



# OpenStreetMap

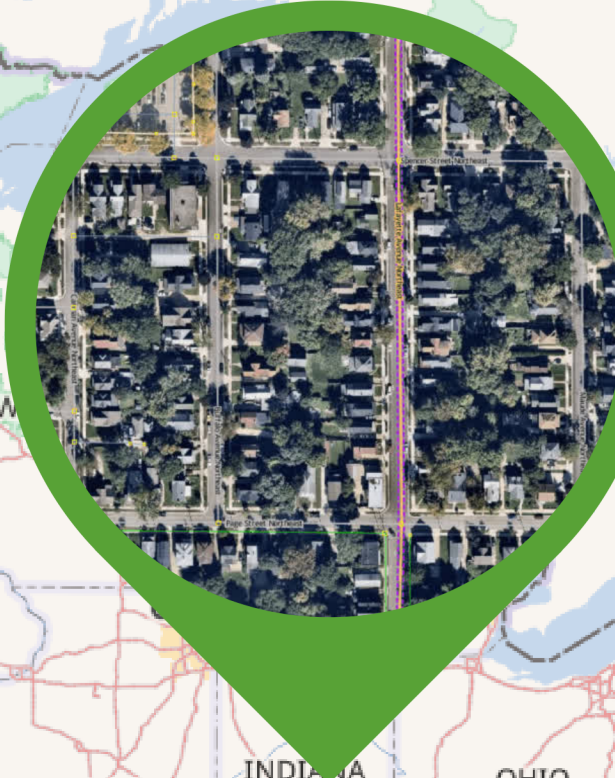
## Mapping a Path to Digital Democracy



Maggie Cawley, Executive Director, OpenStreetMap US



Conservation

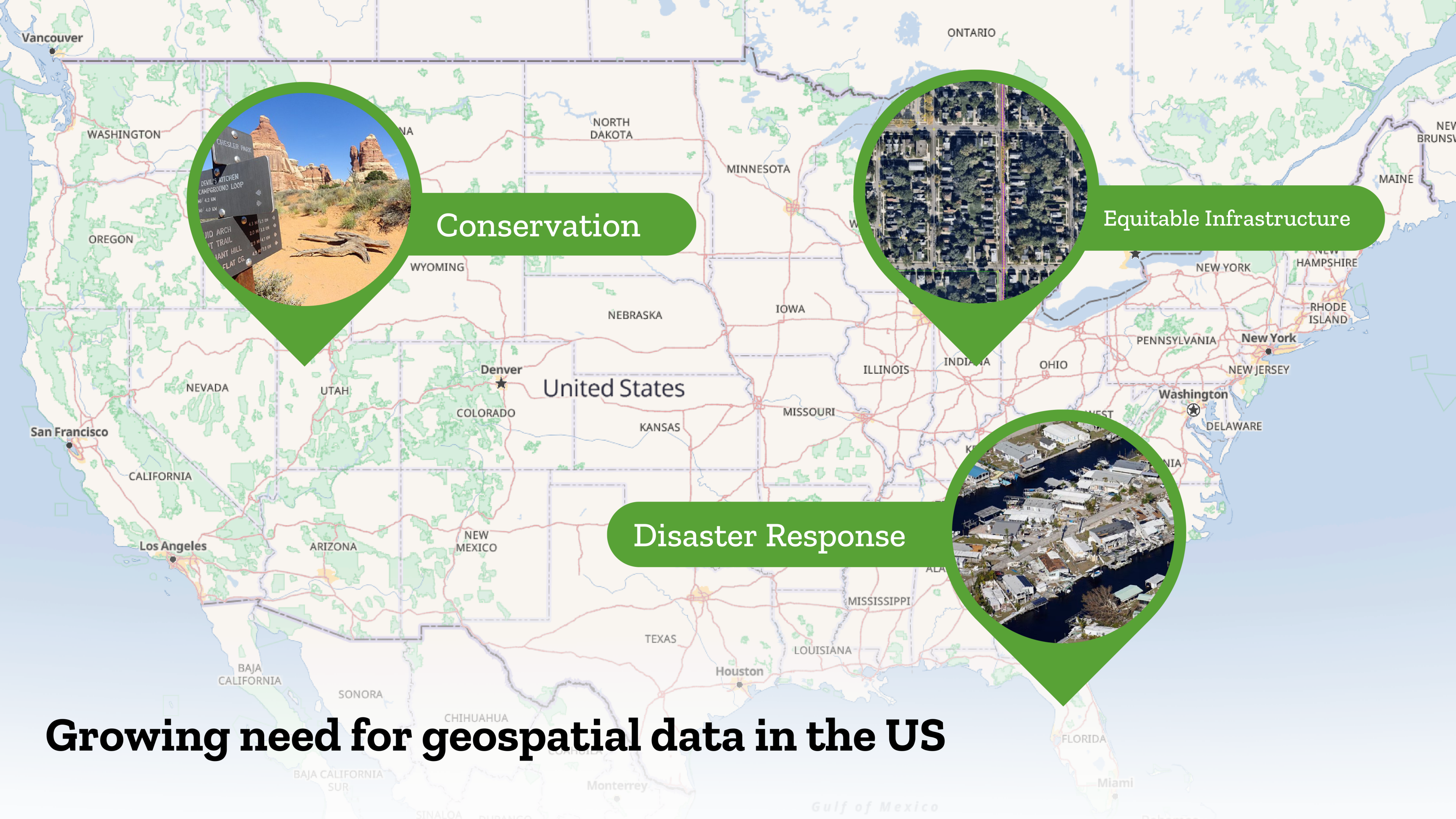


Equitable Infrastructure



Disaster Response

# Growing need for geospatial data in the US



# OpenStreetMap 101

## MORE THAN STREETS

The data model represents the physical world including points of interest & networks



30k+ cafes



120,000+ miles of sidewalks



300,000+ miles of bus routes



OpenStreetMap

## HYPER DETAILED TAGGING

Think unlimited attributes!

