EXTENSION

Grass Forcasting on Native Rangeland Pasture

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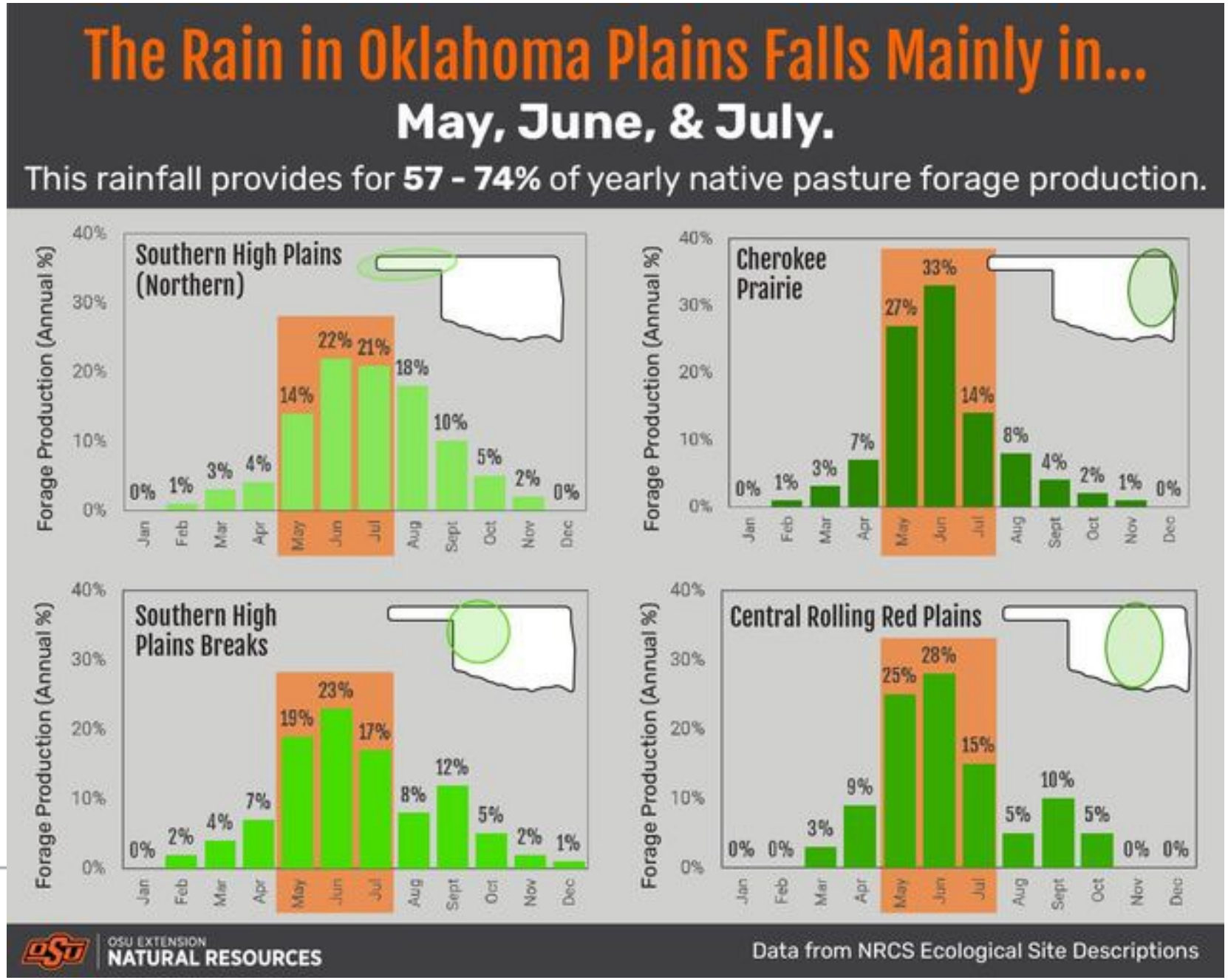
Management During Drought

