

Katherine A Franco  
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Professor Gerovitch  
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Week 4 Reading Response

Computer models are designed by taking into consideration observed data and computer data. Then the computer is able to extrapolate from missing data points what the temperature most likely is. This is essential because much of the earth's surface is just not populated enough to have exact observations about temperatures and most of the earth's surface is water. By evaluating new data and previous data, the computer is able to find a closer approximation for the temperature. This is a form of data massaging. This is similar in the same way that polls are taken. By taking data from a few random points, you are assuming you have enough knowledge to make a statement about the rest.

Forrester argues that computer models could replace good data for policies because they would be able to model "the complex interactions among all the different elements in a system" (Edwards, 17). I feel that it is a dangerous idea to let a computer model complex interaction. In doing so, you are ignoring the chaos factor, as well as a major portion of the human factor. For example, if computer modeling were used for the way different entities interact with each other, say in planning a city, you can make sure that neighborhoods are grouped well enough, but you cannot very well tell if two neighbors just do not get along because of deep emotional issues, possibly causing an emotional rift to move throughout the neighborhood and eventually lead to its downfall. As radical as this may sound, I feel taking the emotional human part, or the chaotic natural part out of the problem, you are assuming the world can work in the same way as a machine, when there are some parts that just cannot be modeled.

On the issues of the validity of "validation" and "verification" of climate models, I agree with Edwards that you cannot speak properly of validating a computer model. There is no way to pinpoint the truth in each intricate detail of a model. If "validation" is as Edwards writes, "definitive proof of truth" ("Global Climate Change," 11), there is no way to check every point especially at one moment in time and now that all points are truthful. In the case of forecasting climates, this is especially true. There is no way to prove which model will be the correct one if there is no true climate to compare it to. Edwards definition of "verification" as a "demonstration of internal consistency and an absence of detectable flaws" ("Global Climate Change," 11), is a much better way to go about checking a model. It is much more plausible to check that a computer model makes sense from a human standpoint than to verify the truth of the model.