

# Main Points

- 1) Review from 30 March
- 2) The first law of petropolitics as further evidence for why we need alternative fuels
- 3) Conservation prioritization based on species' exposure to gas development  
-- Example: songbird responses to energy development in the Intermountain West
- 4) Help session for tutorial #3 and test 2.

Pre-reading: Tuesday 11 April = NA

Thursday 13 April = Monteith et al; optional to read the whole thing,  
required to read the methods and results

Jake will send a few (2-3) math-type problems to work out in preparation for the test. If you want to know if you've done them correctly, come to office hours 11 April.

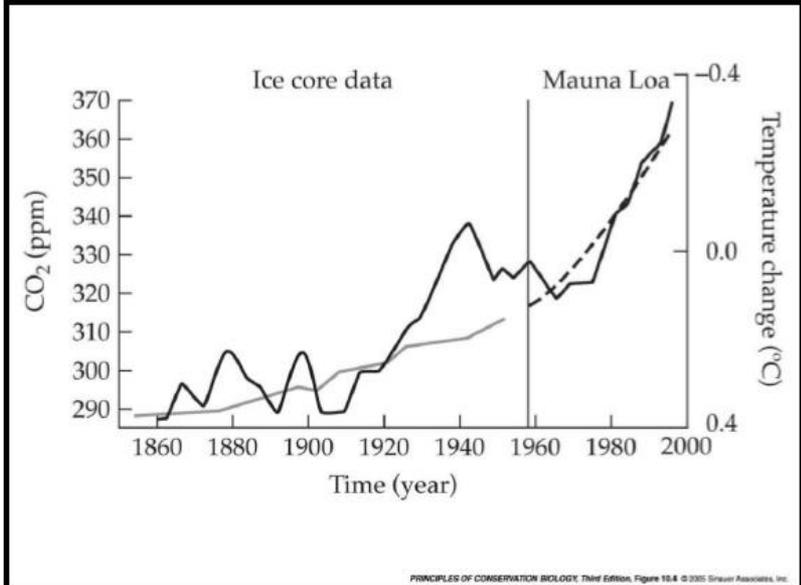
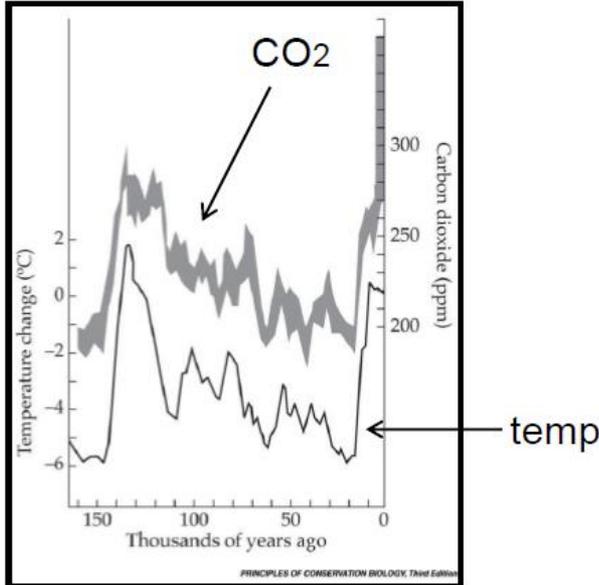
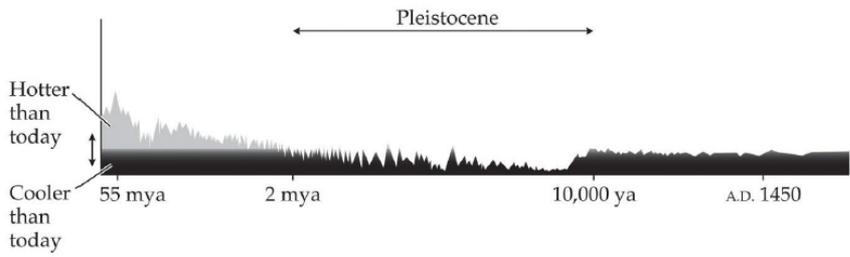
Test 2 Tuesday 11 April = from material on 21 February up to and including material on 30 March.

Presentation 2 evaluations due 13 April by 5pm. Send as pdfs named  
"federalregulations\_LASTNAME" and "statelocalregulations\_LASTNAME".

