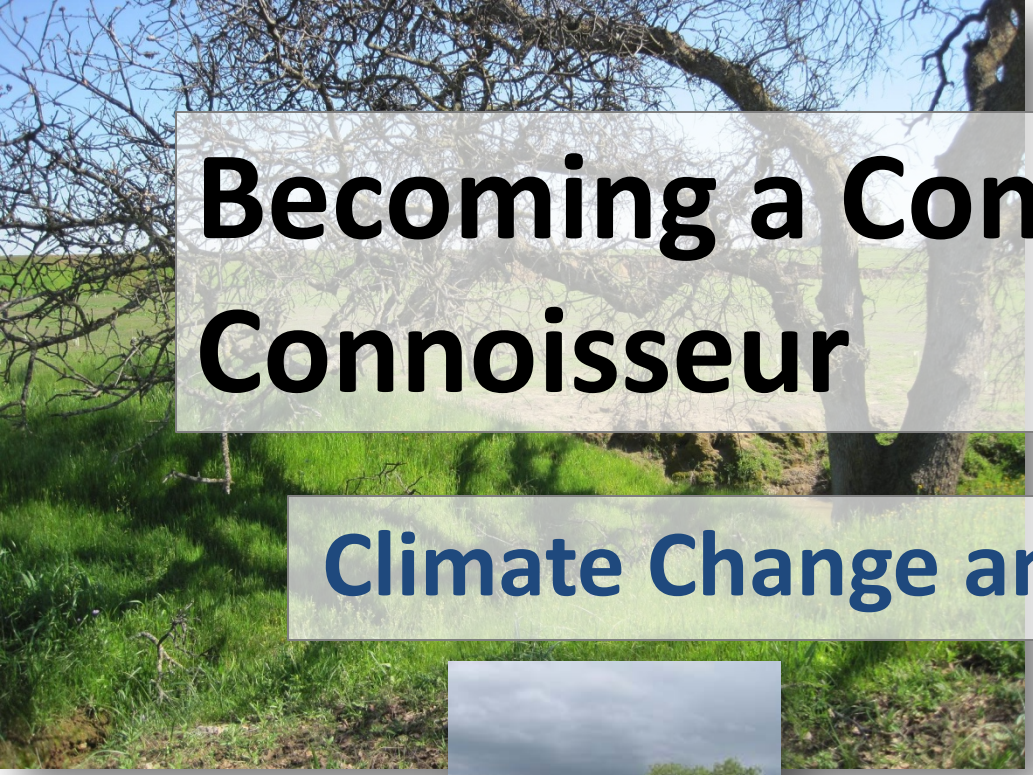
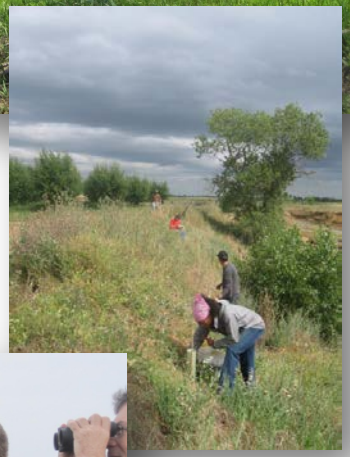
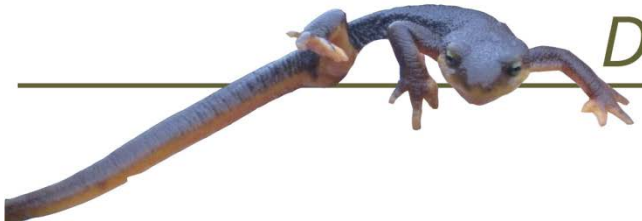
Becoming a Conservation Connoisseur

