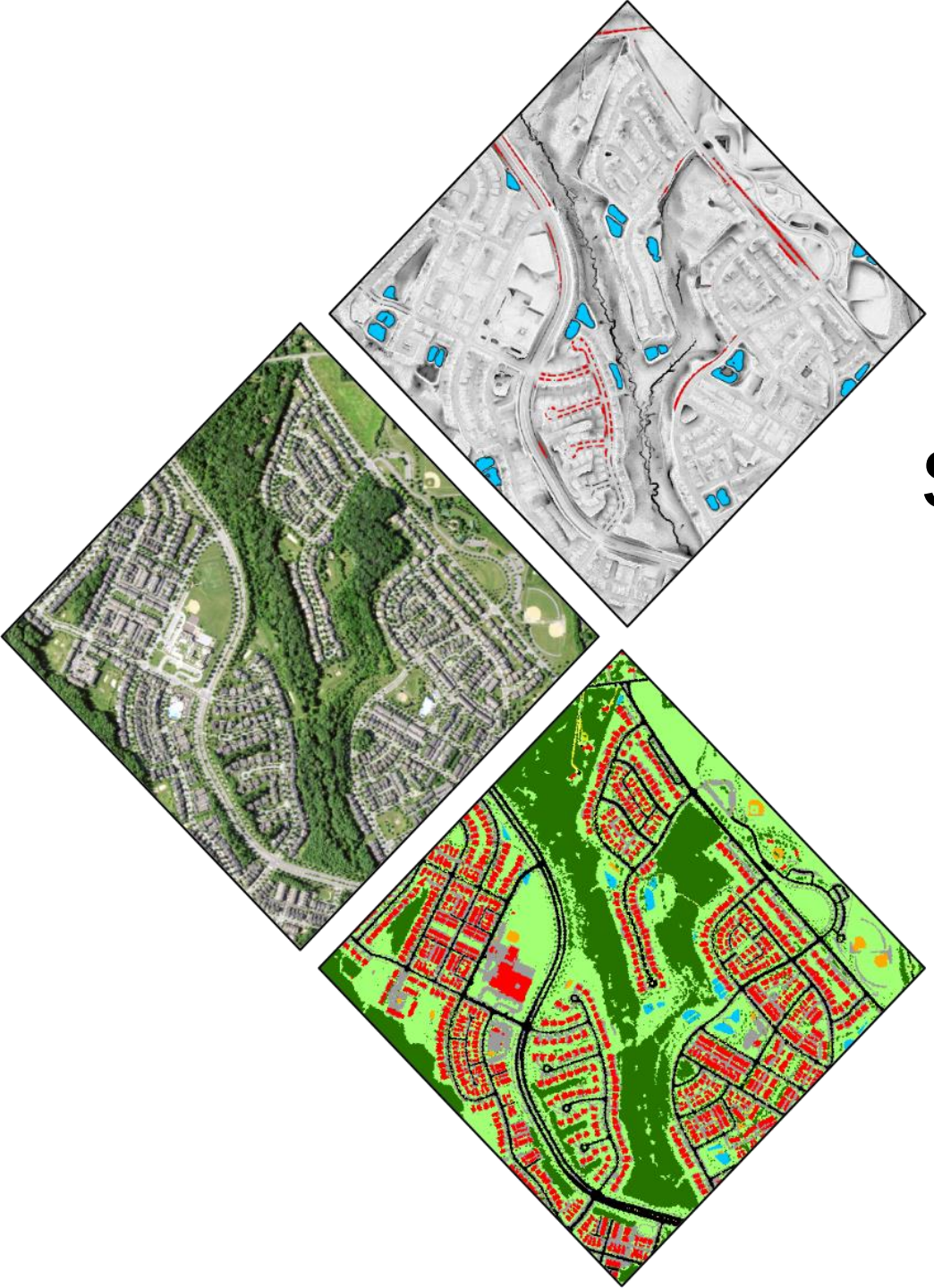

Developing a harmonized surface stormwater storage dataset

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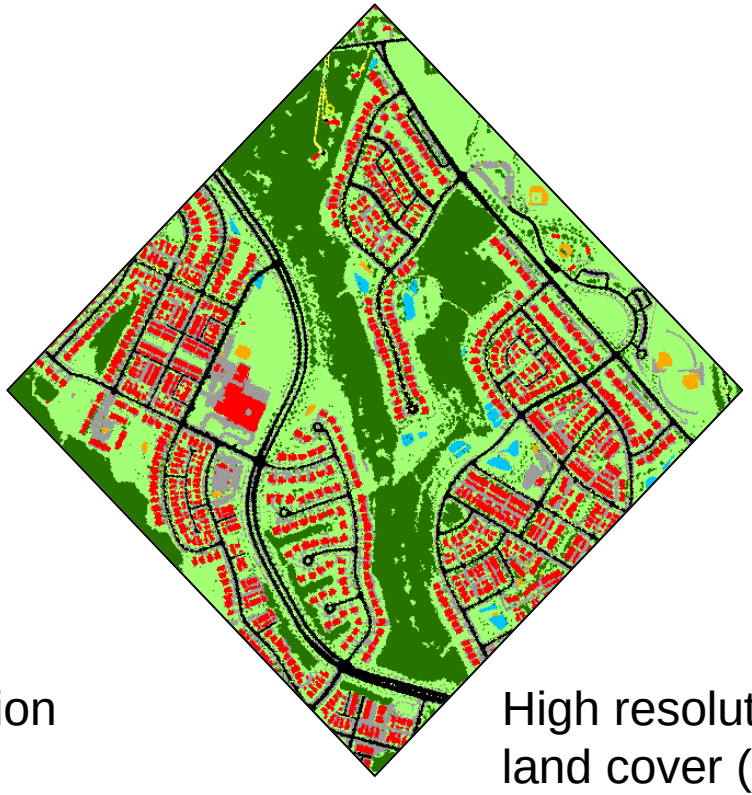
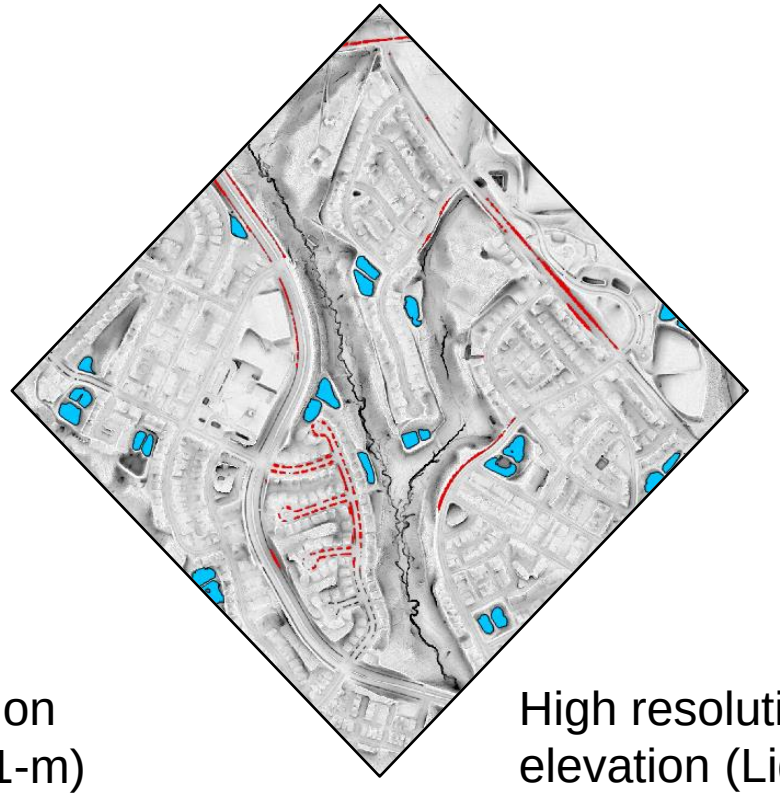
Data are now available to remotely map surface stormwater features.

- High resolution datasets that allow us to detect ditches and ponds.
- Municipalities may not have detailed stormwater inventories (type, size, volume).
- Lack remote mapping of dry ponds, rain gardens, sand filters.

High resolution imagery
Orthoimagery



High resolution land cover (1-m)
Chesapeake Conservancy



High resolution elevation (Lidar)

The density of stormwater practices may not reflect the volume of stormwater storage.