## Tags: Key = Value

Key: topic, category, or type of feature  
**Value:** detail for the key-specified feature

`highway=path`

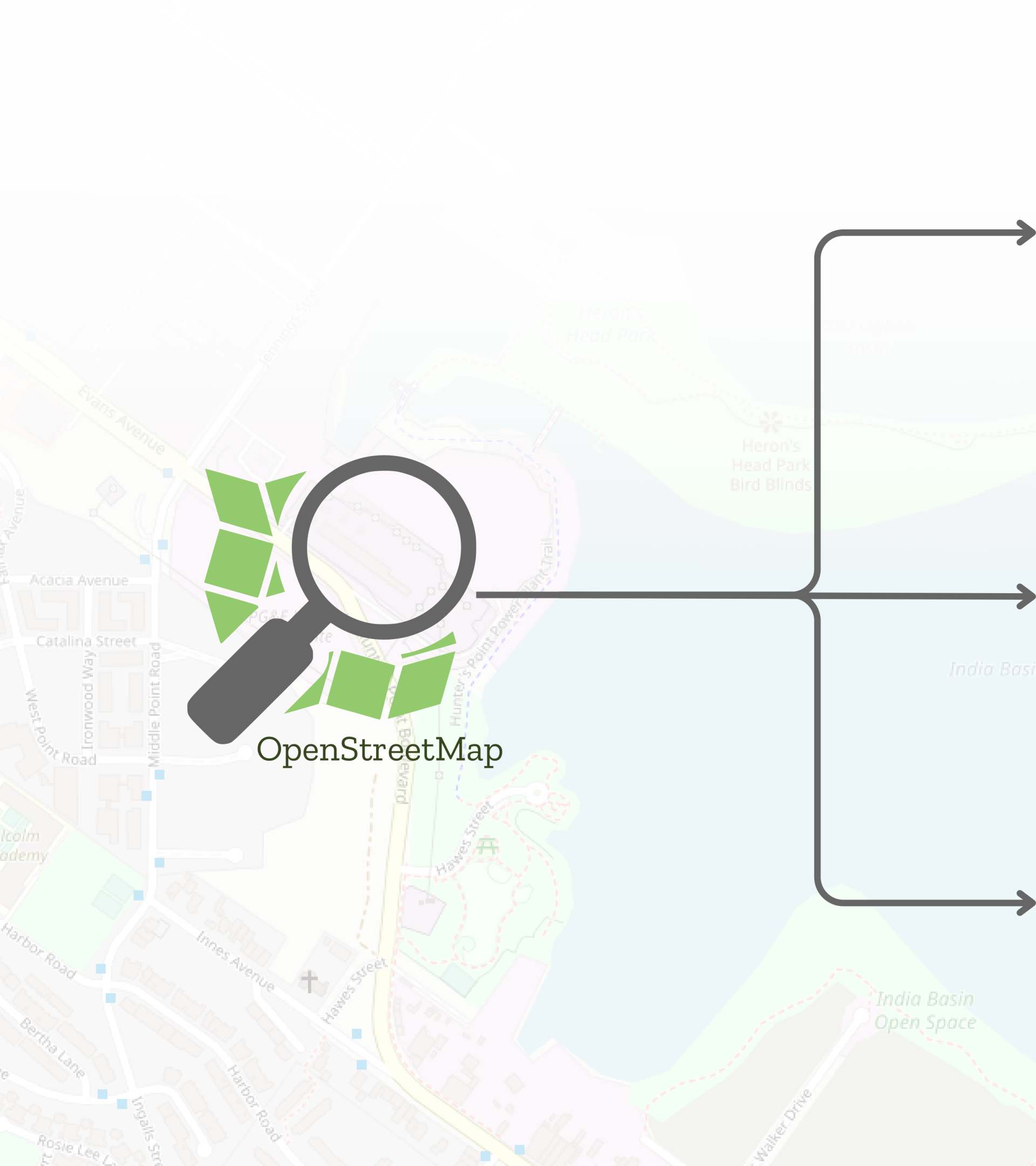
`operator=United States Forest Service`

`access=yes`

`foot=designated`

# OpenStreetMap 101





OpenStreetMap

GIS & Planning software, feature layer datasets

Aggregated geospatial datasets & databases

User apps & navigation companies





Membership driven 501c3 nonprofit supporting the OSM project in the US through programs, education, events and advocacy since 2010.

Working to improve the accessibility & interoperability of open data between government, tech & the public.

[openstreetmap.us](https://openstreetmap.us)



**RESPONSIBLE RECREATION**  
LEADING THE TRAILS STEWARDSHIP INITIATIVE TO IMPROVE TRAIL DATA ACROSS THE US



**MAPPING FOR IMPACT**  
SUPPORTING LOCAL CAUSES & PARTNERS THROUGH DATA DEMOCRACY INITIATIVES



**TEACHOSM**  
EDUCATING THE NEXT GENERATION OF SPATIAL THINKERS & MAPPERS



**COMMUNITY ENGAGEMENT**  
FACILITATING EVENTS, LEADING WORKING GROUPS, CONVENING STAKEHOLDERS



**CHARTER PROJECTS**  
SUPPORTING COMMUNITY PROJECTS SUCH AS OPENHISTORICALMAP & OSMCHA

*"Dear OpenStreetMap...  
....In a time when land stewards including agency employees are struggling to keep up with the mandate to preserve and protect these areas, we face a seemingly insurmountable challenge when unofficial and false information is spread widely through digital sources."*

