

When do Ornate Box Turtles emerge from hibernation?

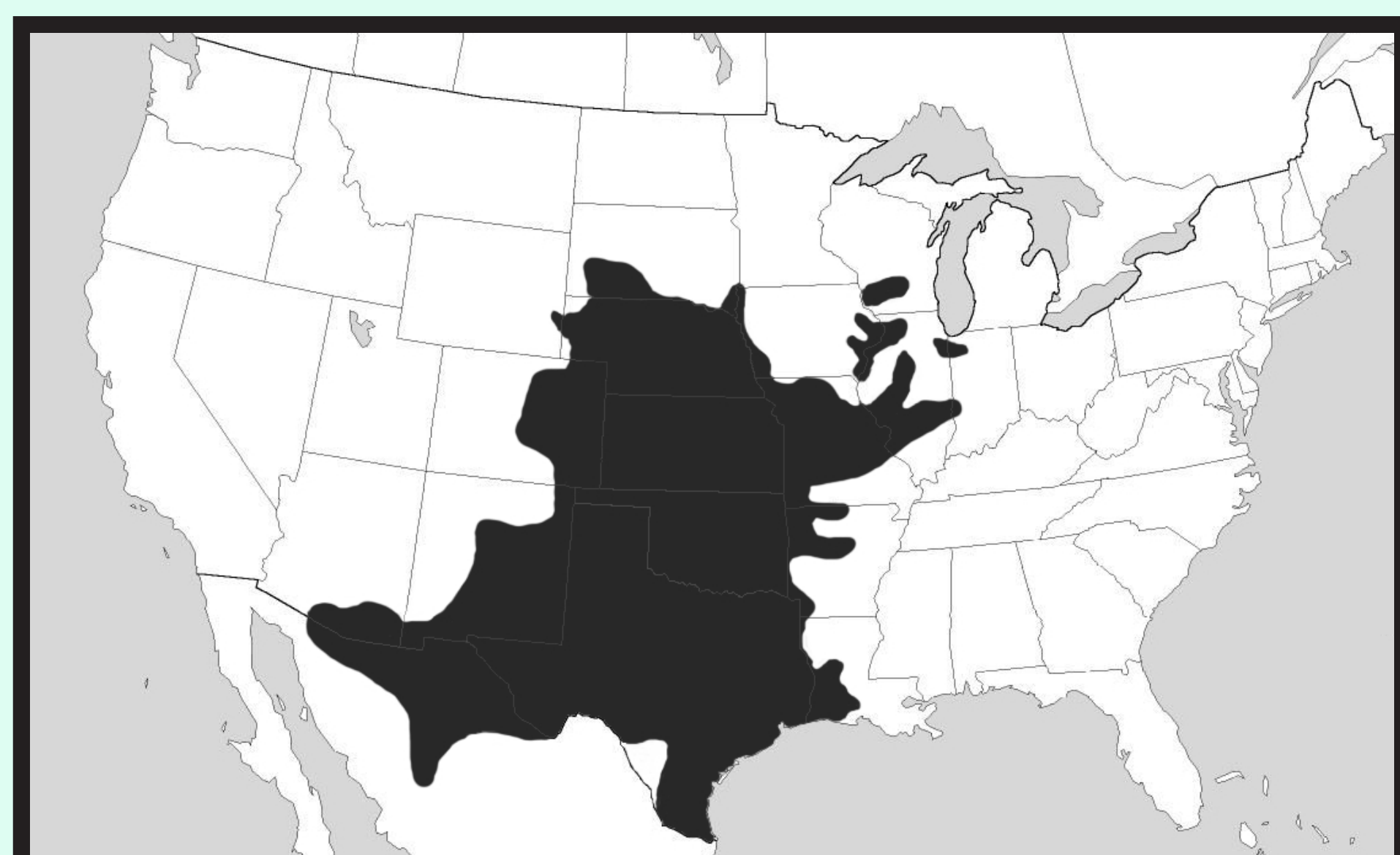
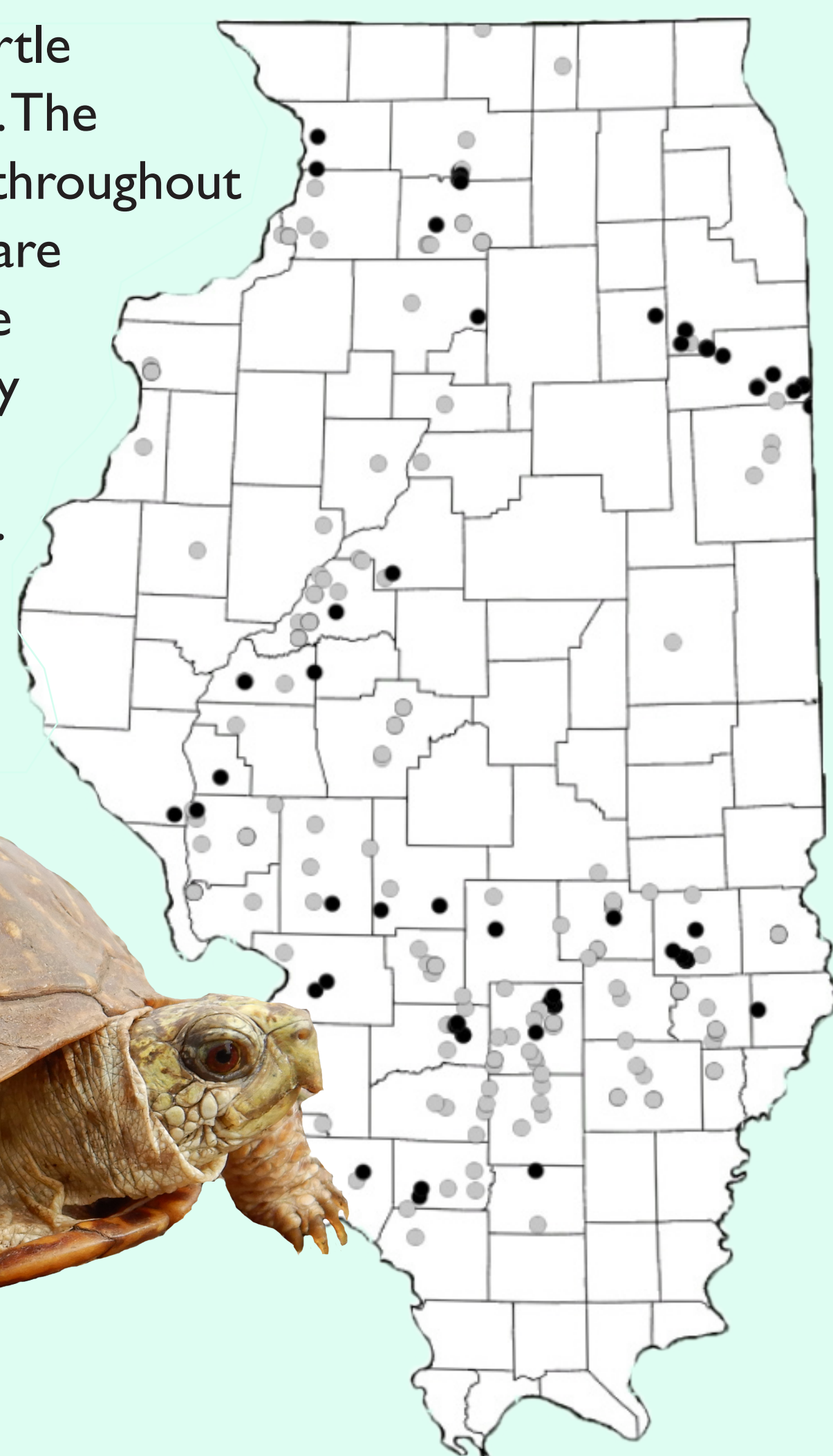
