

SERCH LIGHTS: Get the right information, at the right time, in the right place

Jennifer Moore Myers

USDA Southeast Regional Climate Hub



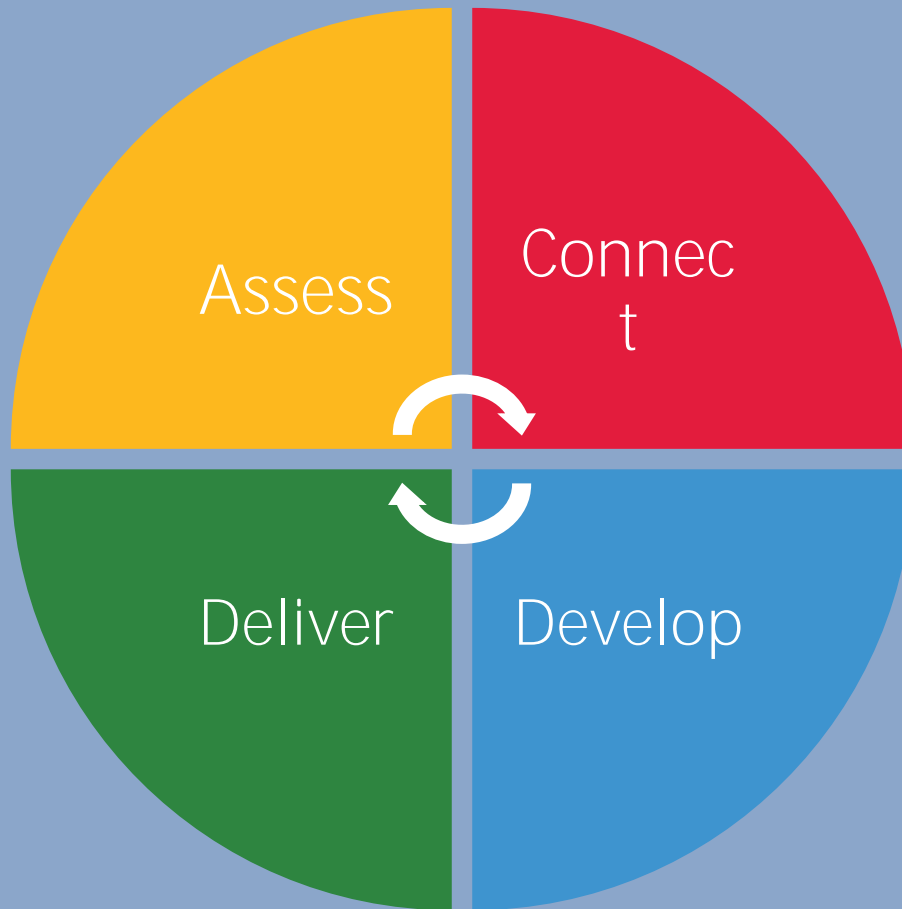
United States Department of Agriculture
Southeast Regional Climate Hub

About SERCH

- USDA Southeast Regional Climate Hub
- Increase resilience of working lands to climate change and climate variability through adaptive management



Strategic Goals



What is SERCH LIGHTS?

- Land managers struggle to monitor different collections of climate data products on various websites and in different formats/resolutions
- What if there was a tool that could monitor climate data products and alert users when conditions change in their area of interest?
- We built SERCH LIGHTS to do just that!



Who uses LIGHTS?

- Extension professionals, USDA field staff, consultants
- Farmers, foresters, ranchers, other land managers
- Social network analysis to understand information flow and identify gaps

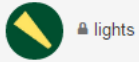
Subscribe to SERCH LIGHTS:
serch.us/lights/subscribe








How does LIGHTS work?

