



## ONLINE TRAINING

# URBAN FORESTED WATERSHEDS ADAPTATION PLANNING AND PRACTICES

Welcome to the course!  
Here's what you need to know...

You're signed up for the Urban Forested Watersheds Adaptation Planning and Practices online course! We're excited to have you in our class starting November 6, 2018. We look forward to helping you integrate climate change information into your real-world management project. Through this course, you'll be able to:

- Identify locally-important climate change impacts, challenges, and opportunities
- Develop specific actions to adapt urban forests and watersheds to changing conditions
- Use the [Adaptation Workbook](#) to create your own "climate-informed" project
- Better communicate with stakeholders on key climate change impacts, challenges, and opportunities
- Access post-training support from NIACS staff during project planning and implementation

## Course Time Commitment

To get the most out of this course, we expect you to fully participate. *All participants are expected to attend the seven 1.5 hour class sessions.* We realize that things come up from time to time. If you need to miss a session, please let us know ahead of time and we will make sure you get the slides and other materials from that session. If you anticipate needing to miss more than 2 sessions, you may want to defer participation for another time.

In addition to class time, **there will be up to four hours of homework each week.** The majority of the homework will be for you to develop your climate adaptation plan, but there will be some additional reading assignments as well. The amount of time you spend on homework depends on the complexity of your project and the level of detail you want to put into your adaptation plan.

## DETAILS

**Dates:** November 6-December 18, 2018

Seven 1.5-hour sessions

**Weekly, Tuesday at 11am-12:30pm (ET)**

**Web meeting room:**

<https://michigantech.zoom.us/j/625577138>

**Phone:** (646) 876-9923 or (669) 900-6833.

**Meeting ID:** 625-577-138

## Technology and Equipment Needed

Since this is a virtual training, there are some technological requirements. At minimum, you will need high-speed internet access and a phone line. We would also like participants to use a webcam and headset that connects directly to their computer audio if possible. We have found the sound quality is best if you use your computer audio rather than a phone line. If connecting by phone, a land line will offer better quality than a cell phone. You may also need to disable pop-up blockers or firewalls for accessing the online workbook and webinar software. We are available to help troubleshoot potential issues prior to class.

## Accessibility

If you have a disability and require certain accommodations to fully participate, please let us know before the beginning of the course. We will work with you to ensure your needs are met.

## Education credits

This course is approved for 10.5 CEUs (1.5 per session) through the International Society of Arboriculture and is eligible for category 1 Society of American Foresters Continuing Forestry Education credits. Let Leslie Brandt ([lbrandt@fs.fed.us](mailto:lbrandt@fs.fed.us)) know if you will need a certificate.

## Course Format

This course follows a five-step process to develop climate change adaptation projects using the online Adaptation Workbook ([www.adaptationworkbook.org](http://www.adaptationworkbook.org)). The course format will include individual (or group) work time to complete a single step of the adaptation workbook, followed by a group discussion and lecture to review your last step and to get you set up for the next step.

Class will take place every **Tuesday from 11:00am-12:30pm Eastern (10:00-11:30 Central)**. Our first class is November 6<sup>th</sup> and our last class is December 18<sup>th</sup>.

### CONNECTION DETAILS:

- **Web meeting room:** <https://michigantech.zoom.us/j/625577138> Please join the first session a bit early; your computer may need to install a small add-on before entering the room.
- **You can connect directly through computer audio (suggested) or use one of these two phone lines:**
  - (646) 876-9923 or (669) 900-6833
  - Meeting ID: 625-577-138

# Course Schedule

## Course Preparation —Complete by November 2

To make sure you're ready to dive into the course during our first session on November 6, we would like you to get your account **set up on the Adaptation Workbook by Friday, November 2**. Instructions for creating an account and linking it to the course are located *in this packet*. A single account can be shared among multiple users for group projects.

