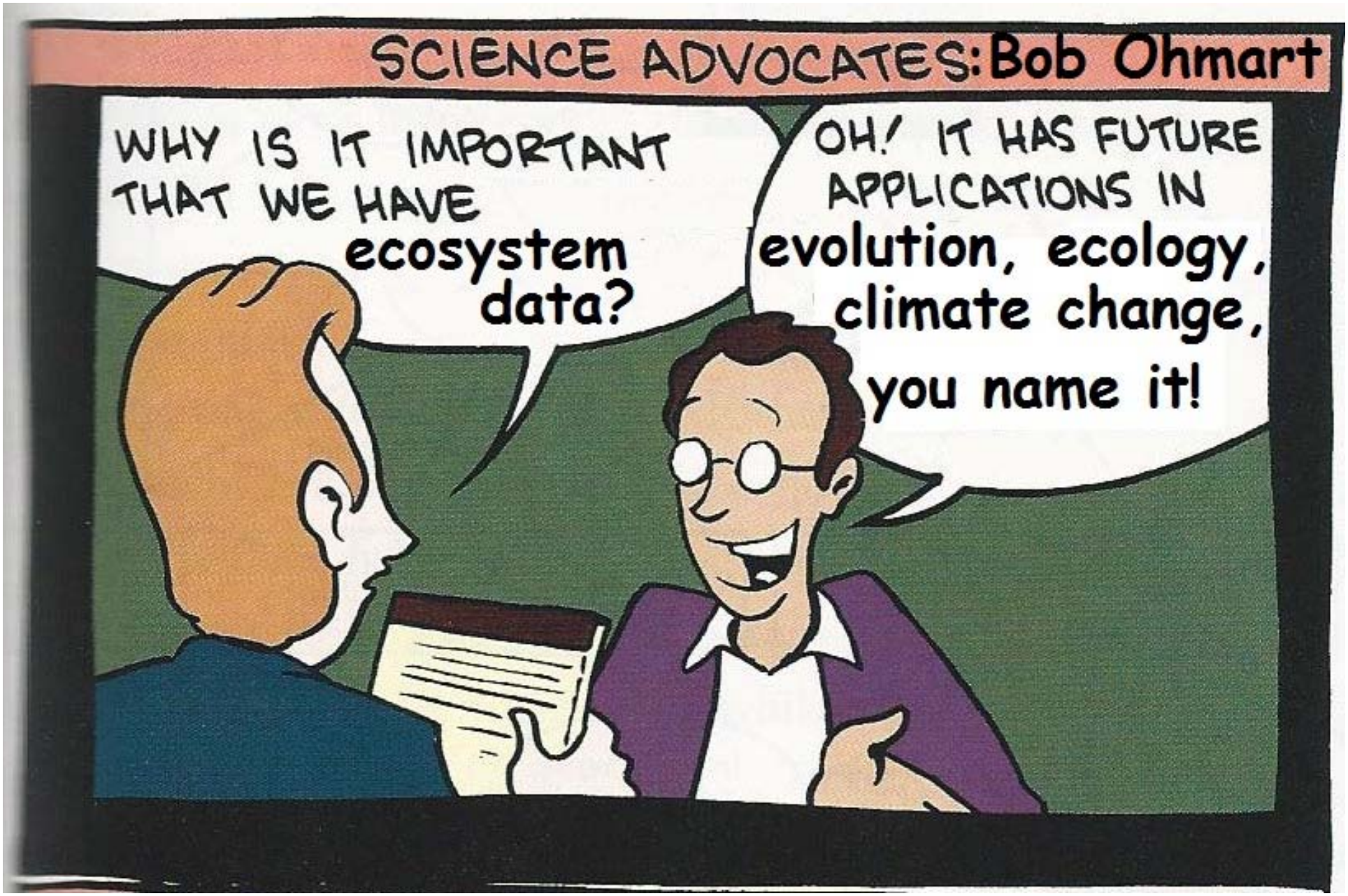
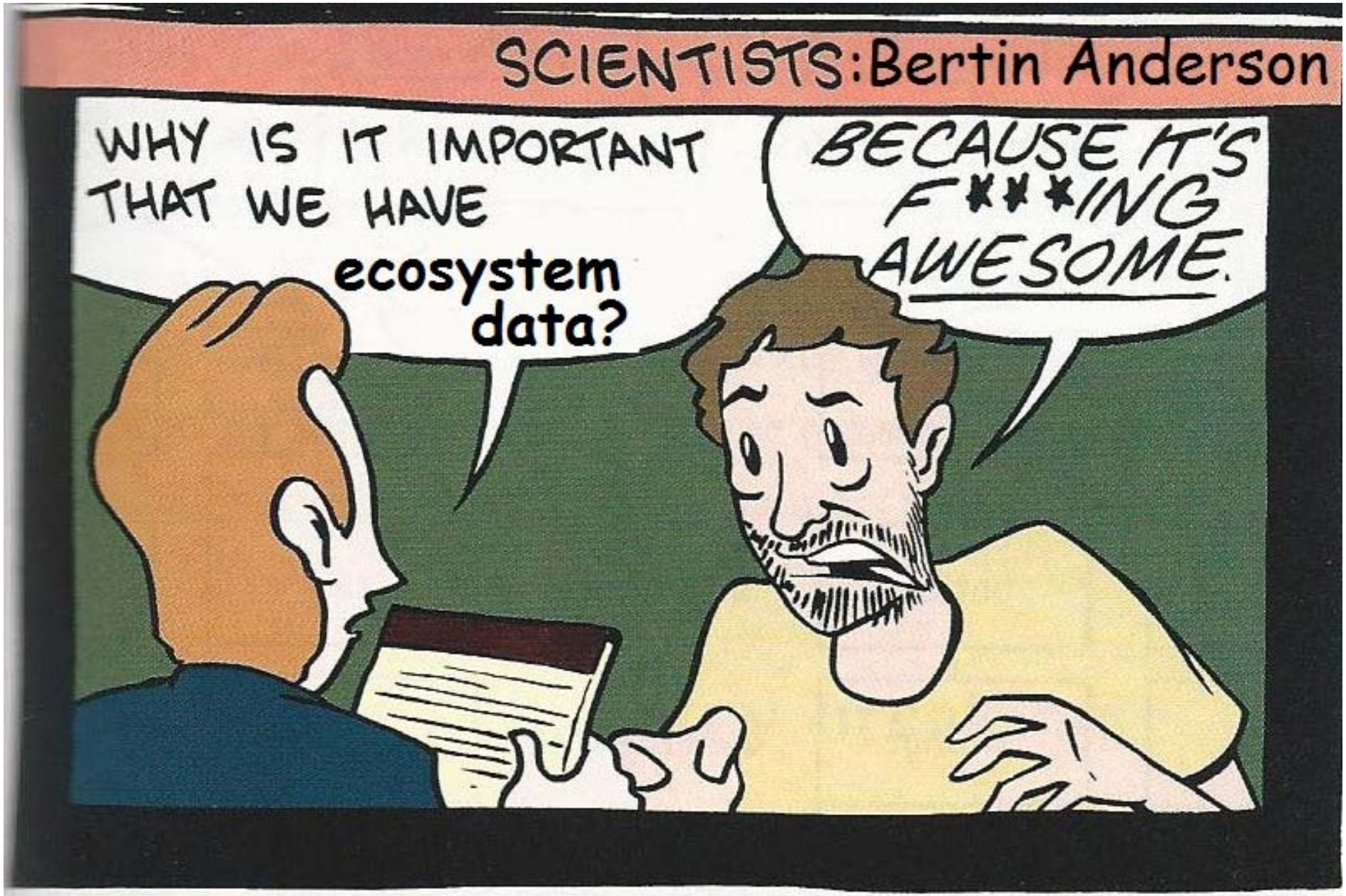
CLIMATE CHANGE AND BIRDS OF THE LOWER COLORADO RIVER

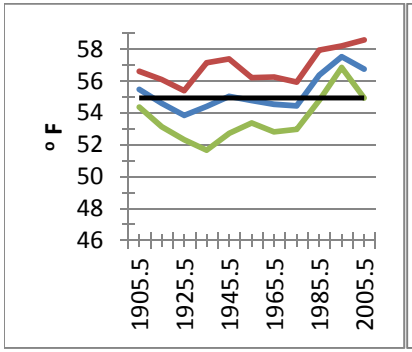
Bertin W. Anderson


SCIENCE ADVOCATES: Bob Ohmart
WHY IS IT IMPORTANT THAT WE HAVE ecosystem data?
OH! IT HAS FUTURE APPLICATIONS IN evolution, ecology, climate change, you name it!