Climate Change and Conservation



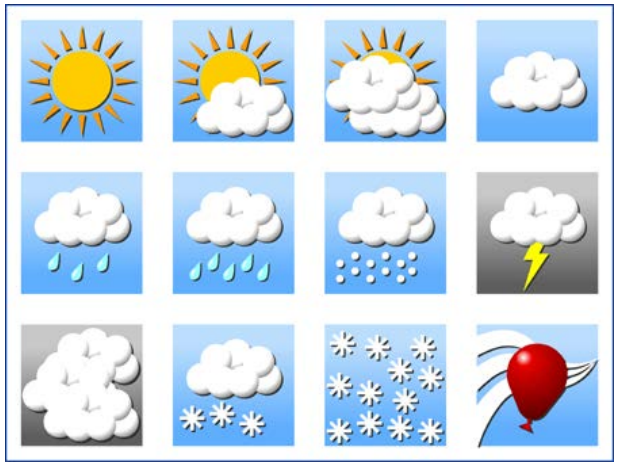


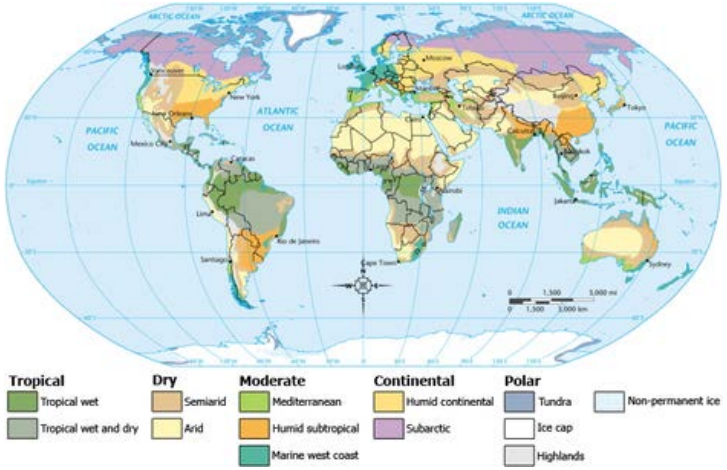
SOCIETY FOR CONSERVATION BIOLOGY
DAVIS CHAPTER



Defining terms

- Weather vs. climate
  - "Man, it's hot today."
  - "Geez, look at those temperature trends in California over the past two decades! On average, seems to be getting hotter all over the state. 'Hoo boy."

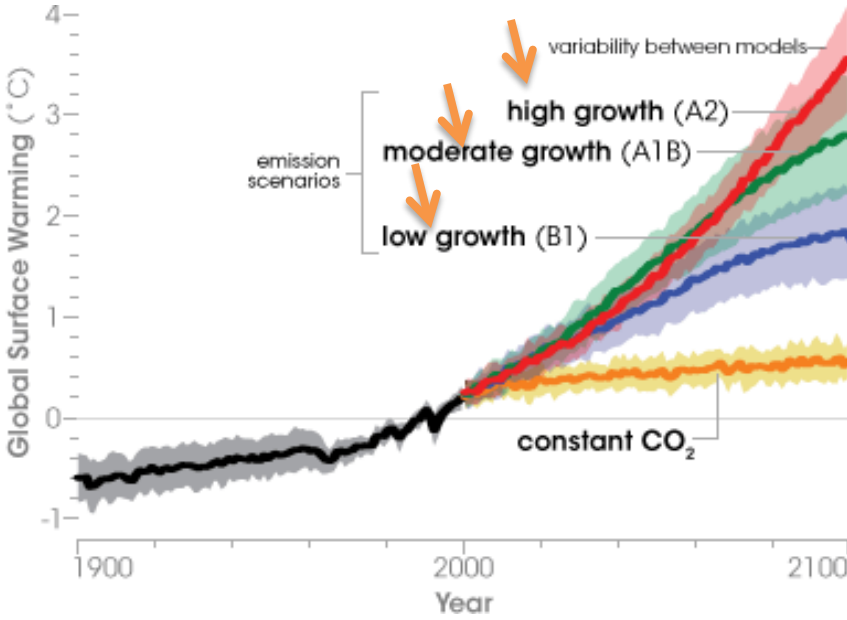




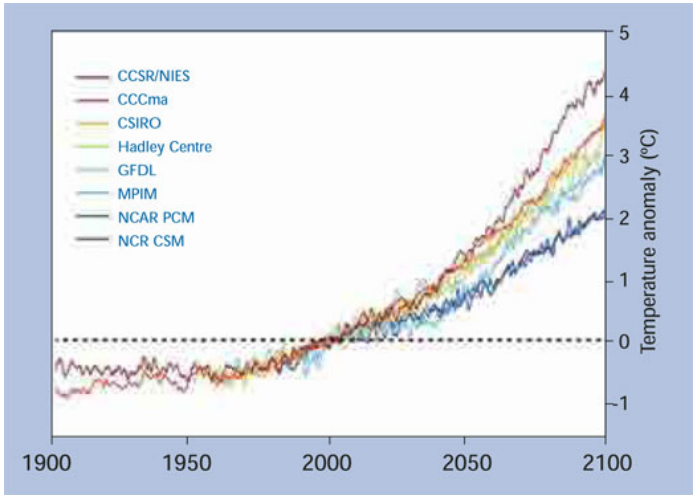
Images sources: http://www.freewebs.com/mscase/weatherwebquest.htm and http://www.thefullwiki.org/Global_climate

