


# *Up in Smoke*

## Mapping Invasive Cheatgrass

Kristen Dennis

**Slide 1**

**CAL(D5** You can dump this if you want - I know you have the logo on the last page :-) I think the team member pictures detract from the slide and it would be better to just acknowledge them at the end. Especially for the purpose of this hyperwall talk since you don't have a lot of time.
Clayton, Amanda L. (LARC-E3)[SSAI DEVELOP], 12/1/2019

**CAL(D6** I also made the title bigger to fill up the space a bit more
Clayton, Amanda L. (LARC-E3)[SSAI DEVELOP], 12/1/2019



Image Credit: Saiho/Pixabay




Image Credit: Flickr, Pacific Northwest National Laboratory, USFS CAL(D7





Image Credit: Evangelista Lab, Shutterstock

**Slide 2**

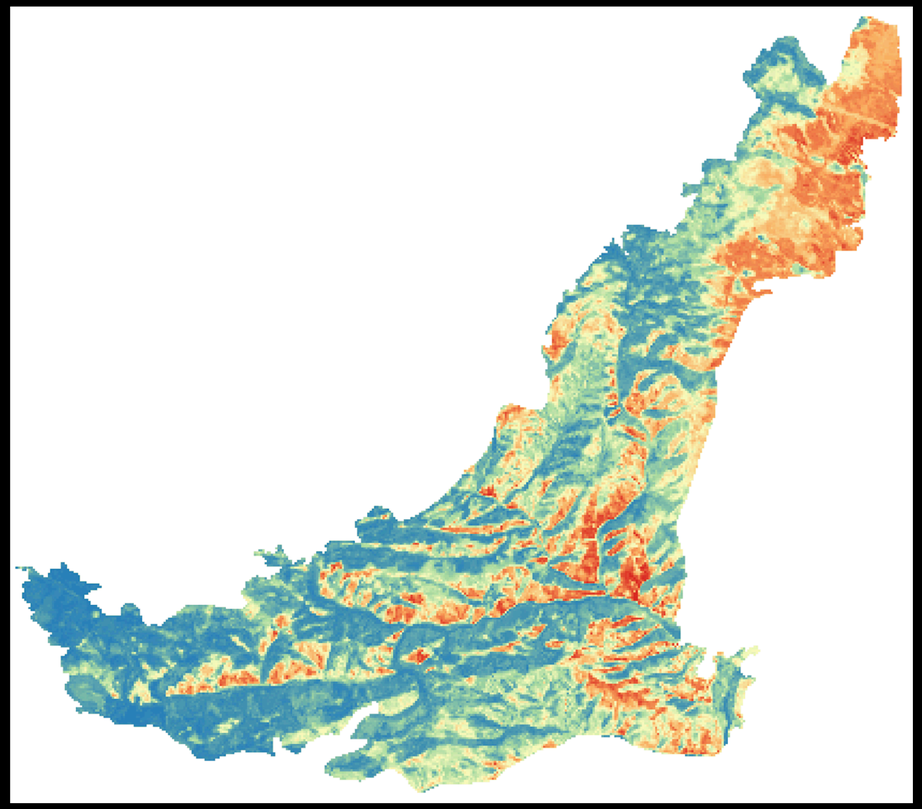
**CAL(D7**

FYI: As much as possible, you want to cite the actual source of the image instead of the website where you got them. Especially if they are from federal sources. I sometimes will keep the website if the source is something weird, like in the case of the emergence picture (carfull...from Wyoming)