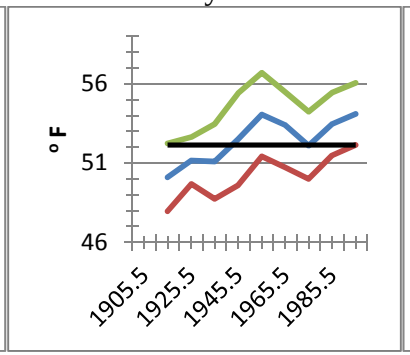

SCIENTISTS: Bertin Anderson
WHY IS IT IMPORTANT THAT WE HAVE ecosystem data?
BECAUSE IT'S F**ING AWESOME.

Average temperature for January

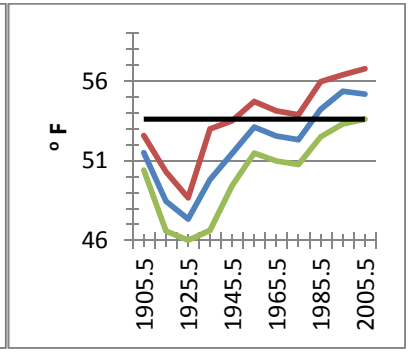
Yuma



Blythe

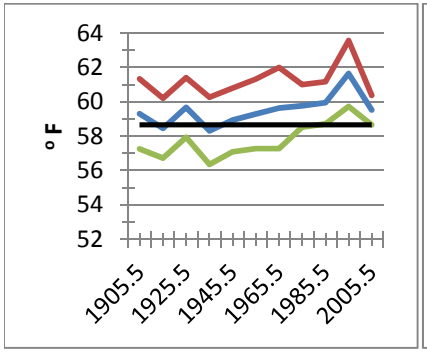


Parker



Average temperature for February

Yuma



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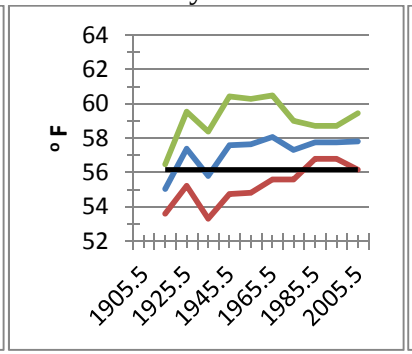

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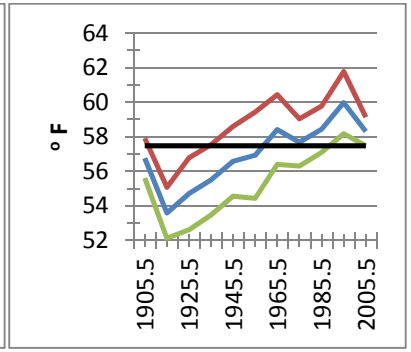
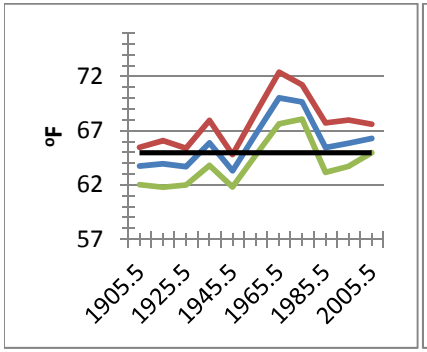


Average temperature for March

Yuma



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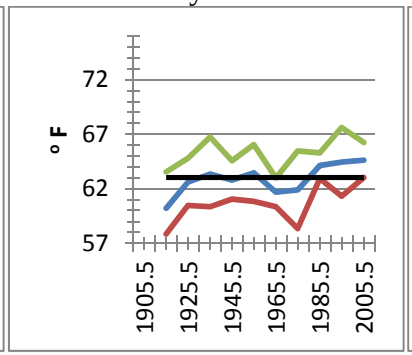

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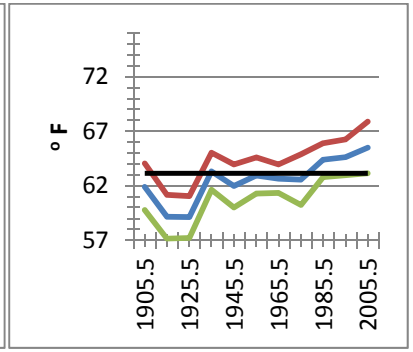
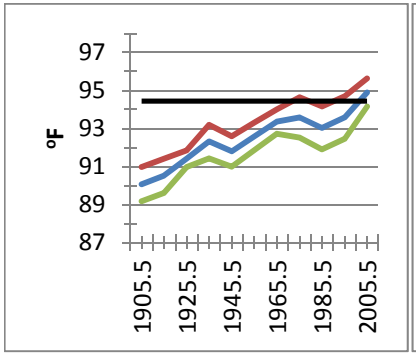


Average temperature for July

Yuma



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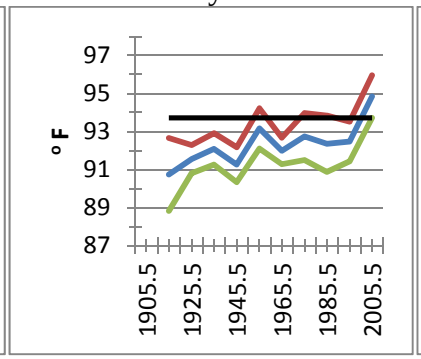

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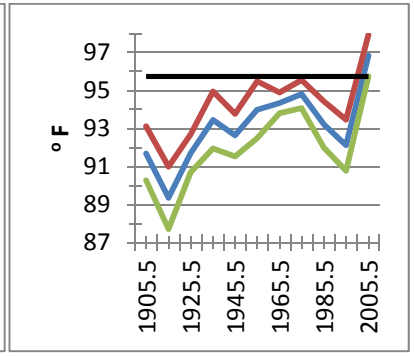
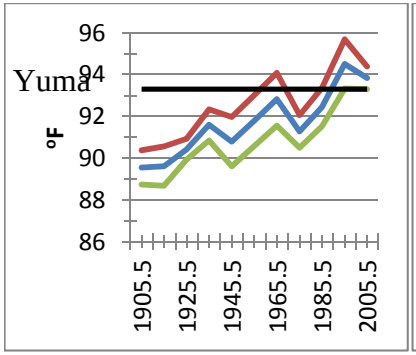


Average temperature for August

Yuma



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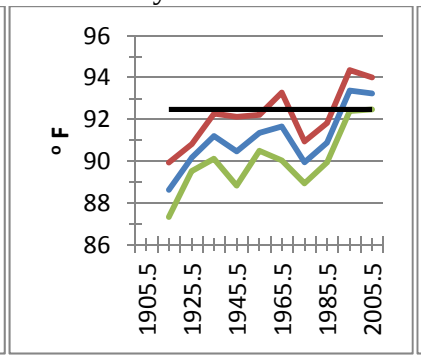