- System infrastructure built with Ansible code
- Hosting in AWS cloud
- Subscription pages built with Django
- Subscribers managed in custom CMS
- Emails sent via MailChimp
- Data catalog in CKAN portal
- Spatial analysis with PostGIS database
- ETL with Python & CELERY task queue
- Code repo in BitBucket













ACTIONS

-  Clone
-  Create branch
-  Create pull request
-  Compare
-  Fork












NAVIGATION

-  Overview
-  Source
-  Commits
-  Branches
-  Pull requests
-  Issues 8
-  Wiki
-  Downloads

SERCH.US / Production / lights

Source

 master  lights / + New file

 deploy
 docs
 serchlights
 subscribe
 tasks
 .env.redacted 370 B 2015-11-04 Migrate to Ansible v2, use ini lookup of .env. Modified django settings to read same .env
 .gitignore 1.1 KB 2015-11-03 Initial ansible build for celery
 README.md 2.3 KB 2015-11-18 Added /dev url to new subscribe form
 Vagrantfile 705 B 2015-11-18 Swap to 64bit
 manage.py 259 B 2015-10-17 Moved files from usfs_ncsu/serch-lights repo
 requirements.txt 117 B 2015-10-17 Moved files from usfs_ncsu/serch-lights repo

Lights

This is the repository for the [SERCH Lights](#) geospatially-aware email alert service.

Setup a local development environment

These instructions are for building a virtual machine configured and running 'Lights' on a local Ubuntu 14.04 LTS machine.

Install dependencies:

- VirtualBox
- Vagrant and Git
- python2.7, pip, virtualenv, virtualenvwrapper
- Ansible 1.9.4

```
$ sudo sh -c "echo 'deb http://download.virtualbox.org/virtualbox/debian '$(lsb_release -cs)' contrib non-free' > /etc/apt/sources.list.d/virtualbox.list"
$ wget -q http://download.virtualbox.org/virtualbox/debian/oracle_vbox.asc -O- | sudo apt-key add -
$ sudo apt-get update
$ sudo apt-get install virtualbox-5.0 vagrant git python-pip
$ sudo pip install virtualenv virtualenvwrapper ansible==1.9.4
```

Configure environment:

Create working and virtual environment directories:

```
$ mkdir ~/work
$ mkdir ~/work/.virtualenvs
```



Monthly drought alert

- NOAA CPC Monthly Drought Outlook
- Changing drought status conditions
- Links to drought tools in Climate Hubs Tool Shed

Drought Alert

Drought Status	Valid Period
persists	September 2016

This message is a Drought Alert. There are drought status changes forecast for your location in the vicinity of Raleigh, NC. For more information, please visit NOAA-NWS Climate Prediction Center's [U.S. Monthly Drought Outlook](#).

U.S. Monthly Drought Outlook

Drought Tendency During the Valid Period

Valid for September 2016
Released August 31, 2016

Disaster preparedness benefits severely reduced by the drought conditions. Drought conditions are likely to persist through the end of the period, although drought will ease. The general outlook shows drought may persist by the end of the period (26 or more).

NOTE: This map area may not have a 1:1 correspondence with the Drought Status (severity) scale for the period of the period, although drought will ease. The general outlook shows drought may persist by the end of the period (26 or more).

Author:
Brad Papp
NOAA/NWS/CPC/Climate Prediction Center

<http://go.usa.gov/3eZGd>

Receive this alert from a friend or colleague?
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Cattle heat stress alert

- Daily ARS-NOAA cattle heat stress forecast
- Temperature Humidity Index (THI)
- Links to adaptive livestock management practices, tools, and other resources

Cattle Heat Stress Alert

Date	Condition
09/06/2016	DANGER
09/07/2016	DANGER
09/08/2016	DANGER
09/09/2016	DANGER
09/10/2016	DANGER
09/11/2016	DANGER
09/12/2016	ALERT

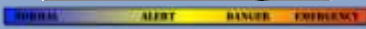

This message is a Cattle Heat Stress Alert. There are cattle heat stress conditions forecast for your location. Cattle heat stress forecasts are produced as a partnership of USDA-ARS with NOAA and National Weather Service. For more information on forecast methods and breathing rates, please visit [ARS Cattle Heat Stress Forecast](#).

Receive this alert from a friend or colleague?