## Session 1 — November 6, 11:00am-12:30pm Eastern

### Topics:

- Icebreaker and introductions
- Course objectives, instructors, and agenda
- Introduction to the Adaptation Workbook online tool
- Developing an adaptation project
- Defining project goals and objectives
- What you need to know for Step 1

### Assignment 1 —Complete by November 9

- Read [Forest Adaptation Resources, 2nd edition](#), in particular the **Introduction** (pgs. 1-9) and the **Adaptation Workbook** (Chapter 5, pgs. 74-89).
- Complete step 1 of the Adaptation Workbook (online at AdaptationWorkbook.org).
- Complete the Homework section following Step 1.
- Record a 1 minute (or less) introduction of yourself and your work on Flipgrid (using your phone or device): <https://flipgrid.com/cdc8cd>, **Password:** NIACS2018

## Session 2 — November 13, 11:00am-12:30pm Eastern

### Topics:

- Discussion of Step 1
- Considering climate change impacts and vulnerabilities in your projects
- What you need to know for Step 2

### Assignment 2 — Complete by November 16

- **Set aside 3-4 hours for completion since this is a more involved step.**
- Complete Step 2 of the Adaptation Workbook: Assess climate impacts and vulnerabilities.
- Complete Homework 2 at the end of Step 2.
- Review regional climate impacts to prepare for Step 2 by watching a [recorded presentation](#) (~25min) and/or read a climate report for your specific geographic area:
  - **Regional forest ecosystem vulnerability assessments authored by NIACS** can be found [here](#)
    - The [Central Appalachians Assessment](#) covers eastern Ohio, West Virginia, and parts of Maryland
    - The [Central Hardwoods Assessment](#) covers southern Missouri, Illinois, and Indiana

- The [Chicago Wilderness Assessment](#) covers the Chicago region and parts of Northwestern Indiana
    - The [Michigan Assessment](#) covers northern Michigan
    - The Mid-Atlantic Assessment covers Pennsylvania, Maryland, Delaware, and southern New York (link will be provided in early November when published)
    - The [Minnesota Assessment](#) covers northern Minnesota
    - The [New England and Northern New York assessment](#) covers Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, and northern New York.
    - The [Wisconsin Assessment](#) covers northern Wisconsin and the western upper peninsula of Michigan
  - [State-wide Climate Summaries](#) for all 50 states and US Territories from NOAA.
- Additional information on **tree species vulnerability (including urban trees)**, and shifts in **heat and hardiness zones**, found here:
  - Find tree species habitat suitability information for the entire Midwest, Northeast and Southeast at the [USFS Tree Atlas tool](#)
  - [Use this interactive story map to discover expected shifts in heat and hardiness zones](#) (maps display for the contiguous USA)
  - Location-specific information is available for these areas:
    - [California Climate-ready trees](#)
    - [Climate Change Projections for Tree Species in the Driftless Area \(IA, MN WI\)](#)
    - [Climate Change Projections for Individual Tree Species in the Northwoods \(MI, WI, MN\)](#)
    - [Urban Forestry Climate Change Resources for the Boston Area](#)
    - [Urban Forestry Climate Change Resources for the Cleveland Area](#)
    - [Urban Forestry Climate Change Resources for the Detroit Region](#)
    - [Urban Forestry Climate Change Resources for Indiana](#)
    - [Urban Forestry Climate Change Resources for New York City](#)
    - [Urban Forestry Climate Change Resources for Philadelphia](#)
    - [Urban Forestry Climate Change Resources for the Twin Cities](#)
- General information on climate impacts to **water resources** (*choose whatever is of interest*)
  - [Climate Change, Forests, and Water \(USDA FS Climate Change Resource Center\)](#)
  - [Water, climate change, and forests: Watershed stewardship for a changing climate](#)
  - Explore the potential changes to stream temperature and streamflow in the Upper Midwest at USGS FishVis (<https://ccviewer.wim.usgs.gov/fishvis>)
  - Vulnerability of US [Water supply](#) (12pgs); or the [technical report](#) (160pgs) (2011)

### Session 3 — November 20, 11:00am-12:30pm Eastern

#### Topics:

- Discussion of Step 2
- Identifying management challenges and opportunities for your project
- Re-considering and revising management goals/objectives in light of climate challenges
- What you need to know for Step 3

#### Assignment 3 — Complete by November 26

- ***Set aside 2-4 hours for completion, as time will vary based upon your project.***
- Complete Step 3 of the Adaptation Workbook: Evaluate objectives considering climate impacts.
- Complete Homework 3 at the end of Step 3.
- Optional Reading on Urban Forest Trends and Benefits
  - [Northern Forest Futures Report: Chapter 10, Urban Forests](#)
  - [Assessing the Sustainability of Agricultural and Urban Forests in the United States: Chapter 4, Urban Forests](#)
  - [Carbon storage and sequestration by trees in urban and community areas of the United States](#)
  - [Webinar and resources on urban trees and stormwater](#)