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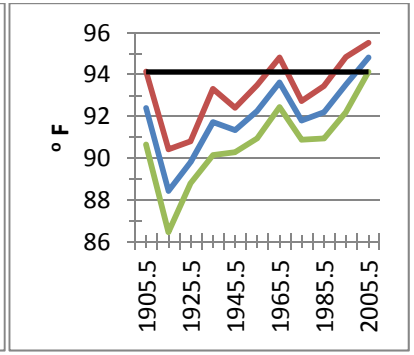
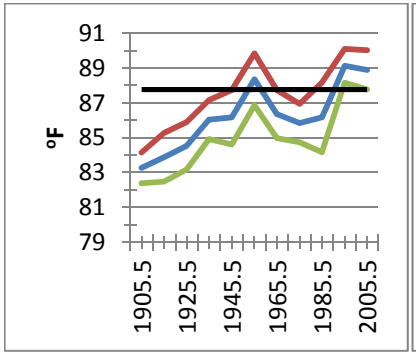


Average temperature for September

Yuma



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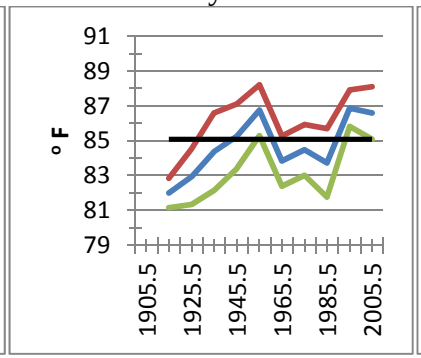

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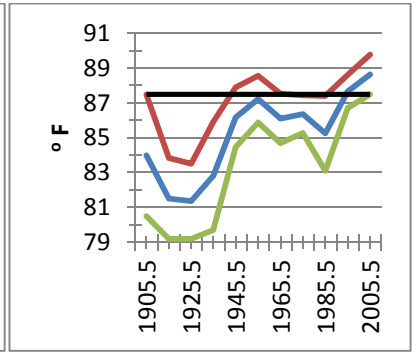
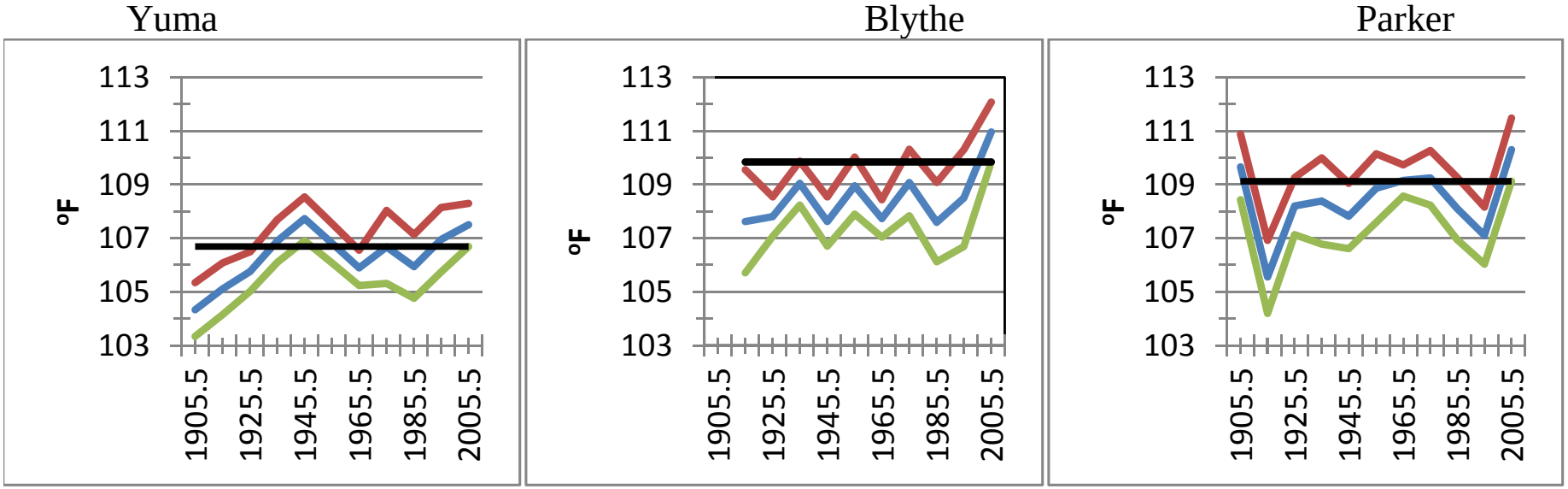
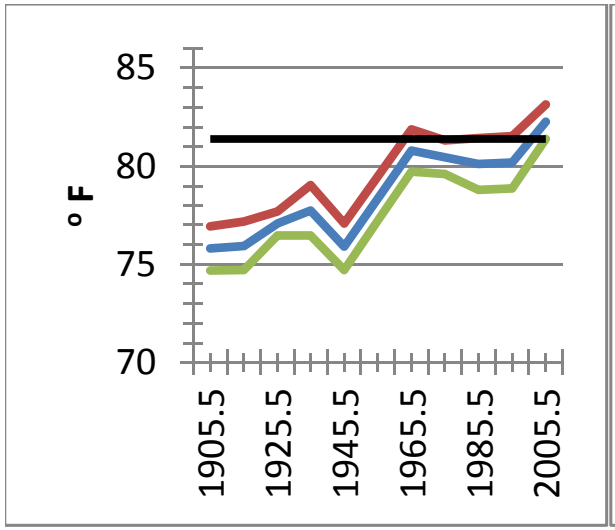


Average high tempature for July



Average lows by decade in July.

Yuma



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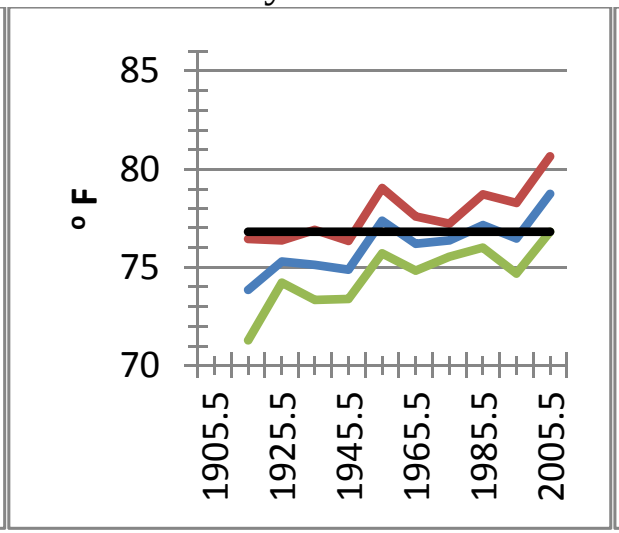

