

NE-1038 MultiState Project

Progress Report

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1 - Clayey Wetlands

- Response time issues in clayey wetlands

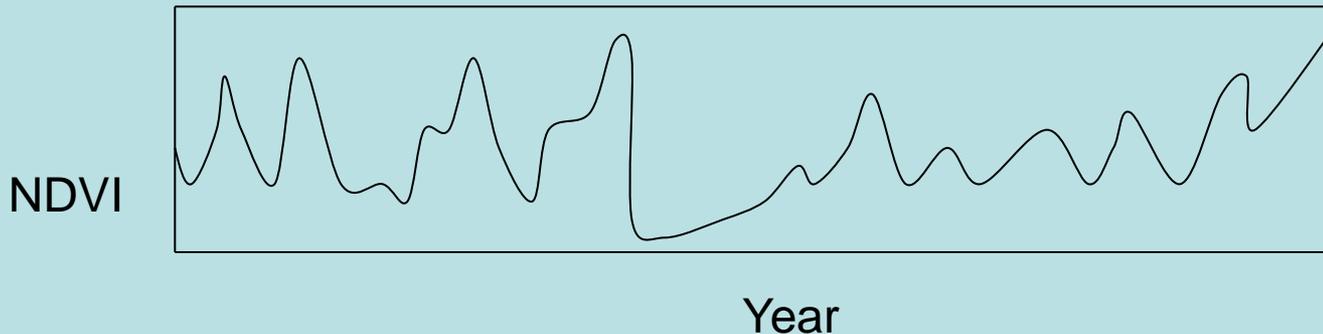
Research

- Installed three sizes of PVC pipes
- Open boreholes, sand pack, scl pack, tight fit
- Compared wells versus piezometers
- Laser cut slots versus ceramic tensiometer tips
- Compared TDR, pressure transducers, standard wells, tensiometers, piezometer nests

In progress

2 - Wetland Disturbance

- Using Landsat 1987-2007
- Highest NDVI March-June
- Track across the years for major wetland types in relatively undisturbed areas (Forested hardwood, forested evergreen, scrub-shrub, herbaceous, Phragmities)



NDVI patterns

- Find example areas with lowest NDVI (construction sites, new roads)
- Use high-resolution images to identify the disturbance, get range of NDVI in disturbed areas
- Look for those values in 2007 Landsat, check the pattern of NDVI across the years at those locations to see when the disturbance occurred

NDVI Patterns

- Compare the NDVI pattern to verify when the disturbance occurred. DEQ can compare that to their records.
- See if the landowner had applied for a permit, and identify the modified area as a point or polygon.
- Identify areas in conservation easements.

3 - GeoSAR Study – Find Forested wetlands

- P-band penetrates tree canopy, soil, stops at increase in clay, salinity, at water table
- Measured soil moisture and depth to W.T. at time of flight
- Will compare delineation of known wetlands with results from GeoSAR imagery

4 - Hyperspectral Data Study

- Use hyperspectral data to find sediment in waters in rivers and wetlands
- Find chlorophyll, water
- Compare values at reference wetlands versus others of the same type to estimate functionality at wetlands with some level of disturbance, and wetlands nearest urbanized areas to see the impacts

5 - Find Easily-Restored Wetlands

- Overlay NWI, hydric soils, drainage/hydrology, land use
- Find areas of hydric soil and apparent wetland hydrology but no NWI polygons around
- Find areas of hydric soil or NWI wetlands where ditches occur
- Field validate