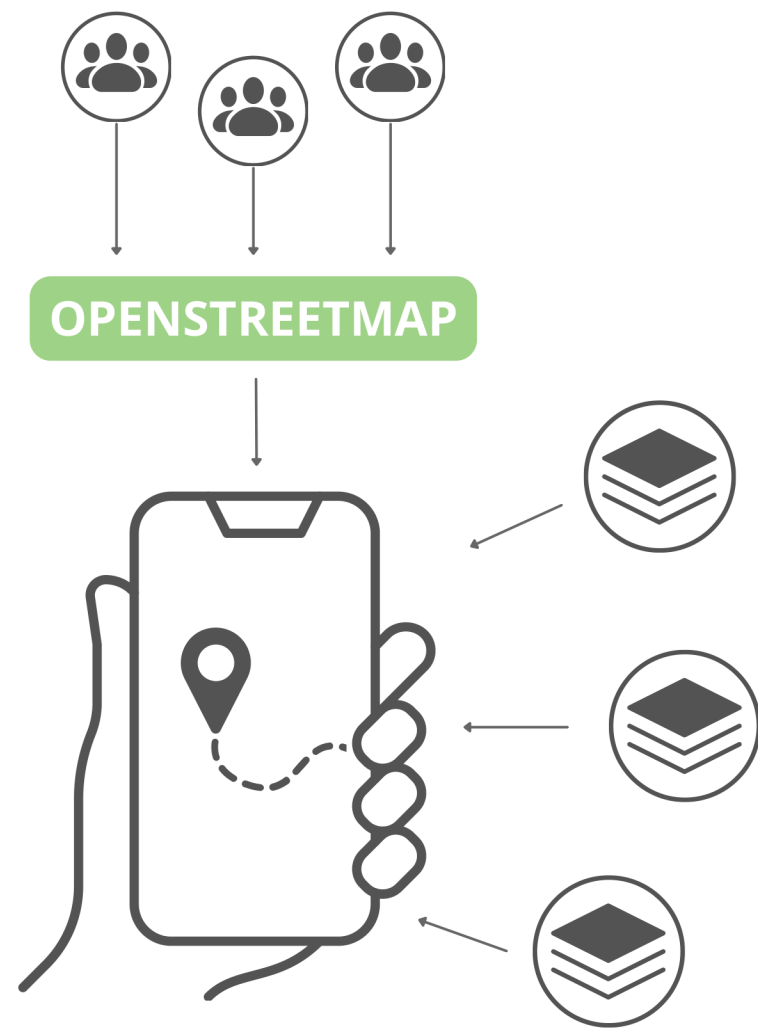
*Utah Backcountry Coordinator, National Park Service.*

