



State of Nebraska Department of Natural Resources Water Data Management

Association of Western State Engineers
87th Annual Meeting
Galveston, Texas
September 28 – October 1, 2014

Brian P. Dunnigan, P.E., Director

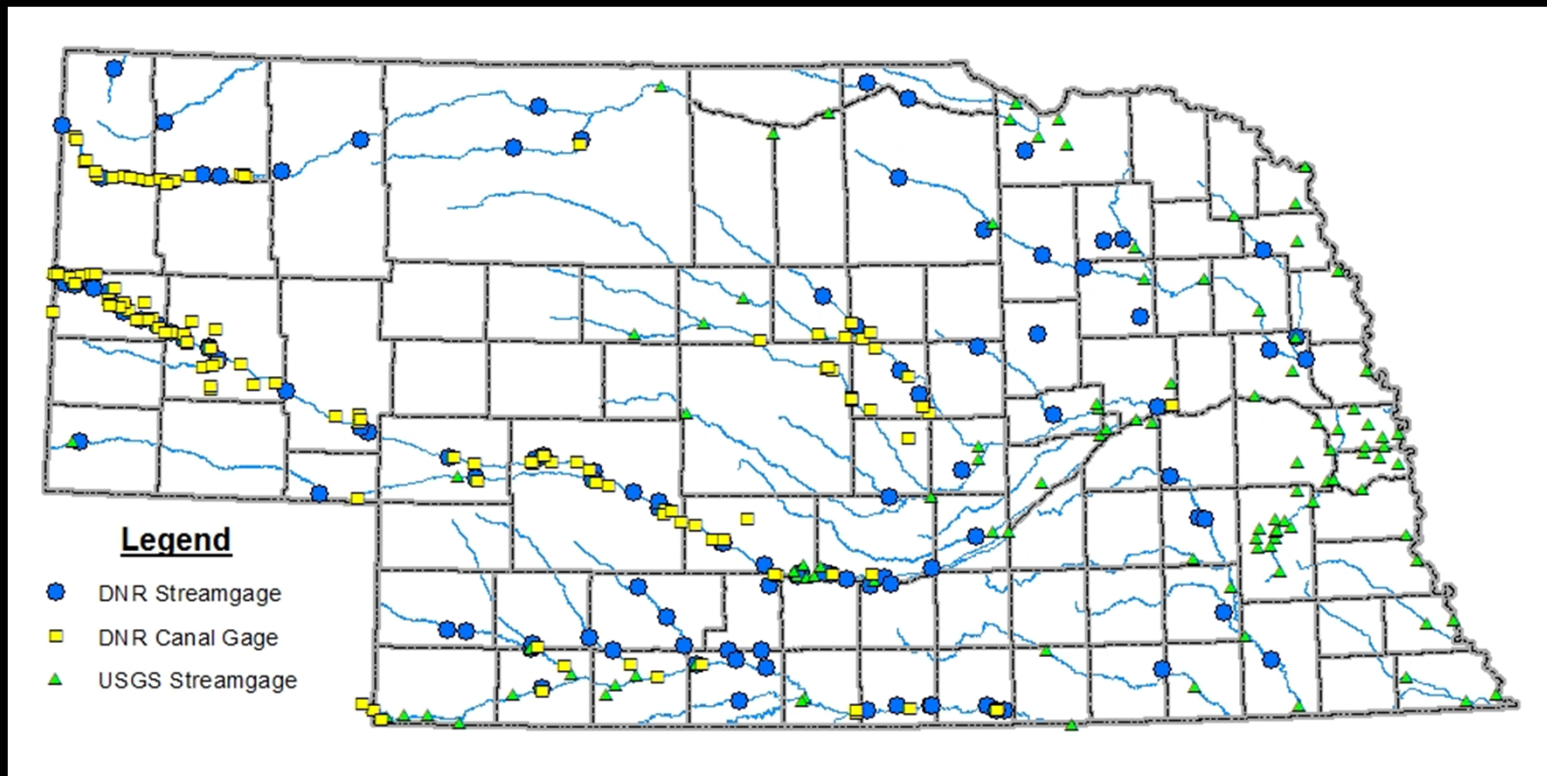


Overview

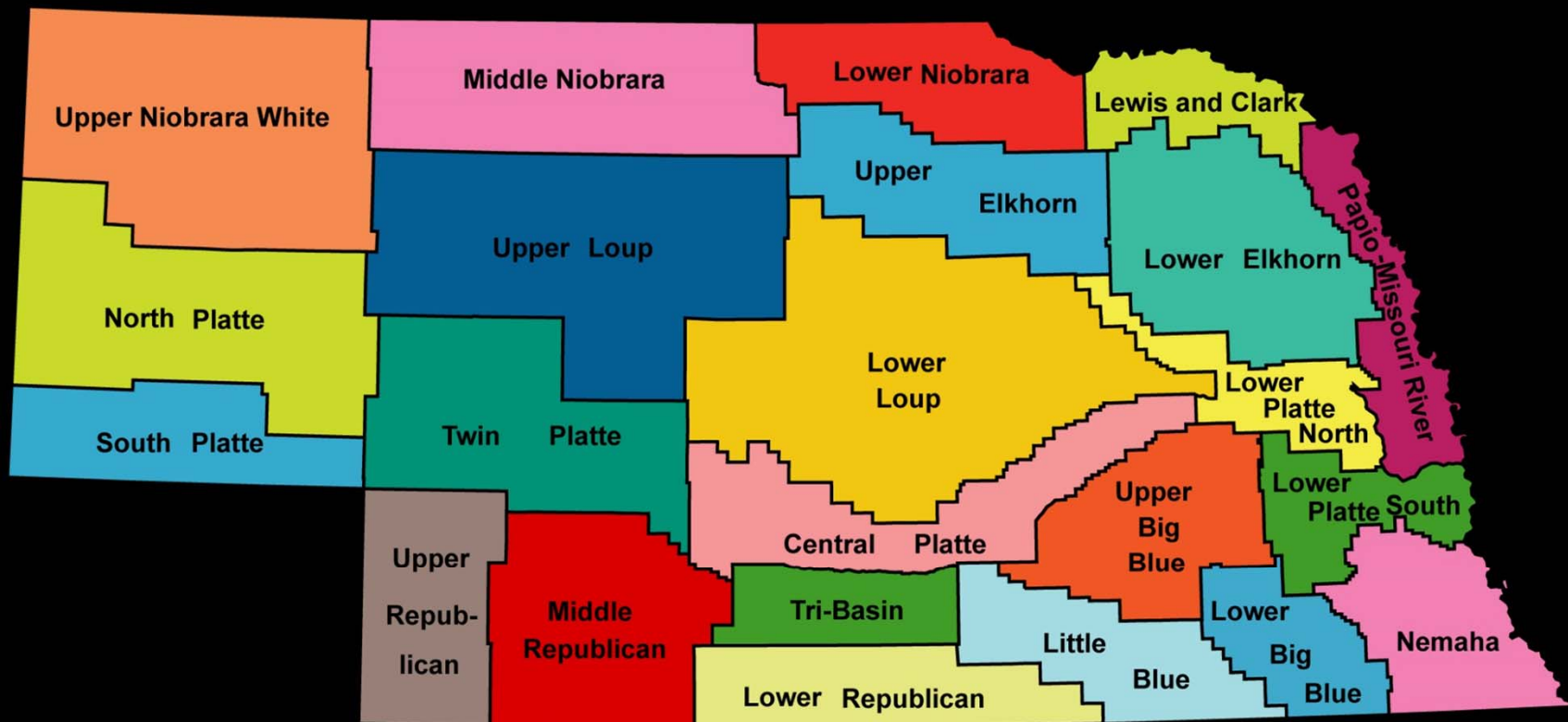
- Surface water streamgaging networks
- Groundwater wells & monitoring systems
- Nebraska DNR water data and water management
- Data collection networks
- Modeling tools
- INSIGHT data portal
- Upcoming efforts

Surface Water Streamgaging Networks

- ✓ **\$250,000** annual budget for streamgaging
- ✓ **110 DNR streamgages** (continuous)
- ✓ **120 DNR canal streamgages**
- ✓ **~110 USGS streamgages**