### Session 4 — November 27, 11:00am-12:30pm Eastern

#### Topics:

- Discussion of Step 3
- Adaptation concepts: resisting change, enhancing resilience, and facilitating transitions
- Developing specific actions for climate-change adaptation
- What you need to know for Step 4

#### Assignment 4 — Complete by December 3

- ***Set aside 3-4 hours for completion since this is a more involved step.***
- Read chapter 4, Urban Forest Adaptation Strategies and Approaches, in [Forest Adaptation Resources](#)
- Read adaptation strategies and approaches menu for [forested watersheds](#)
- Complete Step 4 of the Adaptation Workbook: Identify adaptation approaches and tactics.
- Complete Homework 4 at the end of Step 4.

### Session 5 — December 4, 11:00am-12:30pm Eastern

#### Topics:

- Discussion of Step 4
- Tools for measuring effectiveness of implemented adaptation actions
- Capitalizing on existing data, inventory or monitoring processes/partnerships
- What you need to know for Step 5

#### Assignment 5 – Complete by December 10

- ***Set aside 2-3 hours for completion, as time will vary based upon your project.***
- Complete Step 5 of the Adaptation Workbook: Monitor effectiveness of implemented actions.

- Complete Homework 5 at the end of Step 5.
- Optional reading on monitoring:
  - [Roman et al. 2017. Data quality in citizen science urban tree inventories](#)
  - [Janowiak et al. 2017. Assessing Stand-Level Climate Change Risk Using Forest Inventory Data and Species Distribution Models](#)

### Session 6 — December 11, 11:00am-12:30pm Eastern

#### **Topics:**

- Discussion of Step 5
- Completing the Adaptation Workbook
- Tips for talking about climate change with colleagues, stakeholders, and clients

#### **Assignment 6 — Complete by December 18**

- ***Set aside 3-4 hours for completion of this assignment, or potentially more if you have to return to some previous steps.***
- Finish up any loose ends in the Adaptation Workbook.
- Complete Homework 6 within the Adaptation Workbook.
- Summarize your project to share with the course participants as well as your colleagues and partners in a PowerPoint presentation (templates will be provided).
- Optional reading on climate change communication
  - [Moser et al. 2017. Communicating Climate Change Adaptation and Resilience.](#)
  - [Communicating climate change adaptation: A practical guide to values-based communication](#)
  - [Vibrant Communities “Trees Are the Key” online resource center and communications toolkit.](#)

### Session 7 — December 19, 11:00am-12:30pm Eastern

#### **Topics:**

- Participant adaptation project presentation
- Next steps for moving toward implementation
- How we can help you in the future
- Course evaluations

## Instructors & Contact Information



**Leslie Brandt**

**Northern Institute of Applied Climate Science & US Forest Service**

Leslie serves as coordinator for the Urban Forestry Climate Change Response Framework. She has led trainings for the general public and urban forestry professionals on climate change impacts and adaptation in the Chicago, Cleveland, Boston, Philadelphia, and Twin Cities regions. She also coordinates the Central Hardwoods Climate Change Response Framework in Indiana, Illinois, and Missouri and is currently involved in a climate assessment for the state of Indiana.

651-491-3529 (cell) 651-649-5016 (office)

[LBRANDT@FS.FED.US](mailto:LBRANDT@FS.FED.US)



**Danielle Shannon**

**Northern Institute of Applied Climate Science & Michigan Technological University**

Danielle is the coordinator of the USDA Northern Forests Climate Hub. Danielle helps land managers cope with, and adapt to the challenges of climate change; and is responsible for expanding the suite of adaptation resources at NIACS into the field of forest hydrology and the management of forested watersheds. Most recently, Danielle and her colleagues are leading efforts to help wetland managers adapt to climate change in the Midwest and Northeast.

906-482-6303 X 1325

[DSHANNON@MTU.EDU](mailto:DSHANNON@MTU.EDU)

This course is a collaboration among the Northern Institute of Applied Climate Science, the US Forest Service, and the USDA Northern Forests Climate Hub.