1. When it rains matters
2. Decision making tools
3. Management to maximize production

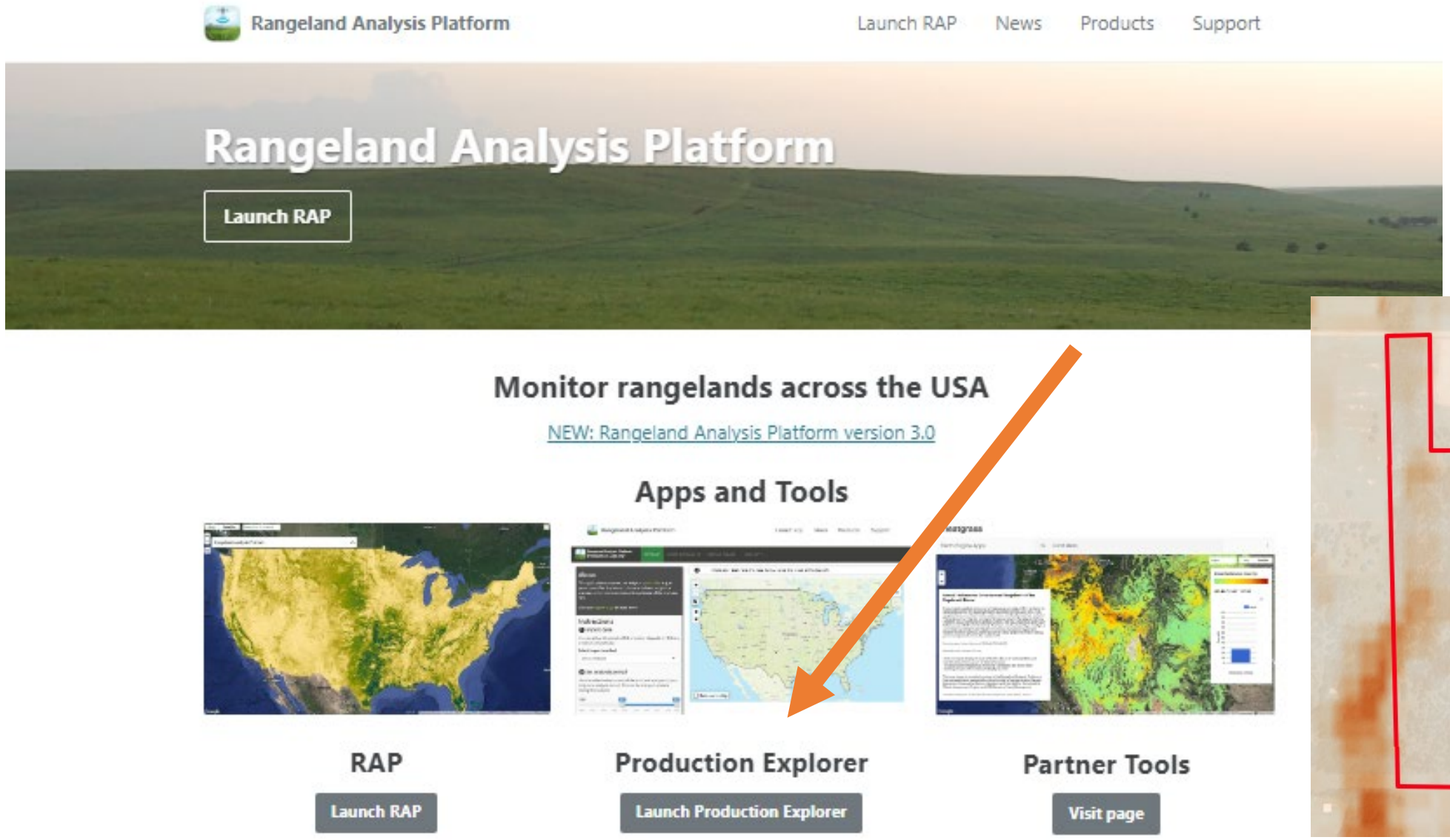
When It Rain Matters

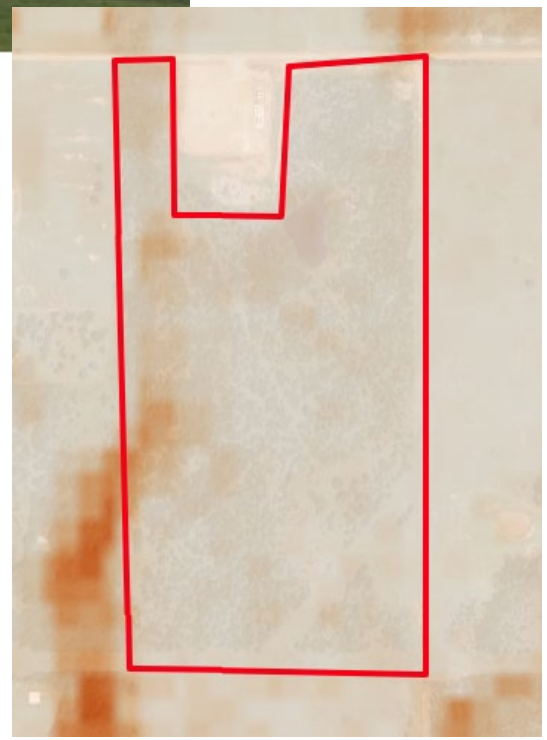
Native/rangeland pastures grow after the average low exceeds 60^0F in the spring.

About 70% of the production occurs before Aug 1.



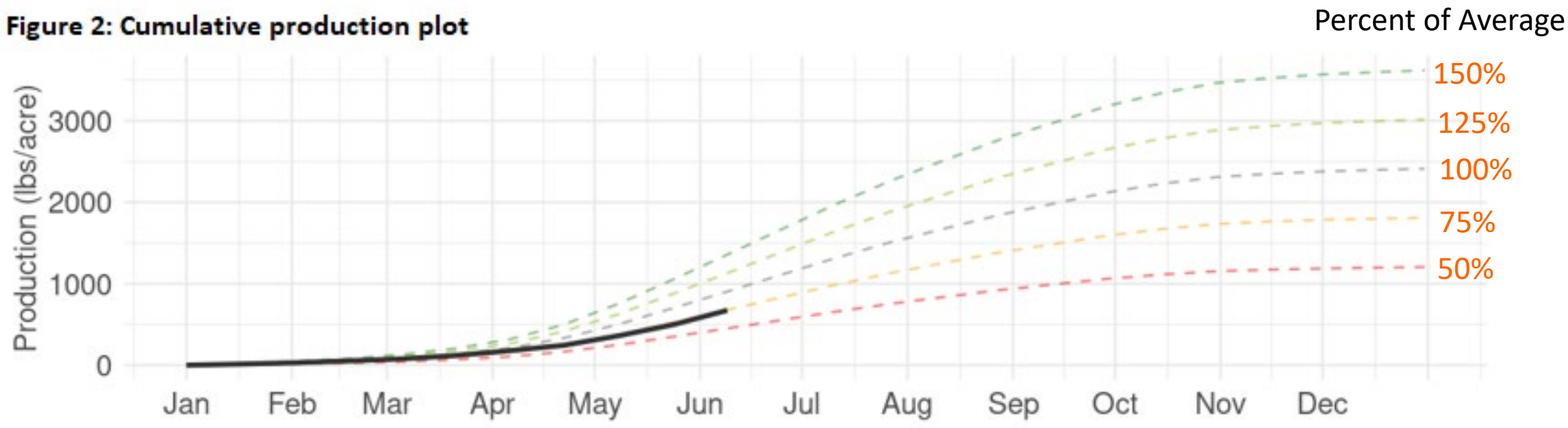
Decision Tools – How much forage has grown?





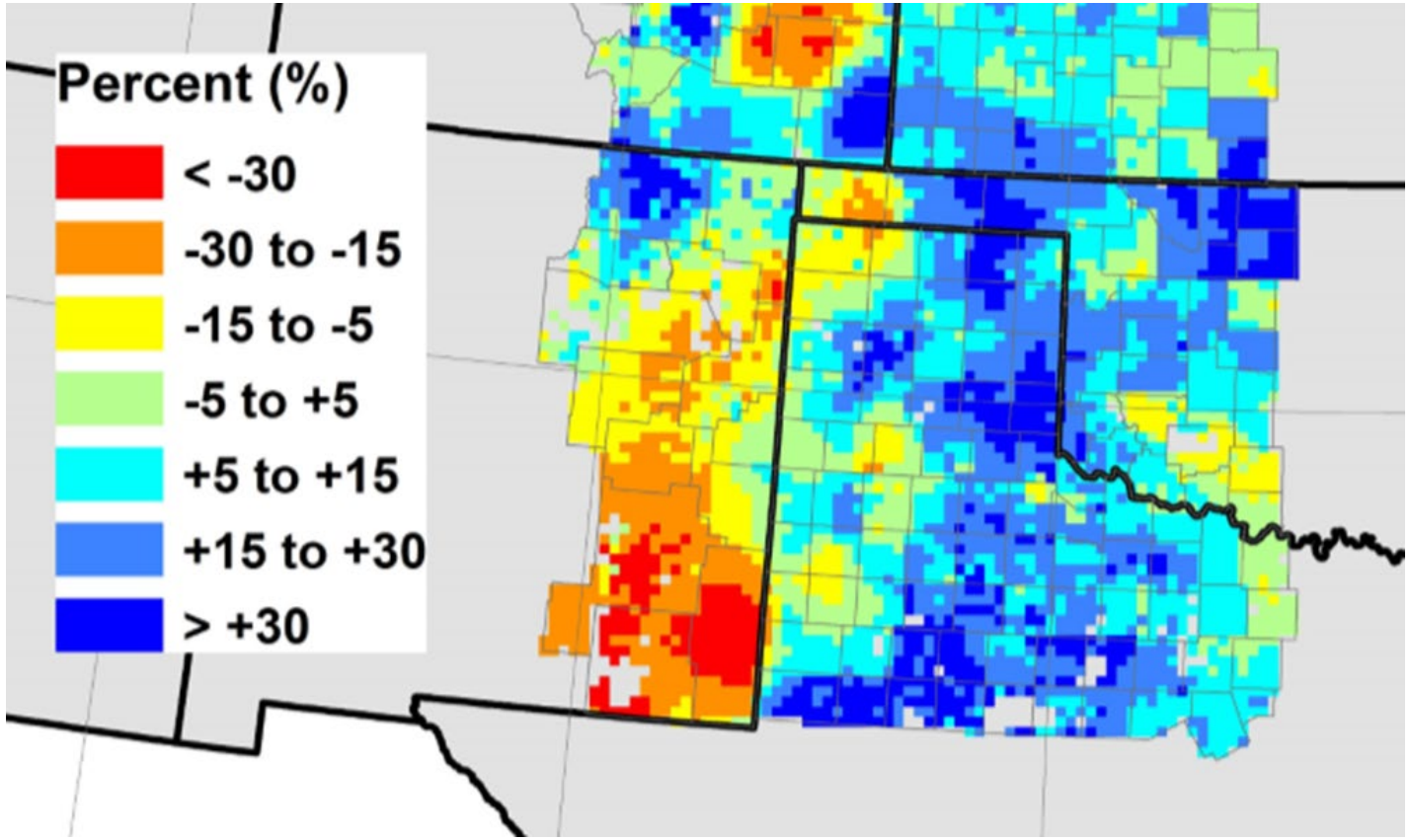
Decision Tools – How much forage has grown?