Defining terms

- Greenhouse gas emission scenarios
  - Predictions of worldwide greenhouse gas outputs
- Climate models
  - Predictions of climatic impacts



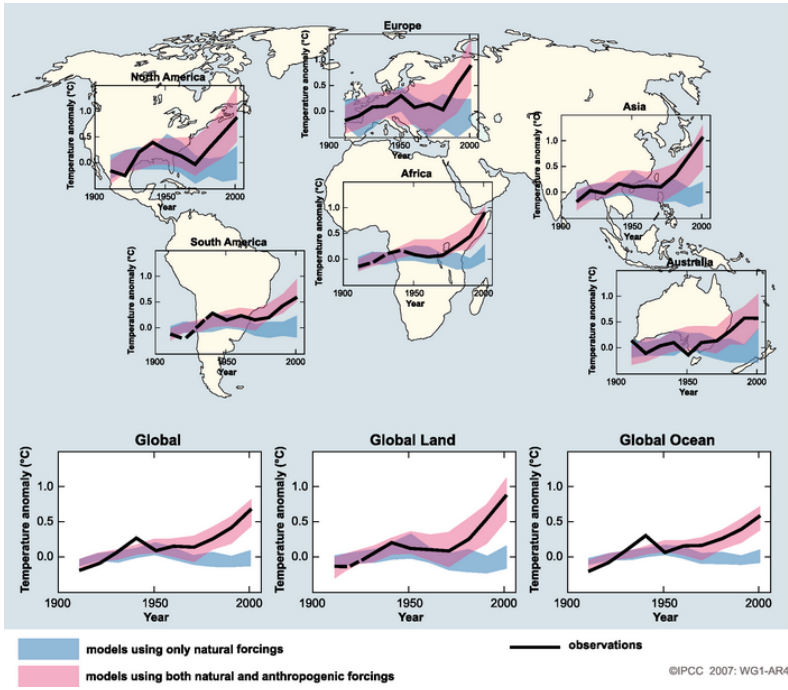
From NASA Earth Observatory

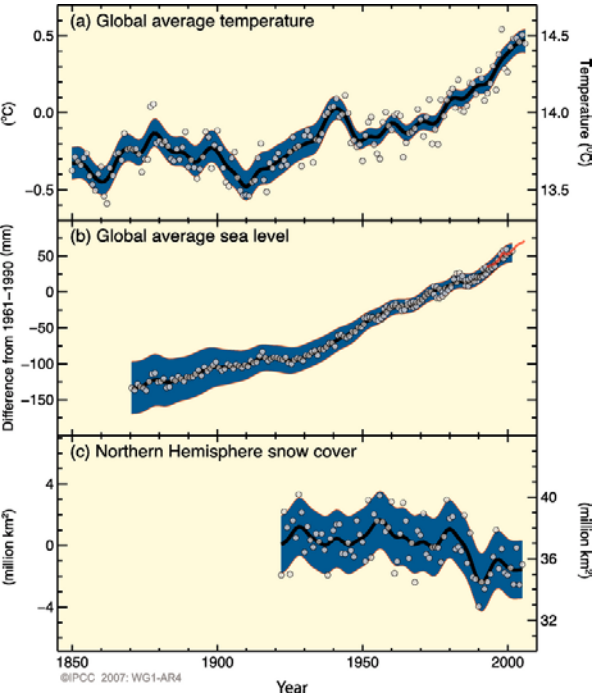


From Intergovernmental Panel on Climate Change

What do we know about climate change?

"Human-induced warming of the climate system is widespread"





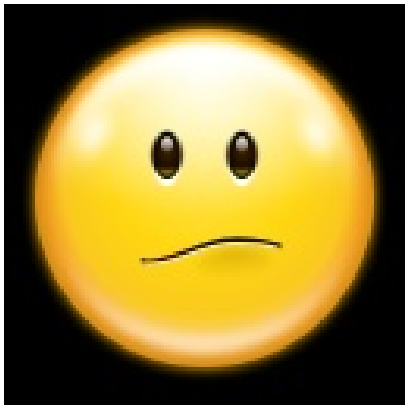
"There is evidence of anthropogenic [human-induced] influence in other parts of the climate system"

"Overall consistency of evidence"