**United States Department of Agriculture  
Northern Forests Climate Hub**



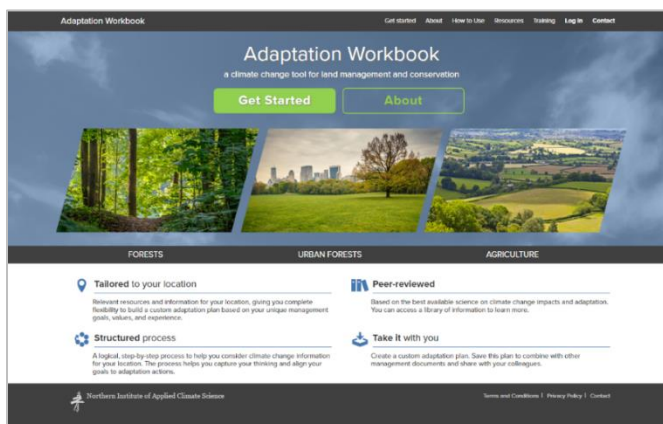
# Setting up Your Account and Course Project

Please set up your Adaptation Workbook account (If you haven't already done so) by Friday, November 2 so that we can make the course features available to you before you start.

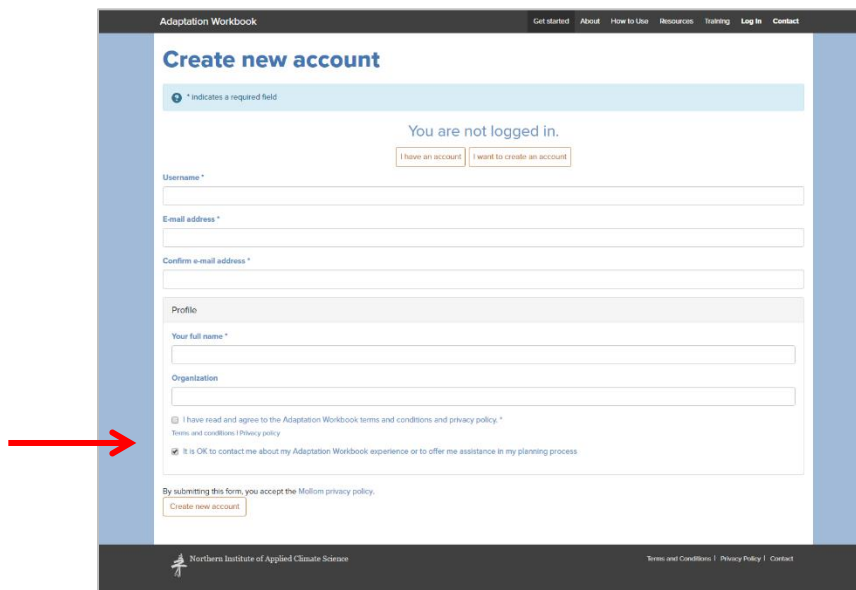
- **IMPORTANT! Do not start a course project before getting confirmation from an instructor that you've been added to the course or you may have to start over from the beginning.**
- If you have a small team, use one person's email address to create an account that you can share among the group. You can then take turns working on the course project and decide how to tackle course assignments among your team.

## Creating an Account

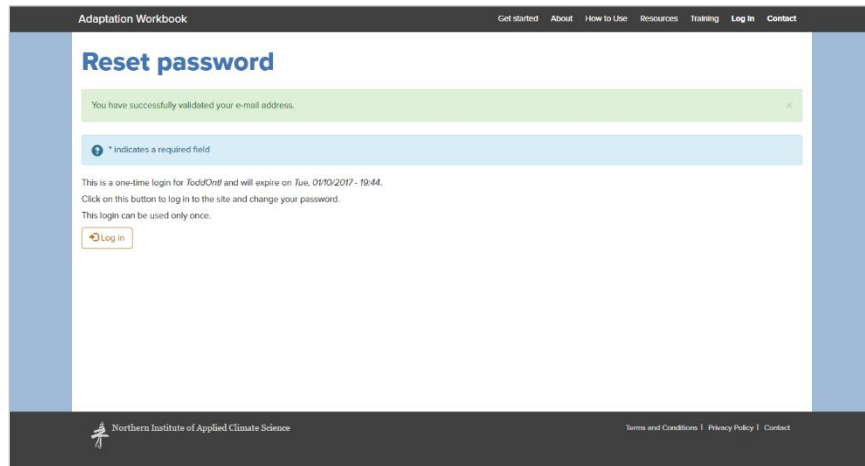
a. Navigate to [www.AdaptationWorkbook.org](http://www.AdaptationWorkbook.org). Click on "Get Started" to create an account



