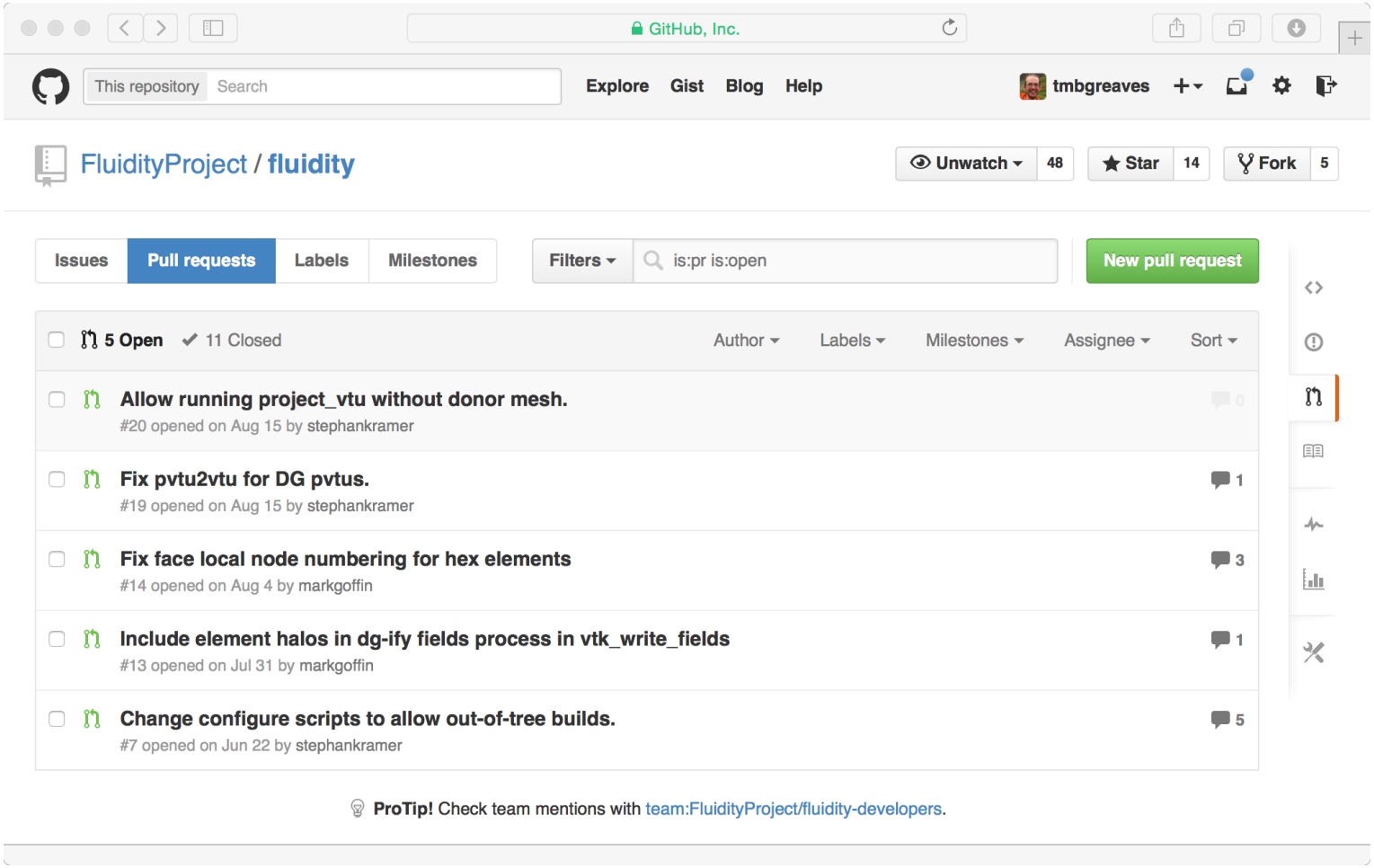

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