

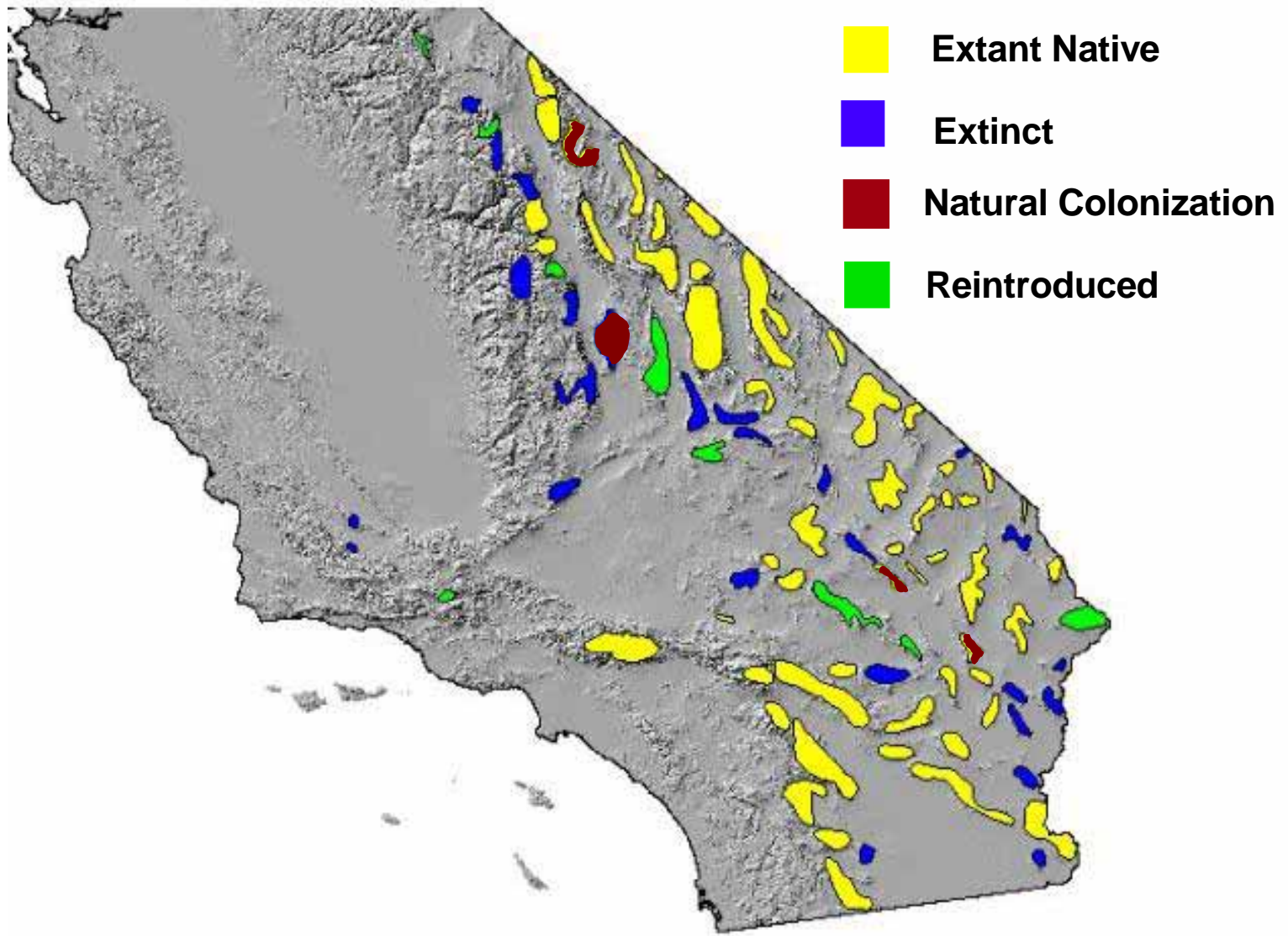
# CA Bighorn Population Sizes

<u>Size Class</u>	<u>Populations</u>	<u>Percent</u>
<25	9	14.3
25-50	21	33.3
51-100	23	36.5
>100	10	15.9