Terms: petrodictator

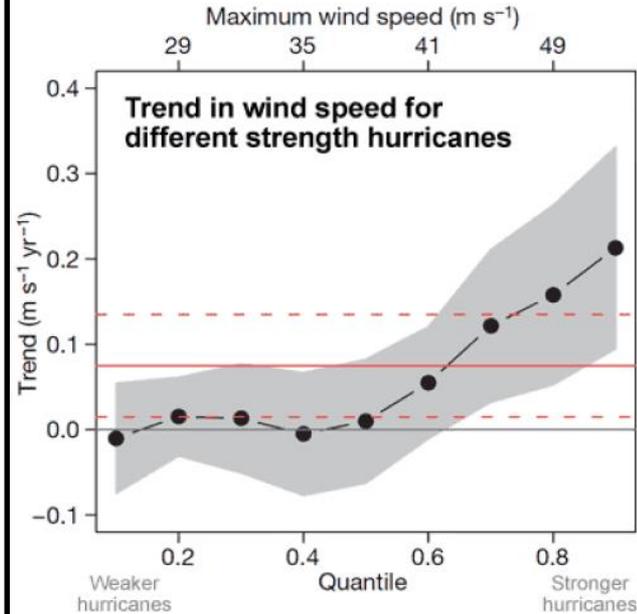
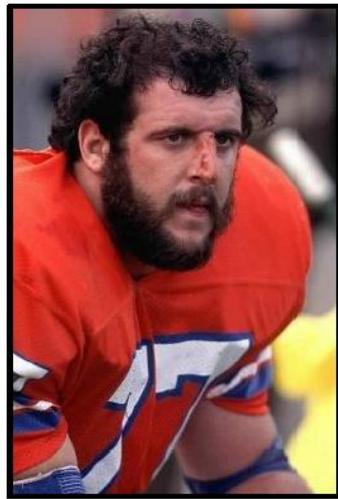
# What we learned #1: the time window over which we view climate determines whether global temperatures have increased, decreased, or stayed the same.

Global climate varies based on the observer's time scale; temperatures have been cooling over the past 50-60 million years.



**What we learned #2: loss of American life to extreme weather events is comparable to loss of American life to international terrorism. Extreme weather events have been increasing in magnitude, but not frequency. It is difficult to ascribe an individual weather event to climate change.**

- # Americans killed by hurricanes, tornados, and floods since 2001 = 2772



Elsner et al. 2008. Nature.

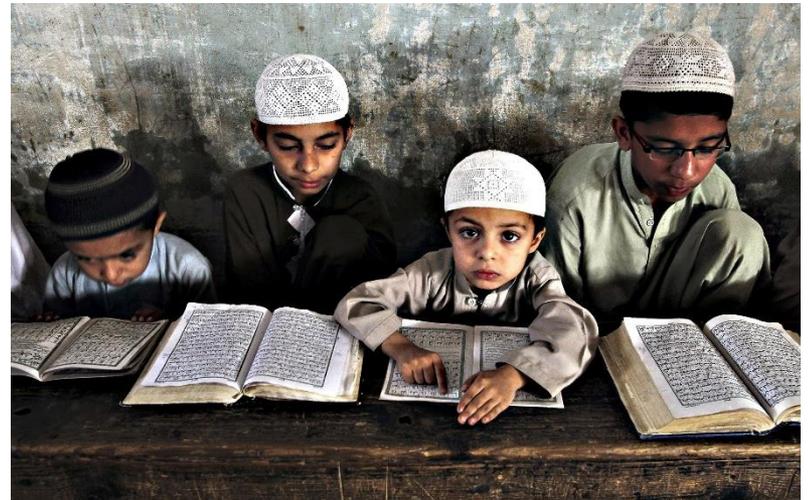
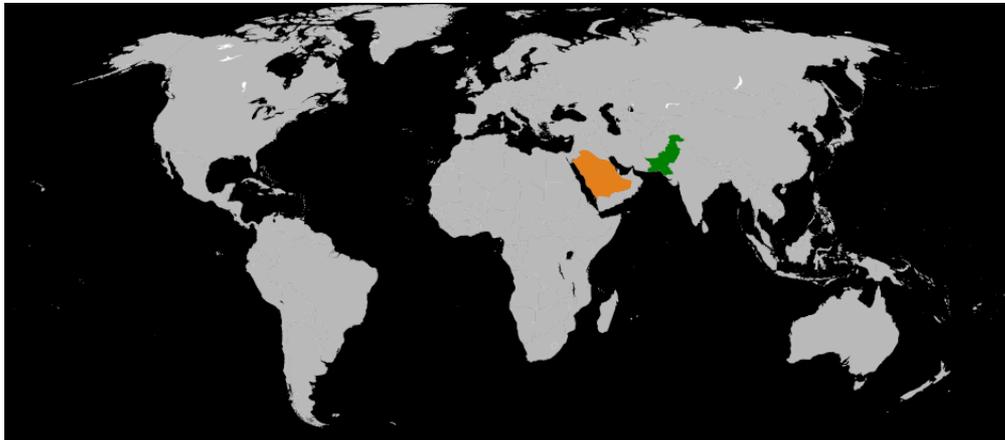