### Comparison of trail rendering within Canyonlands National Park

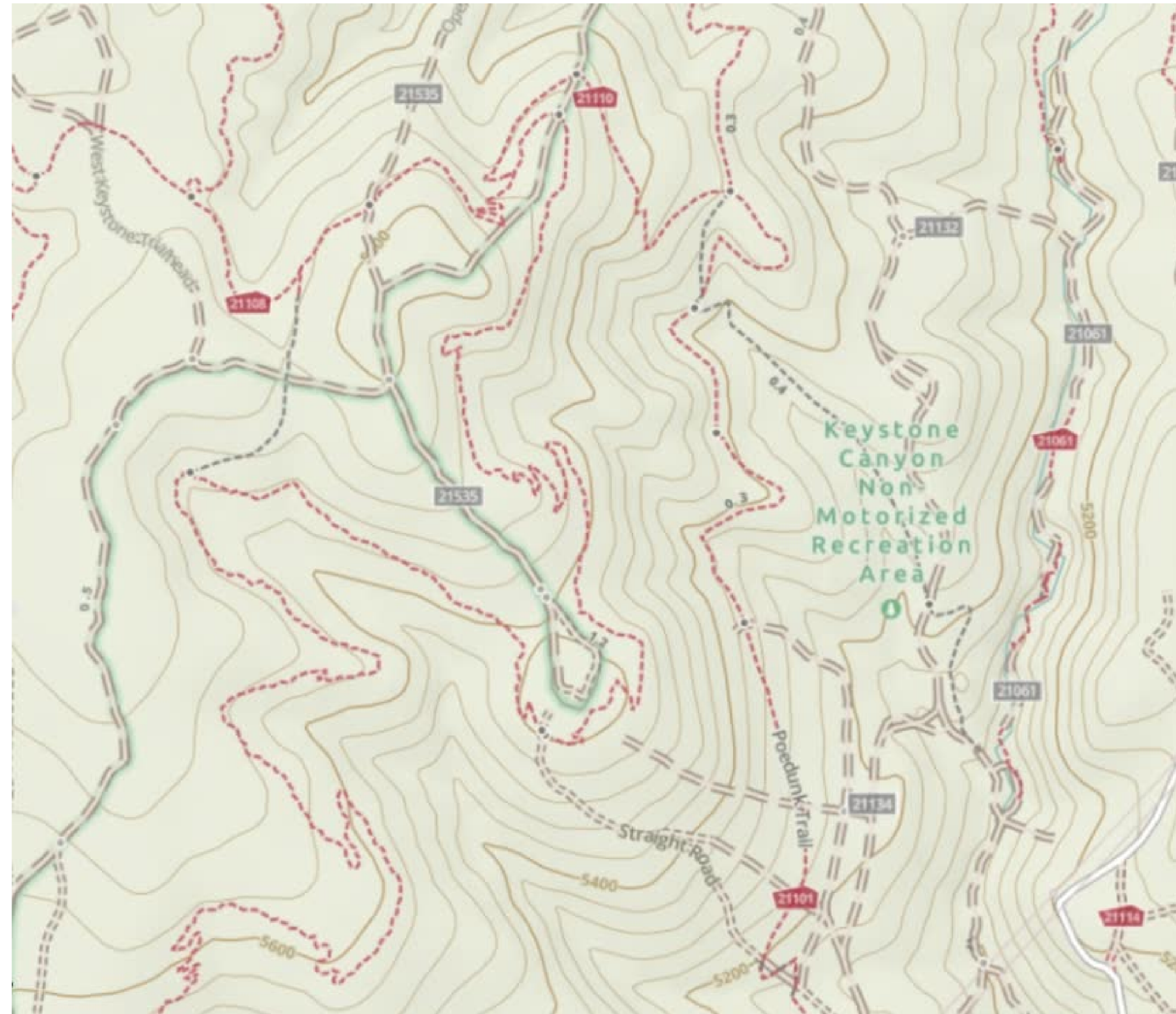


*Visitors rely on mobile applications to discover, plan, and navigate public lands.*

# Gaia GPS trails are OpenStreetMap trails

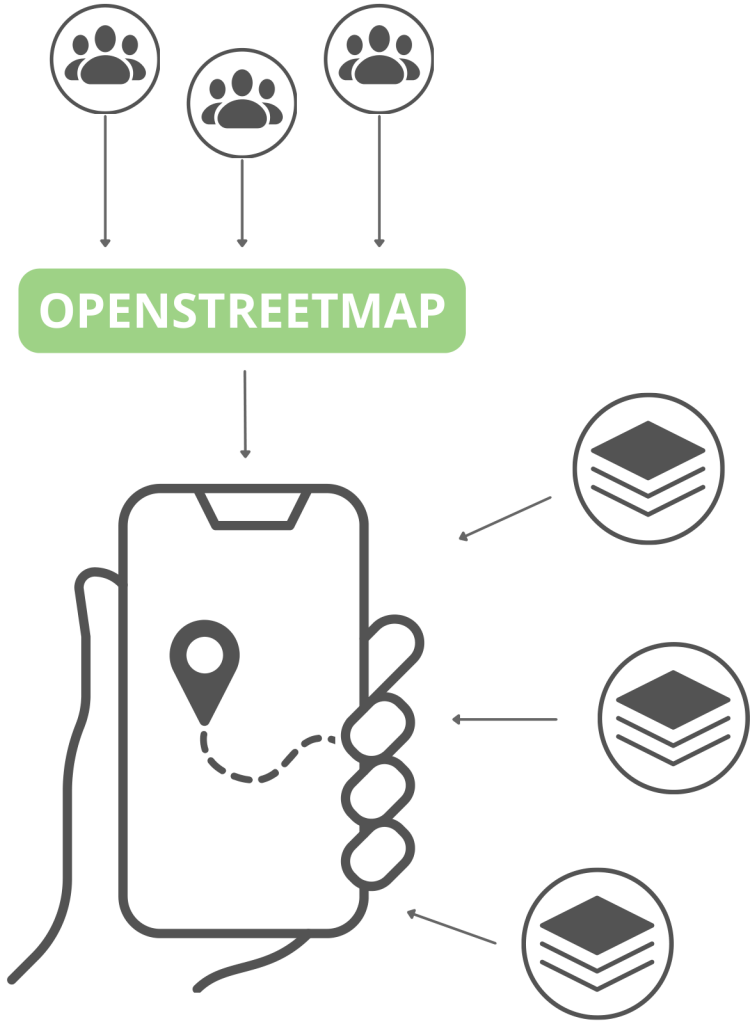


Navigation applications are often built on many data sources, but often rely heavily on OpenStreetMap data.