Rangeland Analysis Platform – free web app, no download, https://rangelands.app/



Production estimate every 2 weeks.

Decision Tools – Grasscast

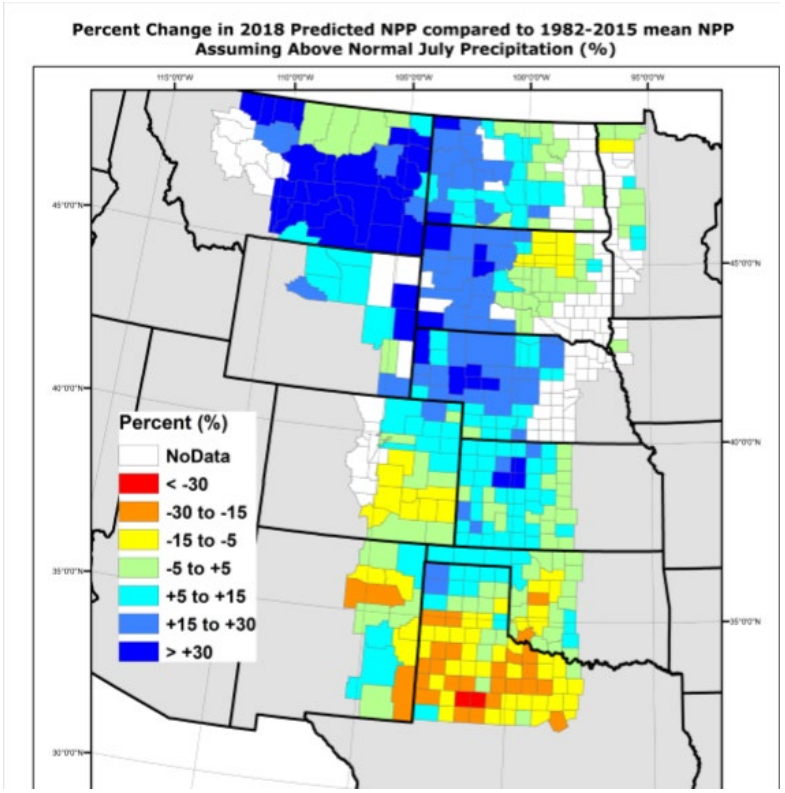


July 16, 2019

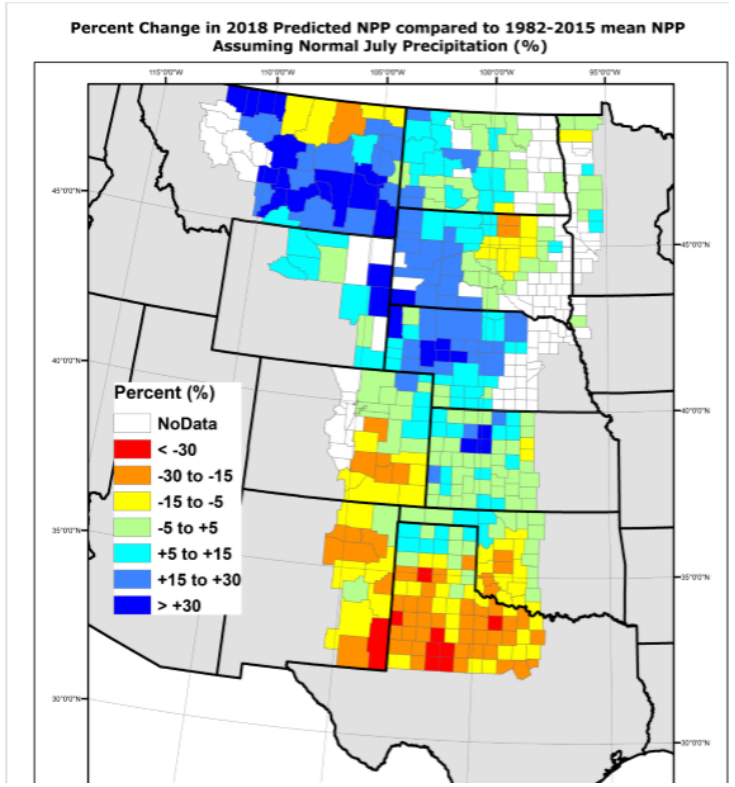
- 6 mile by 6 mile grid
- Updated every 2 weeks
- Shows **% change** in production
- Best used mid-summer