I changed a couple of these

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# Aerial Herbicide Spraying



## 2014 Cheatgrass Probability Map

Probability of >= 40% Cheatgrass

Low — High

Aerial Spraying Photo from Partners at USFS



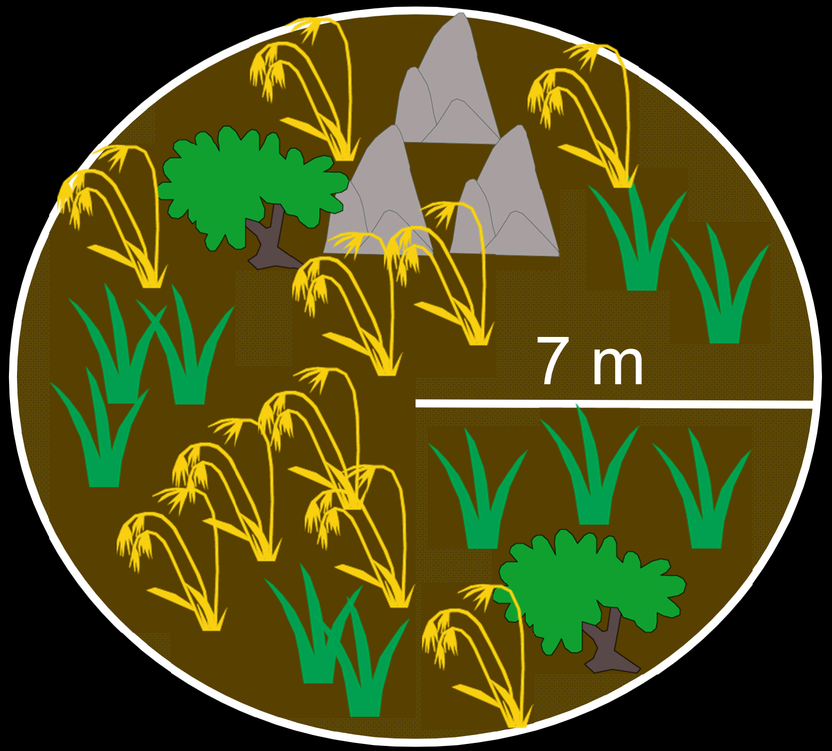
Cheatgrass

Rock

Shrub

Grasses/Forbes

