NEBRASKAVIEW
2020 - 2021

NEBRASKAVIEW 2020 - 2021 ACTIVITIES

The NebraskaView program explored the use of airborne imagery for urban forestry applications that included mapping urban tree canopy distribution and classification of specific tree species types. The urban forest canopy mapping project was done in conjunction with a Nebraska Environmental Trust (NET)-supported project that partnered with three cities in Nebraska (Lincoln, South Sioux City and Waverly) to develop urban forest canopy maps for their respective communities from USDA National Agricultural Imagery Program (NAIP) multispectral imagery. The tree species classification activity was a preliminary, exploratory project to assess the feasibility of multi-temporal hyperspectral imagery to identify and map specific tree species with urban forests.

The goal of NebraskaView activities is to develop practical applications and advanced the use of remote sensing for urban forest management within the State.

Results:
- Urban forest canopy maps over the cities of Lincoln, South Sioux City and Waverly.
- Preliminary tree species classification results using single and multi-date, hyperspectral imagery for UNL's East Campus.
- Provided remote sensing training and research experience for a graduate student for the urban forest mapping activity and undergraduate honors student for the tree species classification study.

◆ Fraxinus pennsylvanica
◇ Picea pungens
◈ Pinus nigra
◆ Quercus macrocarpa

Initial tree species classification results over UNL's East Campus using airborne hyperspectral imagery.

Legend
- ■ impervious
- ■ tree
- ■ grass
- ■ soil
- ■ water

Urban tree canopy map over an area of Lincoln, NE produced from USDA NAIP multispectral imagery.

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The mission of NebraskaView is to ensure *that Nebraskans make full use of satellite and airborne imagery, aerial photography and other geospatial data products through technologies such as geographic information systems (GIS) and remote sensing*.

Specific benefits of Nebraska View to the State include:

- Support decision makers in evaluating and selecting the most appropriate remote sensing imagery and other spatial data for a specific application.
- Demonstrate the value of remote sensed data and assist in developing applications.
- Providing remote sensing education and training to students, professionals and others in the general public.
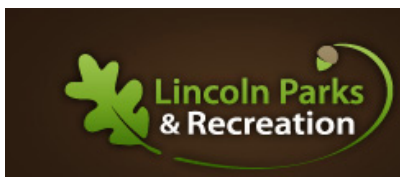

Damien Niyonshuti, NebraskaView summer intern, helping with installation of airborne hyperspectral sensor used to collect imagery for tree species classification work.

1-meter airborne hyperspectral image over UNL's East Campus used in the tree species classification activity

NEBRASKAVIEW CONSORTIUM MEMBERSHIP

City of Lincoln, Nebraska Parks and Recreation

Nebraska Forest Service

The Nebraska Environmental Trust

University of Nebraska-Lincoln Community and Regional Forestry Program

Federal consortium members identified above do not receive funding from AmericaView.

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