



# ARKANSASVIEW 2020 - 2021



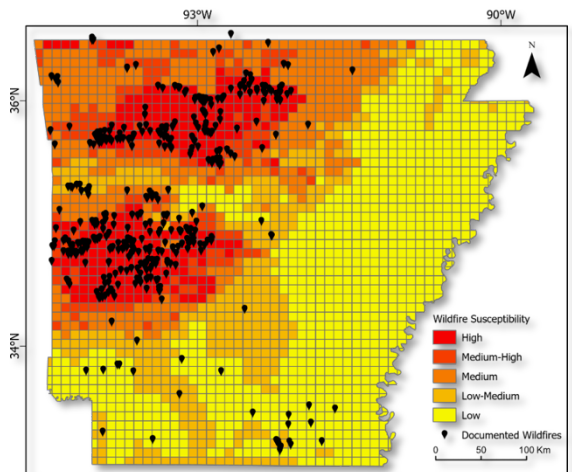
## ARKANSASVIEW 2020 - 2021 ACTIVITIES

- In 2020 – 2021, ArkansasView continued working on its multi-year "remote sensing usability" project. The main objective of this project was to increase the remote sensing and geospatial reproducibility and replicability capacity in Arkansas and beyond.
- ArkansasView refined the web-based "remote sensing usability" database (<https://gw.cast.uark.edu/>) and added a new Python workflow for Earth Engine. Users can now visit the database and explore, query, and reproduce several remote sensing workflows using widely available data and geoprocessing tools. We focused on Python because of its popularity in the remote sensing and GIScience community.
- A new video (AmericaView GitLab: Why version control? <https://www.youtube.com/watch?v=TinsQaMRNAM>) was created and posted on YouTube, highlighting the wonders of using version control in remote sensing and geographical information science.
- ArkansasView provided online demonstrations of Gitlab workflows to OhioView and OregonView.
- Dr. Mohamed Aly co-chaired the GSA 2021 NC/SC Joint Section Meeting, and sponsored research by ArkansasView was presented at the conference.

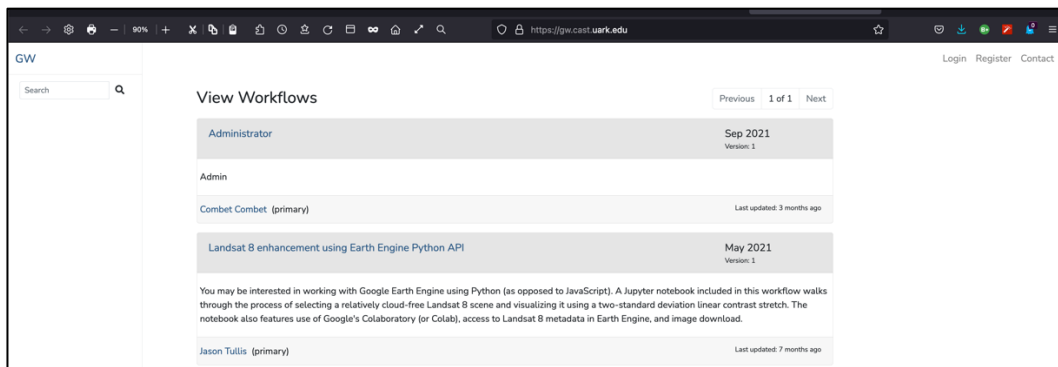
### AmericaView GitLab: Why version control?



A brief introduction to version control in remote sensing and GIScience on YouTube, developed by Jason Tullis: (<https://www.youtube.com/watch?v=TinsQaMRNAM>).



An example of our workflows. A wildfire susceptibility map of Arkansas developed by Siam & Aly using random forest.



A geoprocessing and workflow (GW or "Gigawatt") tool published in 2020 and refined in 2021. The detailed steps for published workflows are available through this link: (<https://gw.cast.uark.edu/>).

ArkansasView is a member of the AmericaView Consortium, a nationally coordinated network of academic, agency, non-profit, and industry partners and cooperators that share the vision of promoting and supporting the use of remote sensing data and technology within each state. AmericaView is funded by USGS grant agreement G18AP00077.



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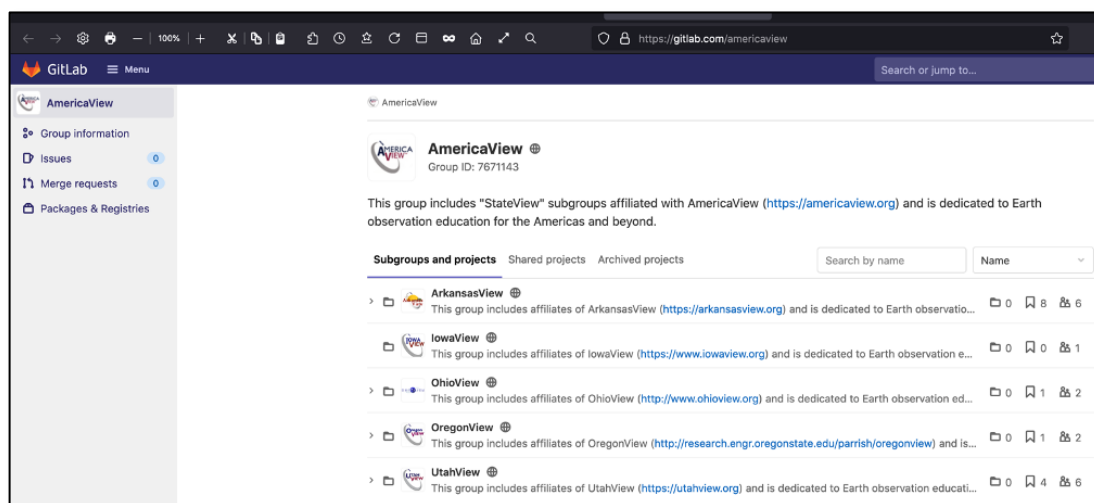
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## BENEFITS TO ARKANSASVIEW

- Our multi-year project dedicated to remote sensing reproducibility and replicability focused on the development of a conceptual model and database and the deployment of an AmericaView GitLab with usability examples from Arkansas. This year, we focused more on the high-quality use of AmericaView GitLab and Python in the development of Earth Engine API for Python workflows and engaged four additional StateViews. The web development was conducted using GitLab and new workflows were added with help from Dr. Jason Tullis, Dr. Mohamed Aly, and Dr. Chris Angel from the Center for Advanced Spatial Technologies (CAST) at the University of Arkansas.
- ArkansasView collaborated with four other StateViews interested in participating in the AmericaView GitLab. More lessons are learned from this collaboration and the GitLab site now holds content shared by individual members of participating StateViews interested in interchanging both public and private source controls (codes, project files, etc.) that can benefit from high quality version control.
- Two ArkansasView interns (Abdullah Al Saim and Mahmud Afroz) were trained by Dr. Mohamed Aly in summer 2021. Both interns were graduate students in the MS Geography program at the University of Arkansas. They supported the development of our geospatial database, and the first intern (Abdullah Al Saim) finished his MS research: machine learning & big data analyses for wildfire & air pollution incorporating GIS & Google Earth Engine. The outcomes from his wildfire study can help in fire prevention and preparedness to save lives and reduce economic loss in Arkansas.



AmericaView GitLab (<https://gitlab.com/americanview>) showing the currently participating StateViews, including ArkansasView, IowaView, OhioView, OregonView, and UtahView. This GitLab site holds codes and project files shared by participating StateViews.

## ARKANSASVIEW CONSORTIUM MEMBERSHIP



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