

# Harmful Algal Blooms - Kentucky



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Kentucky Division of Water

USGS HAB meeting Louisville



# Kentucky monitoring strategy

- Sample Clean Lakes program (~15 lakes) on 5 year rotation.
- Revisit lakes found to have HAB from previous year.
- Respond appropriately to citizen and field office complaints.
- Remote sensing and UAV use to better define a waterbody and limit on-site visits.



# Kentucky monitoring strategy

- Recommend health advisories per WHO guidelines (same as USACE)
- 2015 - Use ELISA to quantify toxins in lakes receiving advisories - immediate
- 2015 – Use HPLC to quantify and identify toxins in lake receiving advisories
- 2015 – Use ESA Sentinel 2 satellites for remote sensing



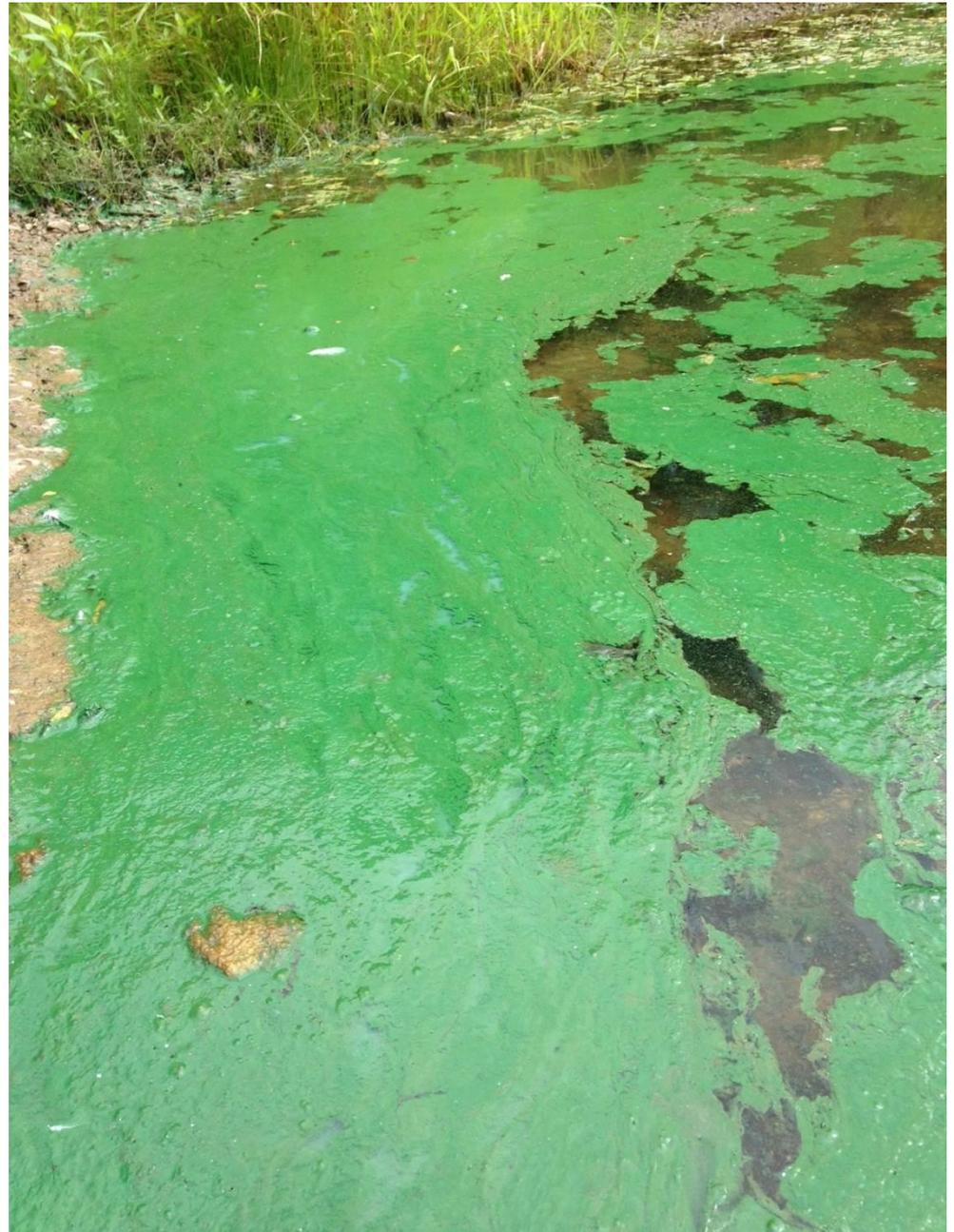
# What does a bloom look like?

