FACT SHEET
"CURRENT APPLICATIONS" PUBLIC OUTREACH SERIES

Funding for this project has been provided through the **Nebraska Environmental Trust and the Platte River and Basin Cooperative Hydrology Study Sponsors**. This Fact Sheet series provides educational information on current examples of common remote sensing applications from AV Members; however, no endorsement of or association with ***AmericaView***[SM] by any funding

Delineation of Land Cover and Land Use for the Central Platte River Basin Cooperative Hydrology Study (1982, 1997 and 2001)

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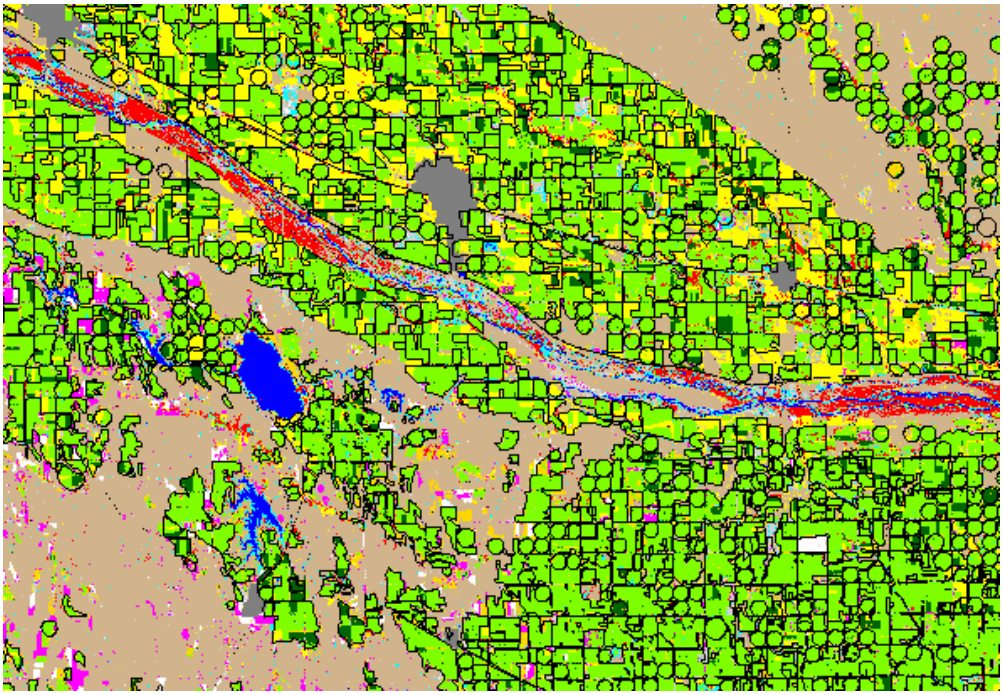

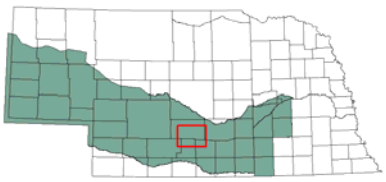

Example of 1997 Land Cover Classification for the Central Platte River Basin

Study Area

Introduction: The Cooperative Hydrology Study (COHYST) is a multi-agency project intended to improve understanding of hydrological conditions in the Platte River. COHYST involves assemblage and creation of numerous geospatial data layers to be used in modeling and development of a water resources decision support system (DSS). A critical data layer required for the DSS is a detailed and accurate map of land use. Land cover and land use are mapped using Landsat satellite imagery. The project involves three different years: 1982, 1997 and 2001. The 1997 land cover mapping is complete; the 1982 and 2001 land cover maps will be finished by the end of 2003.

Methods: The mapping procedure capitalized on the seasonal dynamics of the agricultural crops and native plant communities. Multi-date Landsat-7 Enhanced Thematic Mapper (ETM+) satellite imagery are being used to generate the 2001 land cover classification. Multi-date Landsat-5 Thematic Mapper (TM) imagery were used to generate the 1997 land cover classification and multi-date Landsat 3 Multi-Spectral Scanner (MSS) imagery were used to develop the 1982 land cover classification. Images were selected to represent summer and fall growing conditions with cloud coverage dictating date selection.

Image Classification: The land cover mapping is being done using a variety of image processing techniques including image classification and GIS modeling. For each year of analysis, a supervised image classification technique was performed. Ancillary data layers such as the USDA Farm Service Area (FSA) reporting records, USGS Digital Orthophoto Quarter Quadrangles (DOQQ's), National Wetlands Inventory (NWI), and SSURGO and STATSGO soils data were used as needed to assist in the mapping. Classification accuracy will be determined by comparisons with existing crop information. The overall accuracy for the 1997 land cover map was calculated at 79%.

Project Results: For additional details and to see maps, explore the web site at: http://www.calmit.unl.edu/cohyst