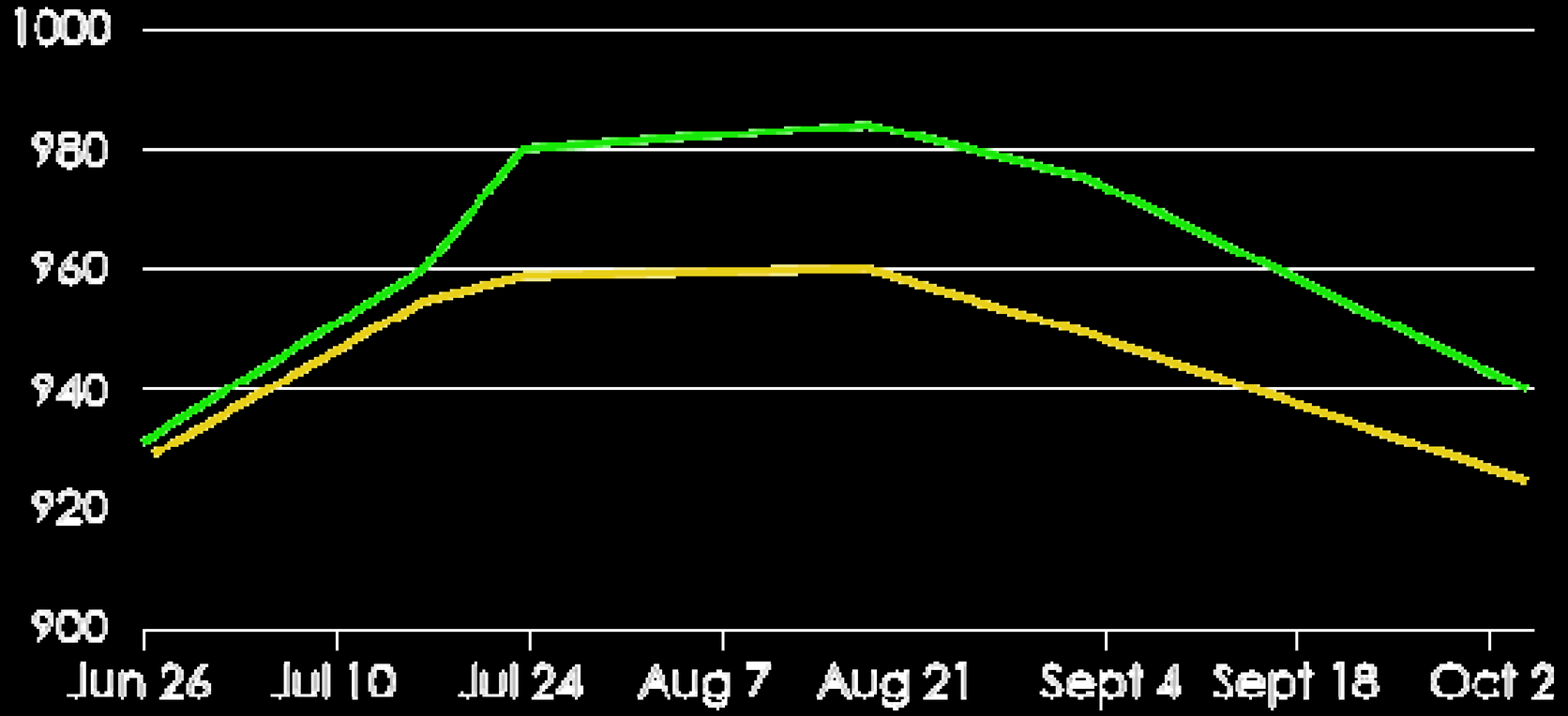
Bareground




> 40% = Presence 86

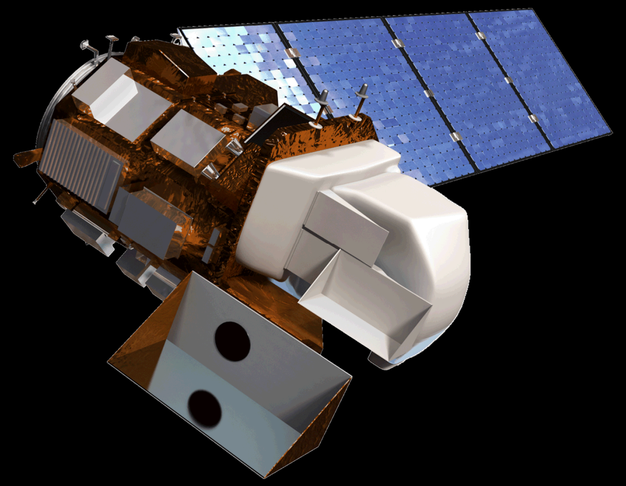
< 40% = Absence 70

# Indices: Vegetation, Burn, Drought, Wetness

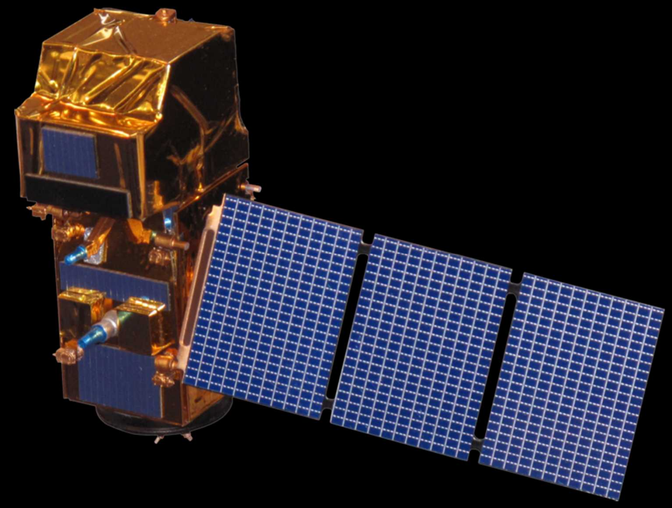





Landsat 8
Operational Land Imager



Sentinel-2
MultiSpectral Instrument



**Slide 5**

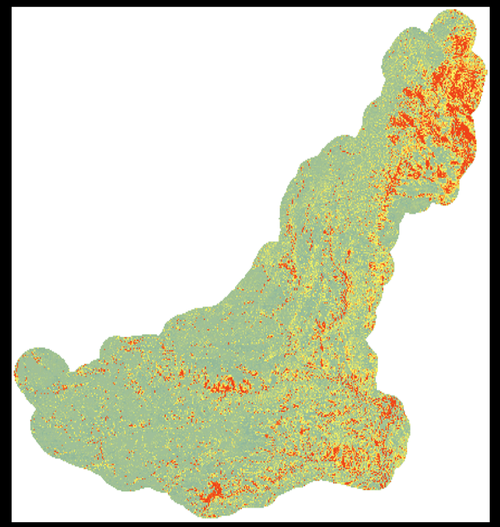
**CAL(D8**

I center aligned these and put the satellite on the top line, sensor on the other.

Also changed "Sentinel 2-MultiSpectral Instrument" to "Sentinel-2 MultiSpectral Instrument"
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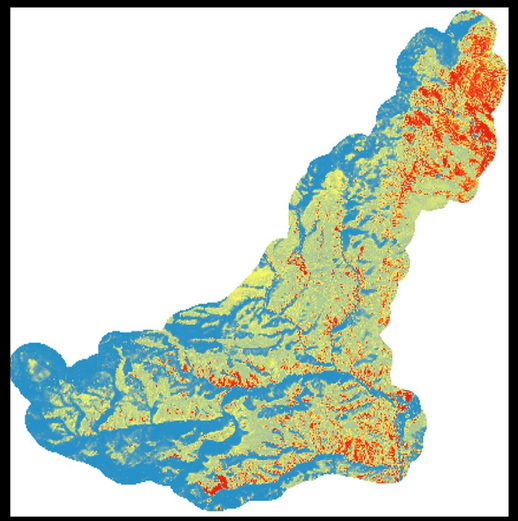
# Software for Assisted Habitat Modeling