Decision Tools –Grasscast

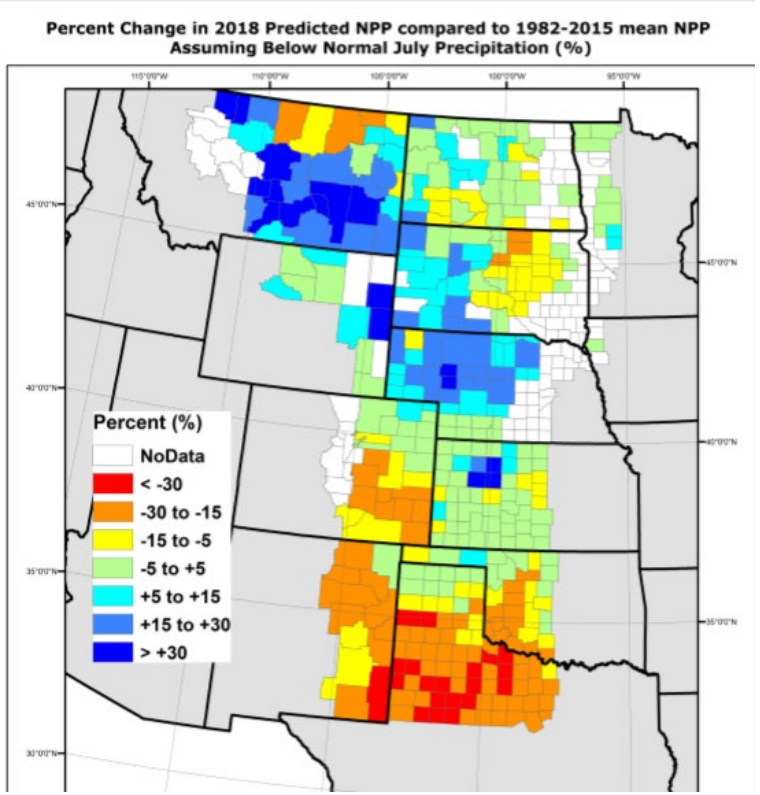
https://grasscast.unl.edu



Above Normal Rainfall



Normal Rainfall

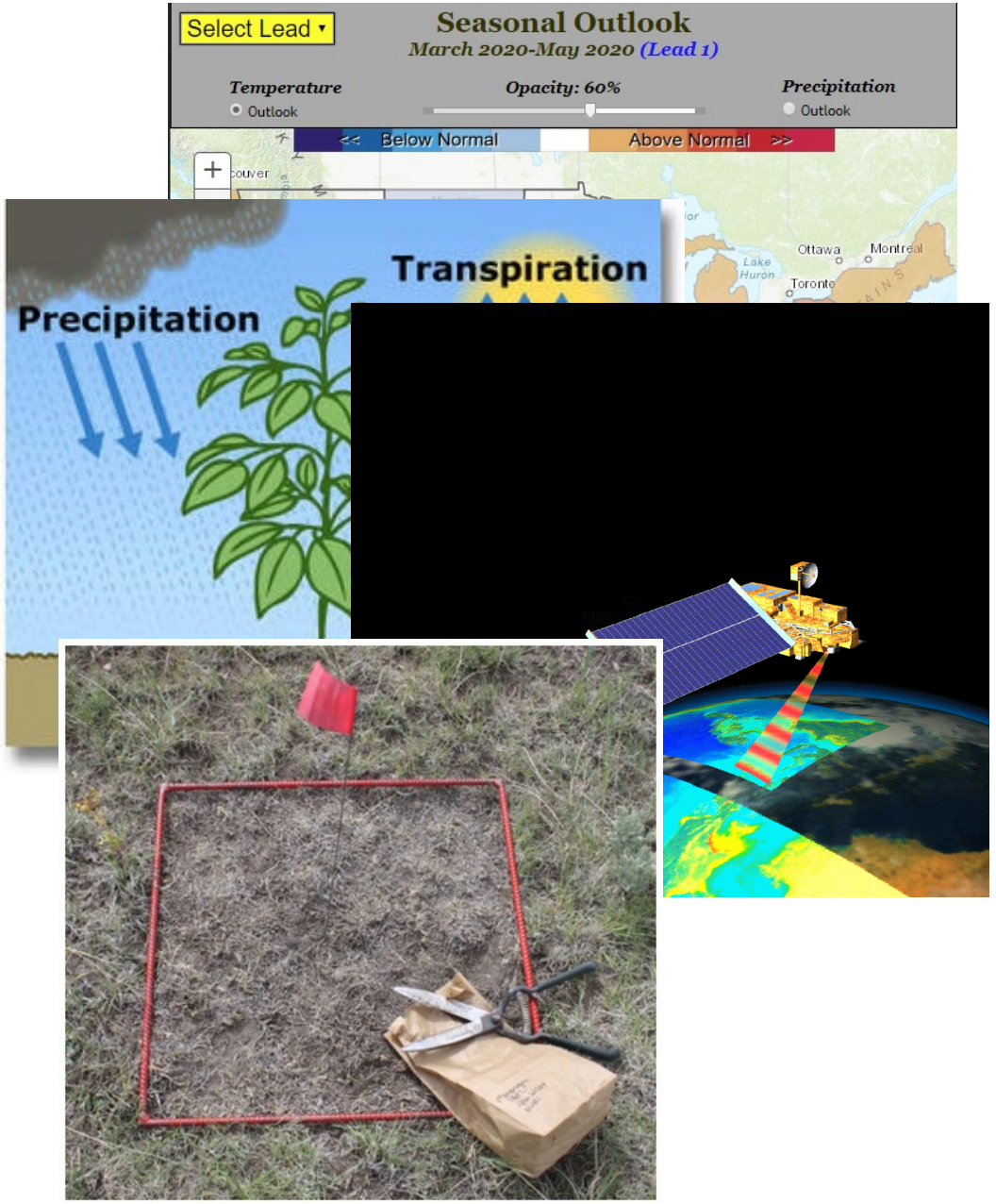


Below Normal Rainfall

Some areas will produce less than normal regardless of how much rain they received. Check this in June/July.

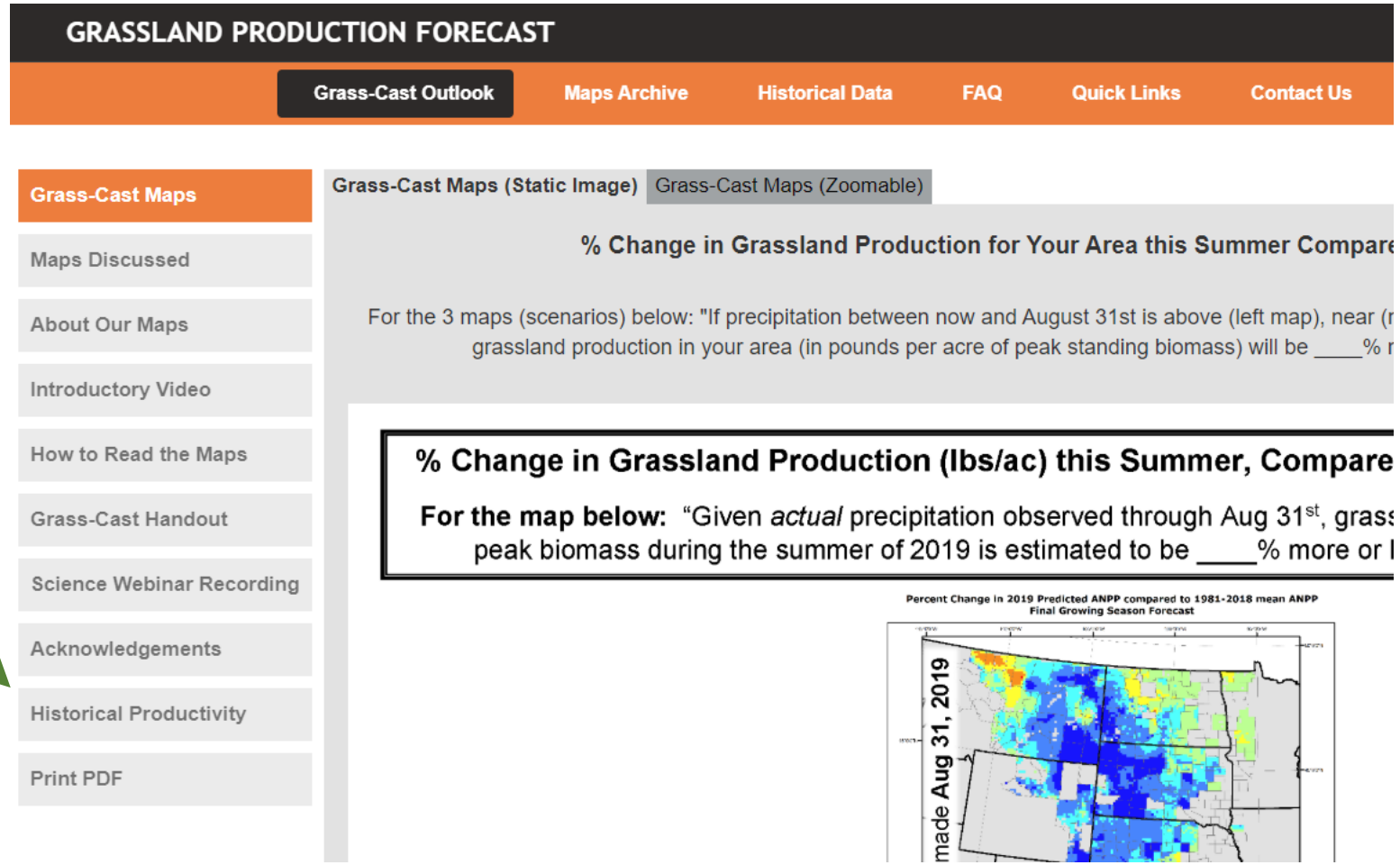
Grasscast

1. Observed weather + forecasted (NOAA)
2. Evapotranspiration (how much is actually available to plants)
3. Greenness (satellite imagery - modis NDVI)
4. Measured production from 30 year data



Grasscast Limitations

- I don’t know my productivity.
  - Historical productivity
- Productivity prediction assumes it is **grassland**



Minimize Drought Impacts on Pastures

Conservatively stock pastures
(Leave at least 50% plant biomass)