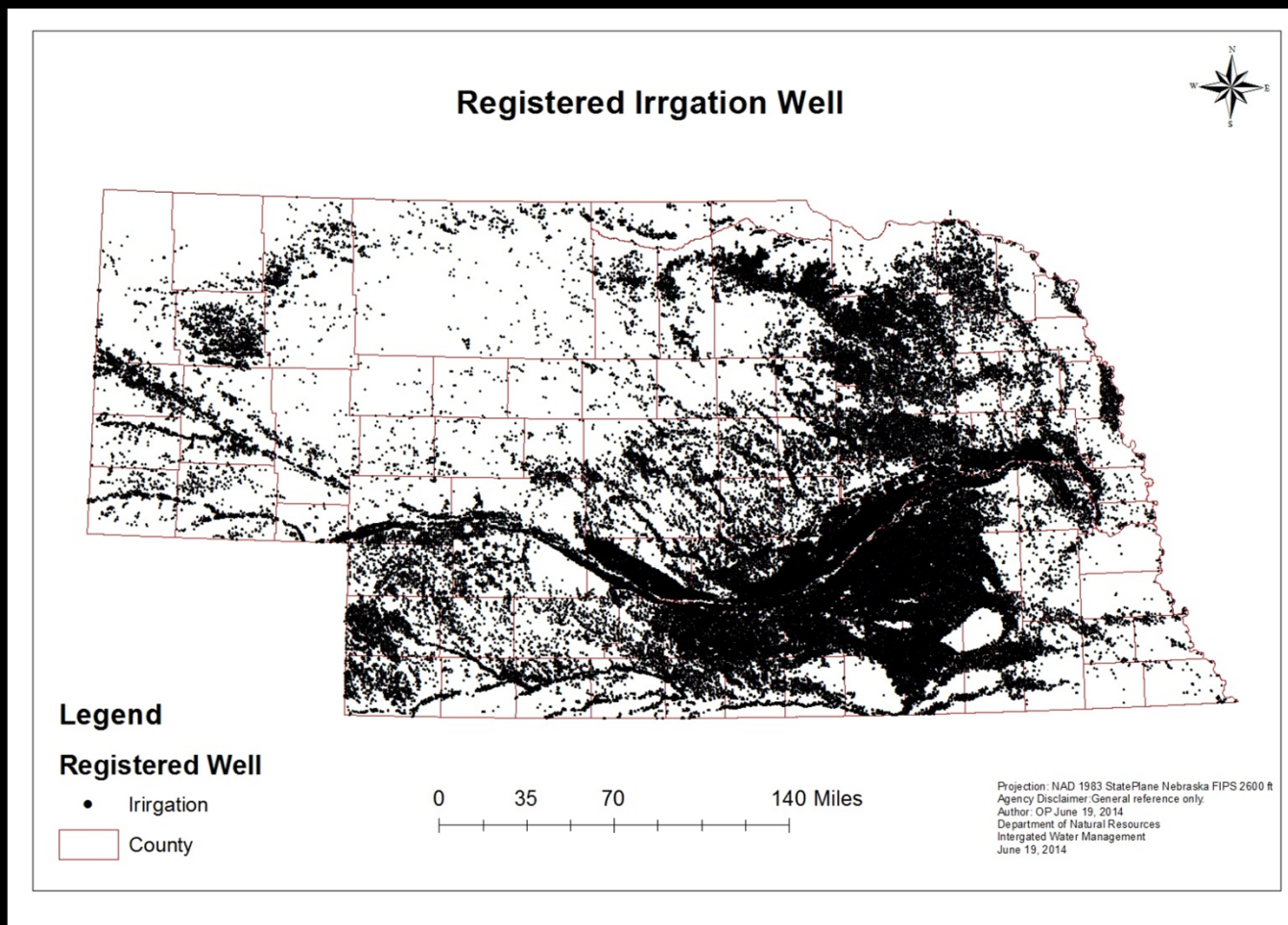


Natural Resources Districts (23)