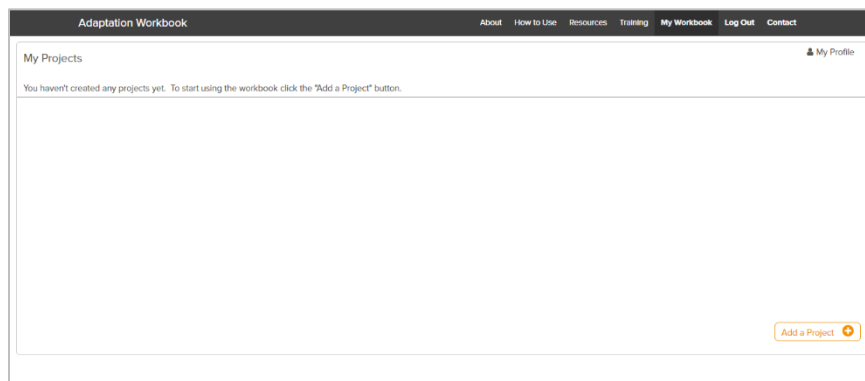
b. Create a new account by entering a username, email address, and other information. Be sure to check the terms and conditions/privacy policy check box, as well as the check box allowing us to help you as you go through the workbook. When you have entered all of the information, click "Create new account."



- c. The following screen will direct you to confirm your new account. You will need to check the email of the account that you've linked to the Adaptation Workbook, find a confirmation email (from [info@adaptationworkbook.org](mailto:info@adaptationworkbook.org)), and click the confirmation link. Your confirmation email should arrive within a few hours. Check your spam folder if you don't see it in your inbox!
- d. The link will take you to a one-time login screen that will require you to create a site password. Click "Log in" and create a password on the following screen.



- e. Once logged in, you will see your Workbook dashboard.



## IMPORTANT!

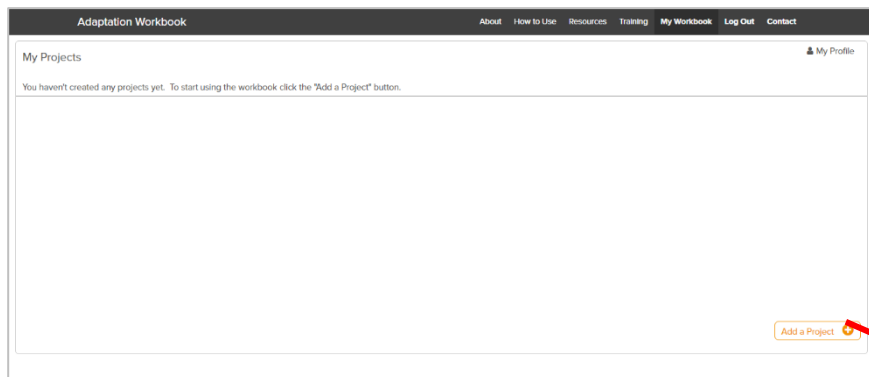
Although you can use the Adaptation Workbook in its regular configuration at any time, **you will need to create a course project** to use during the Forest Planning and Practices course in order to access course content and additional materials.

**Before starting a course project, send the email address associated with your Adaptation Workbook account to Leslie Brandt ([lbrandt@fs.fed.us](mailto:lbrandt@fs.fed.us)).**

## Starting a Course Project

**After** you have been added to the course, you will be able to start a course project.

- a. When you log into the Adaptation Workbook, you will be sent to the project dashboard.
- b. Click on the orange “Add a Project” button and then click on the “A Project for ‘Forest Adaptation Planning and Practices – Fall 2018 (Urban)’” button.



**IMPORTANT! You must select the “A Project for ‘Forest Adaptation Planning and Practices – Fall 2018 (Urban)’” button to start.**

A project for “Forest Adaptation Planning and Practices - Fall 2018 (Urban)”  
A standard project

c. Place a marker at the approximate location of the project. Note that if you want to maintain privacy, you can select a nearby intersection or town. Some tips for placing the marker are:

- Use the (+) and (-) buttons to zoom in and out.
- Click and hold the map to pan the view.
- A single click will place the marker on the map.
- To move the marker, click and drag it to the desired location.