Lake Reba – Madison County  
September 2014  
Anabaena



# What does a bloom look like?

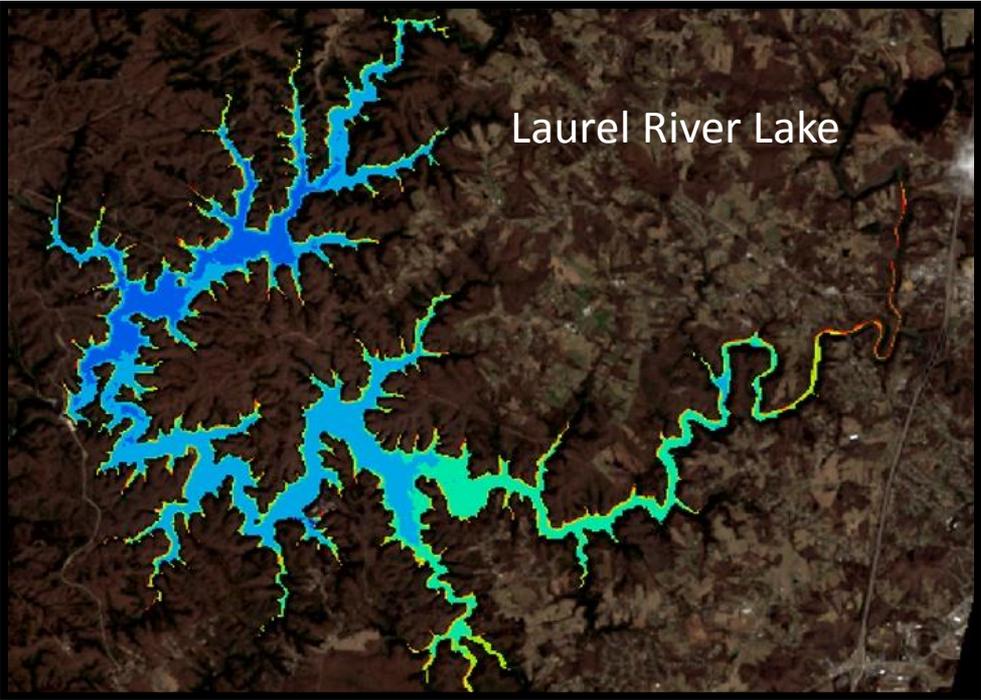
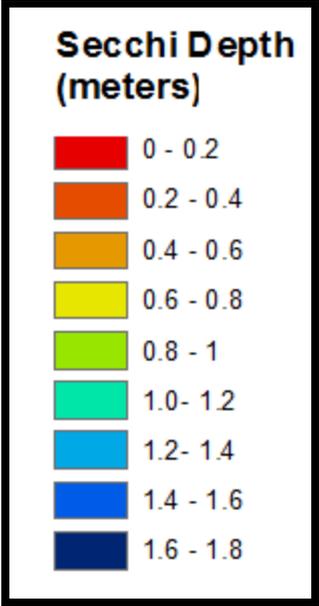
Fox Valley Lake – Fleming Co.  
August 2014  
Aphanizomenon