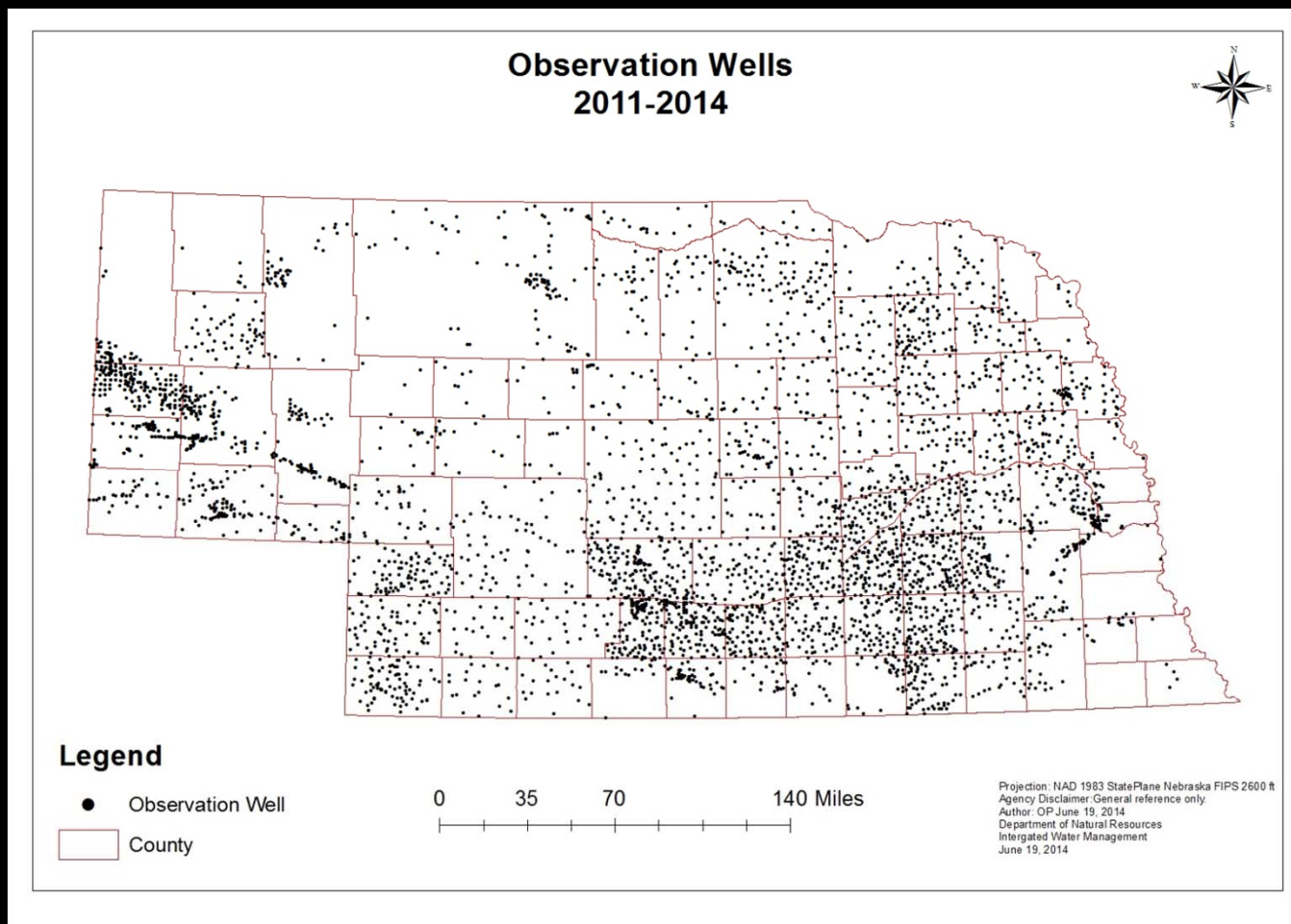
Groundwater Wells

✓ ~ 95,500 active groundwater irrigation wells