1. Lowest reduction in production during drought

2. Recover most quickly after drought

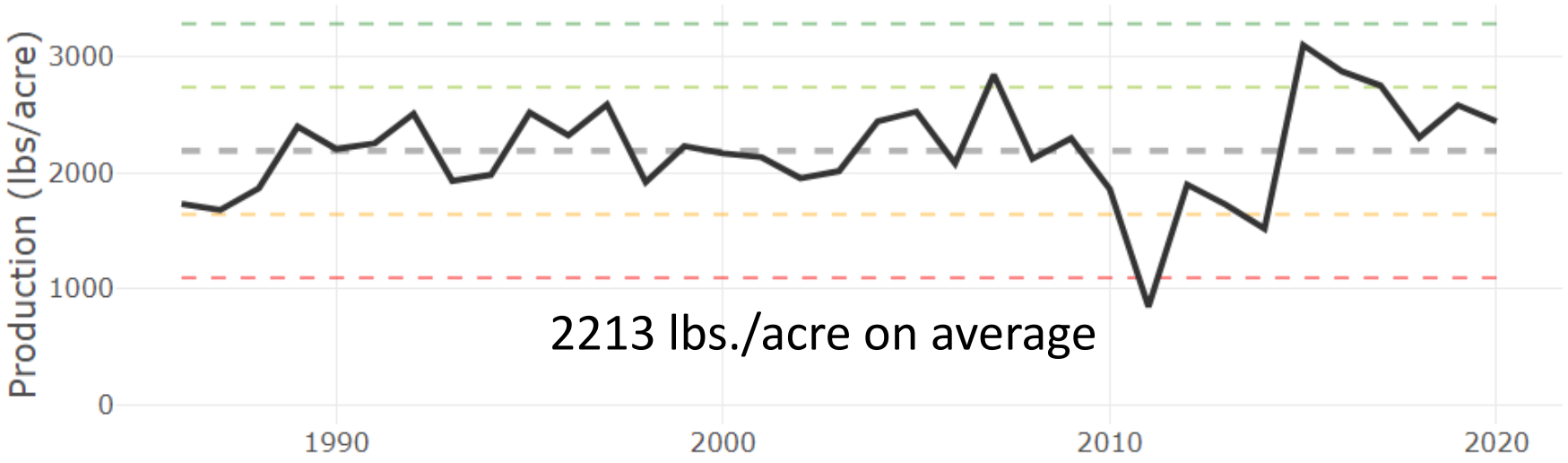
Stocking Rates

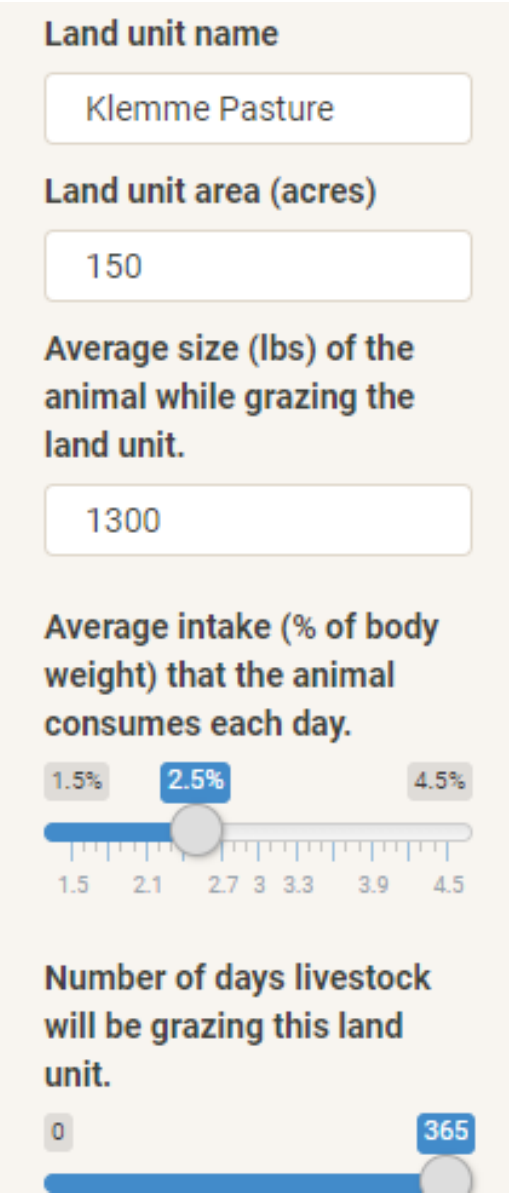
How much forage am I growing?

Rangeland Analysis Platform – Forage Production and Stocking Rate Calculator

You enter:

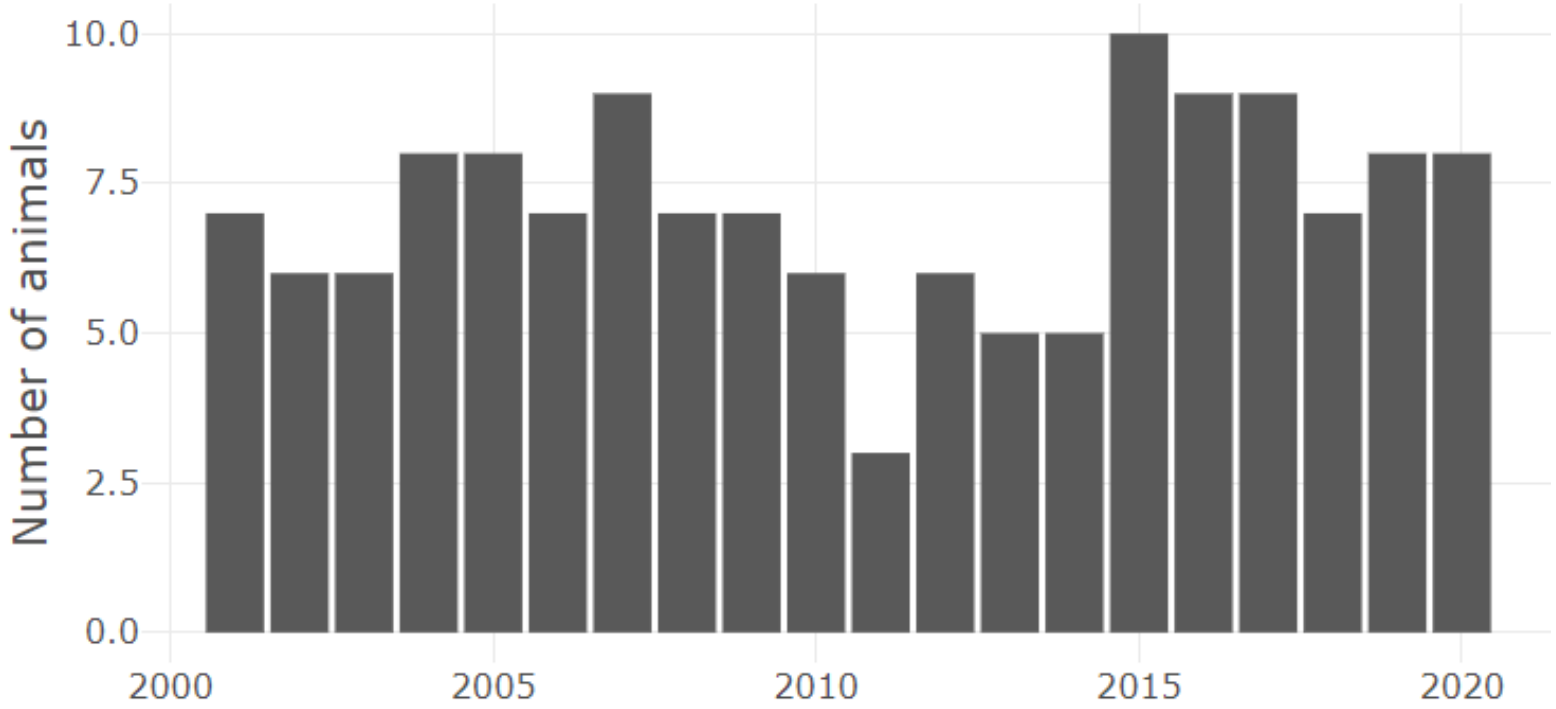
1. Pasture boundary
2. Cattle size
3. Estimated intake
4. How long they will graze





Number of 1300lb cows this pasture could carry year-round

www.rangelands.app



	Average	Lowest value	Highest value	Range
Production (lbs/acre)	2213	844	3097	2253
Stocking rate (animals)	7	3	10	7