# **The first law of petropolitics**

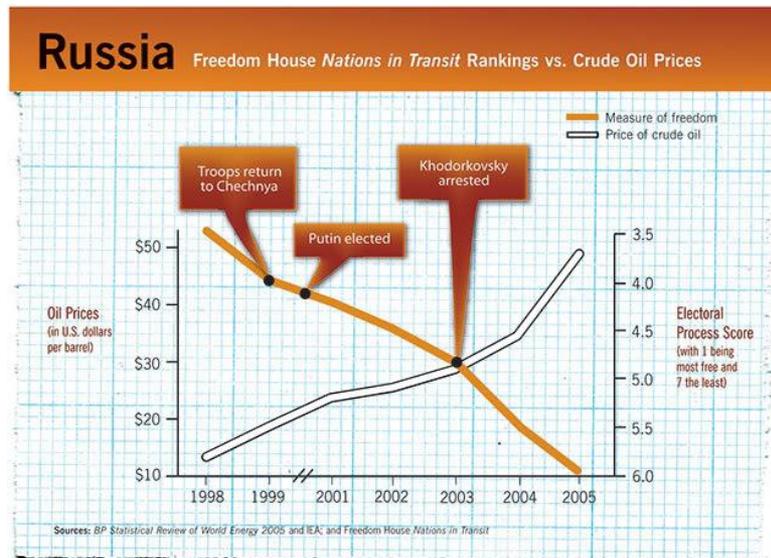
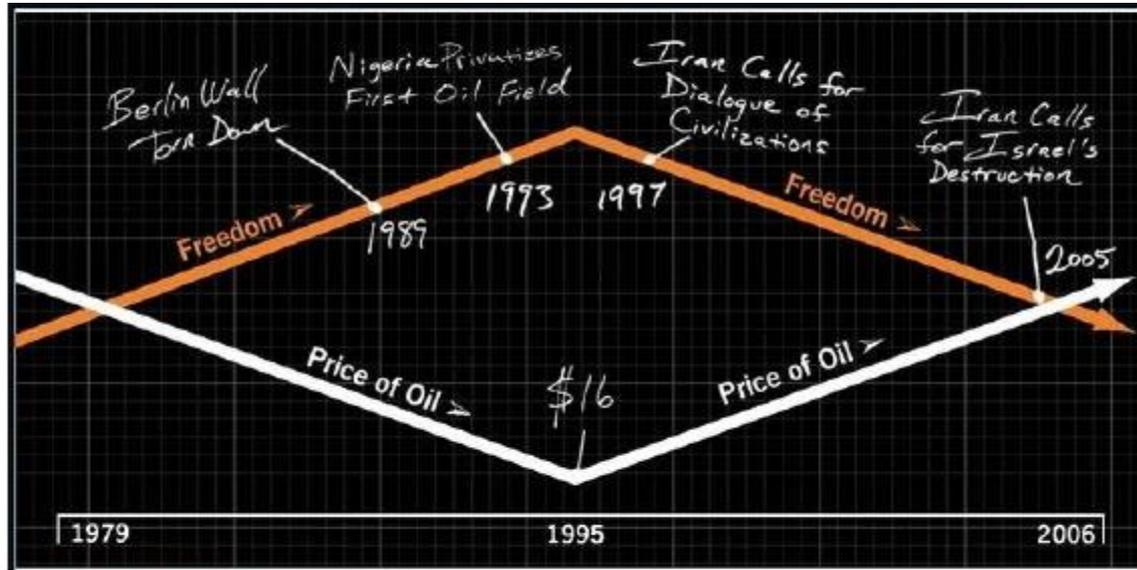
- **Oil producing nations tend to grow more repressive and more aggressive as the global price of oil increases.**
- **Hypothesis: this is because the financial independence of oil states from other nations (and their own people) increases with the cost of oil.**

# The first law of petropolitics

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- Hypothesis: this is because the financial independence of oil states from other nations (and their own people) increases with the cost of oil.