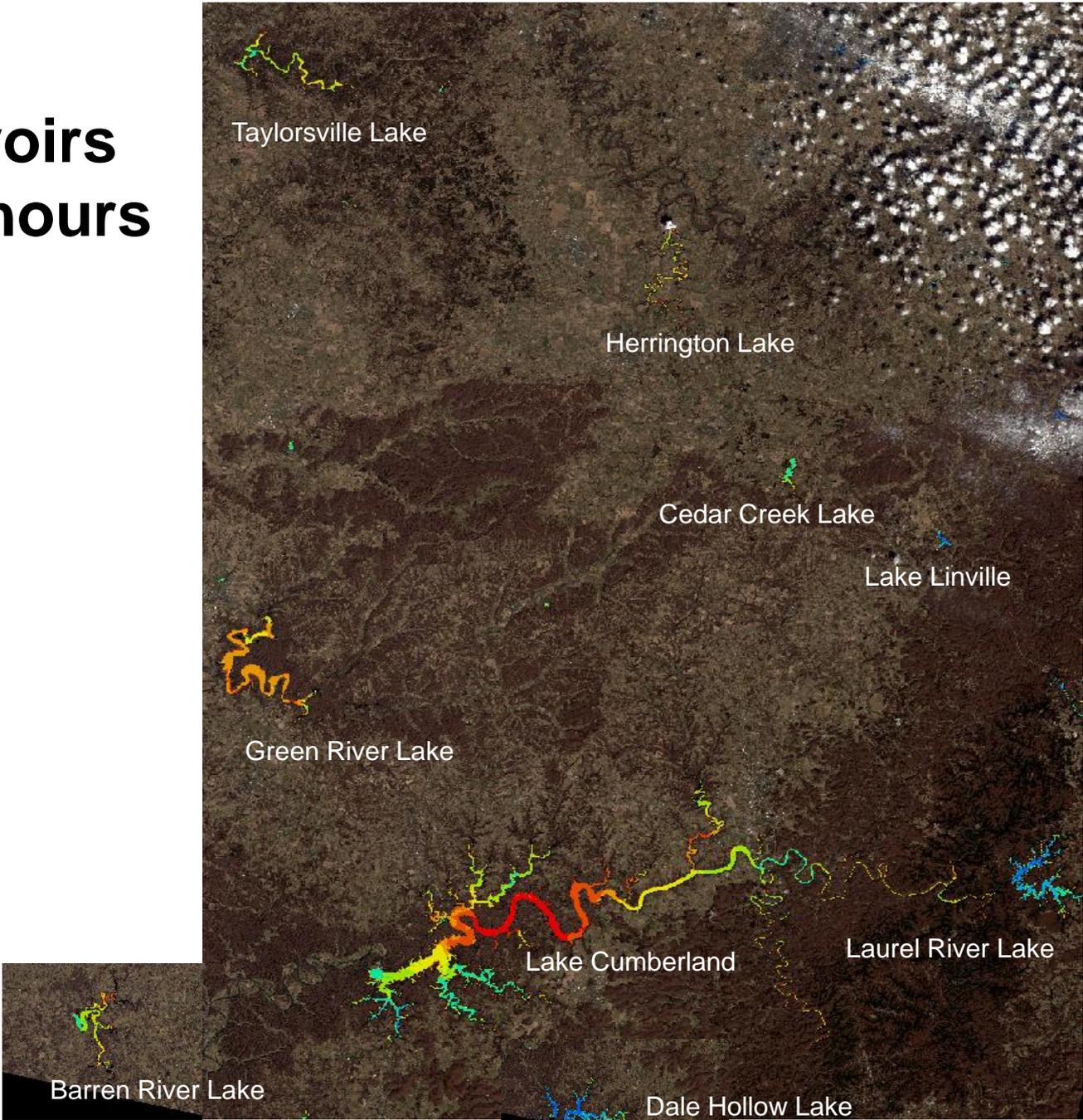
# A Bloom might look like this



# Secchi Depth Model



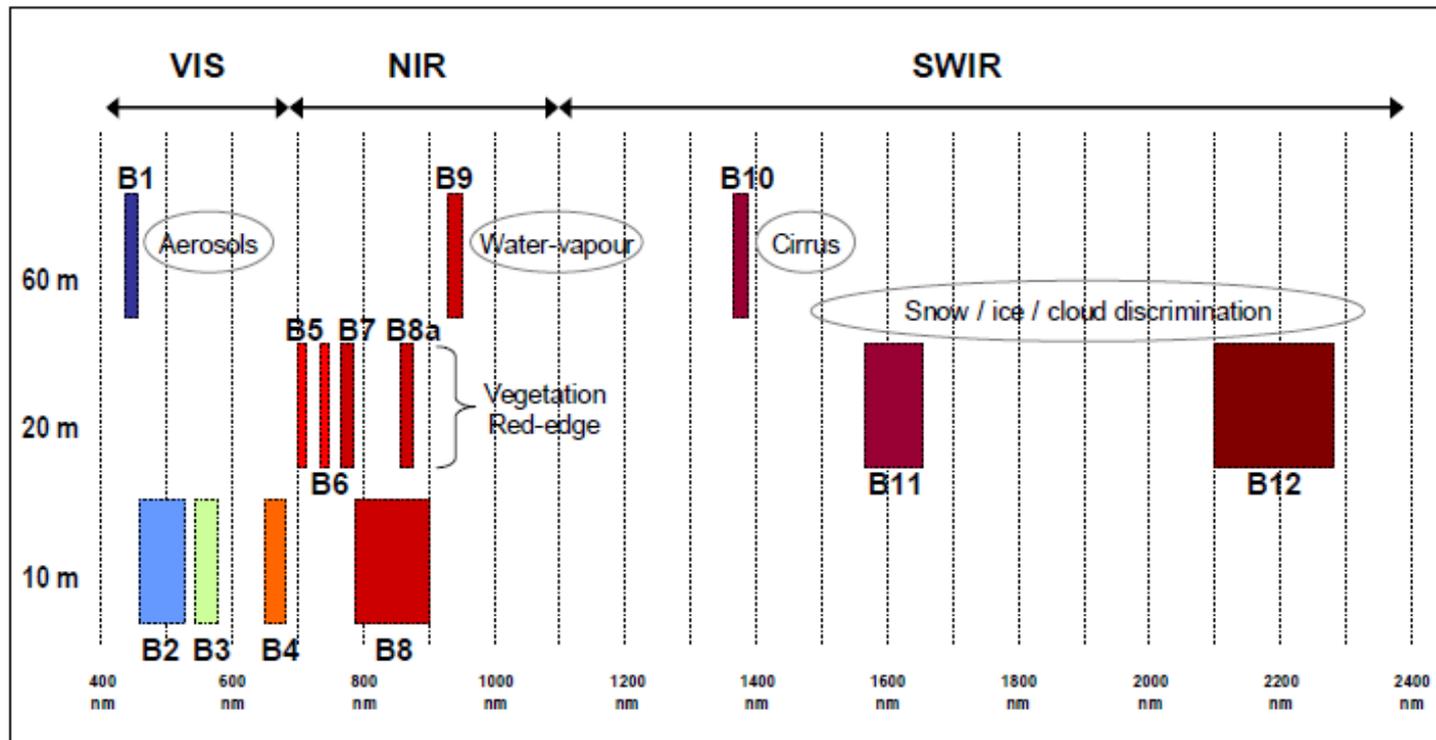
- **9 major reservoirs**
- **24 personnel hours**



# Advances

## ESA Sentinel 2

\*Launches in April 2015



Every 2-3 days



# Advances



Un-manned Aerial Vehicles



# Thank You.

## Questions?

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