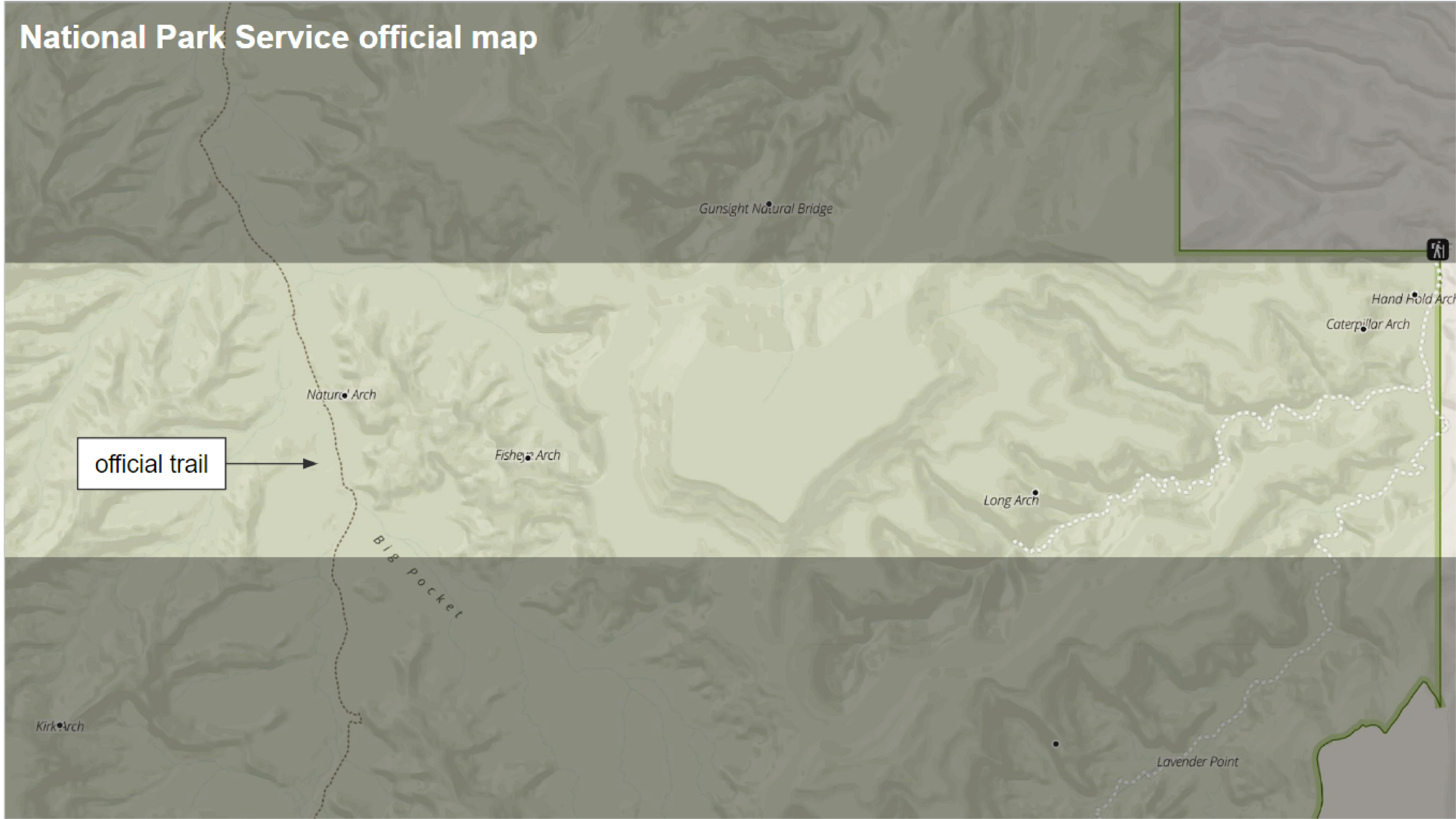
# AllTrails trails are OpenStreetMap trails



Navigation applications are often built on many data sources, but often rely heavily on OpenStreetMap data.



# National Park Service official map



Gunsight Natural Bridge

Hand Hold Arch  
Caterpillar Arch

Nature Arch

Fishes Arch

Long Arch

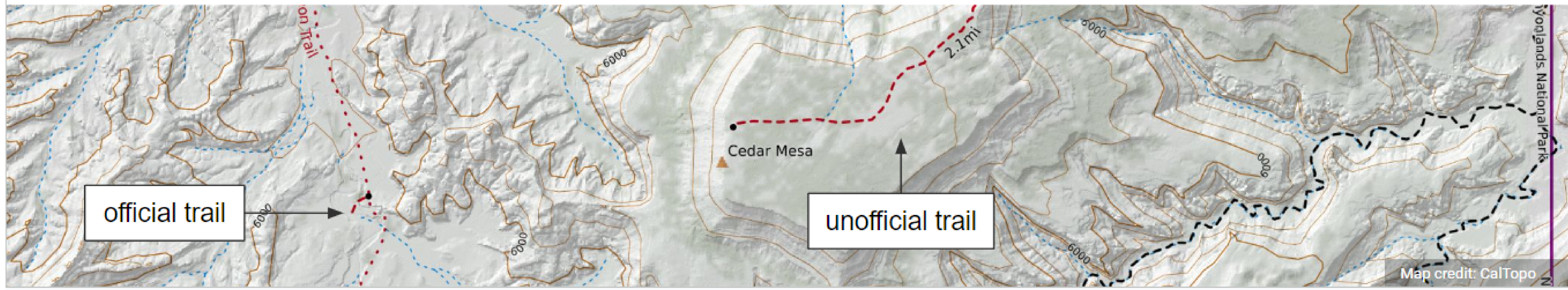
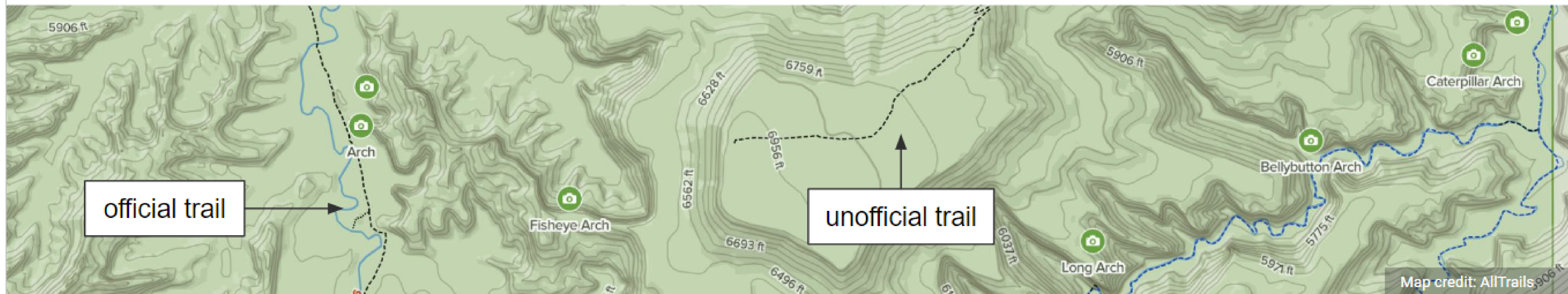
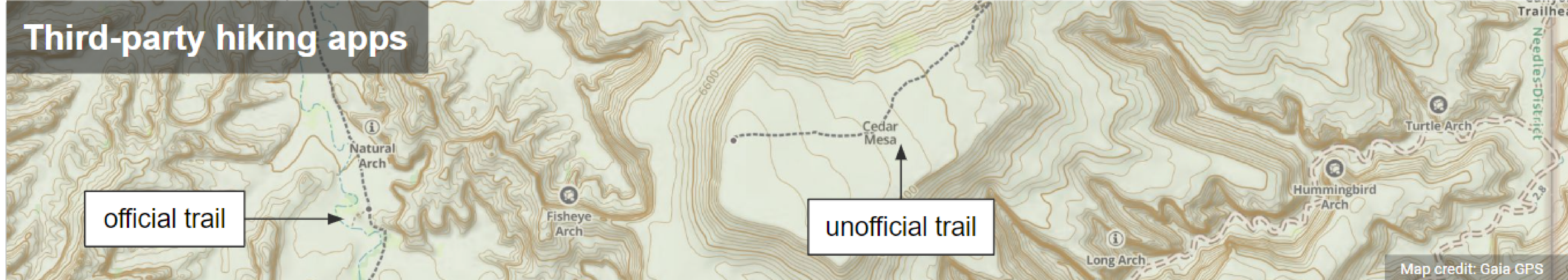
Big Pocket