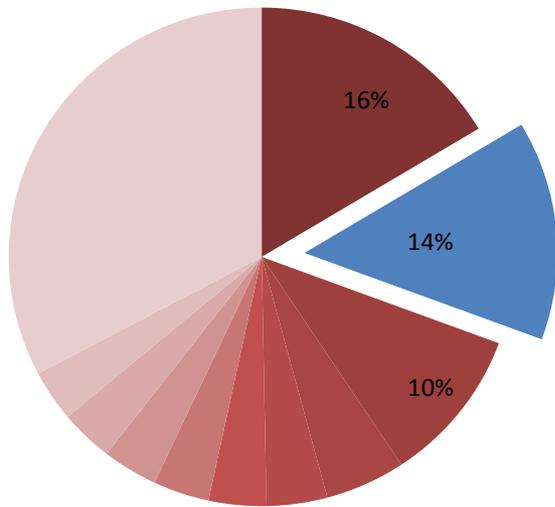


# The first law of petropolitics

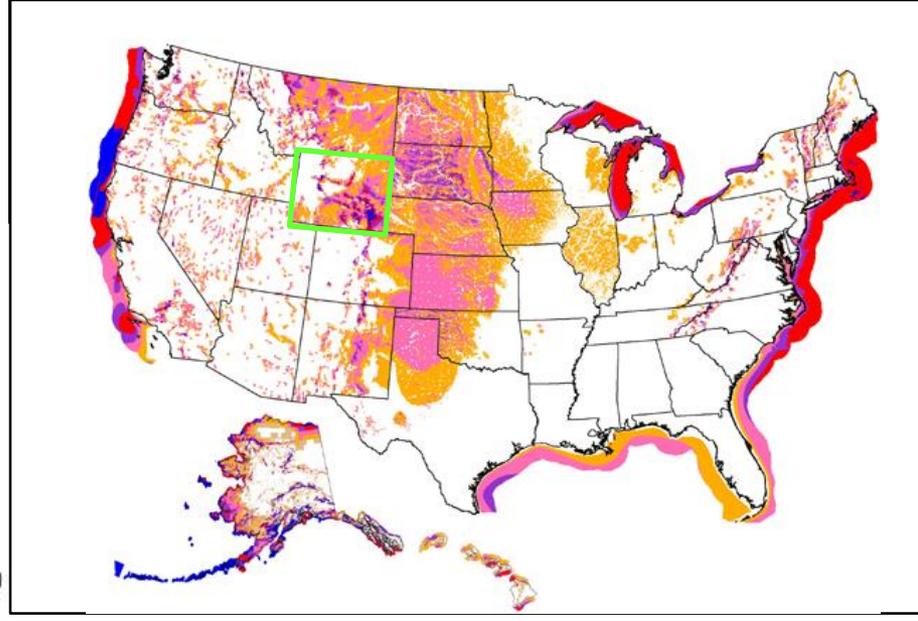
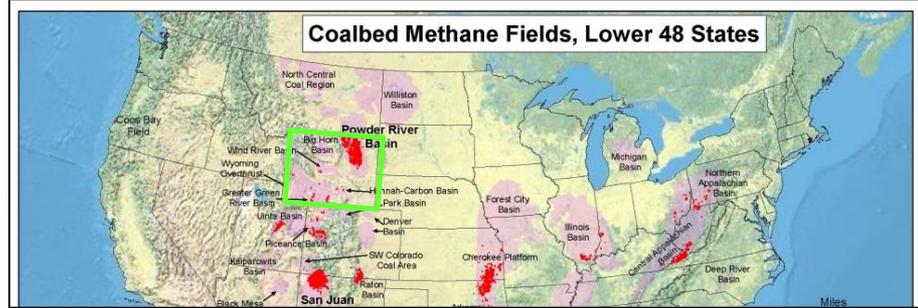
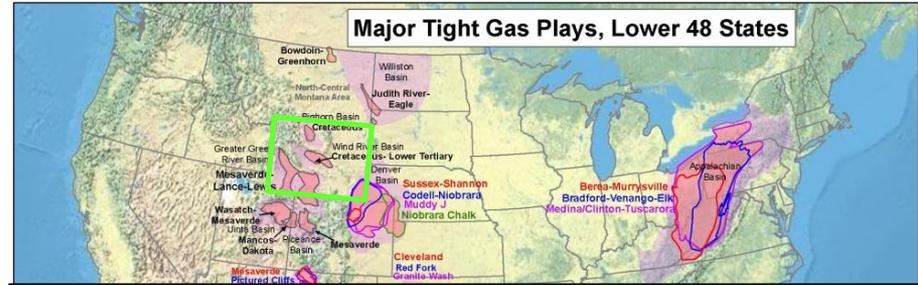