**Location**  
Click on the map to drop a marker that indicates the center of your property or project area. After the marker is placed on the map, you can click and hold to drag the marker to a new location.

**Details**

Name:

Description:

Acres:

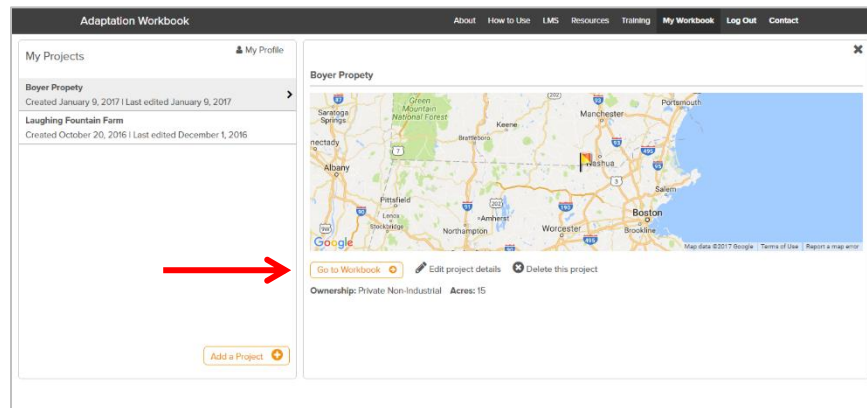
Size:

Ownership:

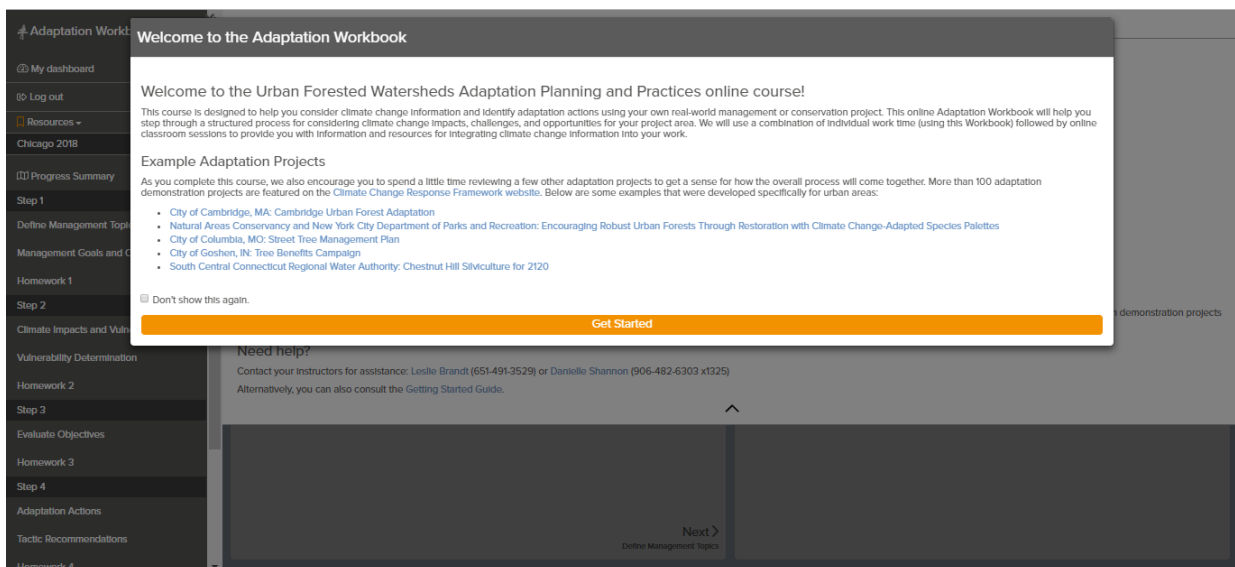
Project Type:  Forest  Urban  Agriculture

d. Enter a project name, description, acreage, and ownership. The level of detail that you provide is up to you—this information will be included in the project summary report that you may want to produce upon completion. For “project type” select “urban”.

e. This project will now appear in your dashboard. To begin your project, click “Go to Workbook.”



f. A short dialog will appear with more information about the course. Read the information and click “Get Started.”



**Any questions or issues?**  
**Contact Leslie at [lbrandt@fs.fed.us](mailto:lbrandt@fs.fed.us) or 651-491-3529.**