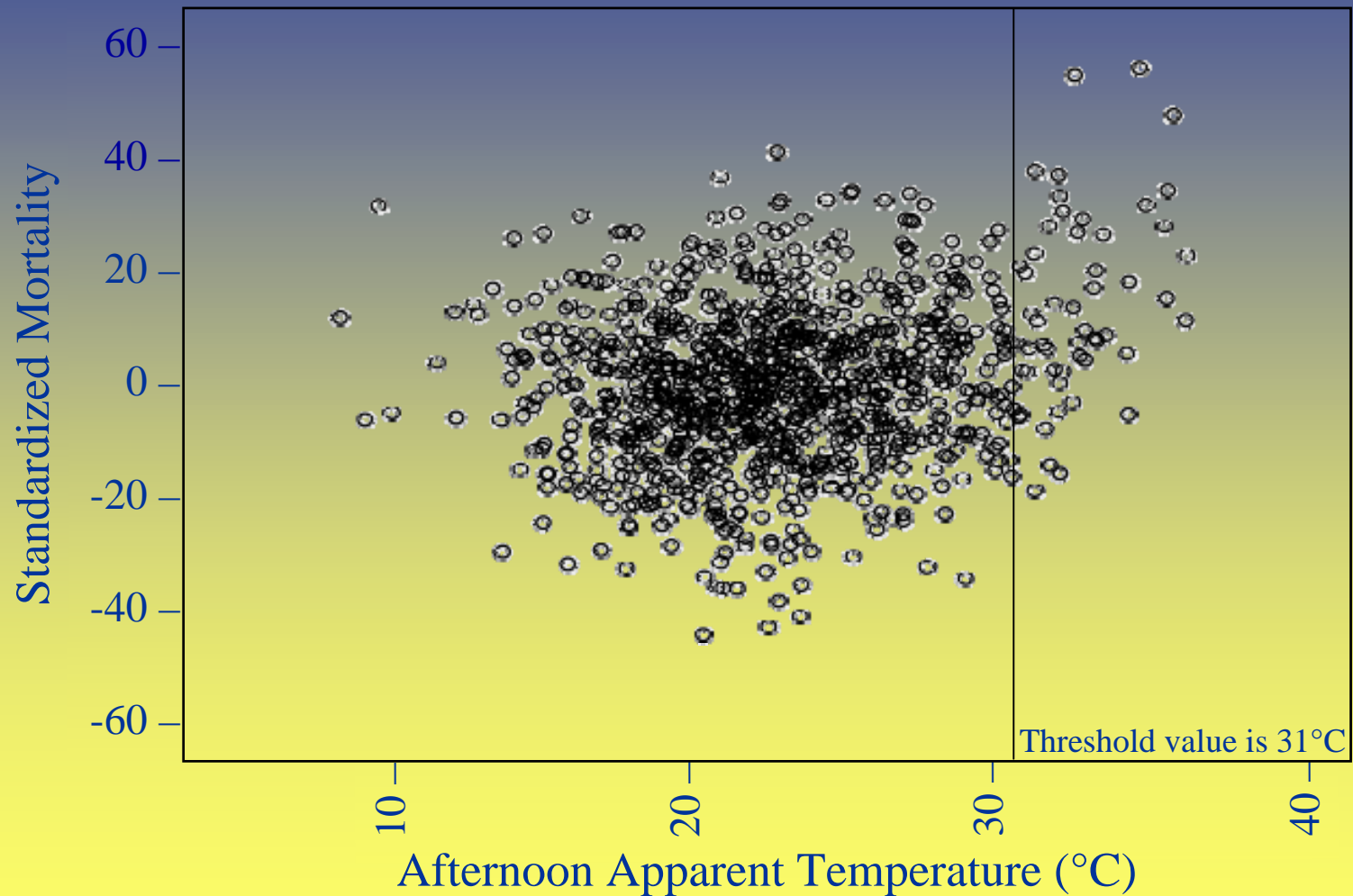


A Heat/Mortality Analysis for London: Some Climate Change Implications

..

Laurence Kalkstein
Senior Research Fellow
Center for Climatic Research
University of Delaware.

Apparent Temperature/Mortality Relationship: 1990-2000, London



Regression Equation for Days Above the Threshold

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-86.733	48.670		-1.782	.083
Consecutive Day	4.729	1.995	.362	2.371	.023
Day of Season (May 15 = 1)	-.340	.113	-.419	-3.019	.005
minat	1.646	1.084	.239	1.518	.138
maxat	2.520	1.541	.228	1.635	.111

