

# TEAM PROJECT SETUP

Hydrologic Data Analysis

Fall 2019

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# HDA TEAM PROJECTS

Choose a research topic related to aquatic science that can be analyzed with open datasets

- |       |   |
|-------|---|
| 10/25 | Initial proposal and analysis plan (end of class)     |
| 11/6  | Brainstorming sessions with other teams               |
| 11/13 | Report draft due for peer review (beginning of class) |
| 11/22 | Final report  |
| 11/25 | Final presentation                                    |

# GROUPS VS. TEAMS

**Group:** collection of individuals with something in common who coordinate individual efforts

**Team:** collection of individuals who share a purpose and goals

- Interdependence
- Effective communication and collaboration
- Outcome is greater than sum of individual efforts

*Forming → Storming → Norming → Performing*

## TEAM CONTRACTS

Get together with your team and review the team contract. Discuss your approach and agree on how to fill out the sections that require filling in. Once you have come to consensus, everyone should sign and date your contract.

# TOPIC CHOICE

- Scope: 1 month, 4 people
- Generating questions and hypotheses
  - Project should address a series of interrelated questions and hypotheses
  - Yes/No questions are less interesting than open-ended questions
  - Hypothesis  $\neq$  Prediction
  - Questions  $\rightarrow$  Hypotheses  $\rightarrow$  Tasks

# DATASET CHOICE

- **USGS** and **Water Quality Portal** (dataRetrieval package)
- **LAGOS** (LAGOSNE package)
- **StreamPULSE** (StreamPULSE package)
- **CUAHSI**: HydroClient and HydroShare
  - <http://data.cuahsi.org/>
  - <https://www.hydroshare.org/search/>
- **GLEON**: <http://gleon.org/data>
- **LTER Network**: <https://portal.lternet.edu/nis/home.jsp>
- Others?

# PROJECT MANAGEMENT: GITHUB REPOSITORY STRUCTURE

- **1 Master repository,**
  - Everyone commits, pushes, and pulls directly
  - Upside: works well for teams with intersecting tasks
  - Downside: all files can be edited by anyone at any time
- **1 Master repository + developer branch(es)**
  - Everyone works on progress in the developer branch(es)
  - Team members submit pull requests to the Master repository with “final” versions
  - Upside: works well for tasks that branch off from the master repository
  - Downside: Developer branches are ahead of the Master and may diverge from each other (if multiple)
- **1 Master repository + personal forks**
  - Everyone forks the master repository, works on progress in individual forks
  - Team members submit pull requests to the Master repository with “final” versions
  - Upside: works well for tasks divided among team members, with a desire for oversight into what gets implemented into the Master.
  - Downside: Forks are ahead of the Master and may diverge from each other (if multiple)

<https://github.community/t5/How-to-use-Git-and-GitHub/Branch-VS-Fork/td-p/10619>

# BRAINSTORMING

Use the rest of today to brainstorm research topic ideas and to start forming your Proposal and Analysis Plan.

Proposal and Analysis plan due at the end of class on Friday (10/25)