Kirk Arch

Lavender Point

official trail

# Third-party hiking apps



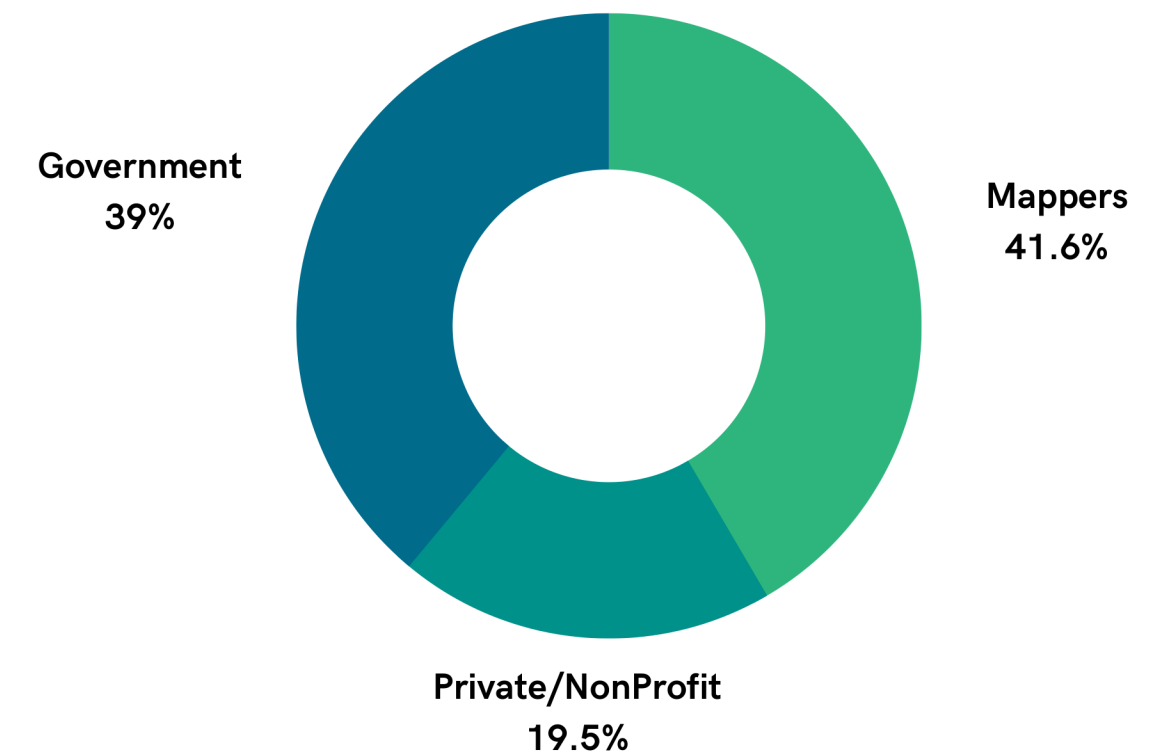


# Trails Stewardship Initiative

IMPROVING TRAIL DATA ACROSS THE US

- ✓ Convened stakeholders who collaborated on **best practices for tagging trails** in OSM
- ✓ **Developed tagging guidelines** and worked with private apps to incorporate them
- ✓ Discussed and piloted design guidelines for 3rd party navigation applications
- ✓ Collected **feedback from land managers** through our initial pilot in Washington

## Trails Working Group



Collaborating to support responsible mapping of trails on public land in the United States for hiker safety & environmental protection.