# Climate Change and CA Wild Sheep: Canary in the Coal Mine?

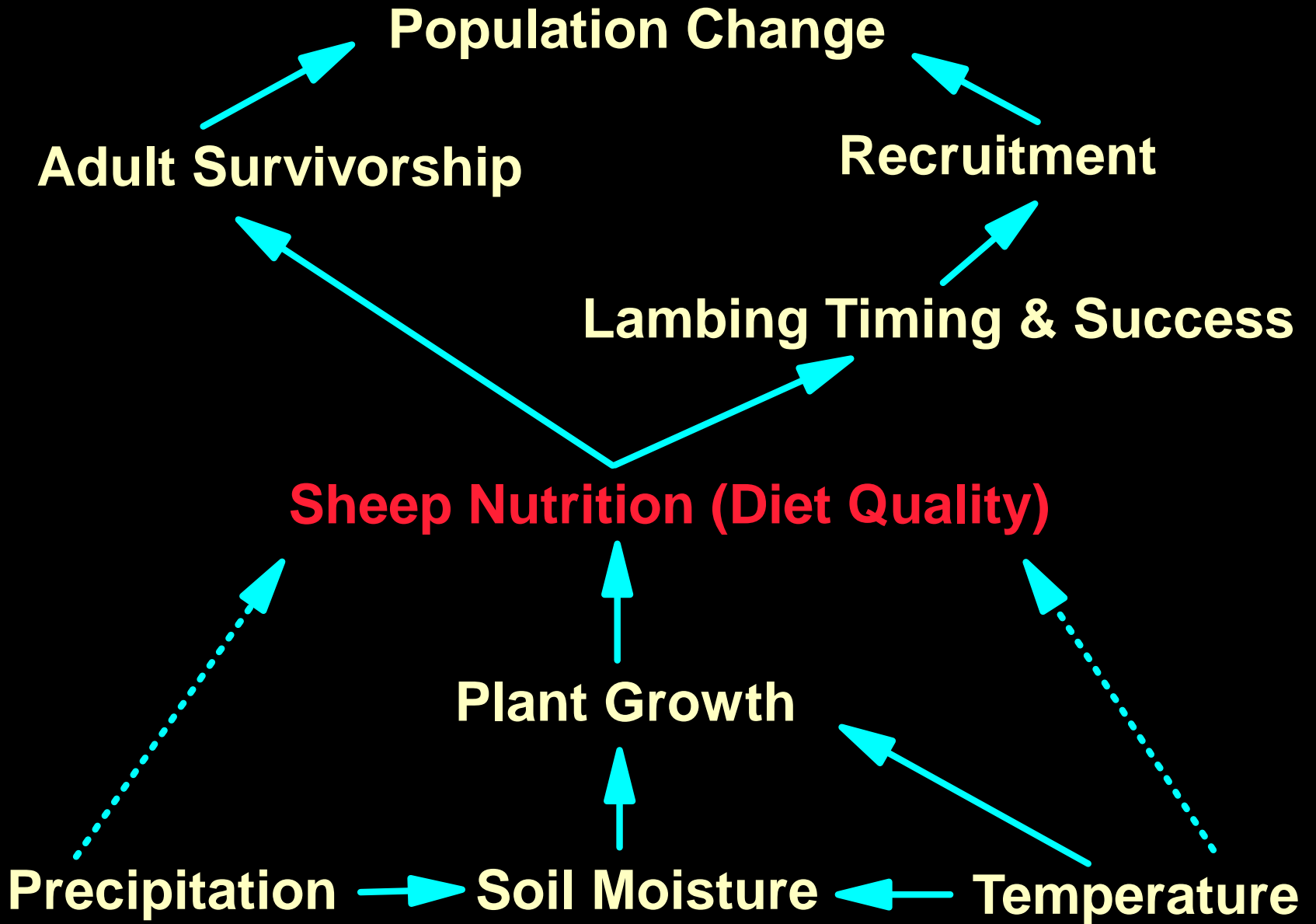




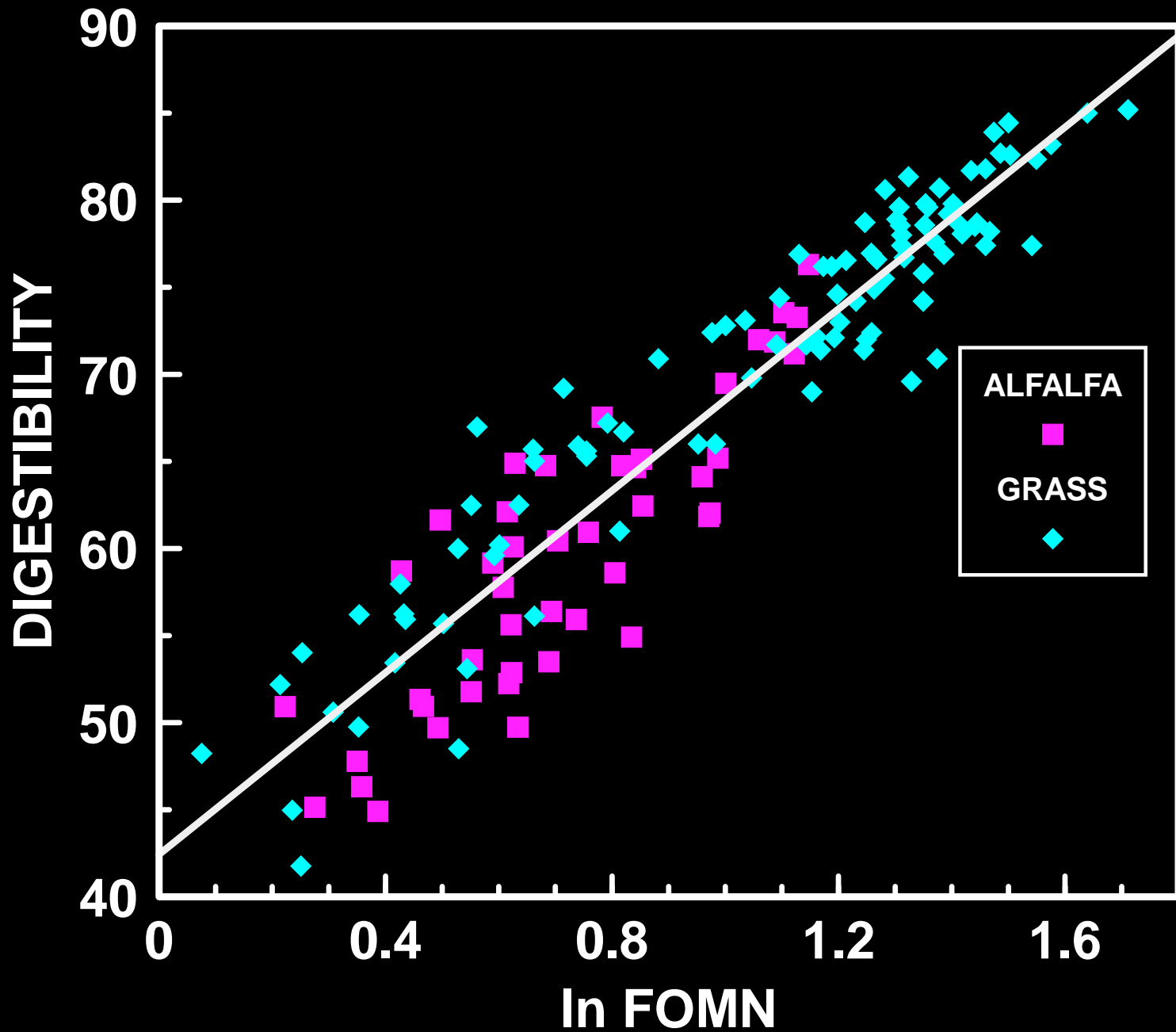


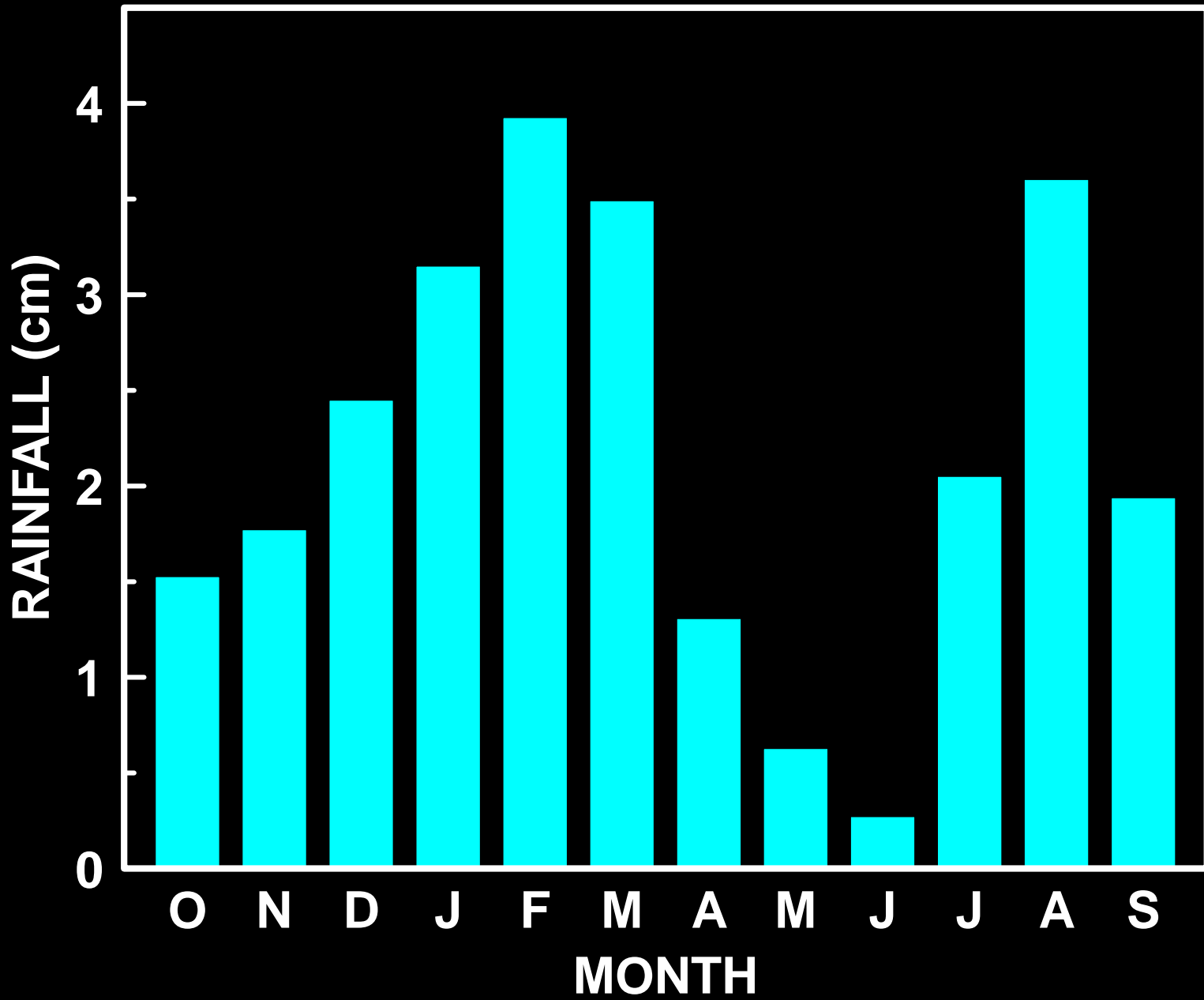
# Predicting Climate Change Effects on Wildlife: What We Need to Know