Groundwater Wells

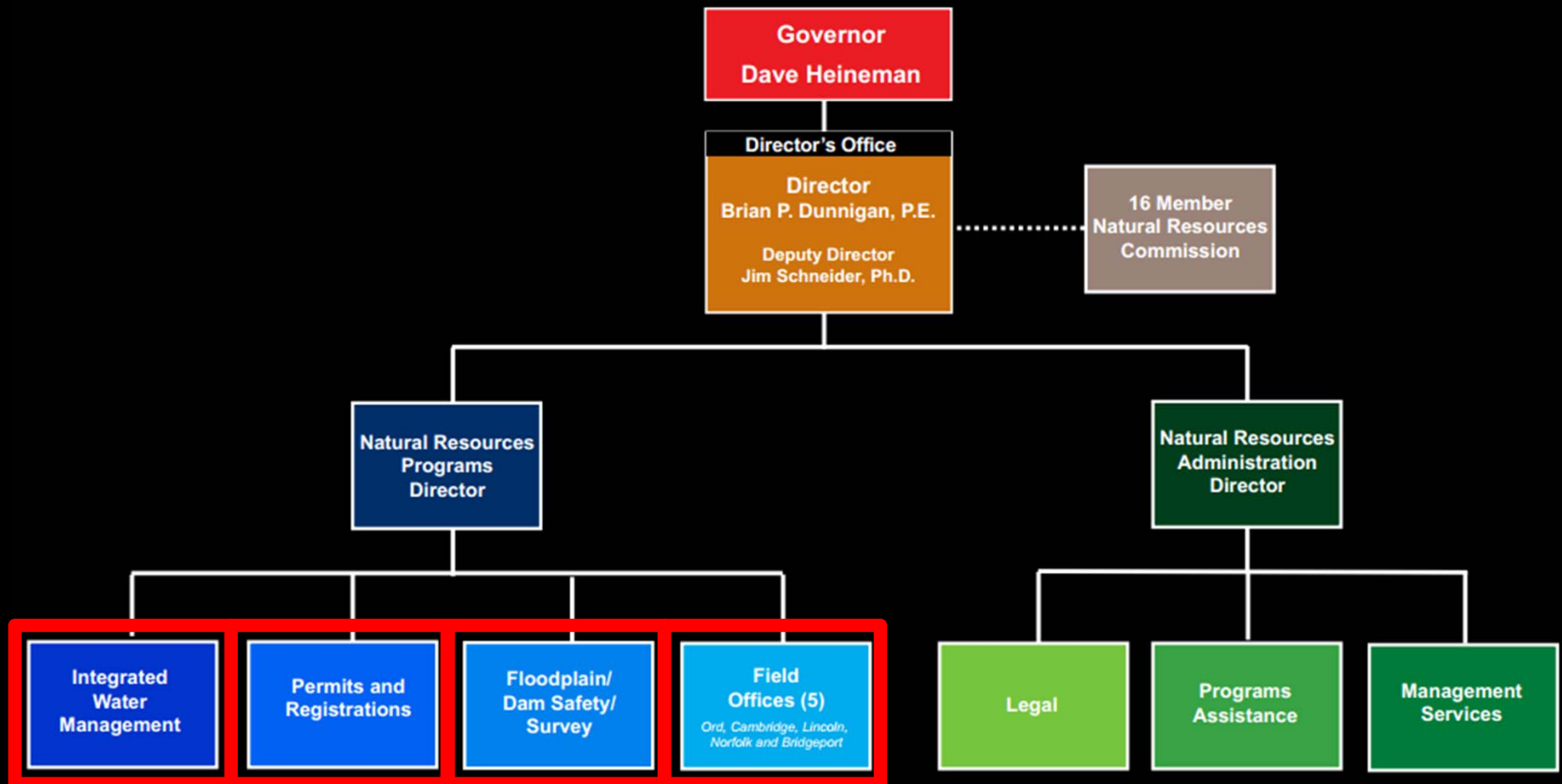
✓ ~ 4,400 groundwater monitoring/observation wells