Tributary 104

- 33% impervious
- **105 BMPs/km²**
- Total estimated storage **687,000 cf**

Tributary 109

- 44% impervious
- **274 BMPs/km²**
- Total estimated storage **654,000 cf**

2.6 times the density but the similar storage

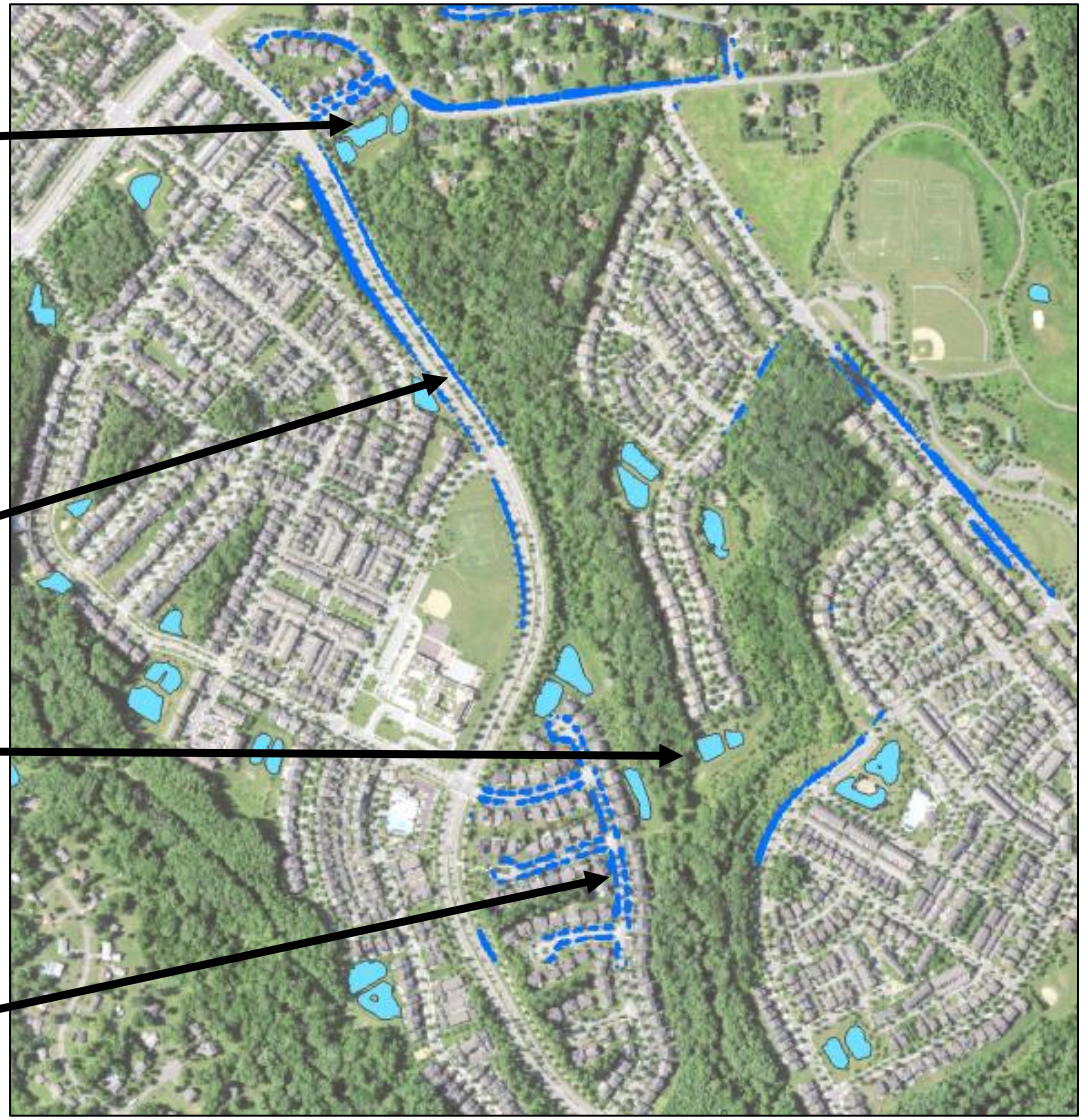
Detectable Stormwater Features

Sand filter and detention ponds

Road swales

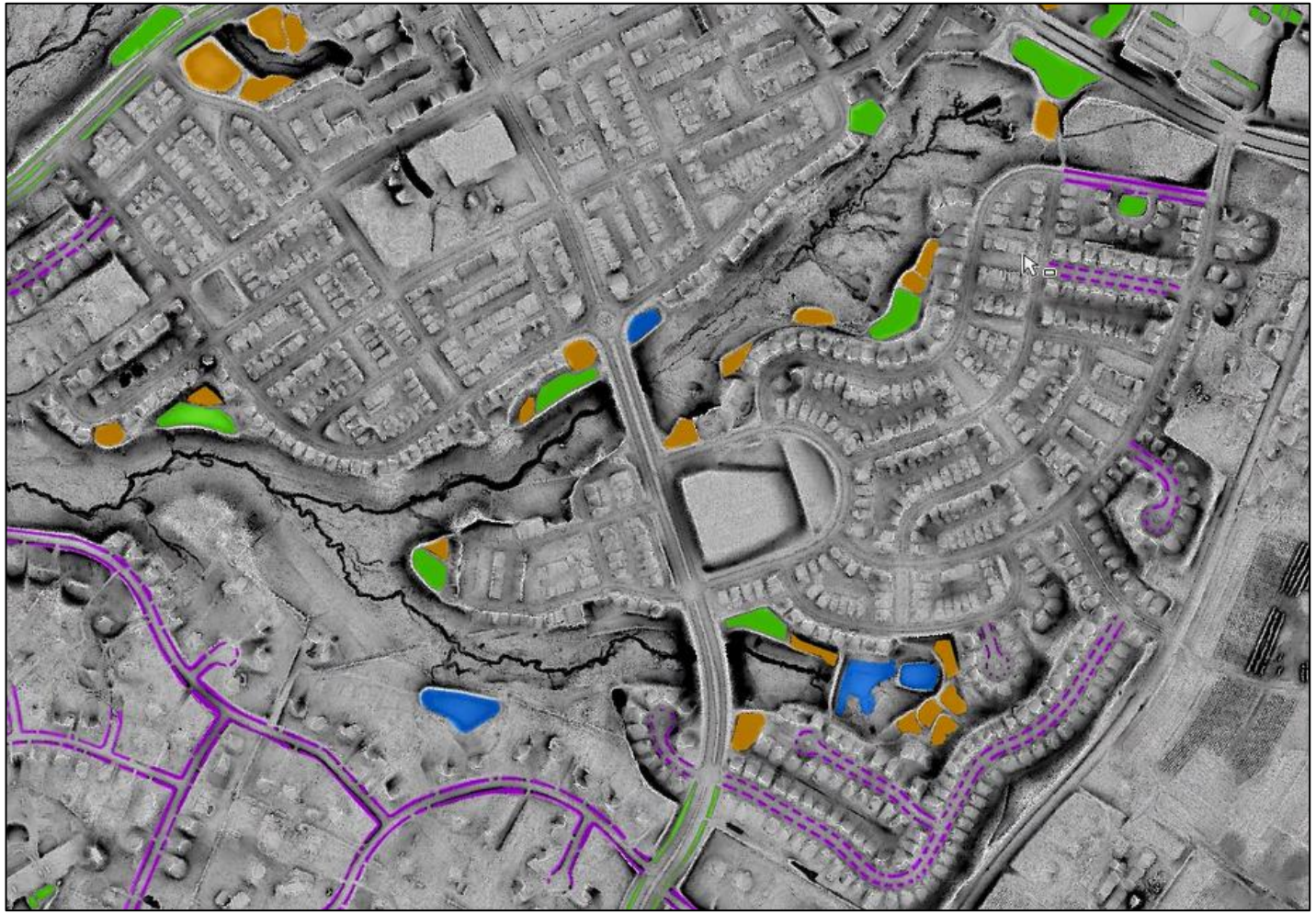
Detention ponds

Driveway swales



Mapped stormwater detention ponds, rain gardens, and dry swales in Tributary 104 in Clarksburg, Maryland

Preliminary mapping of four categories of surface storage.



Categories

- Roadside depression
- Depression with water
- Depression with sand
- Depression with vegetation

Potential Benefits of a Surface Storage Dataset

Stormwater Feature Inventory

- Regional scale understanding of upstream stormwater storage capacity
- Mapping areas with curb and gutter vs swales

Flood Management

- Quantify potential flood storage across the landscape

Connected Imperviousness

- Improved understanding of impervious surface treatment and connectivity to streams
- Where spatially is this higher or lower

Discussion

Would a surface storage dataset be useful?

If so,

- What types of features would you want to be included?
- What types of characteristics of those features would be useful?
- How might your jurisdiction/organization use these data?
- What other types of data or studies would be useful?