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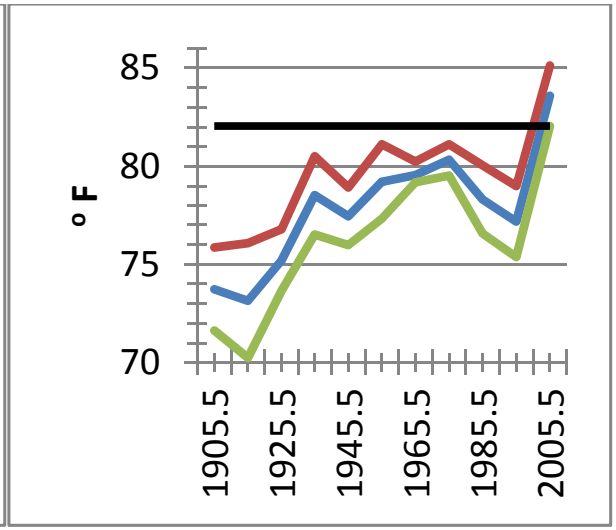
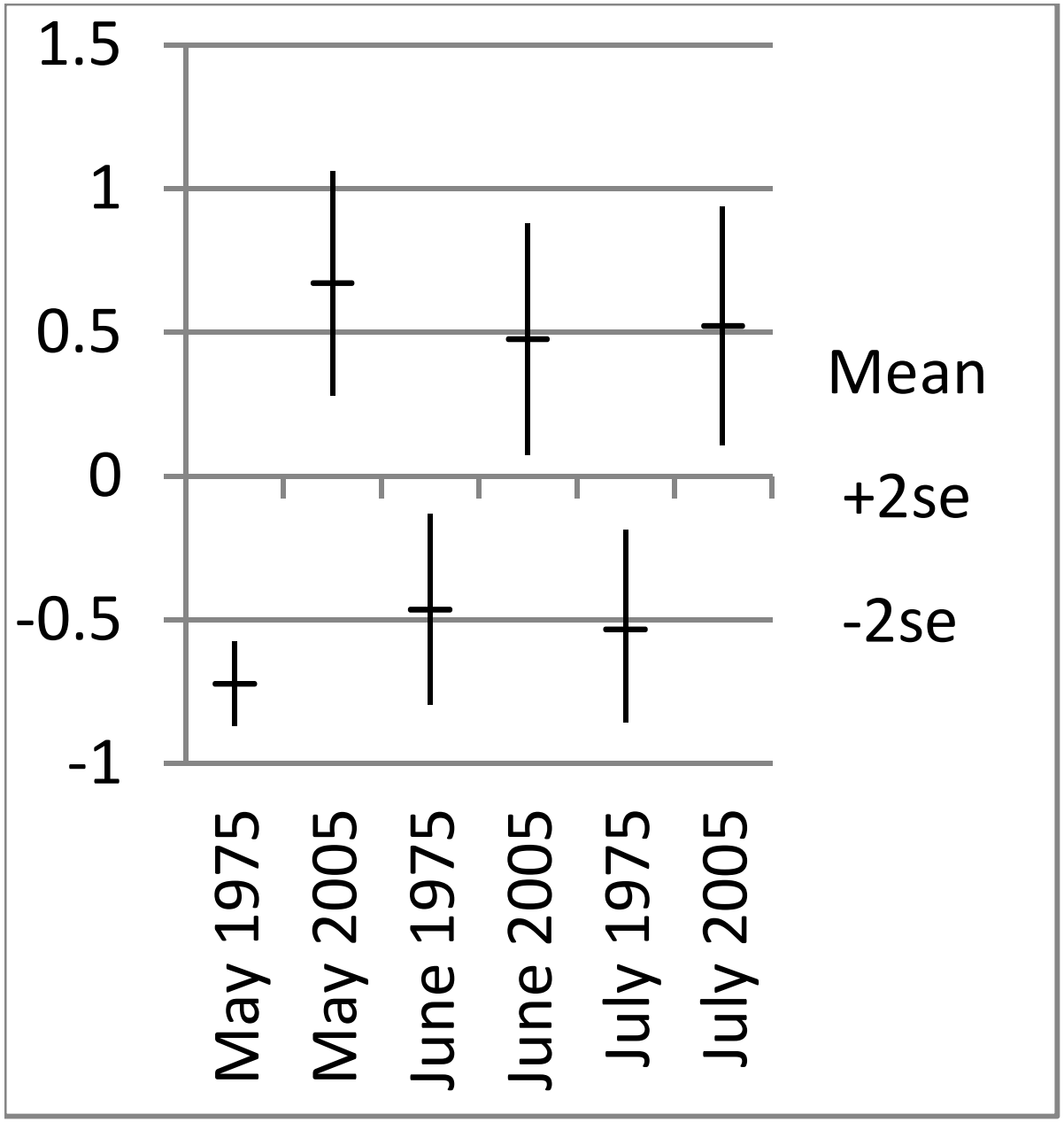
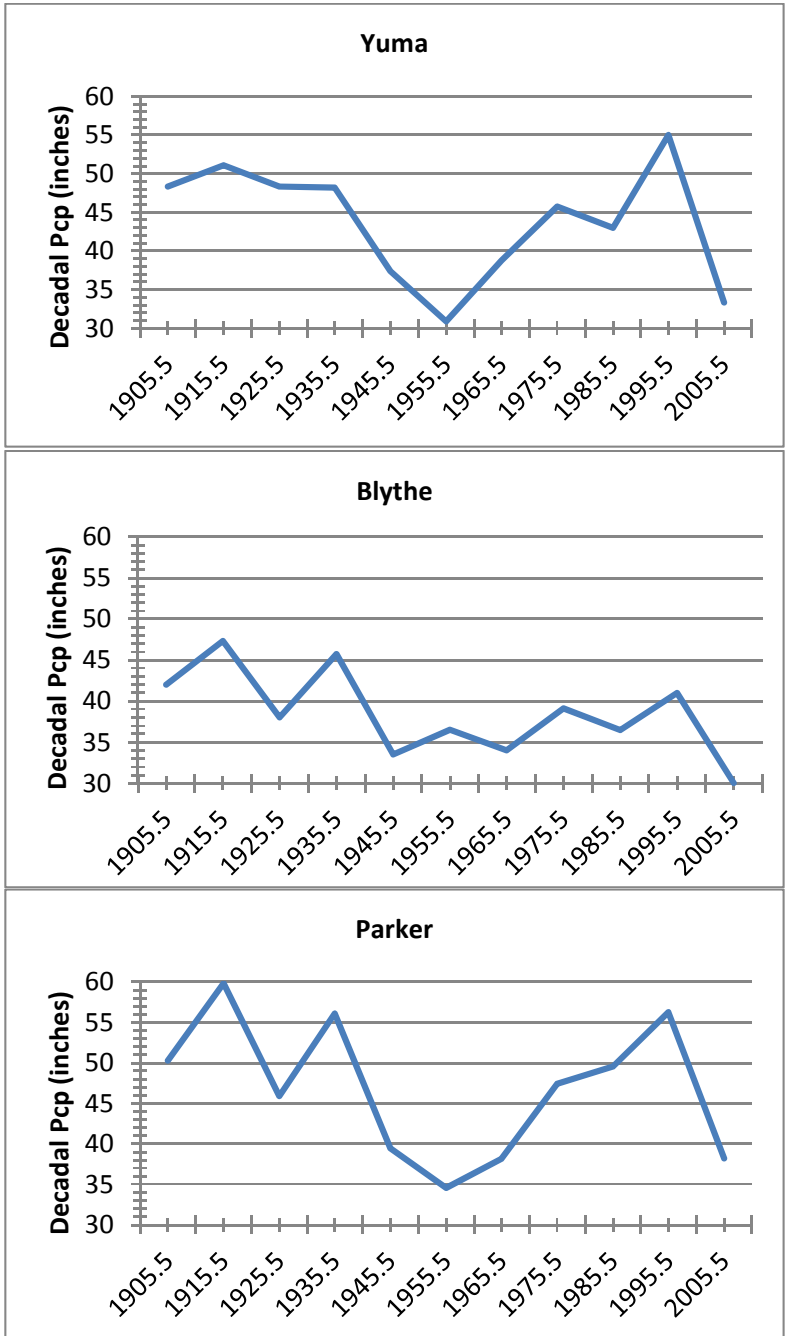
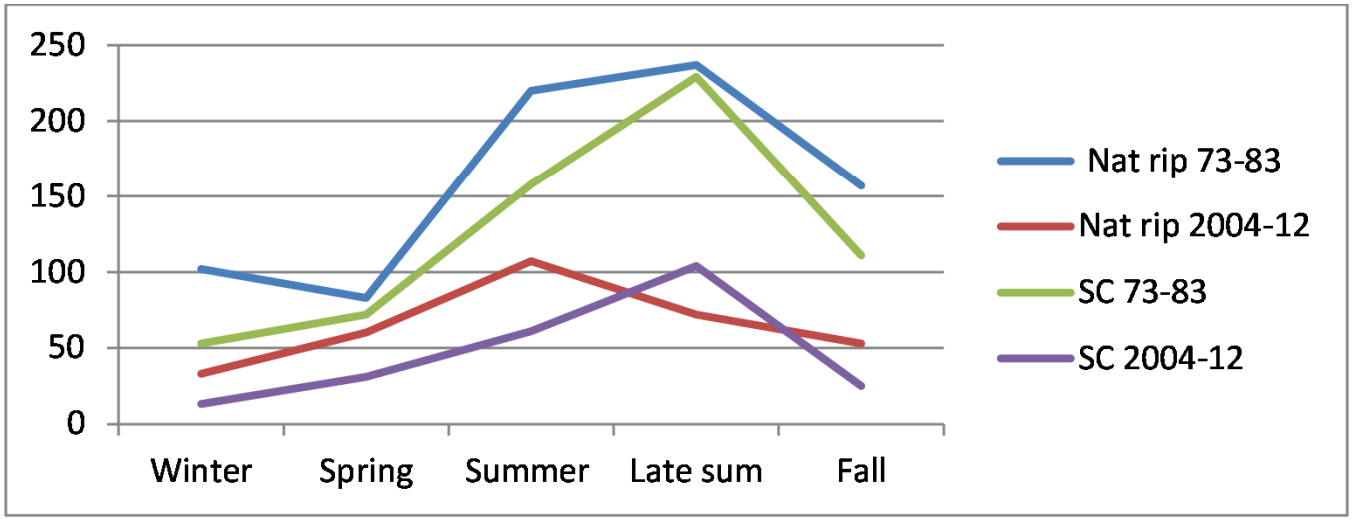