Nebraska

Department of Natural Resources



What we do:

Provide
technical expertise,
planning, permitting
and coordination

Develop
models

Conduct
studies

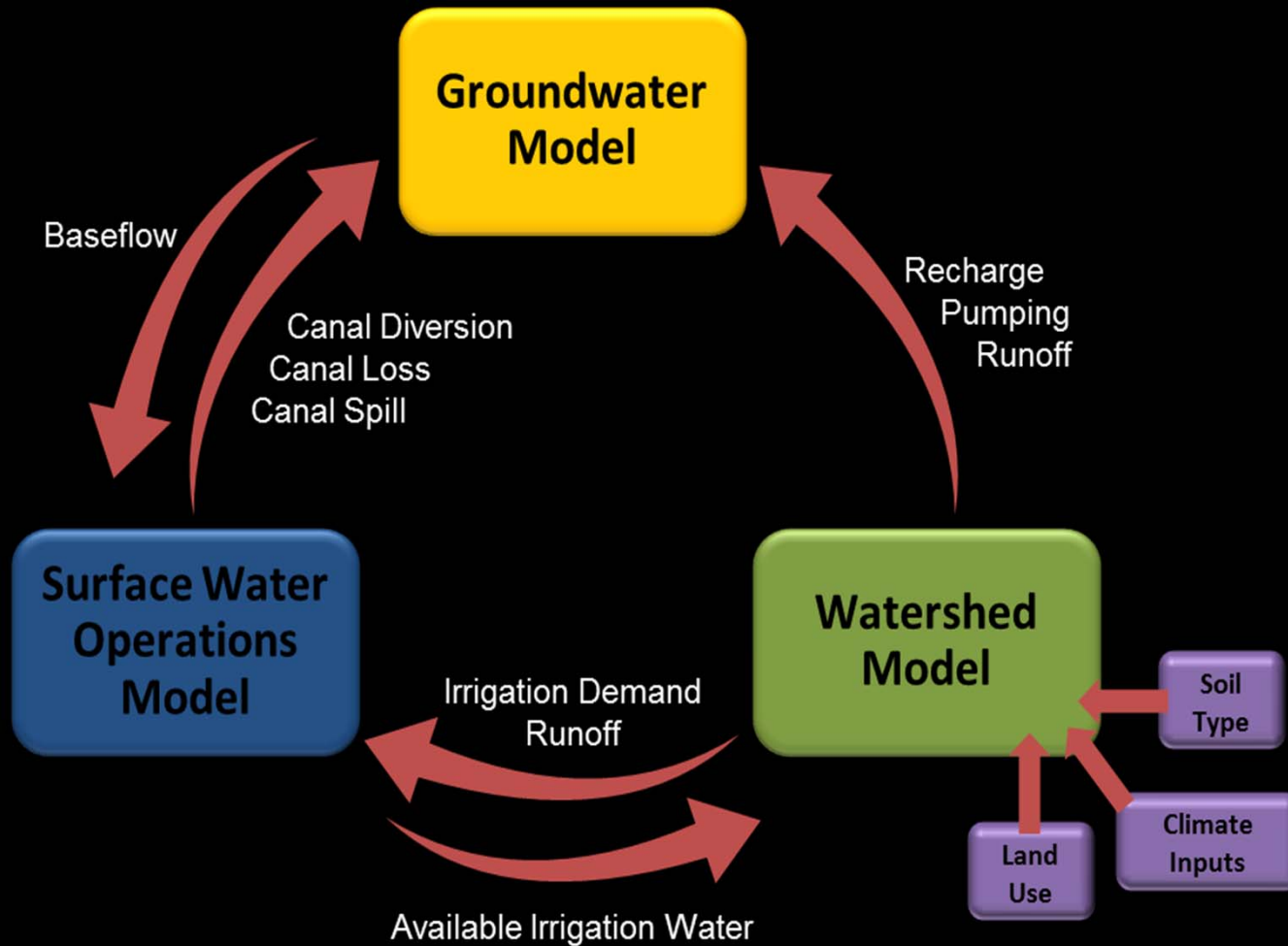
Help water
managers

Collaborate
with NRDs
and other
stakeholders

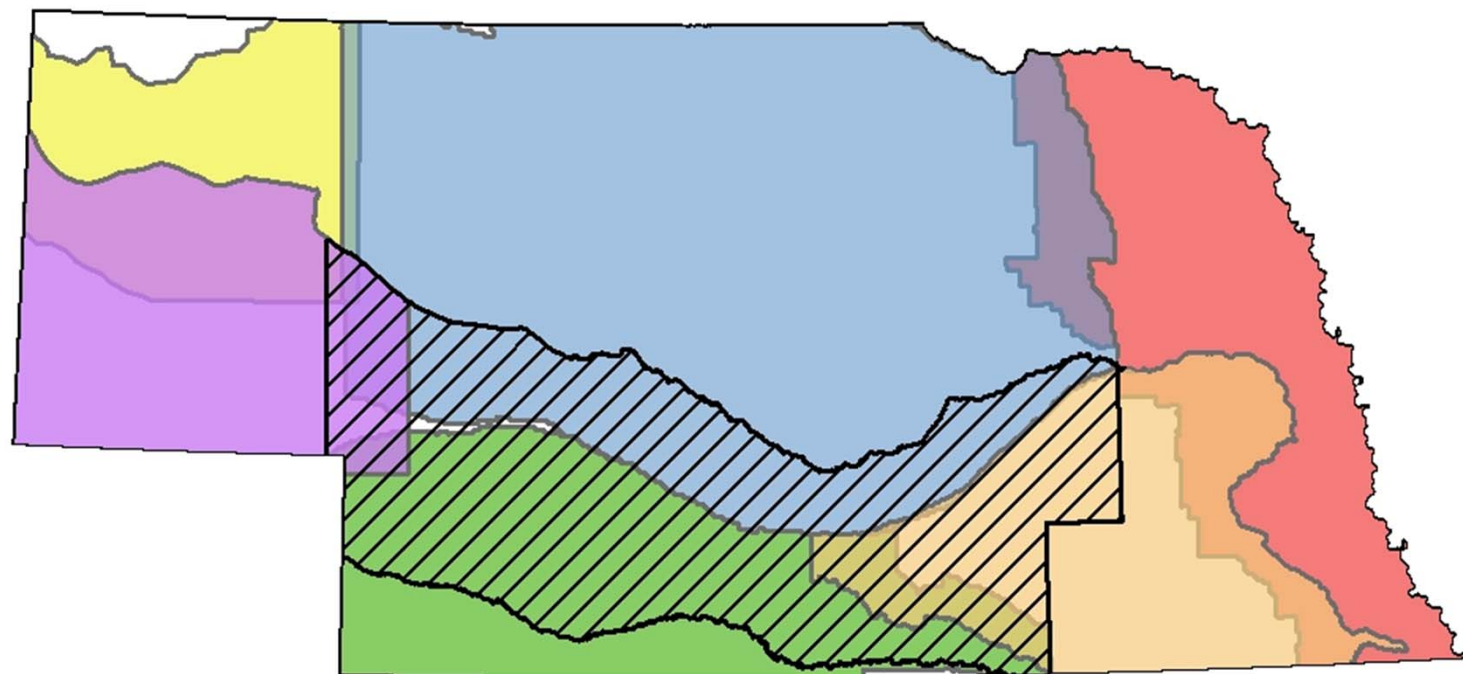
To help better understand:

- Nebraska's water supplies and uses
- The effects of potential water management strategies