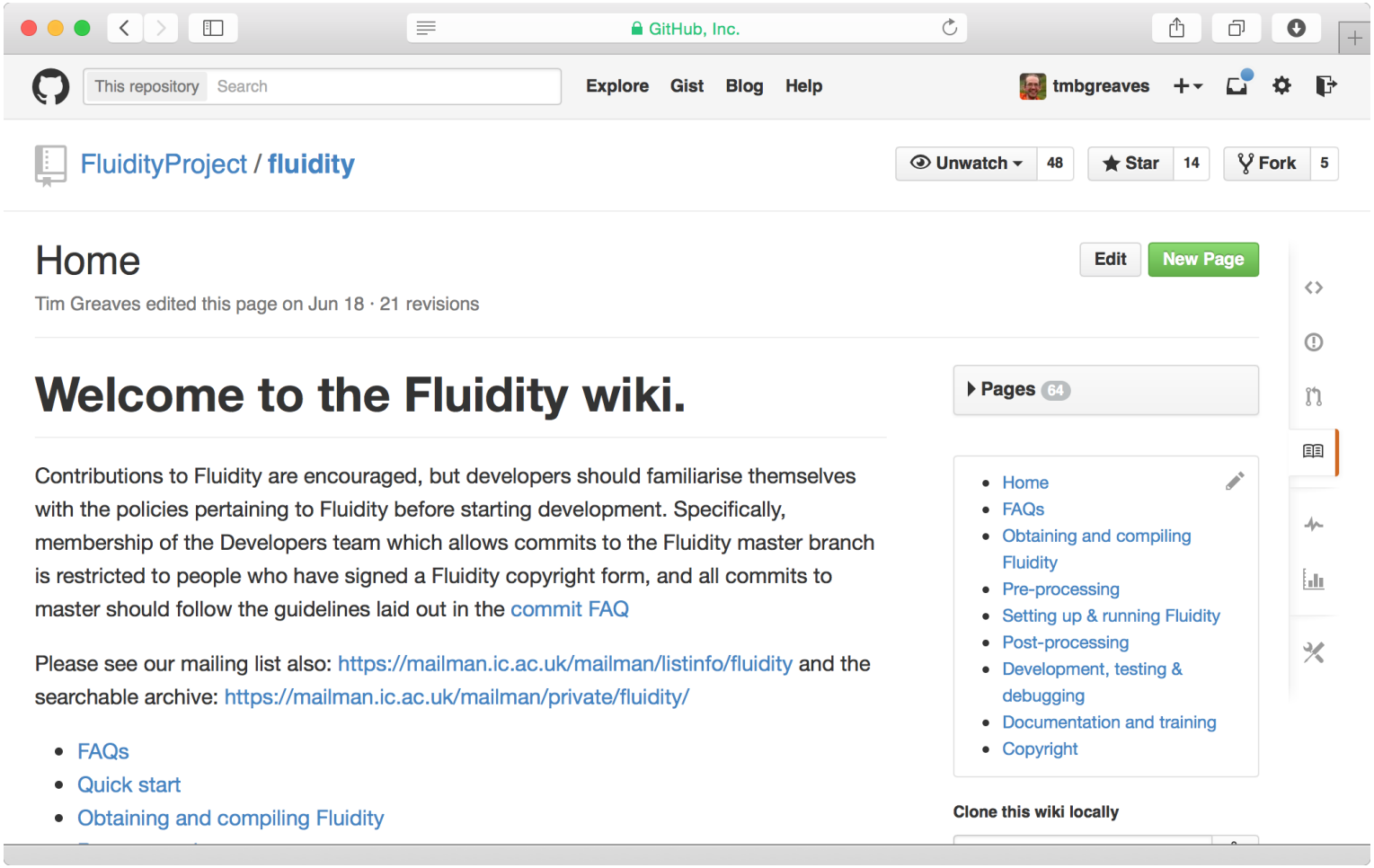
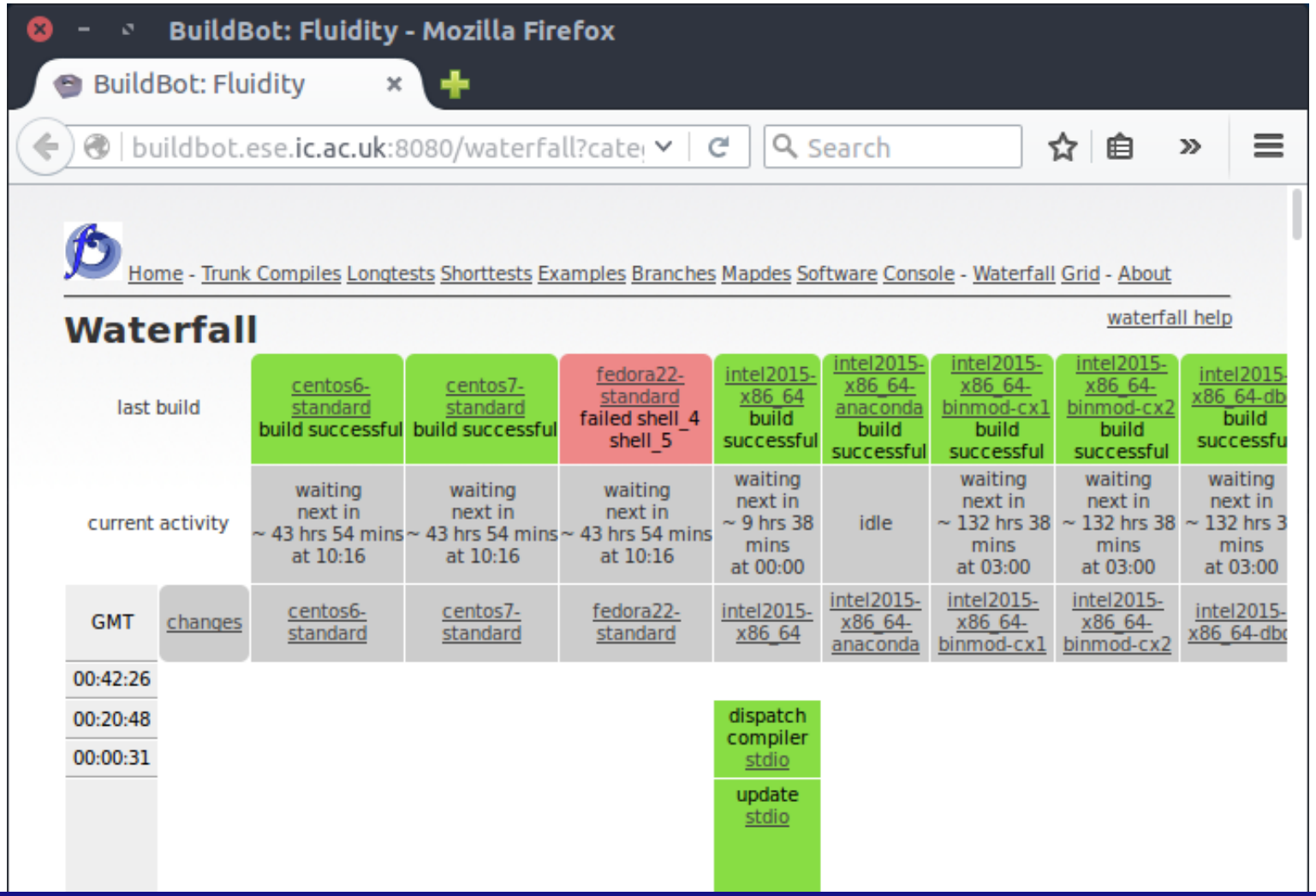
http://github.com/FluidityProject