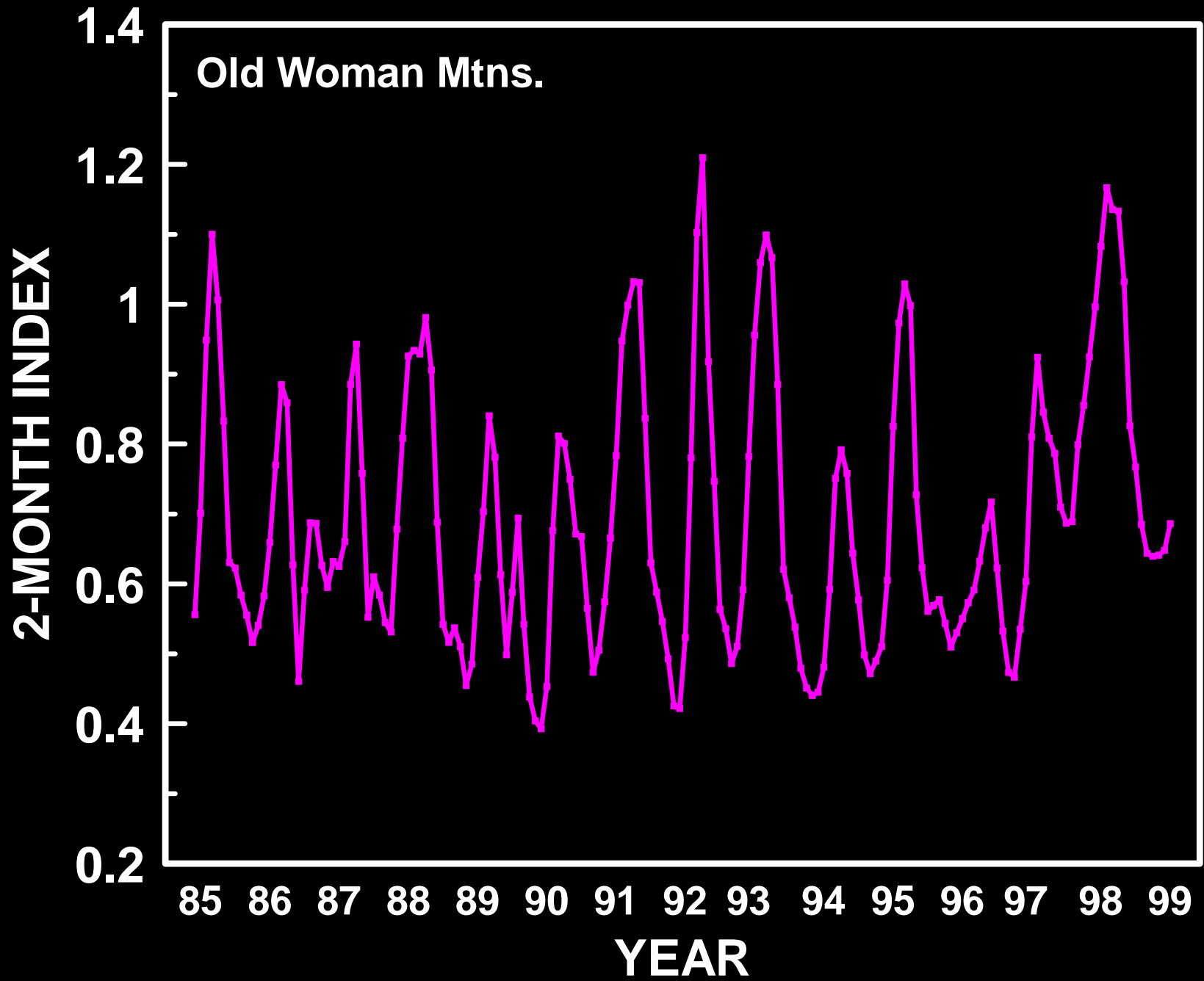
- Ecological effects of climate variables
  - good understanding of causal relationships connecting climate variables with population parameters
  - predictive models from analysis of good long term data sets
- Change in climate variables
  - reliable climate change models that produce accurate predictions of adequate resolution