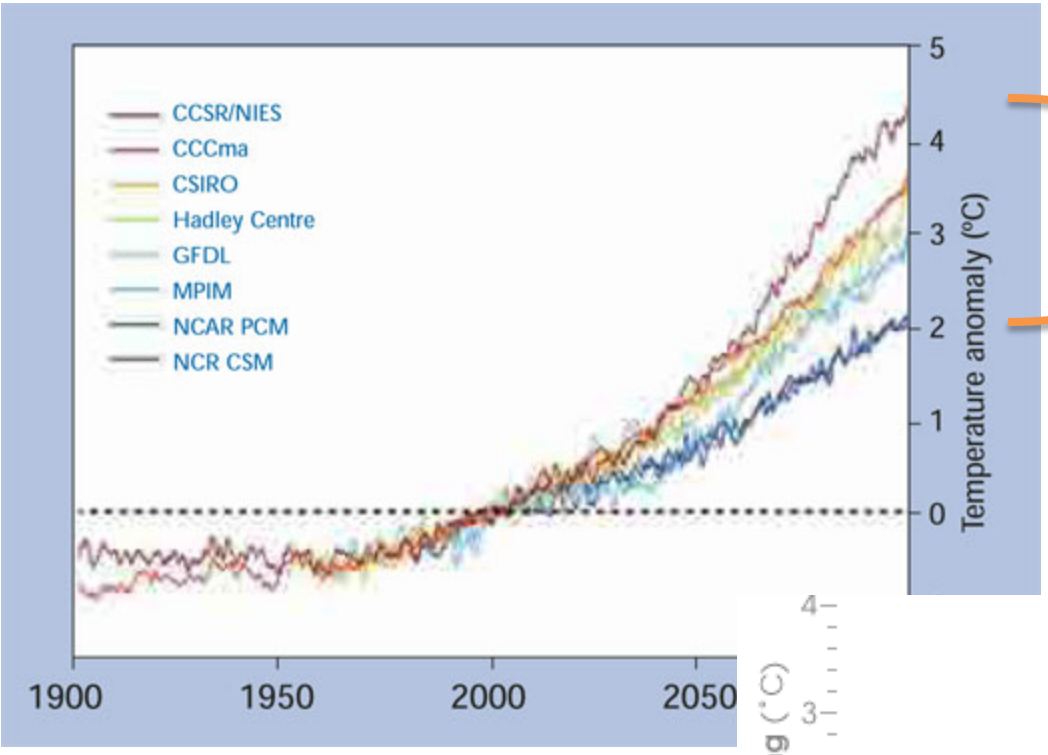
Images and quotes from Intergovernmental Panel on Climate Change

BUT…

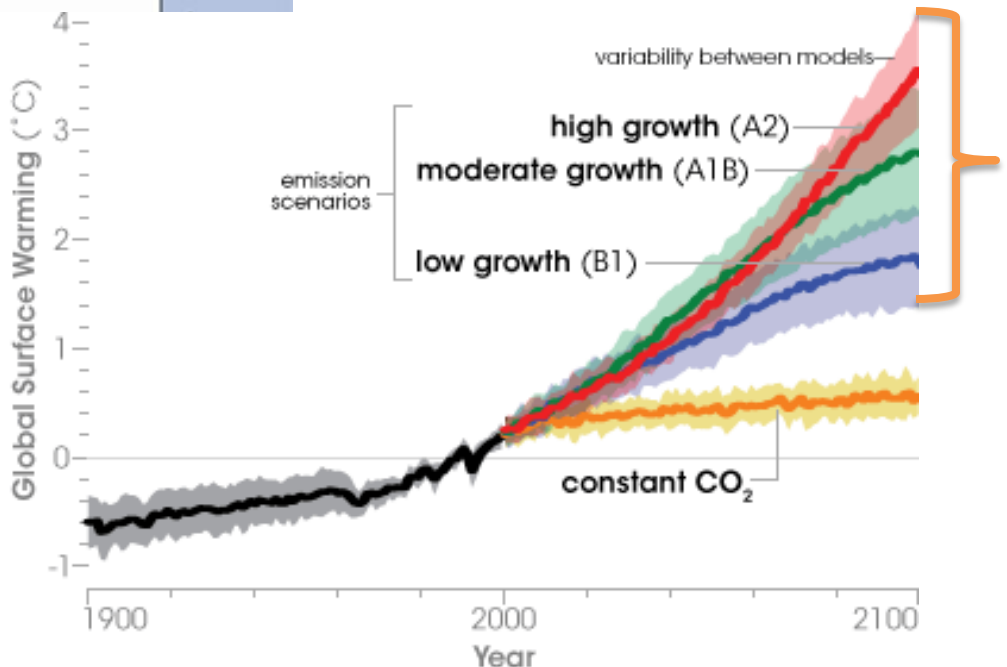
I keep hearing scientists talk about “levels of uncertainty” when they talk about climate change. What does *that* mean? Sounds wishy-washy.