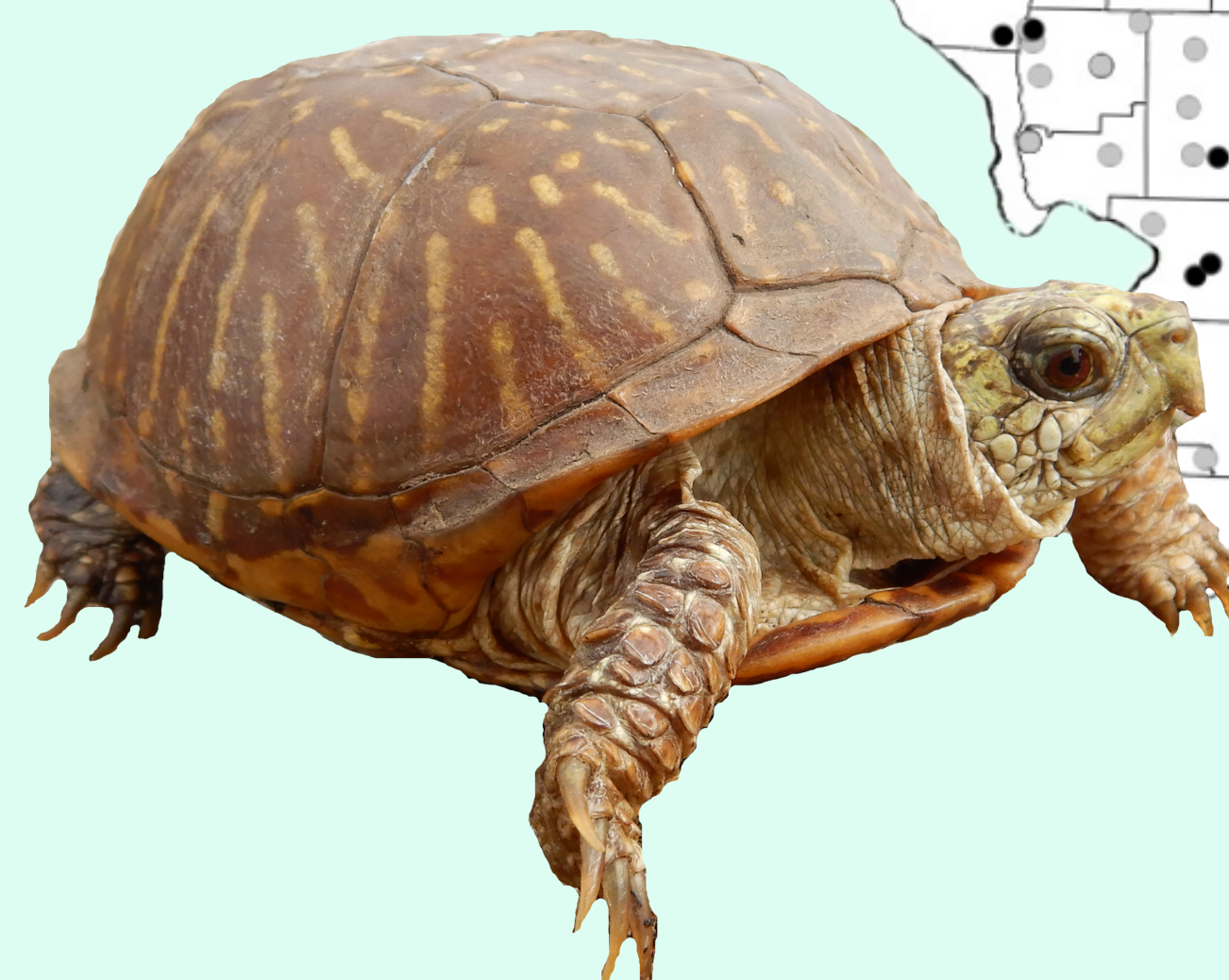
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BACKGROUND