http://buildbot-ocean.ese.ic.ac.uk:8080/waterfall



Configure

Set up compile-time options, such as:

- External non-LGPL libraries
- Non-standard libray locations
- Compiler flags
- Debugging

```
cd [fluidity directory]
./configure --enable-2d-adaptivity
```

Building

Before building Fluidity, clean your source code:

```
make clean
```

Now make the main code:

```
make -j 4
```

And build the Fluidity tool suite:

```
make fltools
```

Python

Fluidity contains several Python packages that are required for it to run. Where you have not installed Fluidity system-wide, the Fluidity python directory must be added to the existing environment variable PYTHONPATH. From the fluidity/ directory, run:

```
export PYTHONPATH=$PYTHONPATH:$PWD/python
```

This can be checked by using the echo command.

```
echo $PYTHONPATH
```

Tests

To check that all the verification tests run and pass with your Fluidity build, you can issue the following commands:

```
make unittest
make test
make mediumtest
```

Installing

Installing Fluidity enables access for all other users of your computer; this may require 'sudo' or other administrative access.

```
make install
make install-diamond
make install-user-schemata
```

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Running Fluidity

From source:

```
<fluidity-clone>/bin/fluidity -v2 -l
[filename].flml
```

From binary:

```
fluidity -v2 -l [filename].flml
```

Updating

If you want to update your local clone of the Fluidity repository to the newest commit, run:

```
git pull
```

from within the local clone.