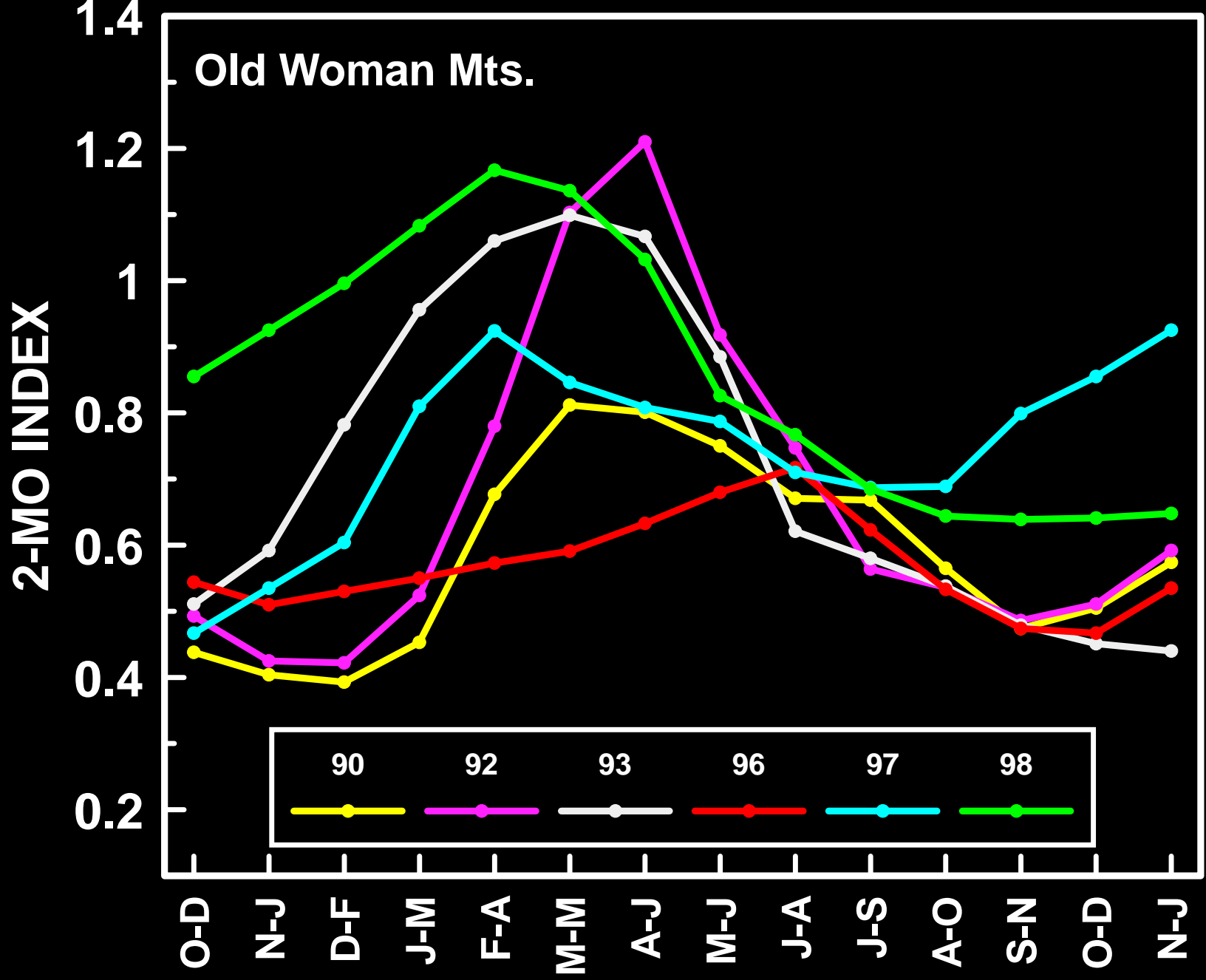


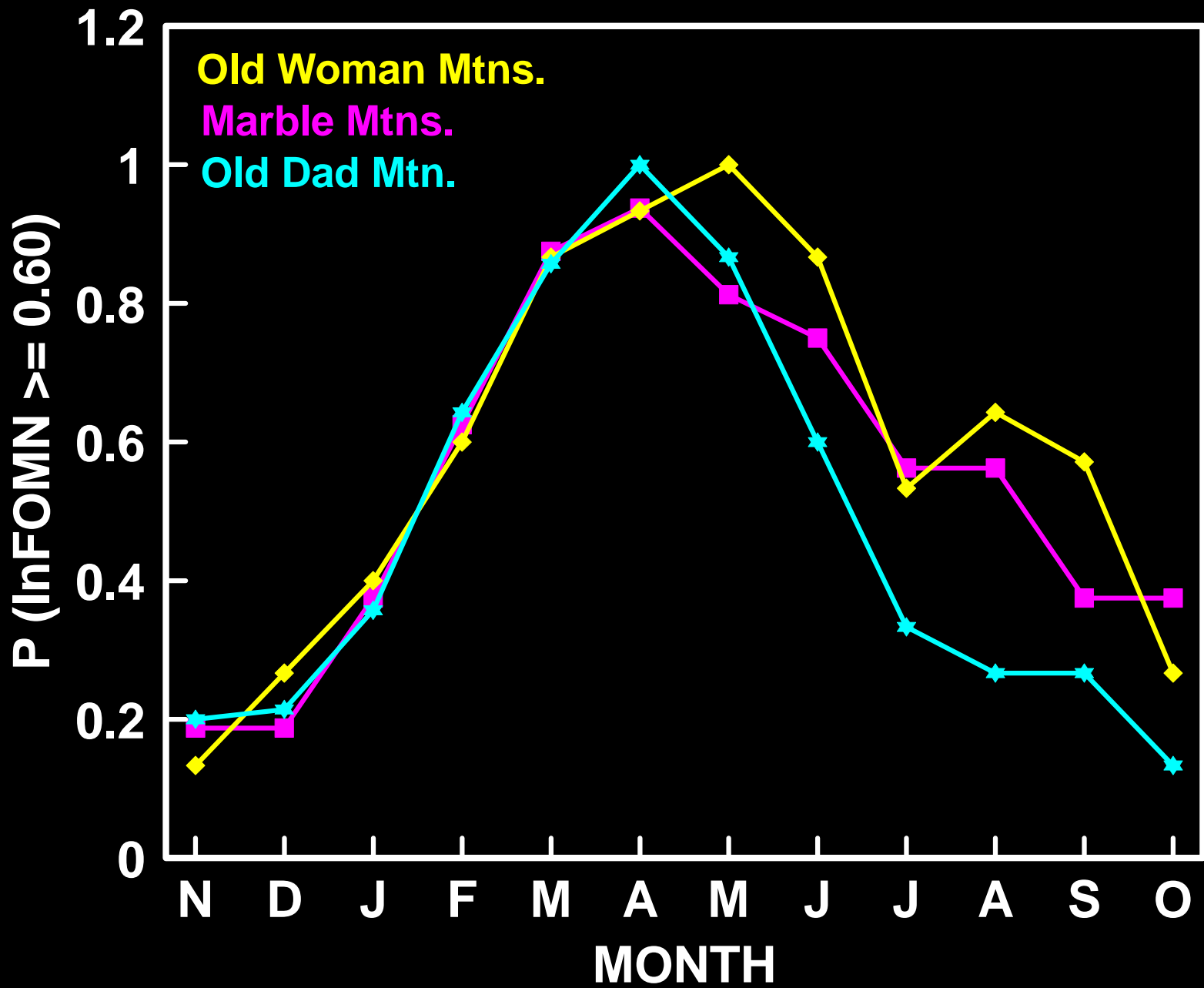


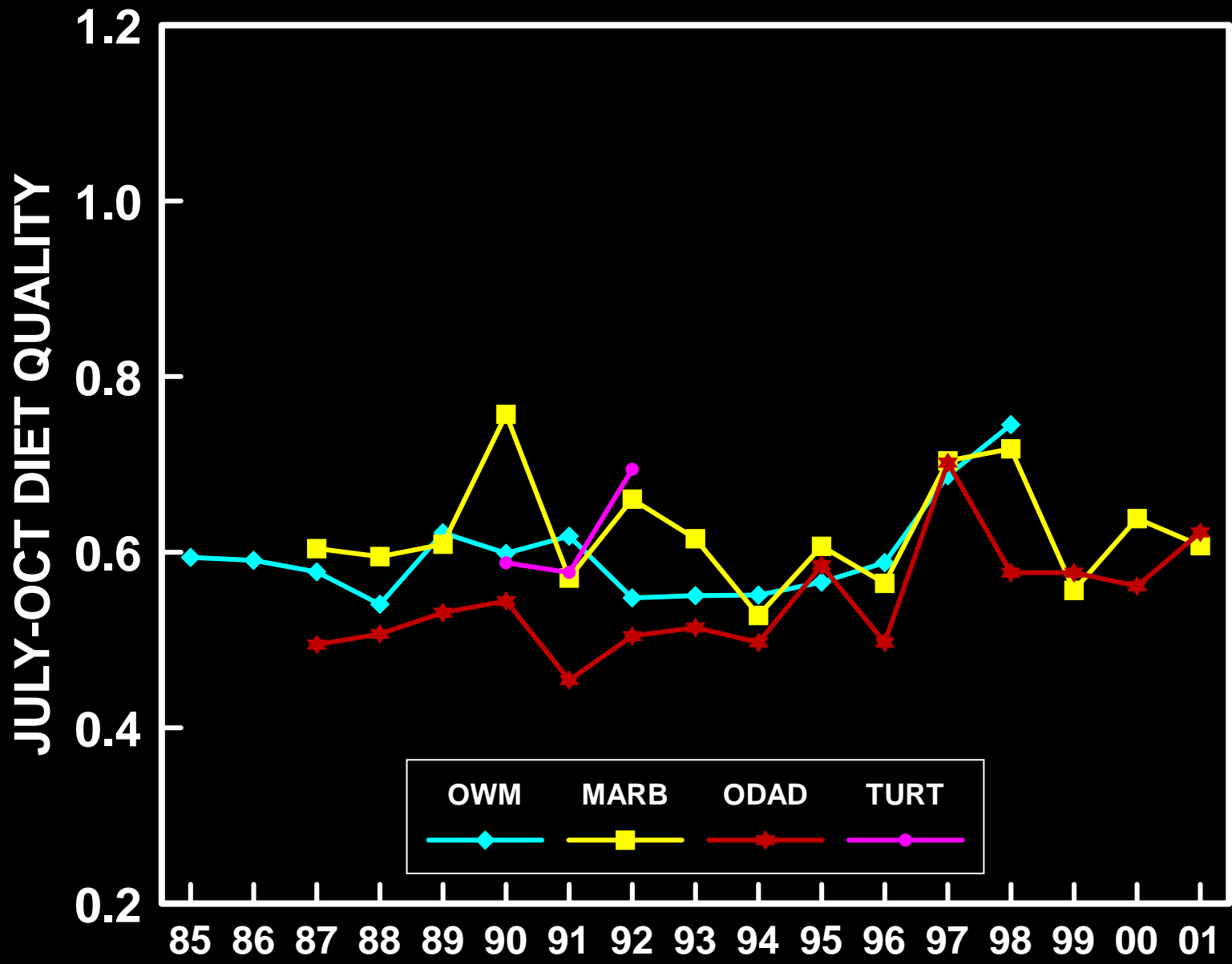