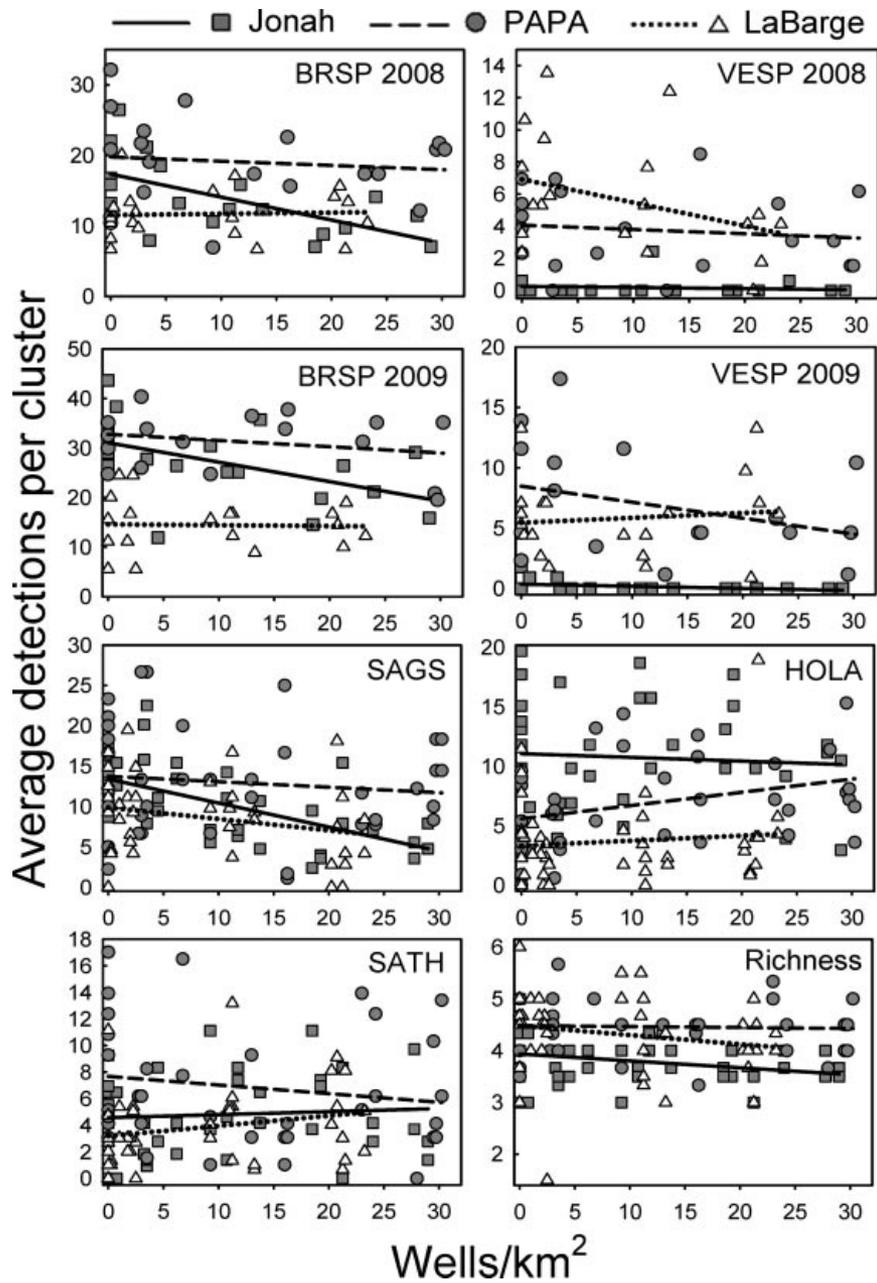
# A national strategy with local impacts