1.5
1
0.5
0
-0.5
-1
May 1975
May 2005
June 1975
June 2005
July 1975
July 2005
Mean
+2se
-2se

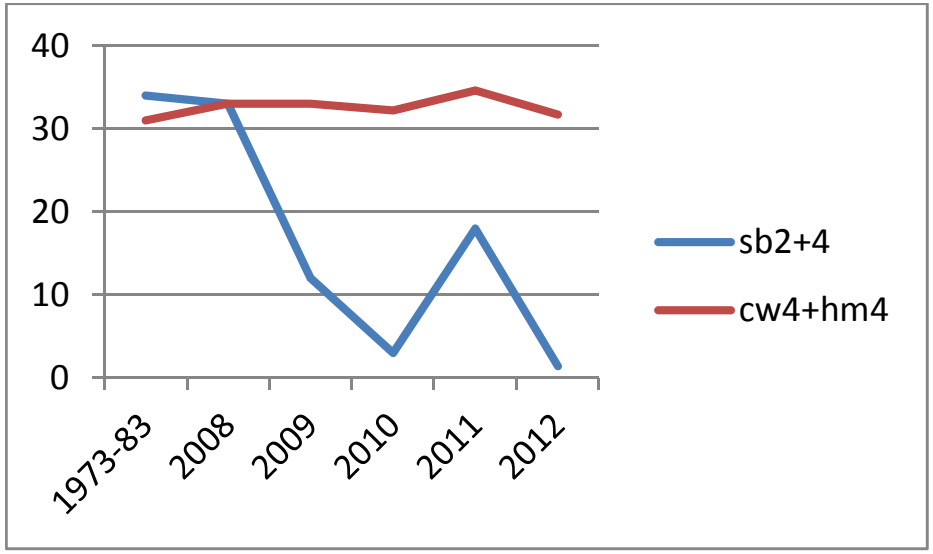
Total precipitation by decade at Parker, Blythe, and Yuma on the lower Colorado River.



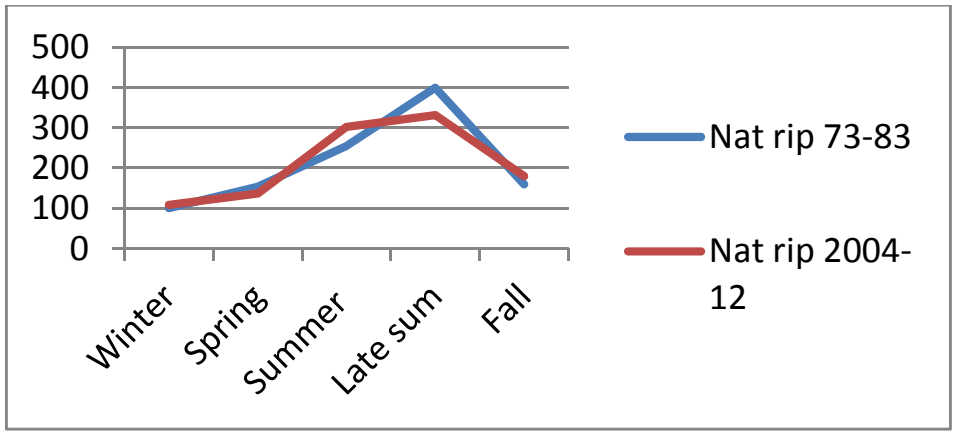
Changes in verdin densities by season in native riparian (Nat rip) habitats and in saltcedar dominated habitats (SC) in 1973-1983 and 2004-2012. The numbers on the y-axis are birds per 440 ha.

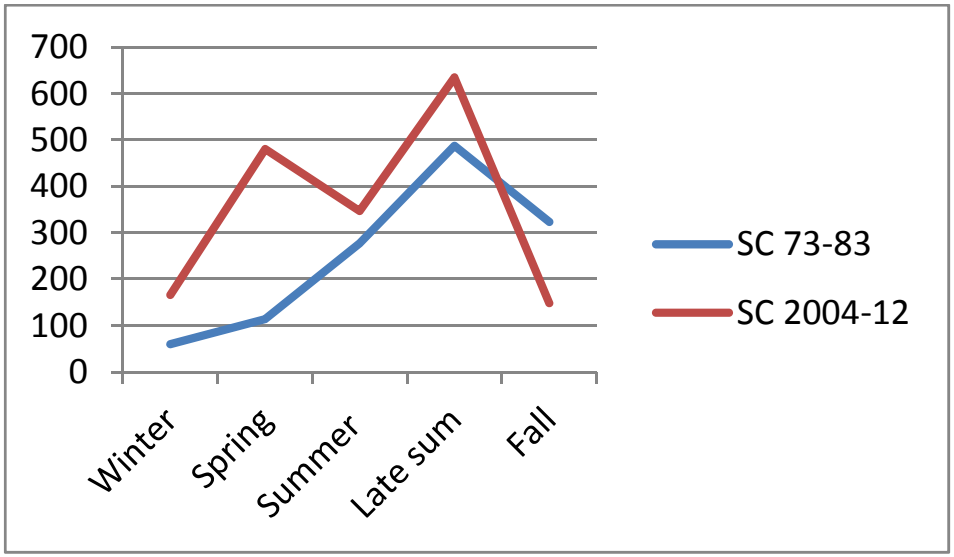


Annual variation in verdin densities in summer in 2 habitat groups. Bird densities are expressed as n/40 ha. Sb2+4 refers to saltcedar/screwbean structural type 4; cw4 to cottonwood/willow structural type 4; hm4 to honey mesquite