# Standard Tagging Schema



Name	Rampart Lakes Trail
Operator	Okanogan-Wenatchee National Forest
Informal	No
Access (& Allowed use)	Foot only; no horses, motorized vehicles, or bicycles



Rampart Lakes Trail

Rachel Lake

Rachel Lake Camping

Rampart Lakes Trail

# Detailed Tagging Schema



**name = Rampart Lakes Trail**  
**operator = Okanogan-Wenatchee National Forest**  
**informal = no**  
**bicycle = no**  
**foot = yes**  
**horse = no**  
**motor\_vehicle = no**



**highway = path**  
**surface = dirt**  
**image = [https://en.wikipedia.org/wiki/Rachel\\_Lake.....](https://en.wikipedia.org/wiki/Rachel_Lake.....)**  
**network = lwn**  
**ref = 1313**  
**route = hiking**  
**type = route**  
**website = <https://www.fs.usda.gov/recarea/okawen/....>**

**user jake-low**

1 year ago:

“Rampart Ridge: add missing access tags to official (system) trails”



Rachel Lake Camping

# RENDERING GUIDELINES

OSM tags

Recommendation

Closed or private trail

access=no OR  
access=private

Don't render or closed  
icon

Unofficial trail

informal=yes

De-emphasize visibility

Official trail

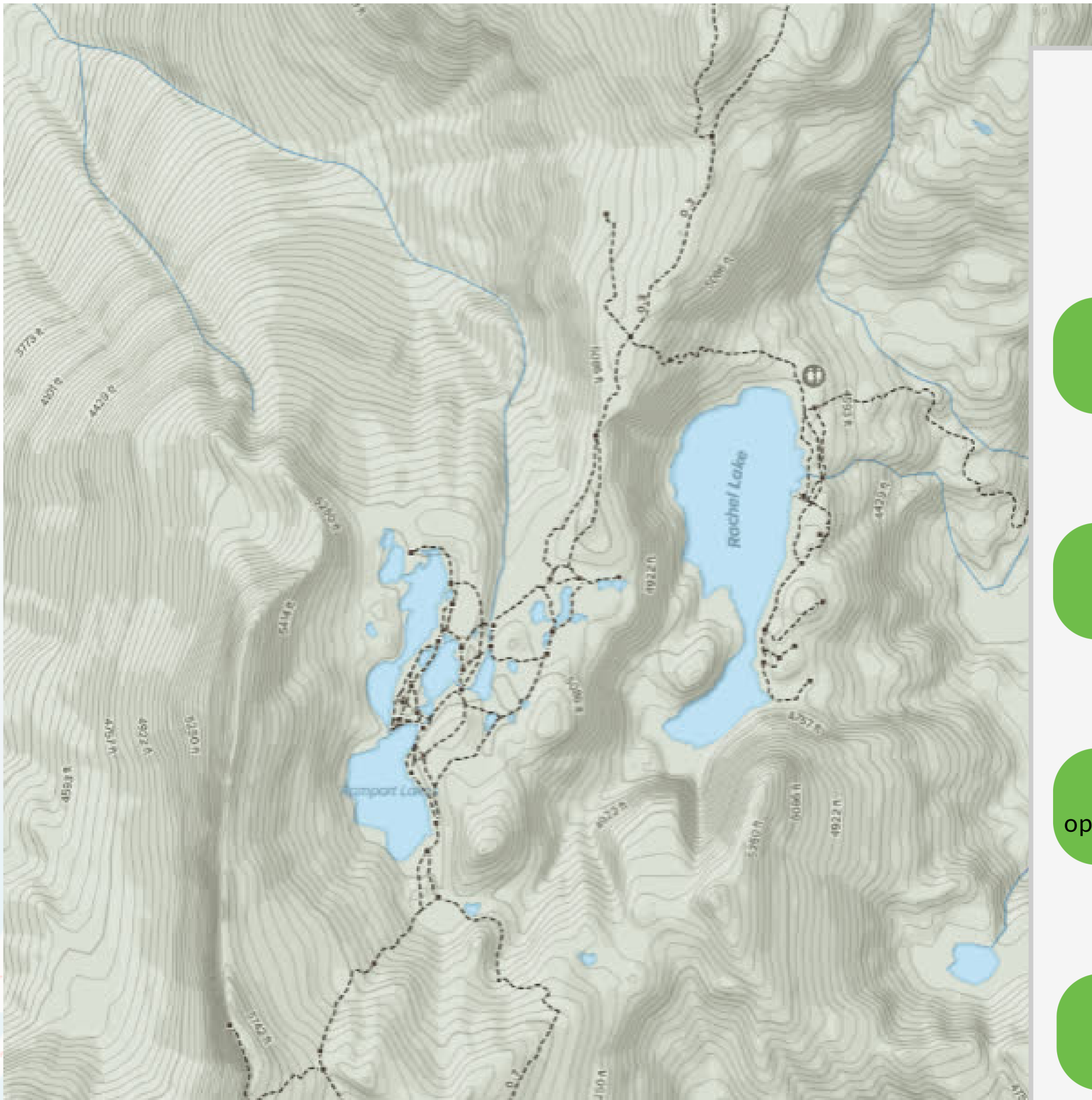
informal=no OR  
operator=[agency name]