Boosted Regression Tree



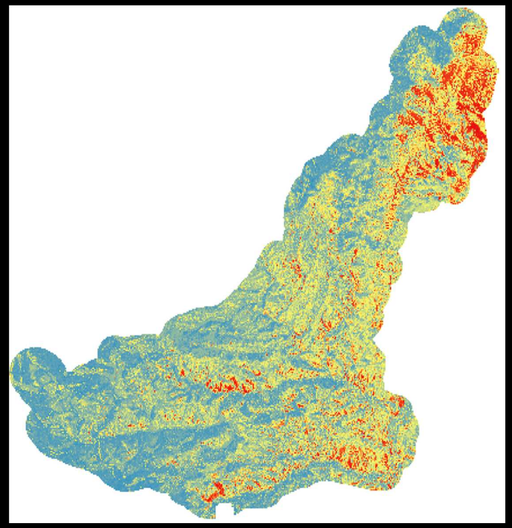
AUC = 0.89

Multi-adaptive Regression Splines



AUC = 0.84

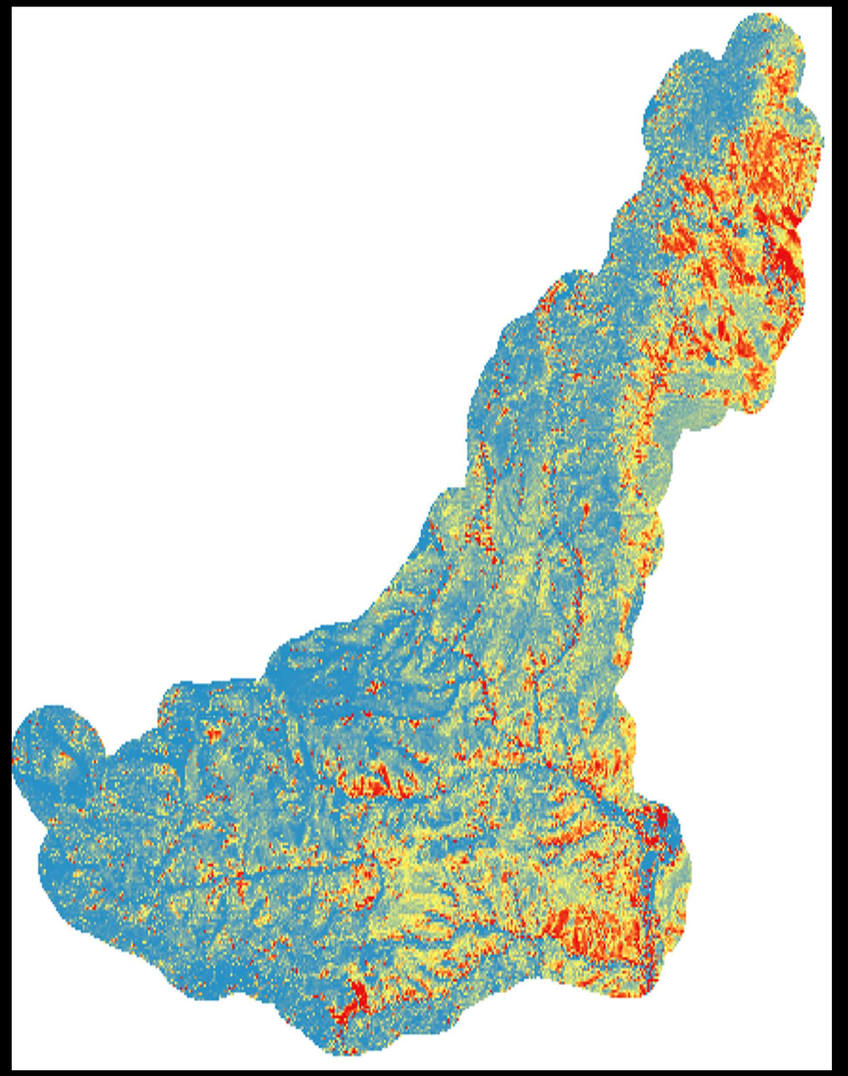
Random Forests



AUC = 0.74

Generalized Linear Model

AUC = 0.87



Probability of >= 40% Cheatgrass

Low

High

CAL(D1

center aligned

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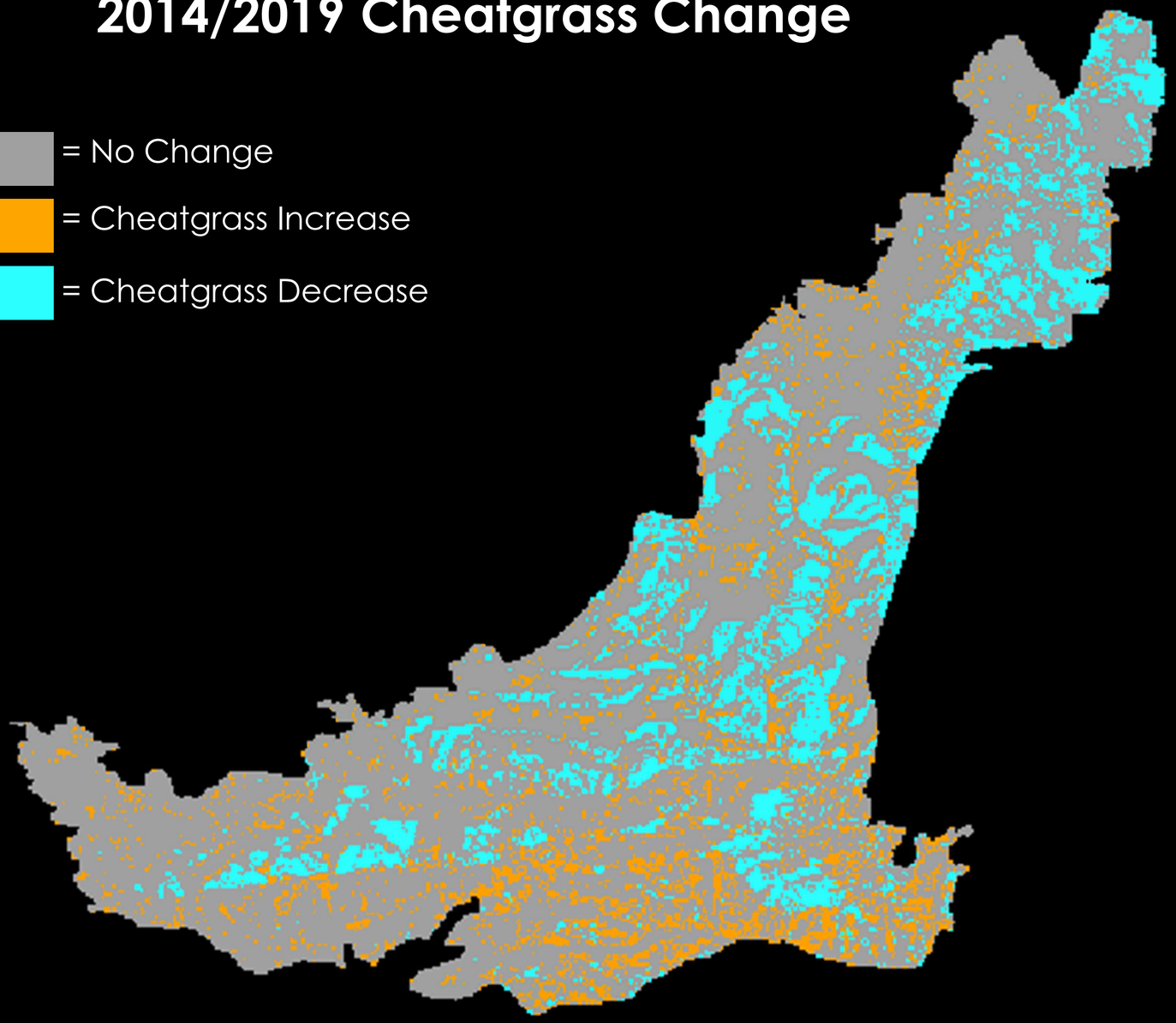
CAL(D3

# 2014/2019 Cheatgrass Change

= No Change

= Cheatgrass Increase

= Cheatgrass Decrease



# Acknowledgements


## ADVISORS

CSU, Natural Resource Ecology Laboratory

- Dr. Paul Evangelista
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CAL(D4

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- Dr. Catherine Jarnevich

## NASA DEVELOP

CAL(D2

National Program Office

- Dr. Kent Ross
- Amanda Clayton
- Mike Ruiz
- Lindsey Rogers

## PARTNERS

USDA, US Forest Service

- Jacquilyn Roaque
- Katie Haynes
- Wyatt Good
- John Kenney

**Slide 7**

| | |
|---|---|
| **CAL(D2** | swapped out for png<br>Clayton, Amanda L. (LARC-E3)[SSAI DEVELOP], 12/1/2019 |
| **CAL(D3** | made this title and map bigger<br>Clayton, Amanda L. (LARC-E3)[SSAI DEVELOP], 12/1/2019 |
| **CAL(D4** | if you are including the other 3 logos, I'd include USGS, too.<br>Clayton, Amanda L. (LARC-E3)[SSAI DEVELOP], 12/1/2019 |