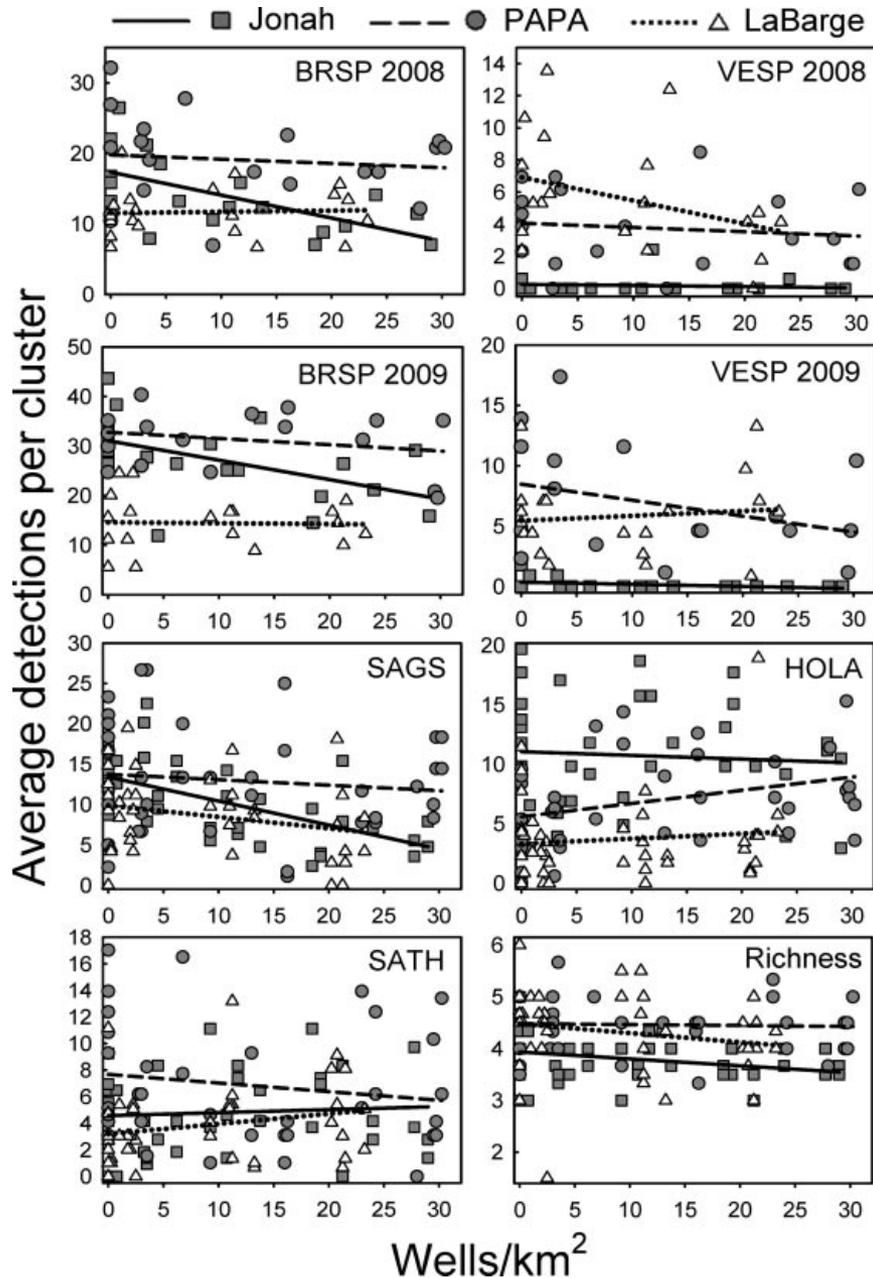
2009 Energy Production (Tbtu)



