

THE FLINT HILLS

ROCK CYCLE

- A vast inland saltwater sea receded 70 million years ago
- Sedimentary limestone was left behind - full of amazing fossilized sea animals
- Native plants and limestone are the source of the fertile soil
- Flint rock (chert) & limestone protected our prairie from being turned into crop land

WATER CYCLE

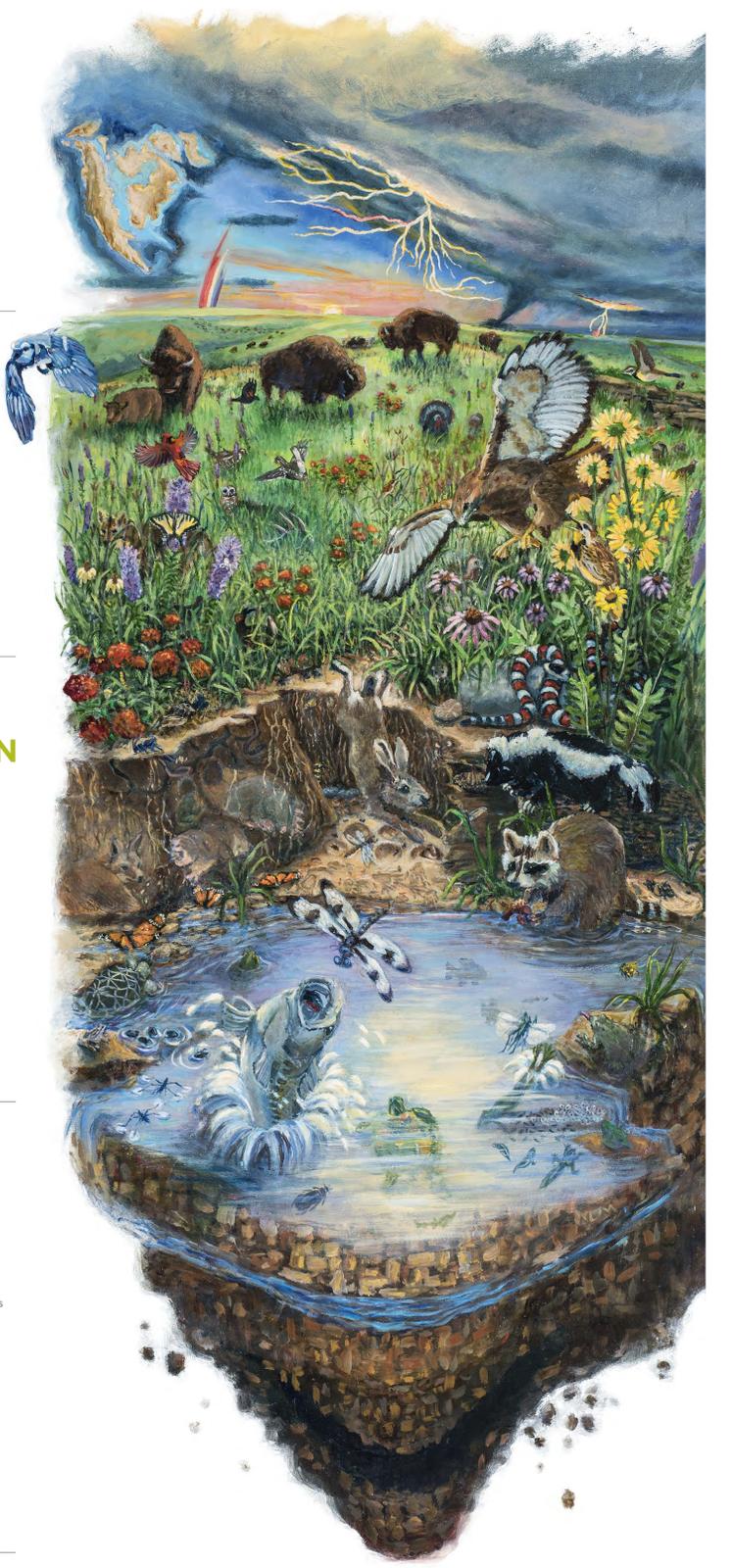
- Winds bring in moisture from the Gulf of Mexico
- Grasses grow tall in our temperate climate
- Rainfall seeps deep into groundwater and forms springs
- Thick grasses filter and purify rainwater and runoff
- Ponds, creeks and rivers are full of fascinating aquatic life

NITROGEN CYCLE

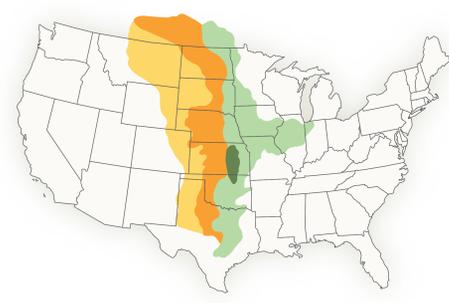
- Nitrogen is an essential building block of life
- Prairie produces its own biological nitrogen without the need for industrial fertilizers
- Microbes in the rich soil and on roots of native legumes add biological nitrogen to soil
- Lightning fixes atmospheric nitrogen and rain carries it to earth
- Nitrogen nutrients pass through the food chain of all plants and animals
- Nitrogen returns to soil by way of plants and animals

CARBON CYCLE

- Prairie soils are a carbon bank full of decaying plant matter
- Prairie plants use photosynthesis powered by the sun to remove CO₂ from air and store it in the soil (sequestration)
- Plants turn CO₂ into carbohydrates & sugars - building blocks of growth
- Carbon flows through a diverse ecosystem of microbes, wildflowers, forbs, tallgrasses, animals, and birds
- Deep underground are oil and gas - ancient hydrocarbon fossil fuels - that emit CO₂ into the atmosphere when burned



HISTORIC PRAIRIE REGIONS



The FLINT HILLS are the LAST STAND of the TALLGRASS PRAIRIE

- Tallgrass prairie is the **most altered ecosystem** in North America
- Only **4%** remains of the original tallgrass prairie
- 96% of the tallgrass prairie has been **plowed or developed**
- 2/3** of remaining tallgrass prairie is in the Flint Hills
- The Flint Hills are the **largest expanse** of tallgrass prairie left in North America

EXPLORE THE WEBSITE

for in-depth info on the Flint Hills, the map, and teaching resources:
flinthillsdiscovery.org/map

EXHIBIT & WEBSITE MADE POSSIBLE BY:

- OSAGE NATION
- Butler
- Aster Energy
- LEWIS H. HUMPHREYS CHARITABLE TRUST
- CapStone
- Cargill
- Paula K. VARNER in memory of STERLING V. VARNER
- THE ARONA PRAIRIE LAND BARON HIGGINS HERITAGE FUND

© 2016 Flint Hills Discovery Center Foundation