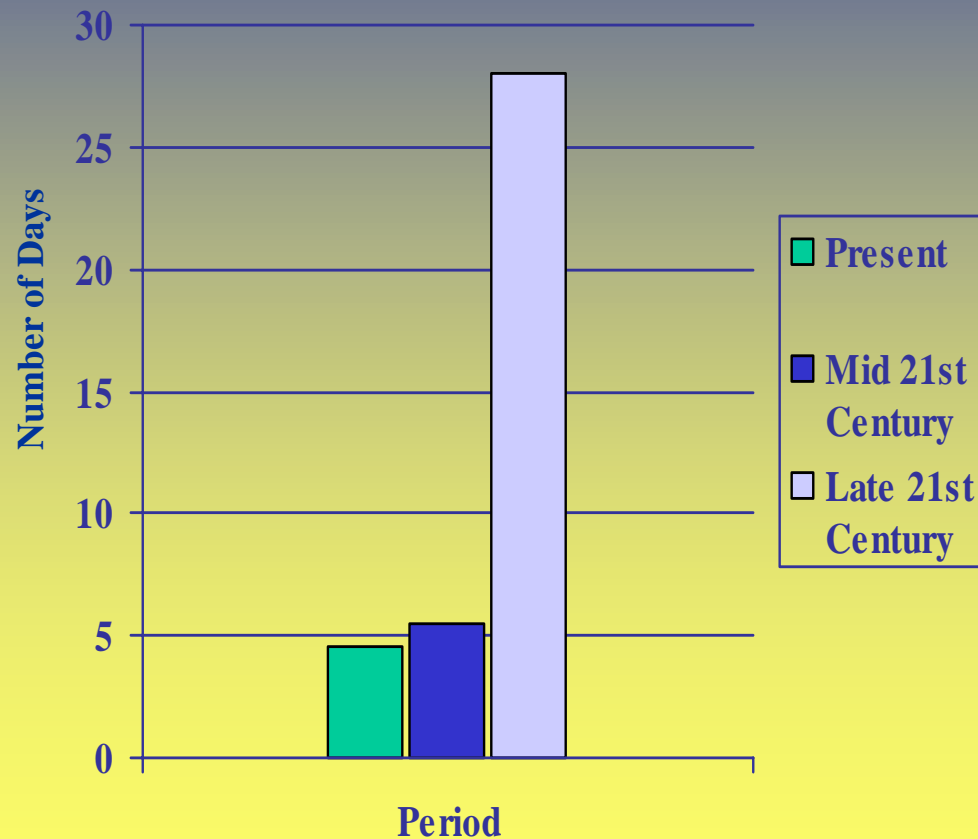
^a Dependent Variable: Standardized Mortality

Model Summary

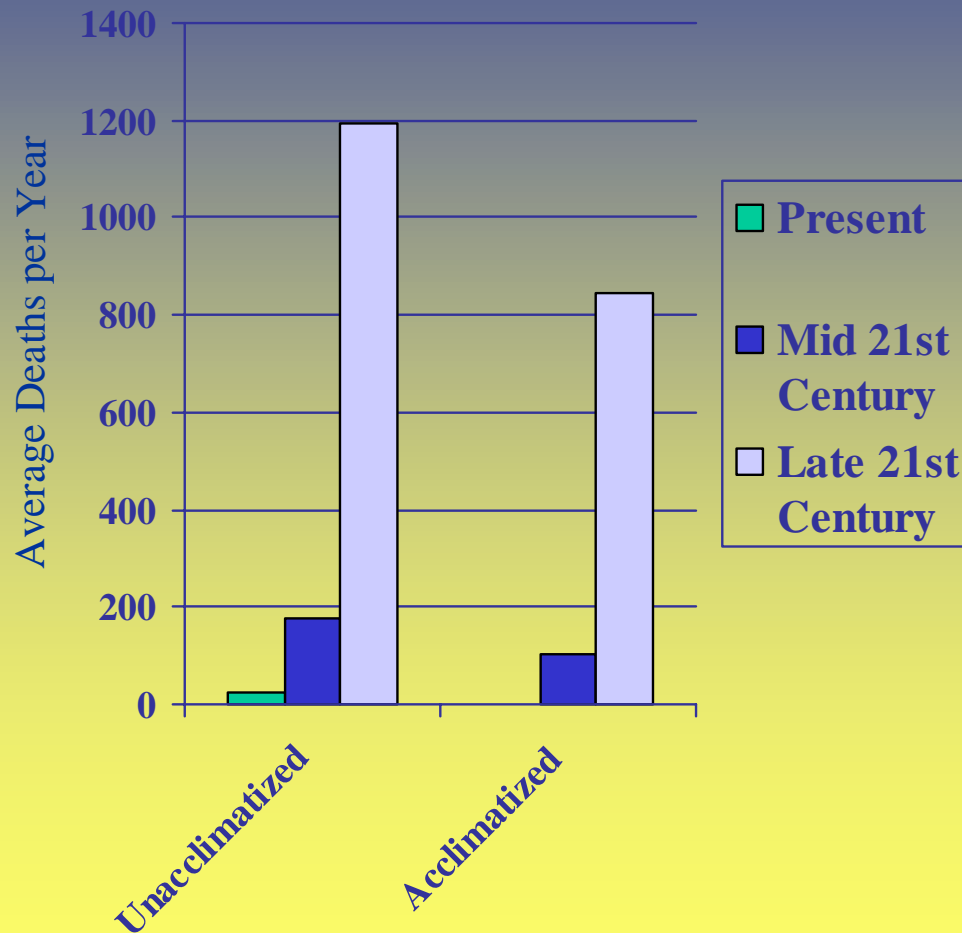
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.648 ^a	.420	.353	14.078

^a Predictors: (Constant), maxat, Day of Season (May 15 = 1), Consecutive Day, minat

Average Number of Days per Year Exceeding the Threshold Using the Japanese “Earth Simulator” Climate Change Model



Number of Deaths During an Average Summer Using the “Earth Simulator” Model



Obvious Findings

- Even without considering the 2003 heat event, Londoners are already sensitive to heat as indicated by mortality increases
- Climate change will exacerbate the problem even if Londoners acclimatize to the excessive heat
- London is less sensitive than warmer, mid-latitude cities like New York, Rome and Shanghai, but more sensitive than many other cities like Los Angeles, New Orleans and Sydney

Point of Discussion:

- What do we do about this?
 - Make Londoners aware of the dangers of heat, that will only increase in a globally warmed world
 - Improve adaptive policies, such as heat/health warning systems, which are presently saving lives in numerous cities around the world
 - Develop better intervention activities that governmental and private sector officials implement during heat waves