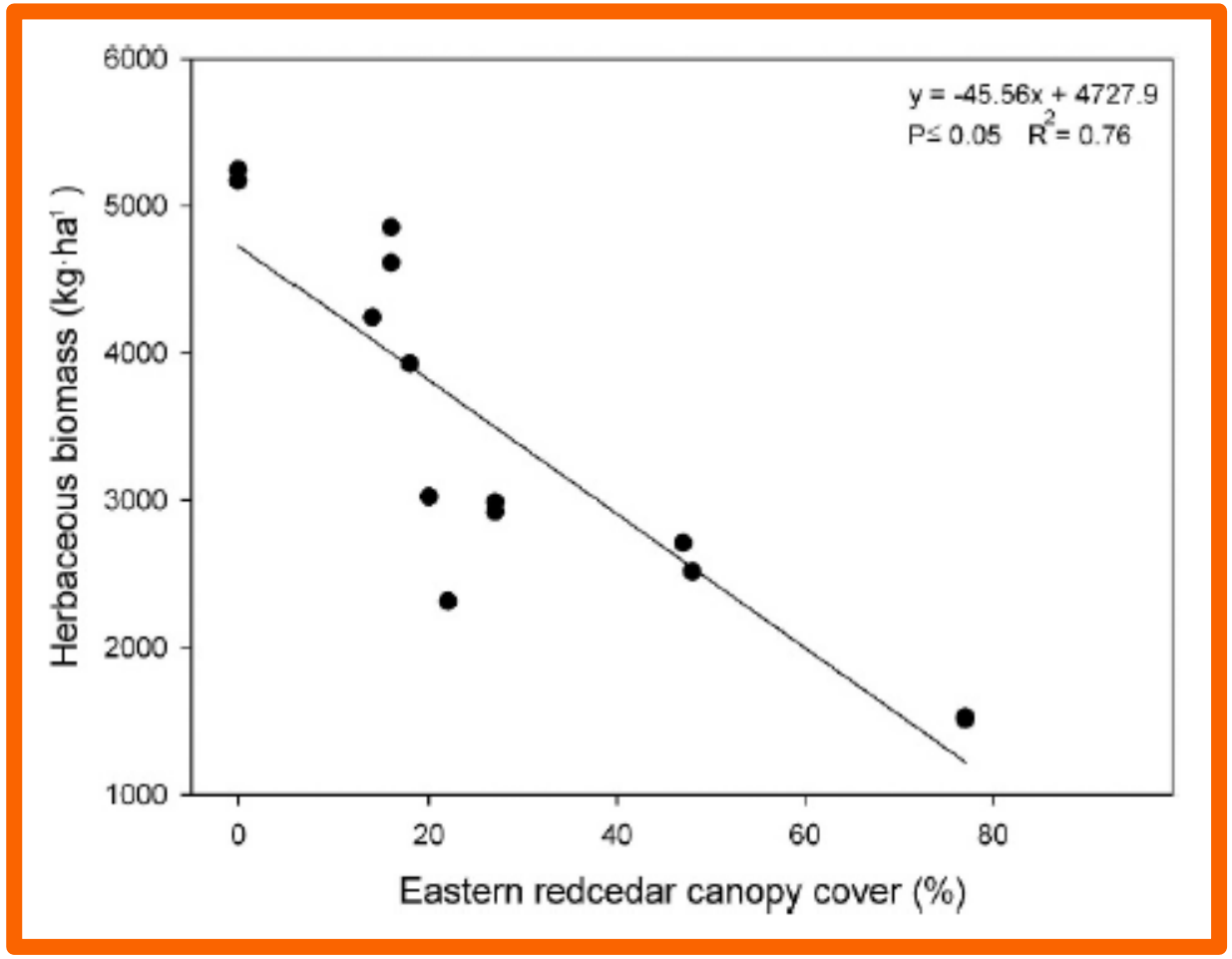
#1 Range Management Practice – Control Eastern Redcedar Trees

No cedar

- **4730 lbs/acre**
- **Annually 8 acres/ 1000 lb. cow**
- **10 cows on 80 acres**

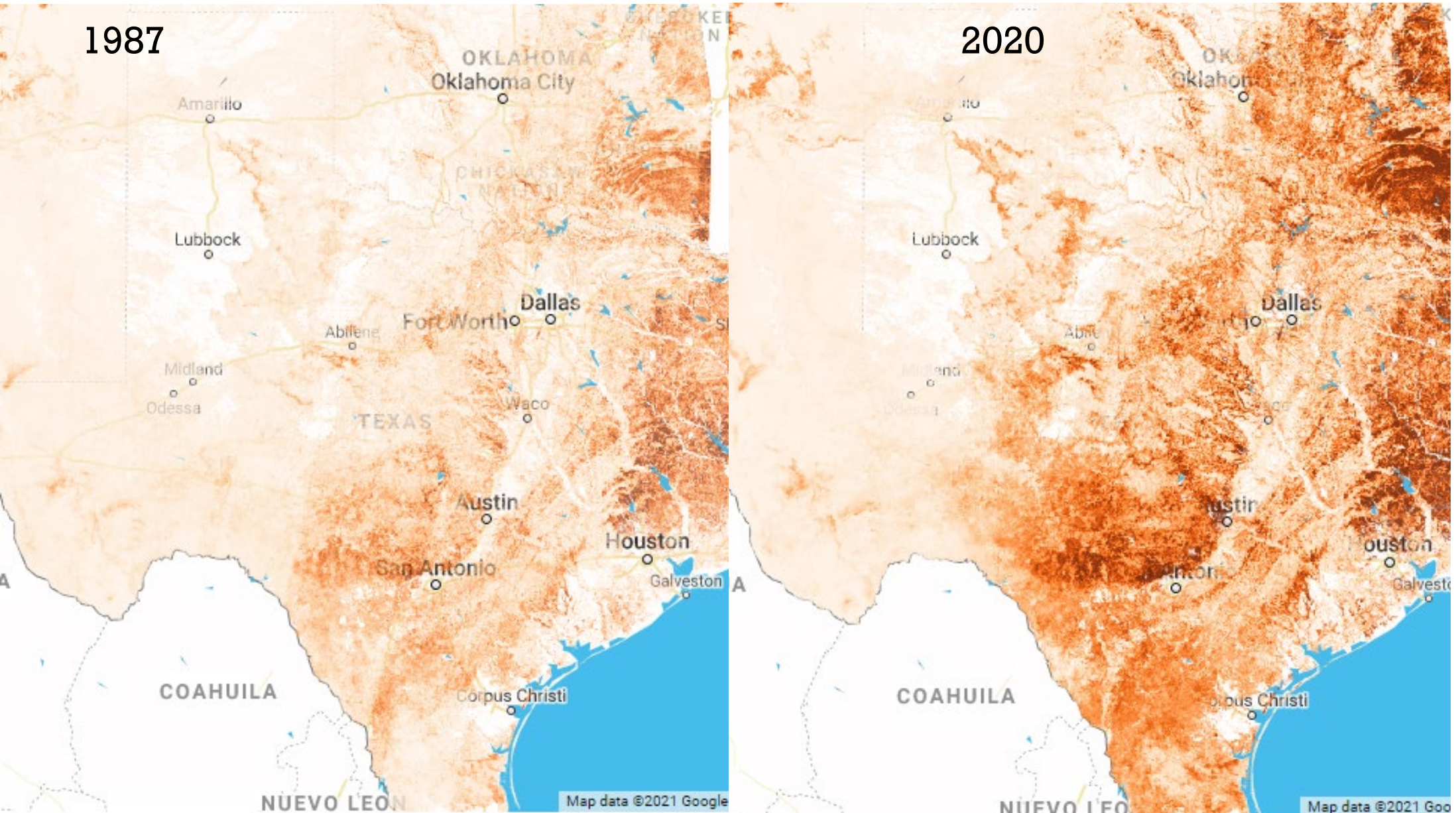
80% cedar

- **1300 lbs/acre**
- **Annually 27 acres/ 1000 lb. cow**
- **3 cows on 80 acres**



400 lbs/acre LESS FORAGE for every 10% INCREASE IN CEDAR canopy

Tree Cover Change in 33 Years



Trees increasing on prairies for 100-150 years.