Integration of Water Data



Modeling Tools

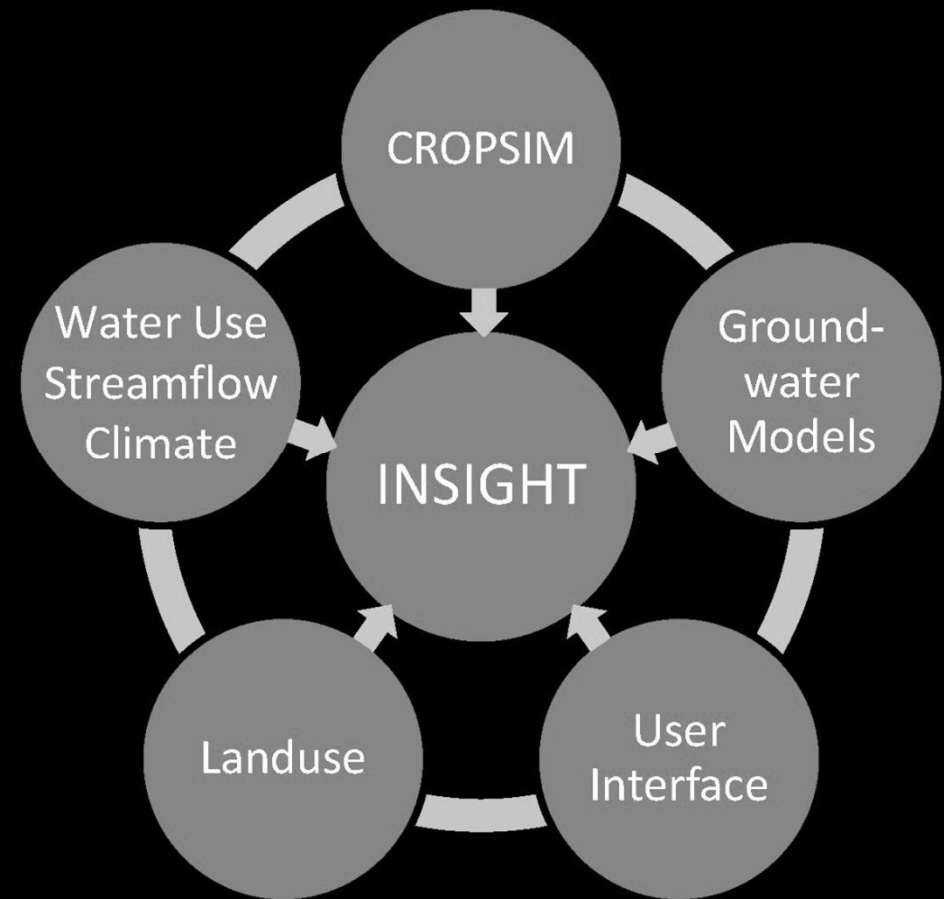


Upper Niobrara White NRD Model
Western Water Use (WWU) Model
Central Nebraska (CENEB) Model
Cooperative Hydrologic Study (COHYST) 2010

Republican Basin Study
Blue Basin Groundwater Model
Lower Platte & Missouri Tributaries Assessment

INSIGHT – *Integrated Network of Scientific Information & GeoHydrologic Tools*

- An **annual snapshot** of water conditions across the state
- An **educational tool** for water managers and the public
- A tool to help **evaluate** water management options



INSIGHT: Statewide Data

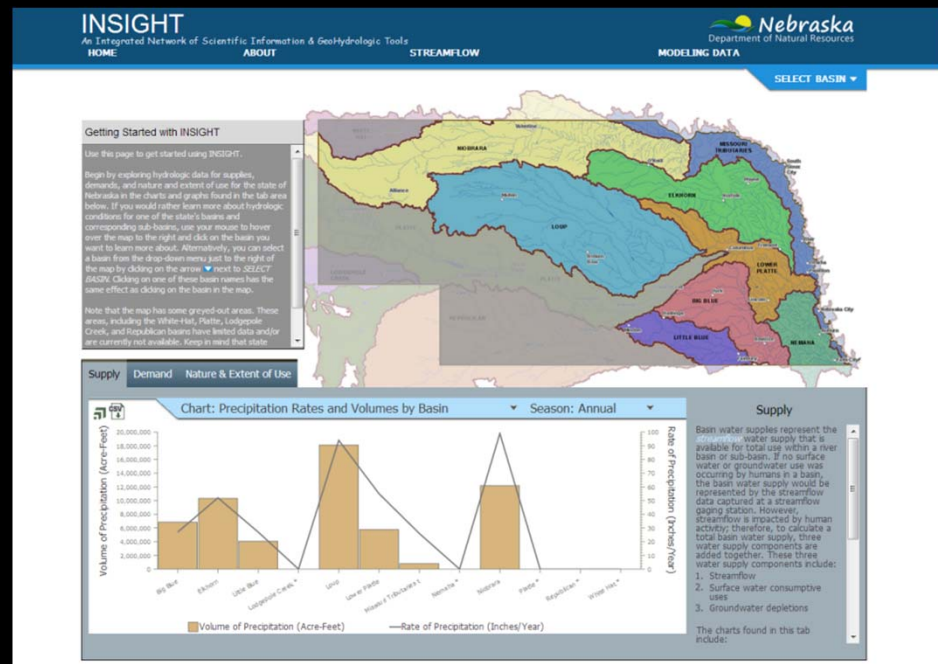
Basin-to-Basin Comparisons

Information available:

- ✓ Supply
- ✓ Demand
- ✓ Nature & Extent of Use

Seasons available:

- ✓ Annual
- ✓ Peak
- ✓ Non-Peak



INSIGHT: Basin and Subbasin Data

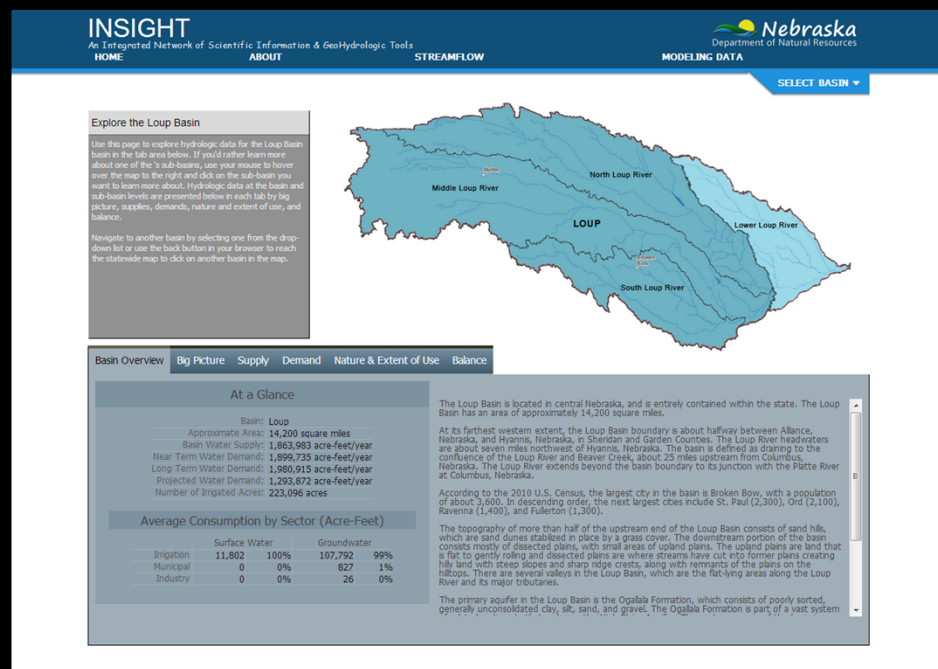
A More Detailed Picture

Information available:

- ✓ Basin Overview
- ✓ Big Picture
- ✓ Supply
- ✓ Demand
- ✓ Nature & Extent of Use
- ✓ Balance

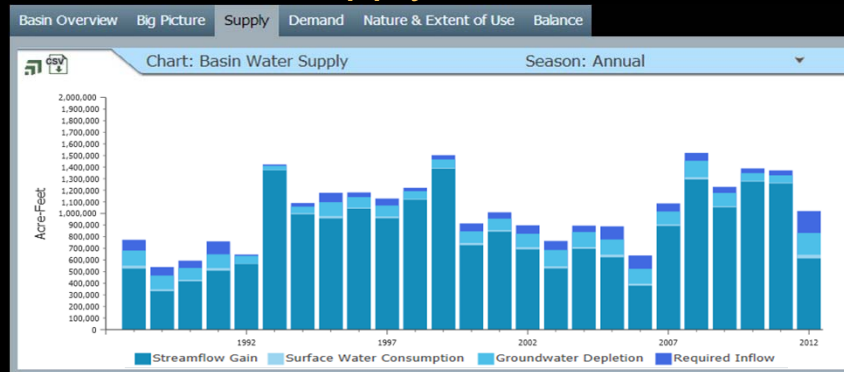
Seasons available:

- ✓ Annual
- ✓ Non-Peak
- ✓ Peak

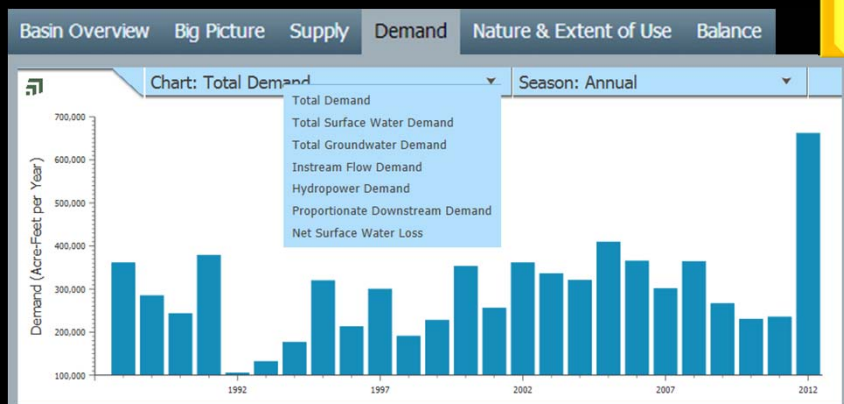


INSIGHT: Basin/Subbasin Data

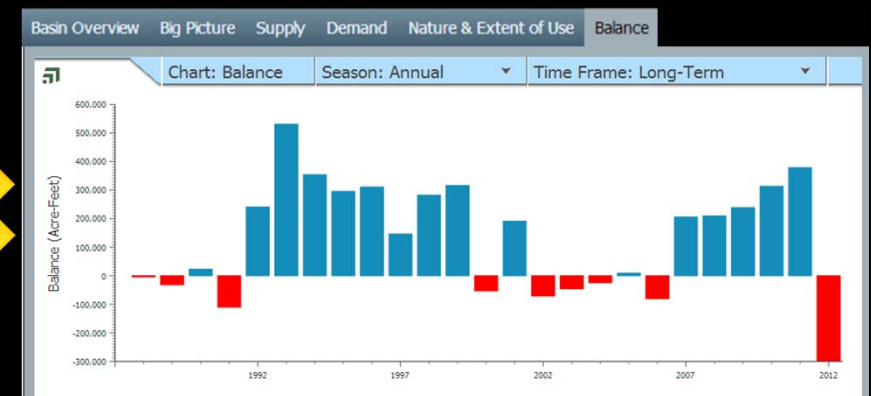
Basin Water Supply



Total Demand



Balance



Continuing Water Data Efforts

- **Next step:** continuing to refine the picture presented by INSIGHT
- INSIGHT Data Enhancement Program (IDEP)
- Examples:
 - Improved groundwater water use data
 - Expanded streamgaging network

Summary