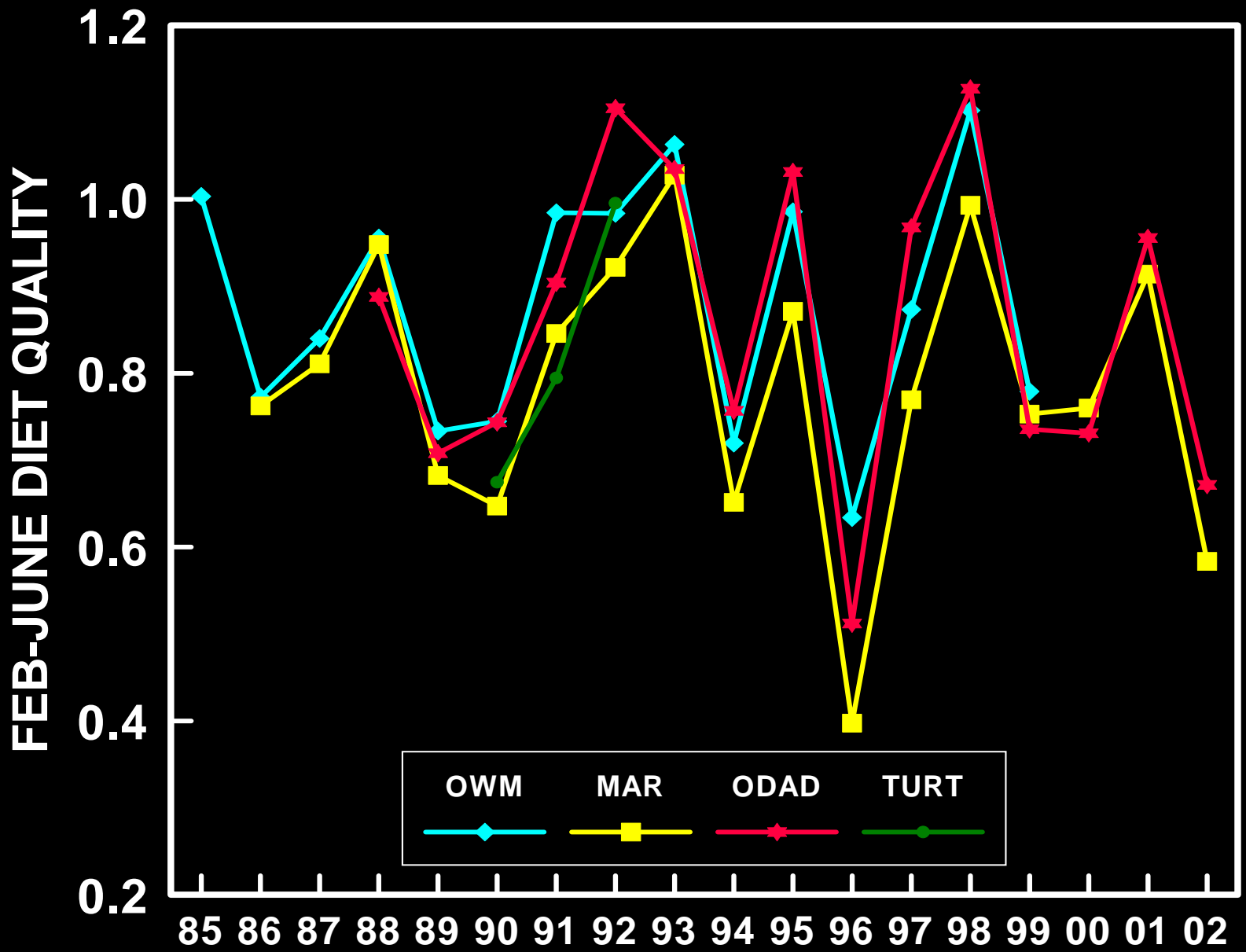


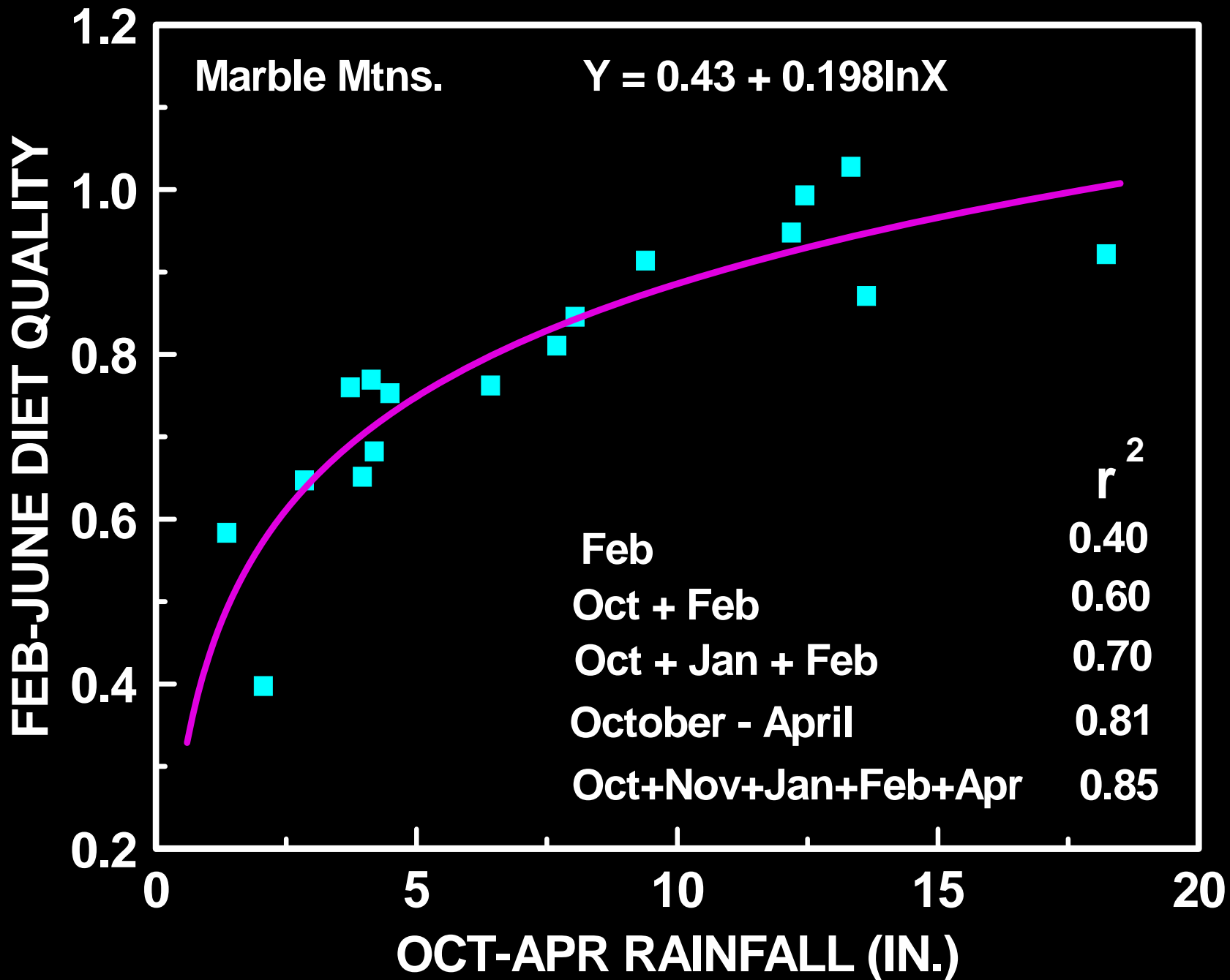
# Old Woman Mts.