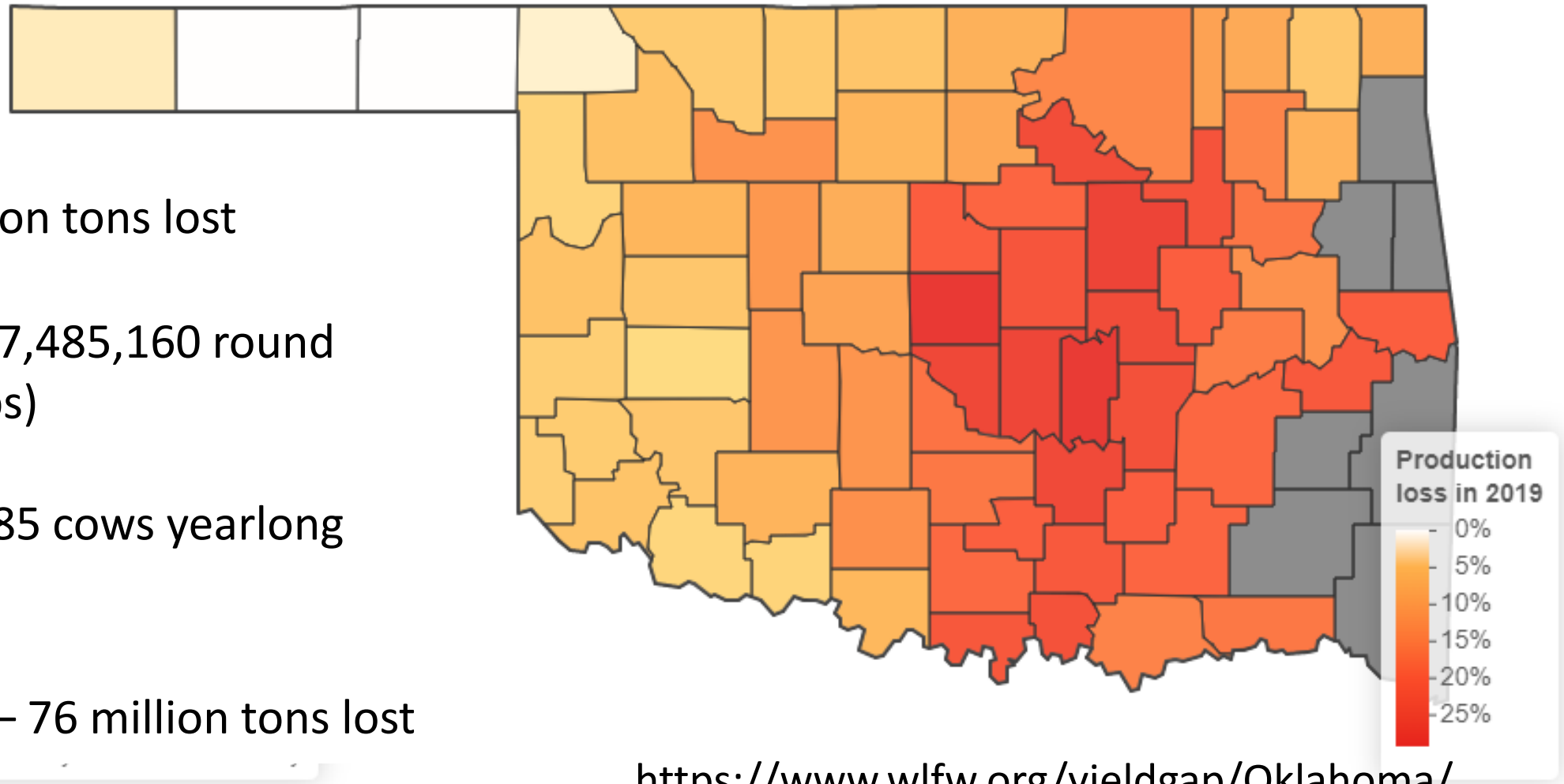
Image: Rangeland Analysis Platform

Oklahoma Rangeland Productivity Loss From Trees

2019 – 4.4 million tons lost

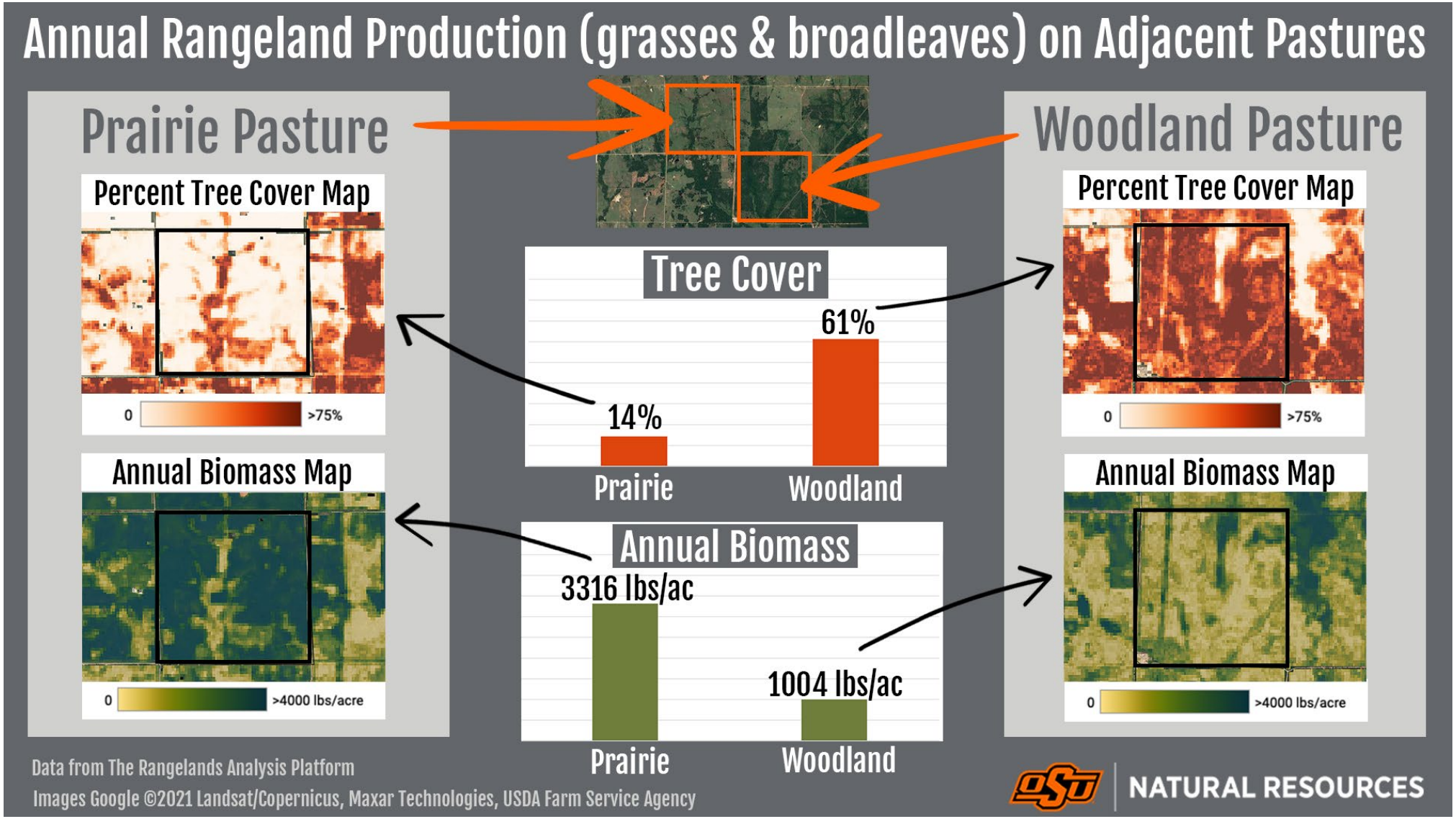
- Equivalent to 7,485,160 round bales (1,200lbs)
- Sustain 197,185 cows yearlong (1200lb.)