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[unsubscribe](#)

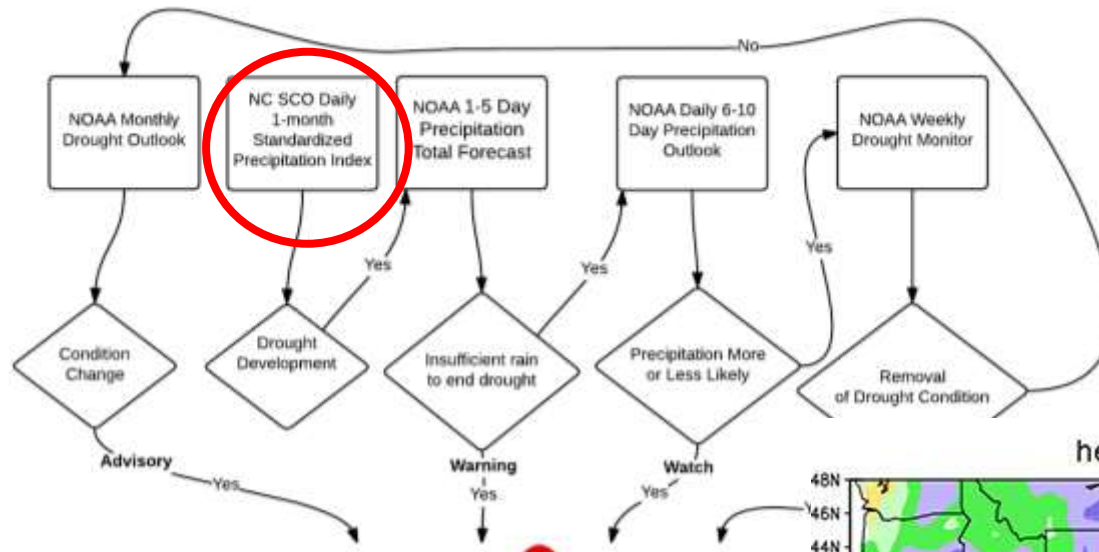


Source.