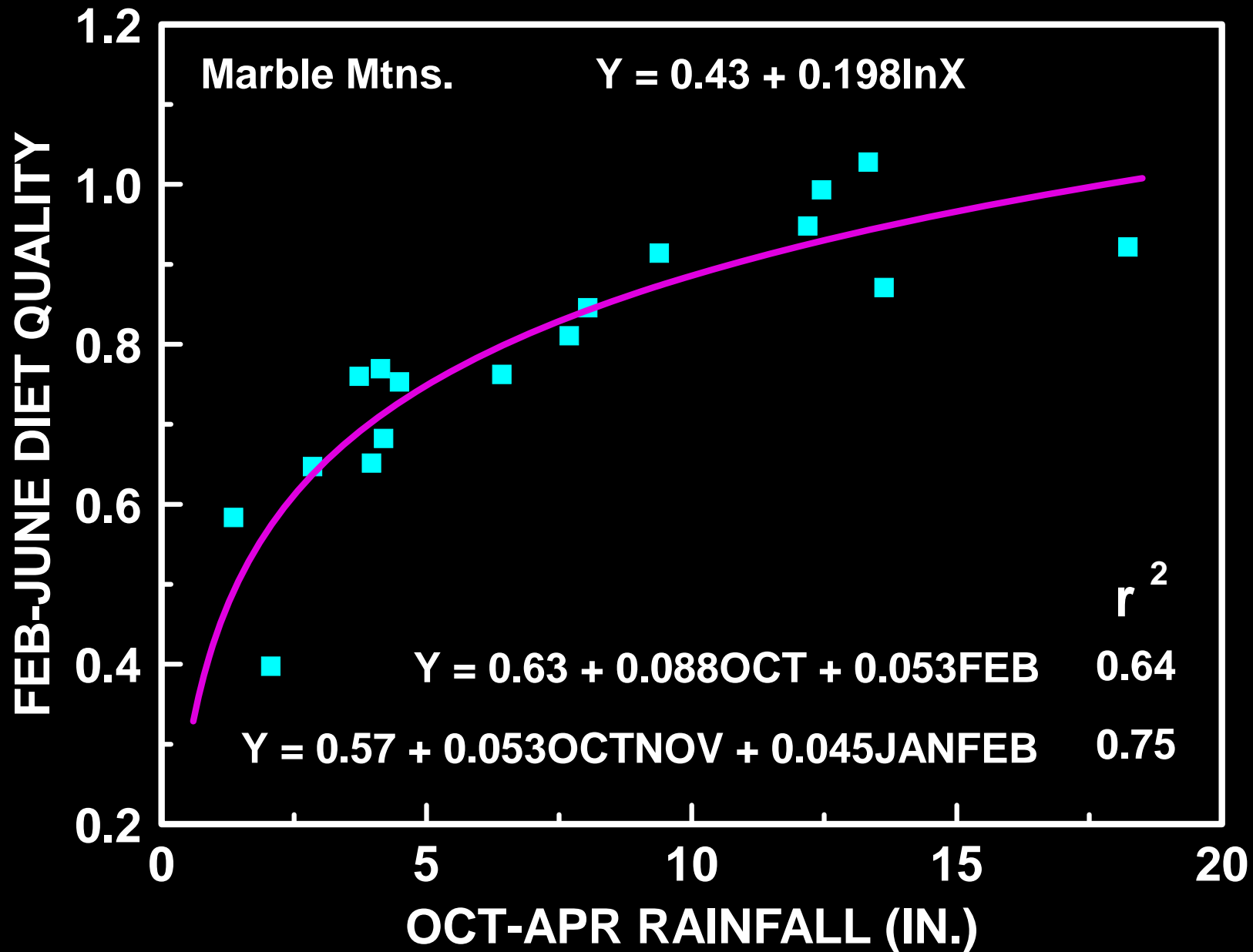


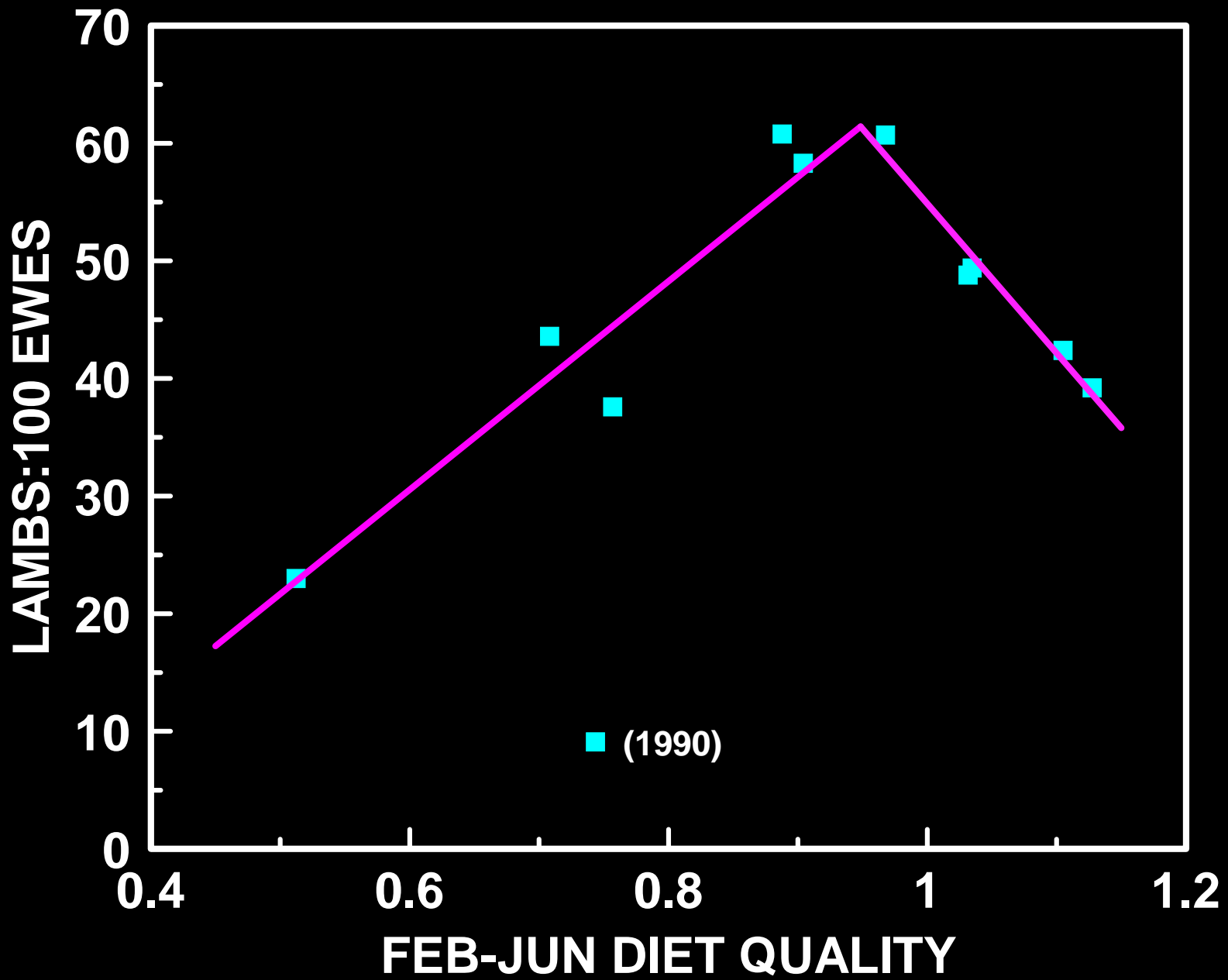












April Diet Quality:  
Predictor Variables from Best Model

Positive Variables

Oct-March Rainfall

Elevation

December Temp.

Negative Variables

Feb-March Temp.

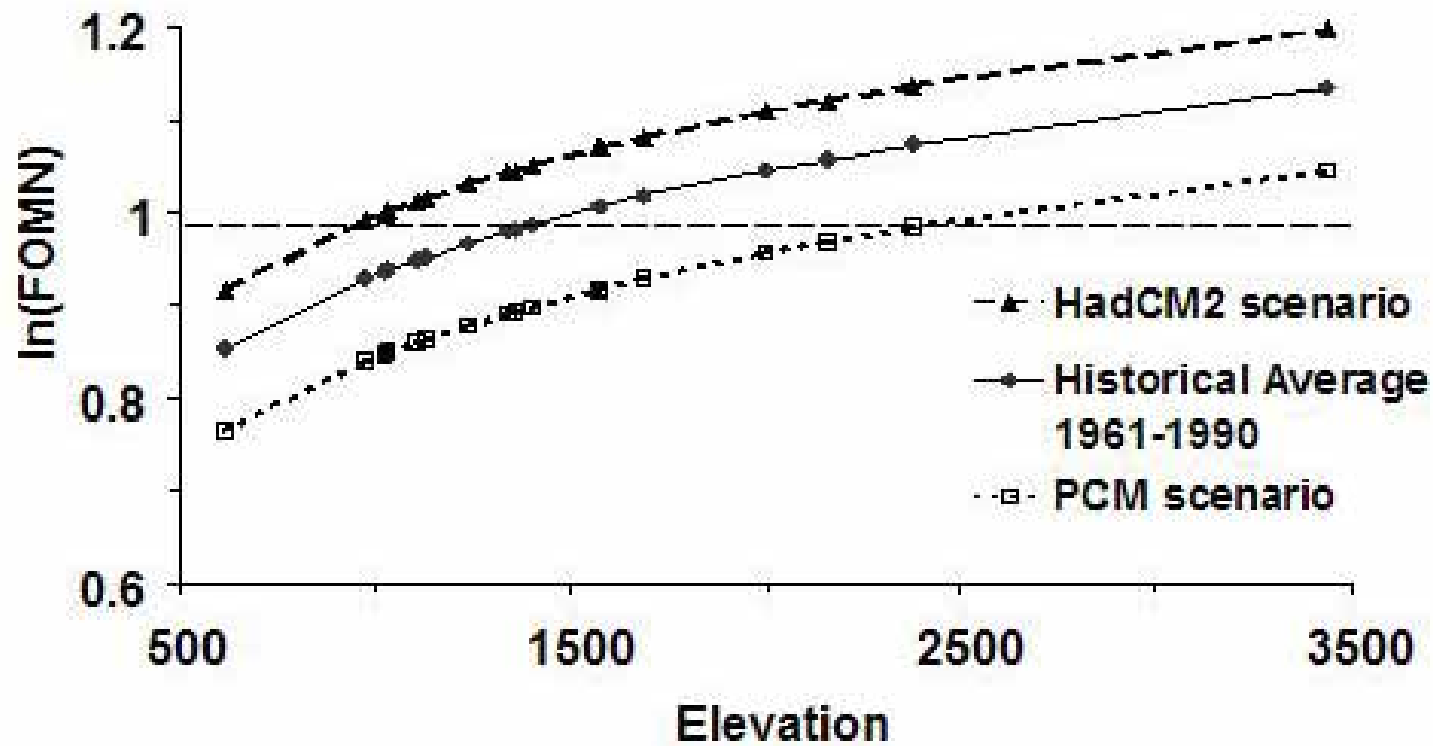
- Hadley Climate Center
  - HadCM2
- National Center for Atmospheric Research
  - Parallel Climate Model (PCM)

<u>Variable</u>	<u>Model</u>	1961-90 <u>Average</u>	2070-99 <u>Projected</u>	<u>Change</u>
Dec. T (C)	PCM	8.31	9.81	+1.5
	HadCM2	8.31	11.81	+3.5
Feb-Mar T (C)	PCM	23.44	27.44	+4.0
	HadCM2	23.44	29.44	+6.0
Oct-Mar ppt	PCM	12.8 cm	9.59	-25%
	HadCM2	12.8 cm	20.46	+60%