1990 – 2019 – 76 million tons lost



https://www.wlfw.org/yieldgap/Oklahoma/

The Green Drought



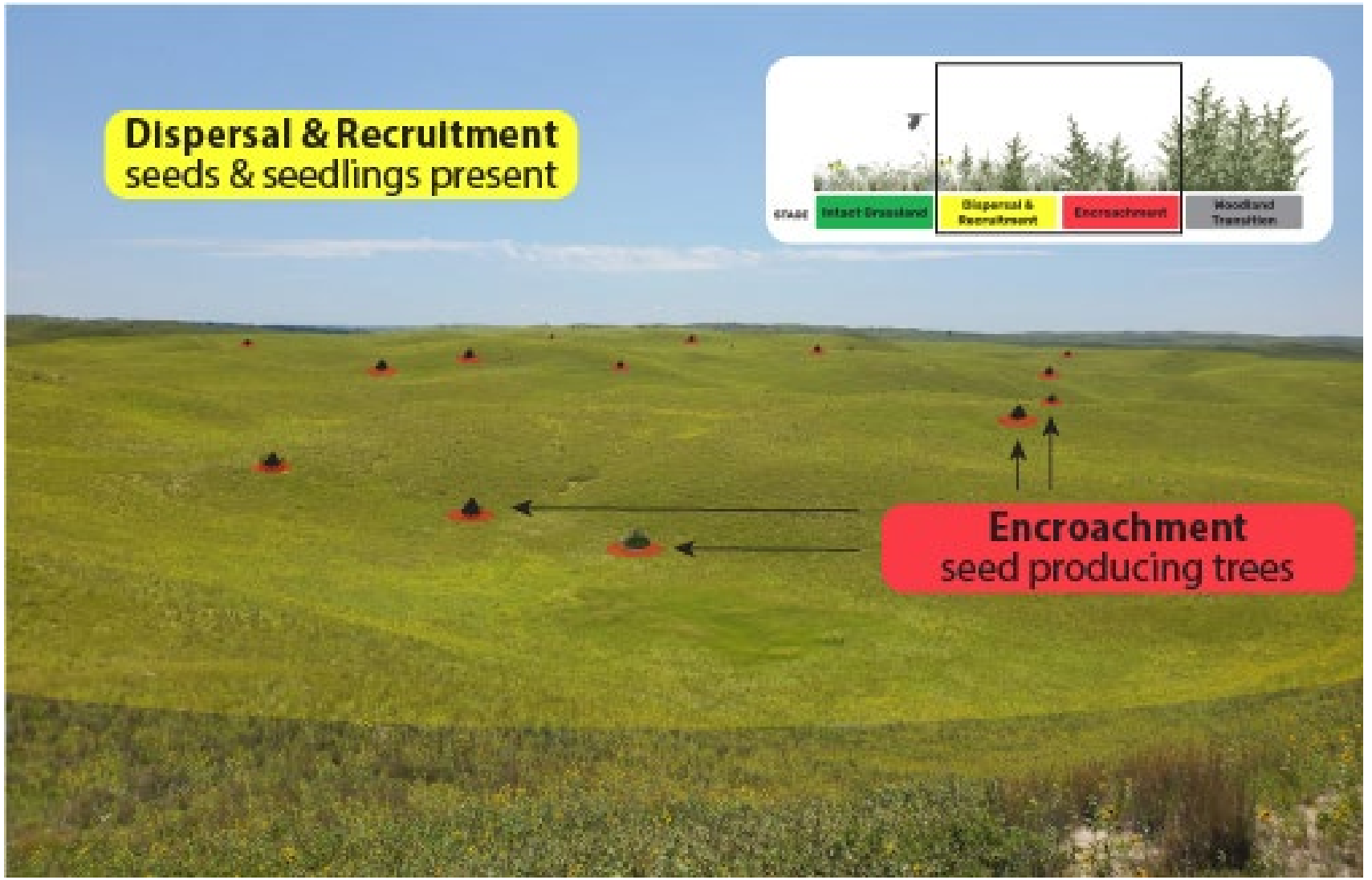
It lasts longer 1-2 years and is much more expensive to fix.

Are our pastures at risk of encroachment?

Is this pasture at risk of woody encroachment?

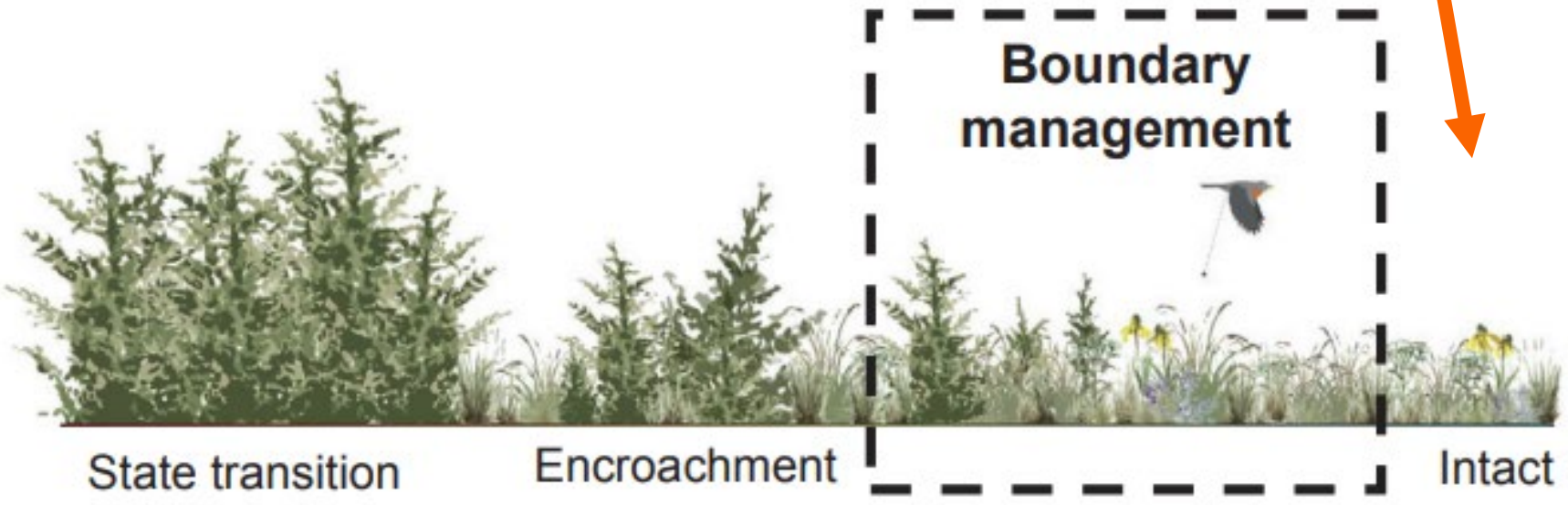
If yes, how much of it?

Each mature (>6yr. old) tree scatters seeds across 26 acres surrounding it.



New Strategy to STOP Encroachment

1. Establish a Core - Intact Grass Area
2. Defend a Core – No seed bearing trees allowed
3. Grow the Core
4. Partner with Neighbors



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