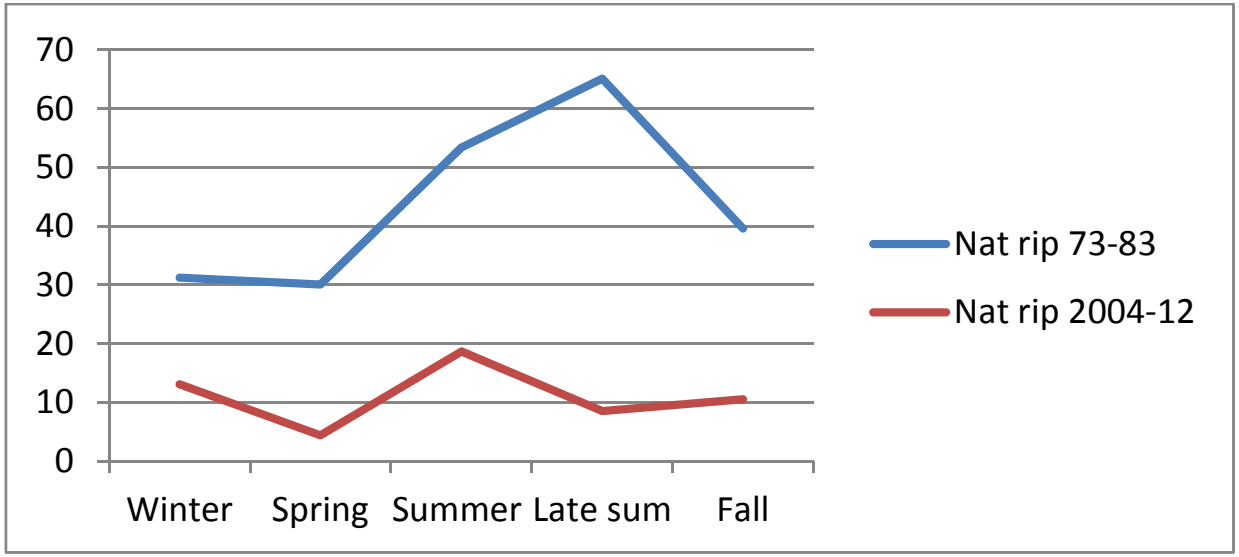


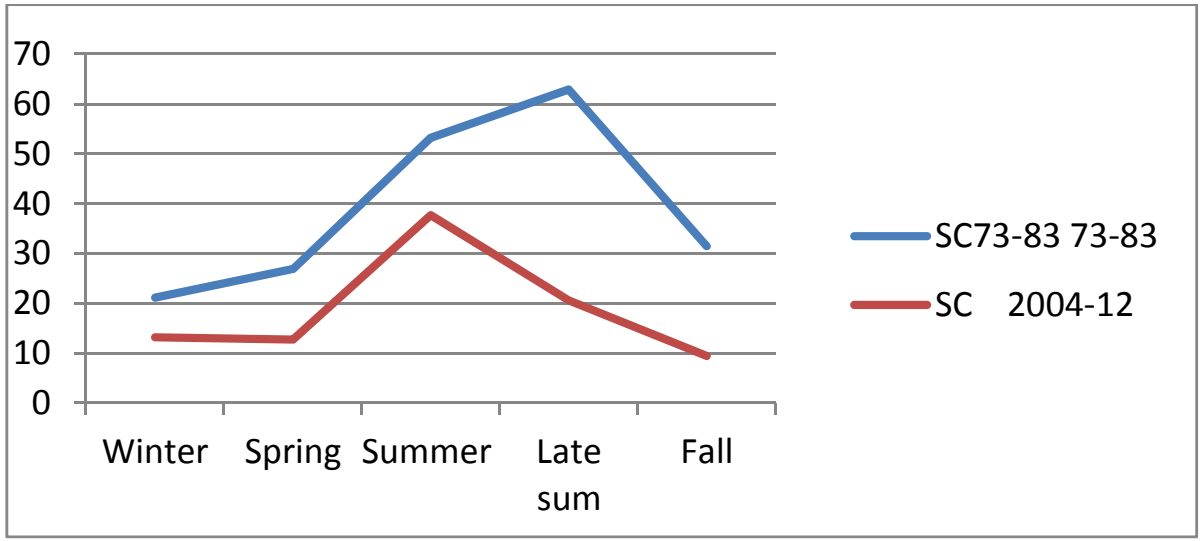
Gambel's quail densities in native riparian habitats (Nat rip) in the top graph and in saltcedar habitats (SC) in the bottom graph. Densities are in terms of birds per 440 ha for all habitat groups.



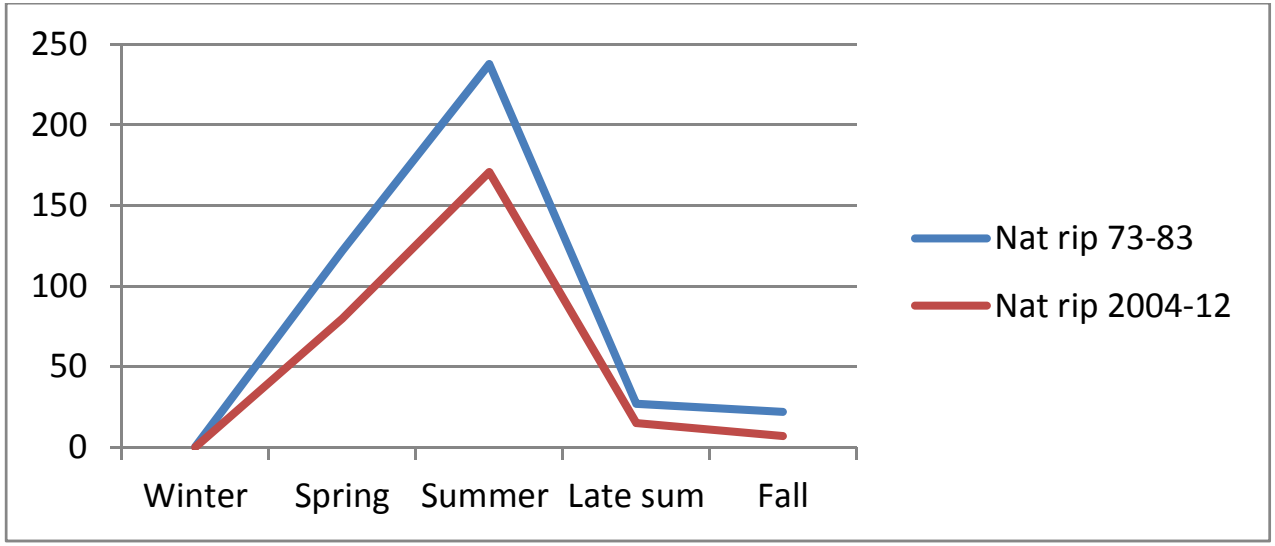


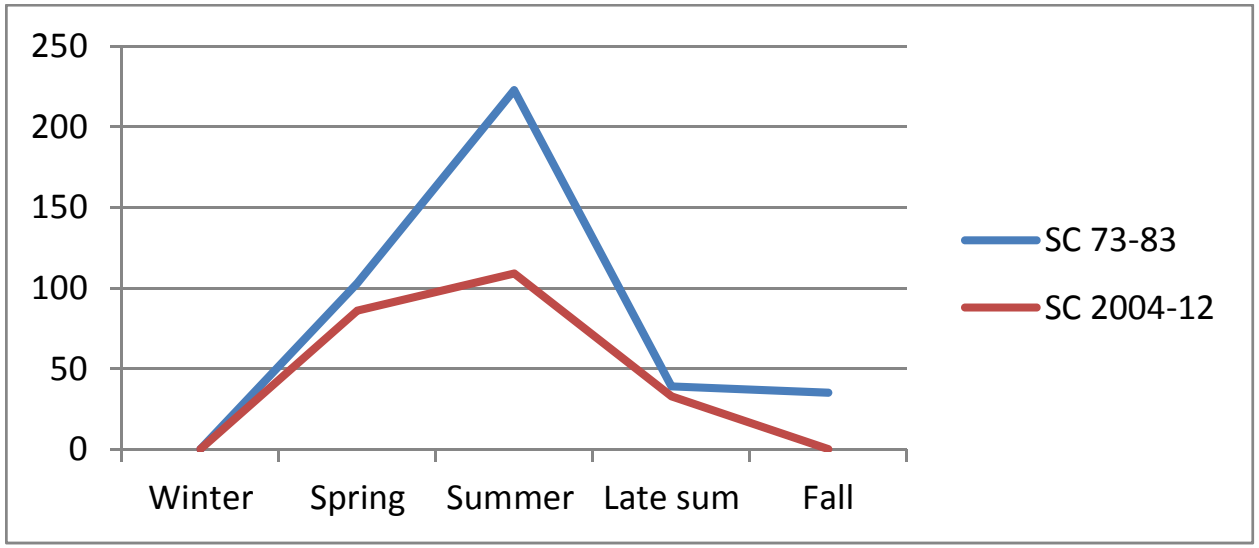
Crissal thrasher densities in native riparian habitats (Nat rip) in the top graph and in saltcedar habitats (SC) in the bottom graph. Densities are in terms of birds per 440 ha for all habitat groups.