- Texas
- Wyoming
- Louisiana
- West Virginia
- Kentucky
- Pennsylvania
- California
- Oklahoma
- Colorado
- New Mexico
- Other





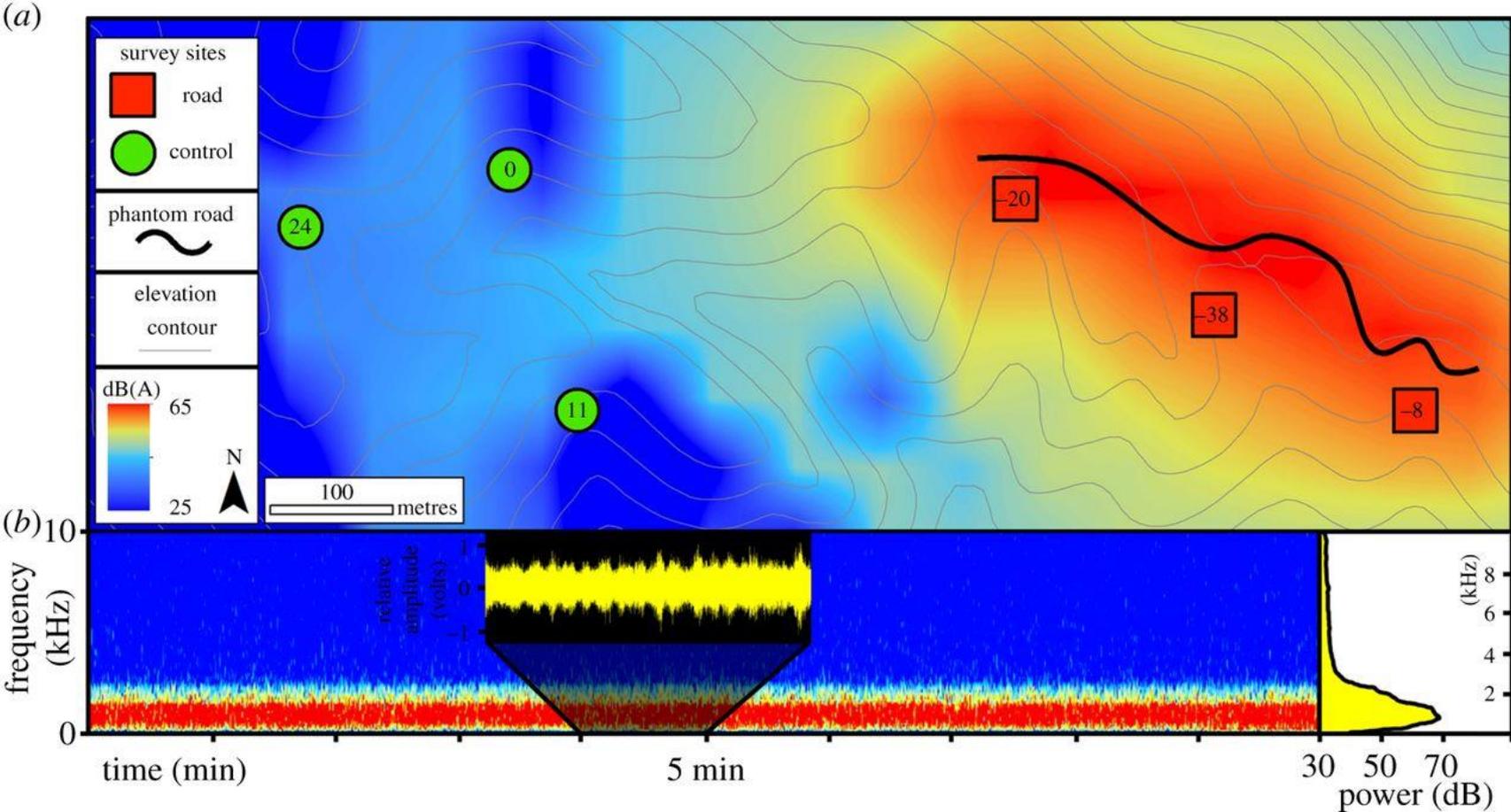


## Discussion Q:

Gilbert and Chalfoun found that sagebrush obligate species of songbirds declined with well density. What hypotheses did they propose for why this happened? Can you think of any additional hypotheses?



# Building a phantom road



# Songbirds avoid a phantom road