Emphasize visibility

Status unclear

None of the above

Neutral visibility



# Next Steps...

# Utah Expanded Pilot

# 30 million+

## ACRES OF PUBLIC LAND IN UTAH

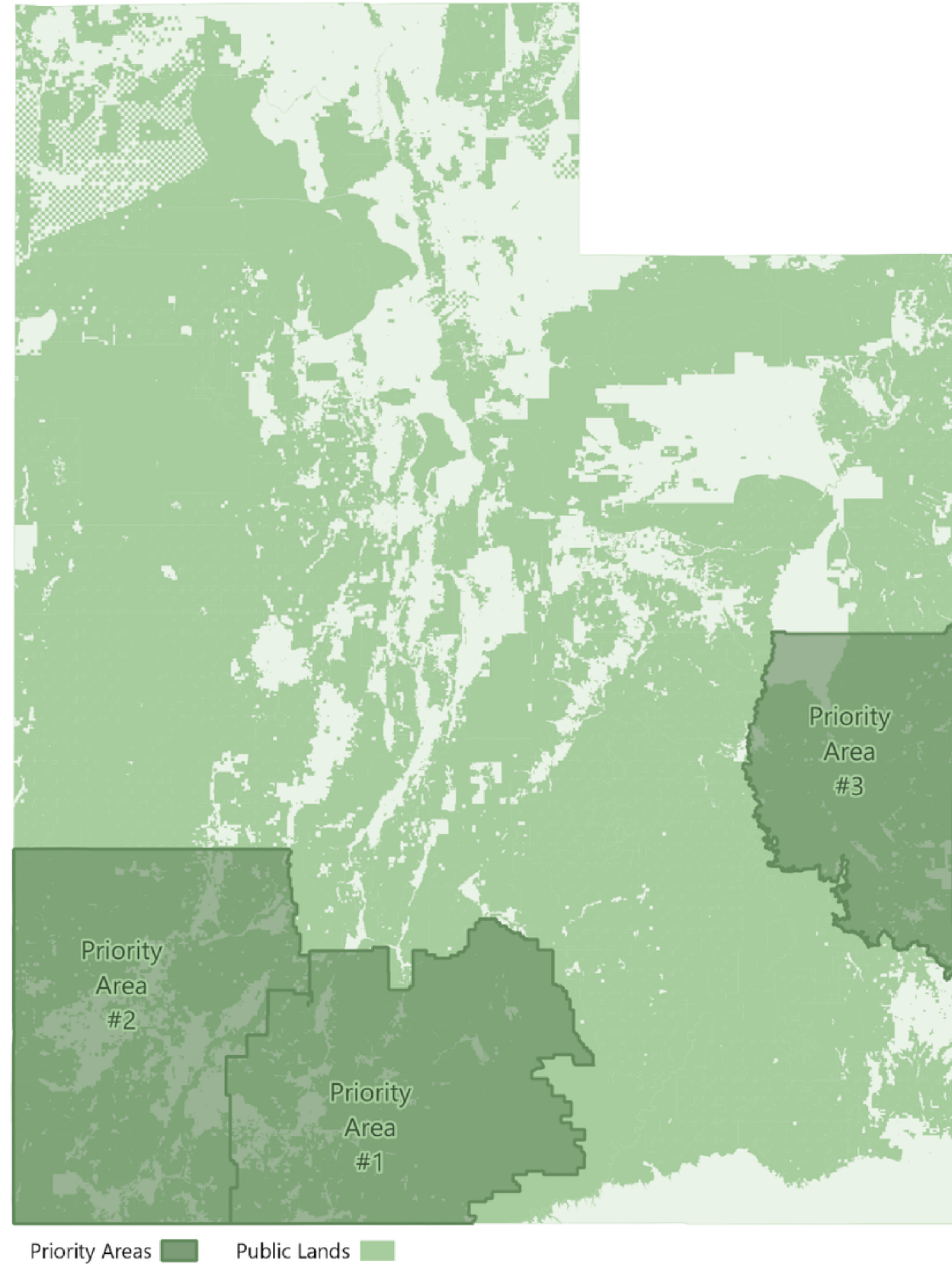
- Pilot workflows, hone tools, expand tagging guidelines, and mapping in different ecosystems.
- Expand outreach and improve programming to enhance **stakeholder engagement**.
- Design the **Digital Trail Steward** program to increase the role of volunteers and partners
- Plan for a **National Trails Campaign** that supports MAPLand Act goals and efforts

# 60,000+

## MILES OF OPEN TRAIL DATA IMPROVED ACROSS



# Iterative approach



 **Priority Area 1**  
anchored by **Bryce Canyon National Park**

 **Priority Area 2**  
anchored by **Zion National Park**

 **Priority Area 3**  
anchored by **Arches National Park**

# Reference Layers...

THING TO DO  
**Bristlecone Loop Trail**  
Bryce Canyon National Park



# Sustainable Impact through Collaboration



## EQUITABLE ACCESS

Improve equitable access to trails for all citizens



## SAFETY

Increase safety for outdoor enthusiasts on public lands



## RESPONSIBLE RECREATION

Promote responsible recreation for the protection of our natural environment and out of respect for tribal and private lands



*Utah is just the start of this journey.*

# Paths to get involved



## Keep Informed & Share Knowledge

Sign up to receive regular & shareable updates on the Trail Stewardship Initiative.

[Sign up here](#)



## Join the Trails Working Group

Sign up to receive invites to our drop-in meetings. Attend when you can!

[Let us know](#)



## Become a Digital Trail Steward

Learn how you or your volunteers can map the trails that you care about.

[Learn more](#)

## How can land managers support the effort?

We don't want to create more work for you than you already have. The power of the Trail Stewardship Initiative and our volunteer network is that we can improve and maintain the data that is used by navigation apps and other recreation services. **Your level of involvement is up to you!**

But to make this work, we could use your help with one key thing: **your official trail information**. If you have maps or map data providing up-to-date information such as **official trail names, access, allowed use, and known social trails**, we can use this information to update OpenStreetMap. If you don't have up to date information or have missing data, let us know! We're happy to assist in closing any data gaps.

# Upcoming Events



October 23, in-person  
Free for .gov, .mil, .edu, .org  
[fedgeo.us](https://fedgeo.us)



January 19 & 20, online  
[openstreetmap.us/events](https://openstreetmap.us/events)



**State of the Map US**  
June 6-8, 2024

# Thank you!



Special thanks to the OSM US staff, the participants in the Government, Trails and Public Domain Map Working Groups, & everyone supporting this effort!



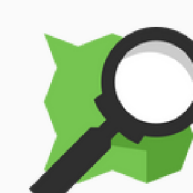
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@MaggieMaps



slack.openstreetmap.us



openstreetmap.us



trails@openstreetmap.us