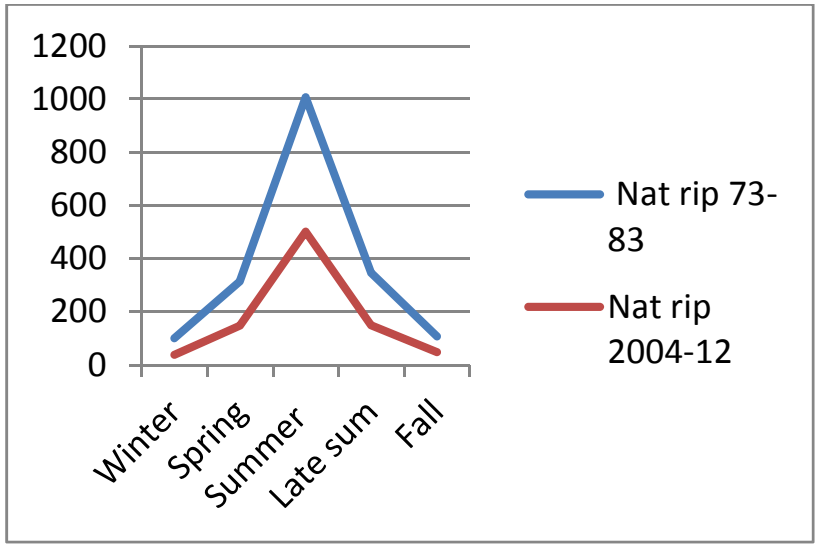


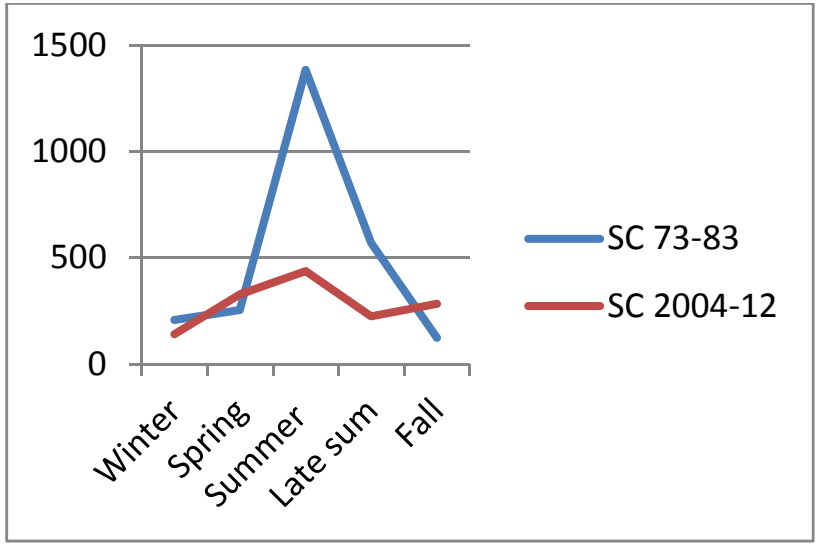
Brown-headed cowbird densities in native riparian habitats (Nat rip) in the top graph and in saltcedar habitats (SC) in the bottom graph. Densities are in terms of birds per 440 ha for all habitat groups.



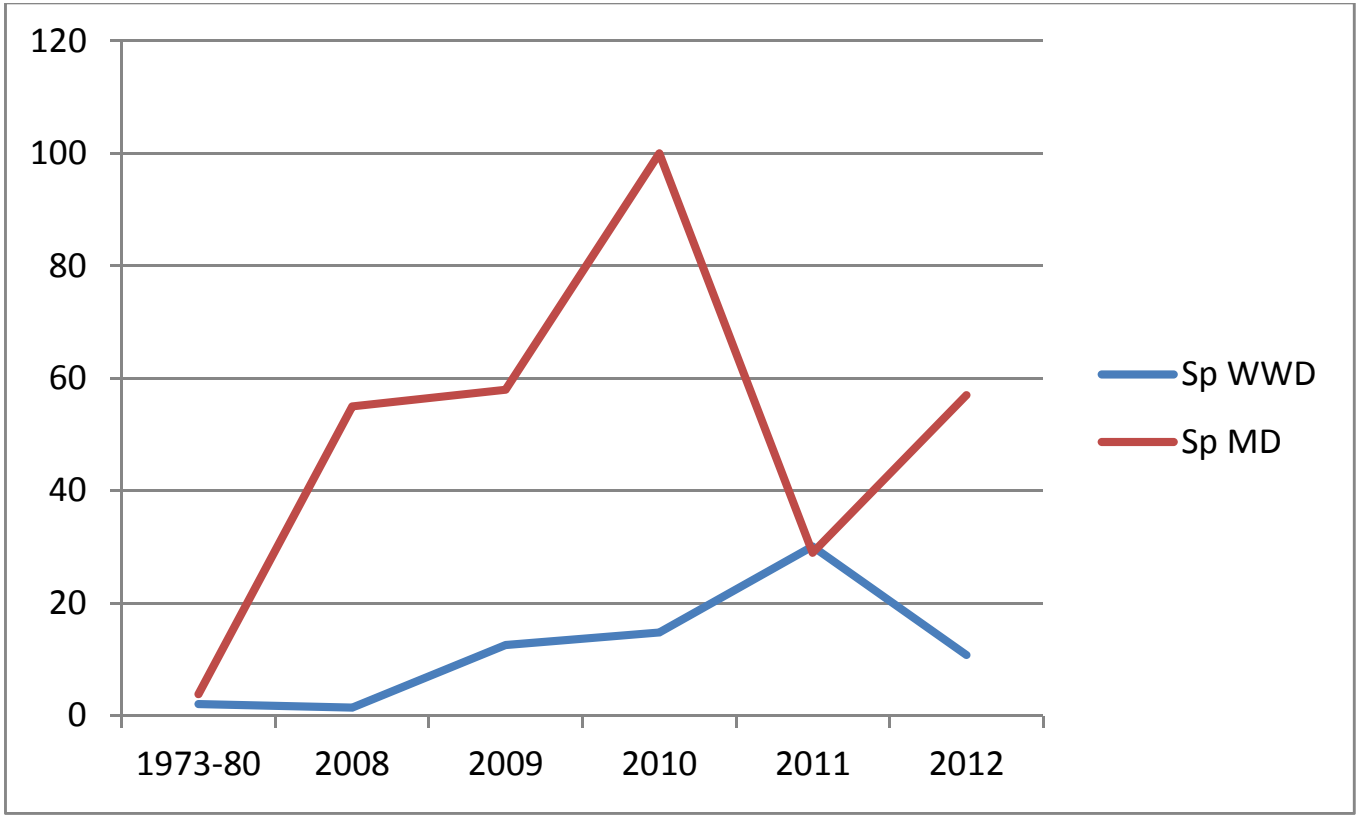


Mourning dove densities in native riparian habitats (Nat rip) in the top graph and in saltcedar habitats (SC) in the bottom graph. Densities are in terms of birds per 440 ha for all habitat groups.