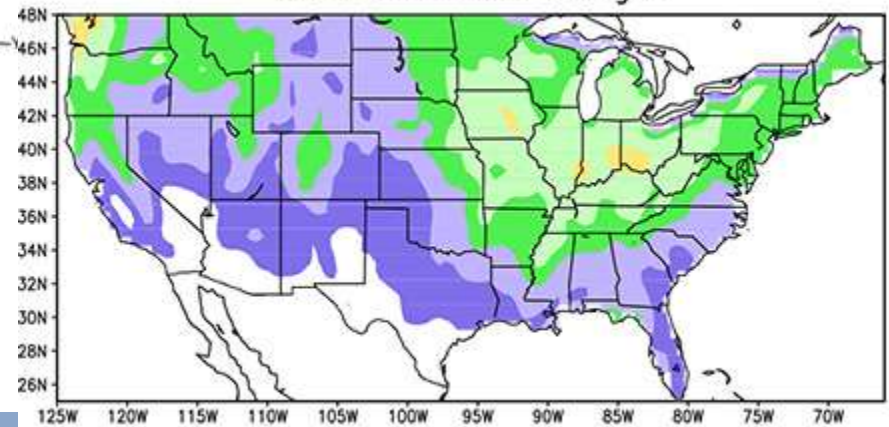


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Enhanced drought

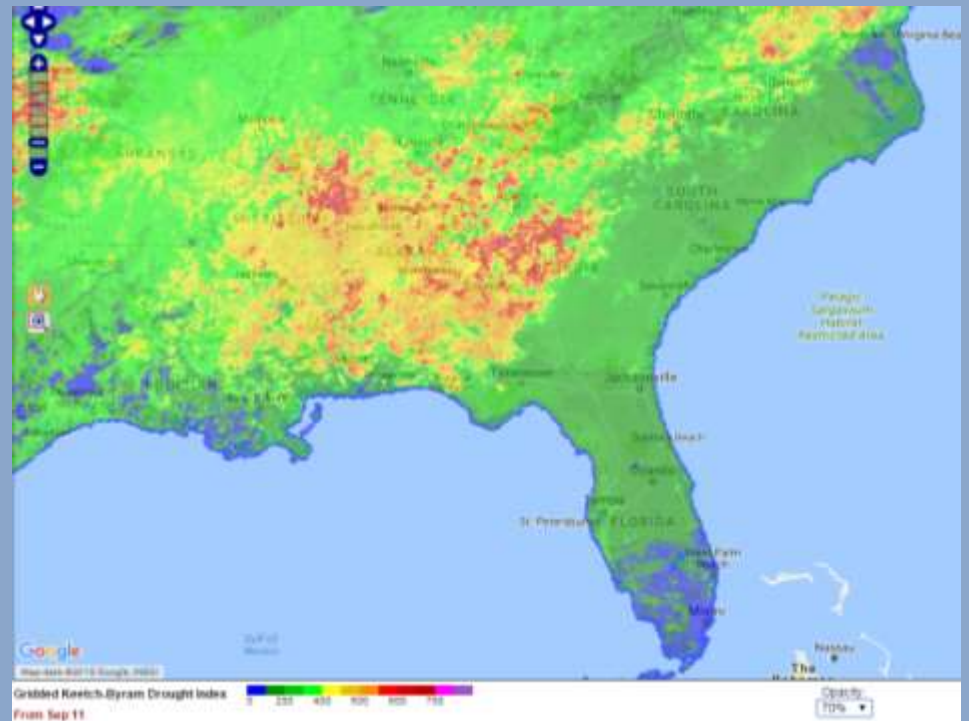


heat wave flash drought



Fire weather conditions

- State Climate Office of NC – Fire Weather Intelligence Portal
- Corey Davis, Rebecca Ward, Heather Aldridge,
- KBDI

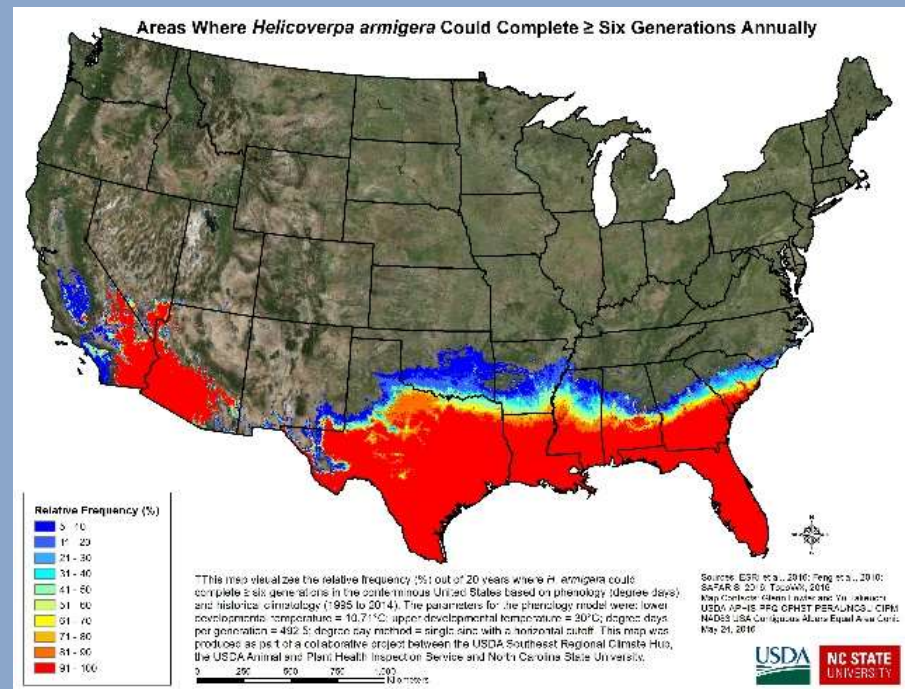


[Source.](#)



Pests

- APHIS: Glenn Fowler & Yu Takeuchi
- SREF: Dave Coyle, southernforest health.net
- Top forest & ag pests
 - Emerald ash borer
 - Old world bollworm



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[Source.](#)

Let's discuss

- Is the subject matter relevant and appropriately detailed?
- Is your organization developing tools or **resources that would complement the Hub's** existing products?
- Are there other ways that the Hub can better connect *your* science with *our* stakeholders?
- Are there ways that the Hubs can connect *your* stakeholders with *our* tools?



Thanks for your feedback!



[Source.](#)

www.climatehubs.oce.usda.gov/southeast

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