- The Ornate Box Turtle (*Terrapene ornata*) is threatened in Illinois.
- One of the largest remaining Illinois populations occurs at Nachusa Grasslands.
- Prescribed burns in spring could cause unintentional mortality if turtles are active and above ground.

Right: Ornate Box Turtle distribution in Illinois. The species has declined throughout the state. Black dots are confirmed sites in the past 20 years and gray dots are records before the year 2000.



Above: Distribution of the Ornate Box Turtle. The Nachusa Grasslands population is near the northeastern edge of their range.

WHAT DO WE ALREADY KNOW?

Illinois – Grundy County

- Emerged 10 April to 10 May
- From 187 to 225 days underground

Iowa

- Emerged early-mid April
- From 166 to 201 days underground

Missouri

- Emerged 21 March to 18 April
- No data on time underground

Wisconsin

- Emerged 9 April to 30 April
- Average of 216 days underground

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Above: Ornate Box Turtles at Nachusa Grasslands showing signs of burn damage on carapace. Conducting prescribed burns while turtles are still underground requires data on timing of spring emergence.

METHODS

- Located turtles with turtle dogs as part of population monitoring program.
- Attached transmitters and temperature loggers to 5 males and 5 females.
- Installed temperature loggers at hibernation sites at five different depths.
- This winter we will locate hibernation sites.
- Starting in March, we will monitor turtles for movement weekly.
- We will analyze date of emergence, turtle temperature, and ground temperature.

STUDY QUESTIONS

1. When do Ornate Box Turtles emerge from hibernation?
2. What is the relationship between spring emergence and temperature?
3. When are turtles at risk from prescribed burns?

EXPECTED RESULTS

- Discover temperature cues triggering emergence which land managers can use to plan prescribed burns.
- Determine earliest date of emergence to guide timing of prescribed burns.
- Compare results at Nachusa Grasslands with three other sites in Illinois to inform land managers.
- Explore latitudinal variation in emergence timing between Nachusa and other populations.

Below: Ornate Box Turtle at Nachusa Grasslands with transmitter attached. The transmitter allows us to locate turtles to determine when and where they hibernate.