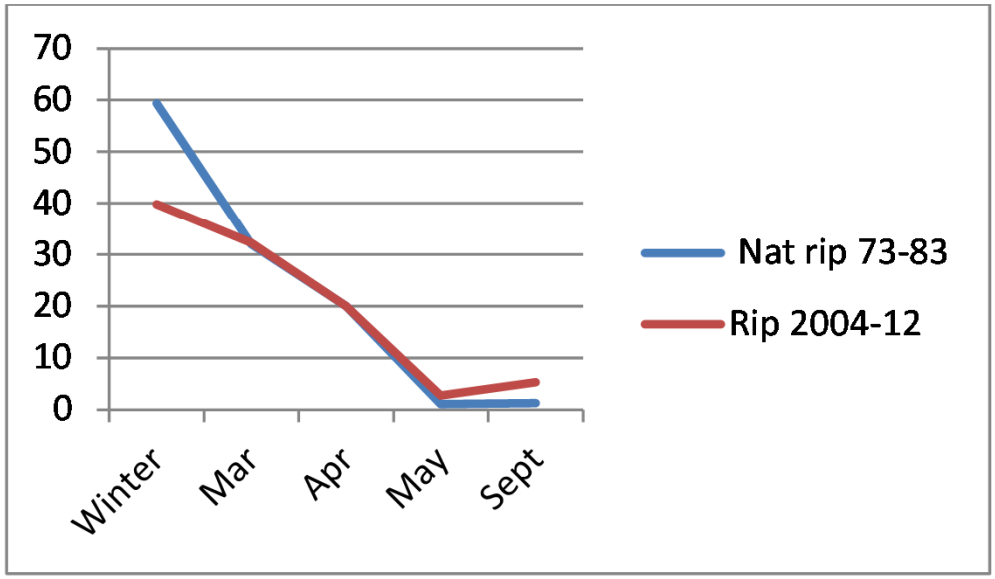




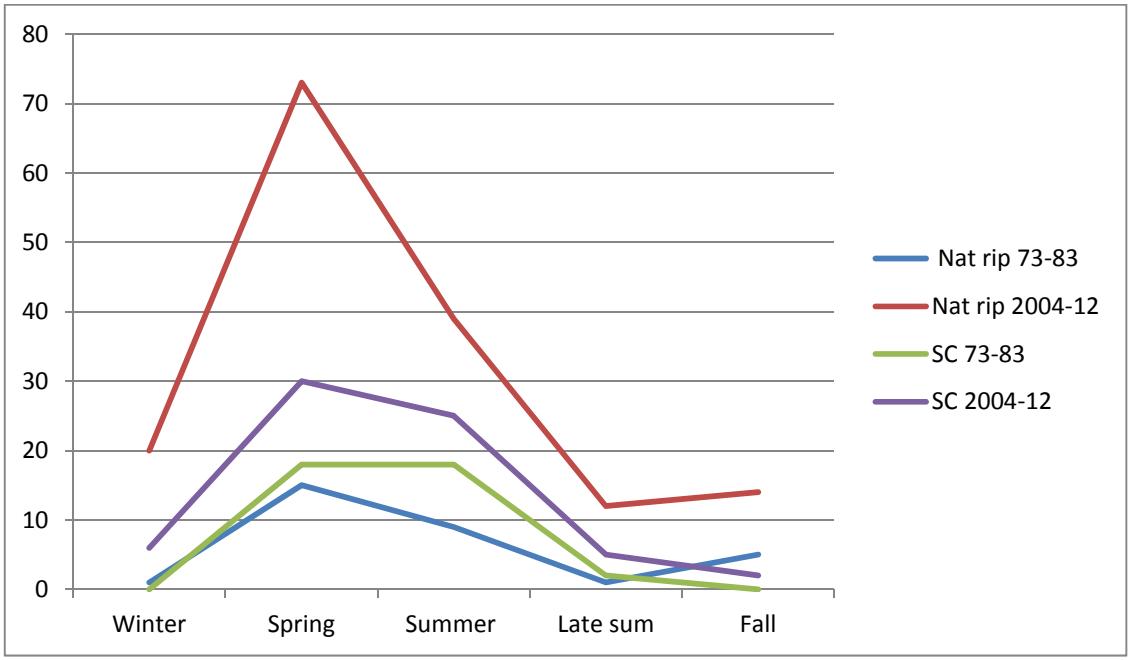
Proportion of the summer density that occurred in spring. WWD refers to white-winged dove; MD, mourning dove. The numbers on the y-axis refer to the proportion of the combined spring and summer densities.



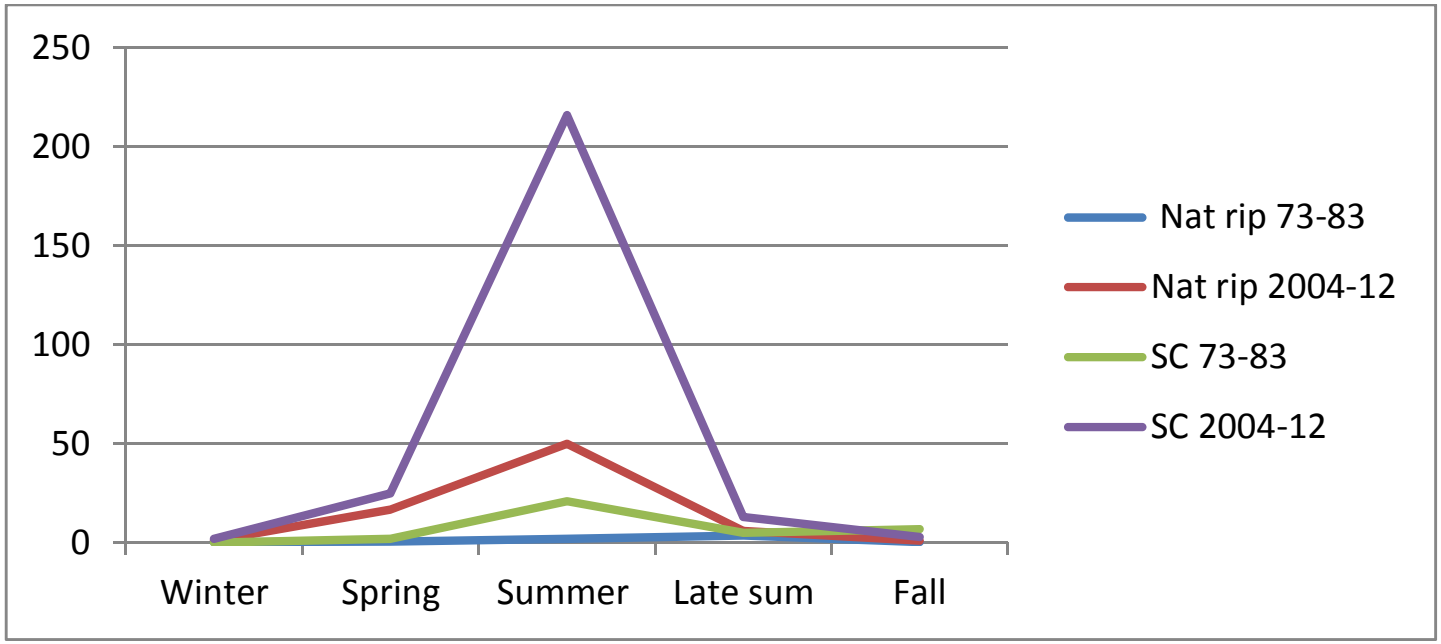
The proportion of peak numbers that are present at various times of year.



Combined densities (birds/440 ha) of Anna's, Costa's and black-chinned hummingbirds. The first 2 species reach peak numbers in spring after they have bred, while the latter breeds in spring and summer in the lower Colorado River valley.



Densities of great-tailed grackles in native riparian habitats (Nat rip) and saltcedar habitats (SC) in the 1973-1983 and the period 2004-2012. The numbers on the y-axis refer to birds per 440 ha.



Verdict

- That’s the evidence, what is the verdict?