# Projected April Diet Quality Change

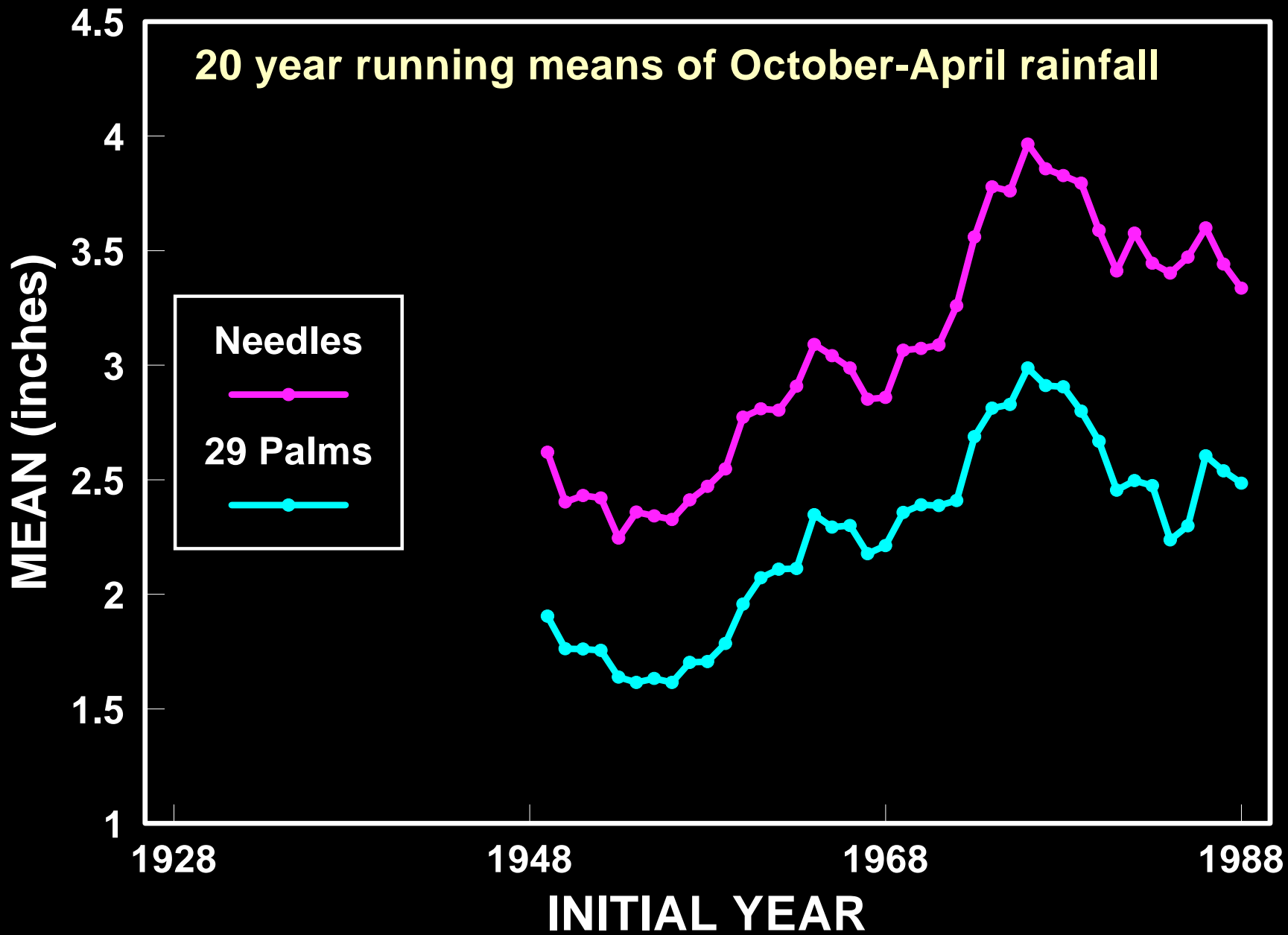
<u>Model</u>	1961-90 <u>Average</u>	2070-99 <u>Projection</u>
PCM	0.98	0.84 - 0.98
HadCM2	0.98	1.00 – 1.14

Figure 3



# Predicting Climate Change Effects on Wildlife: What We Need to Know

- Ecological effects of climate variables
  - good understanding of causal relationships connecting climate variables with population parameters
  - predictive models from analysis of good long term data sets
- Change in climate variables
  - reliable climate change models that produce accurate predictions of adequate resolution



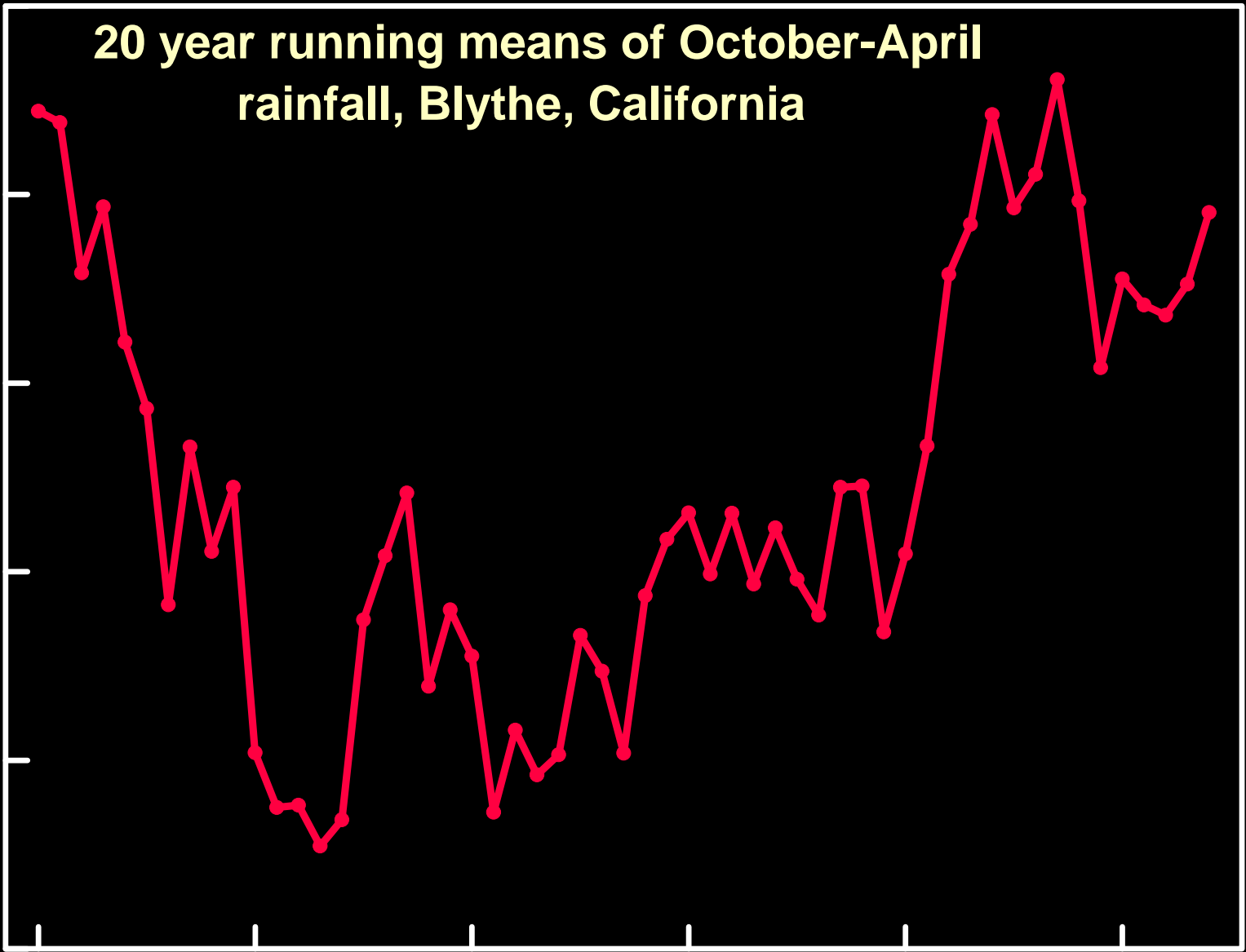
# 20 year running means of October-April rainfall, Blythe, California

MEAN

2.8  
2.6  
2.4  
2.2  
2.0  
1.8

1932 1942 1952 1962 1972 1982

INITIAL YEAR



# Analysis of 20 year running means for October-April rainfall, Blythe, California