What is Scientific Uncertainty?



Uncertainty!



What IS uncertainty, really?

- Scientific uncertainty means there is a range of possible outcomes
- Uncertainty
  - Is NOT ignorance
  - IS "information for hypothesis building, experimentation, and decision-making"
    (Bradshaw & Borchers 2000)

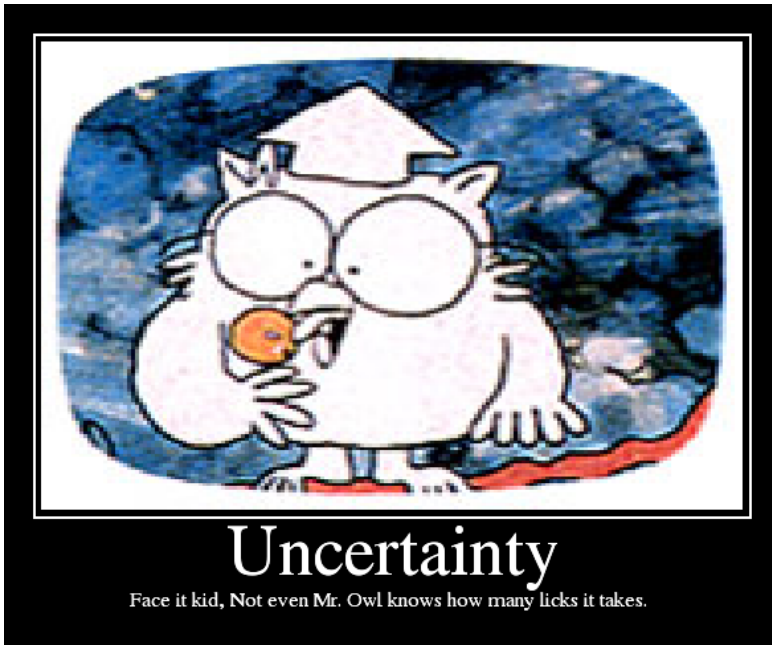
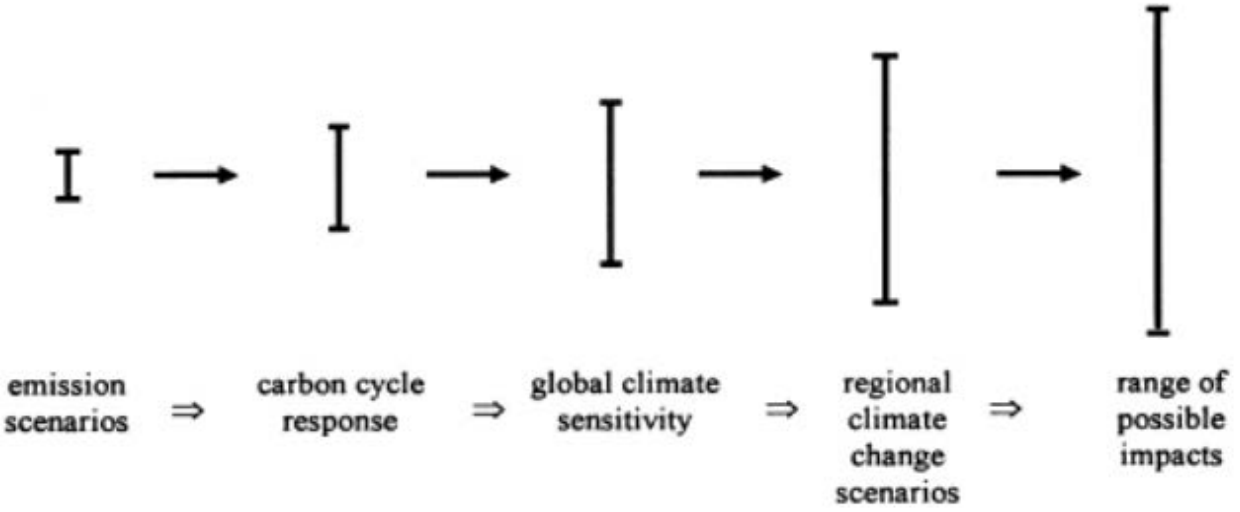


Image sources: http://tigsteng.blogspot.com and http://risketm525.blogspot.com

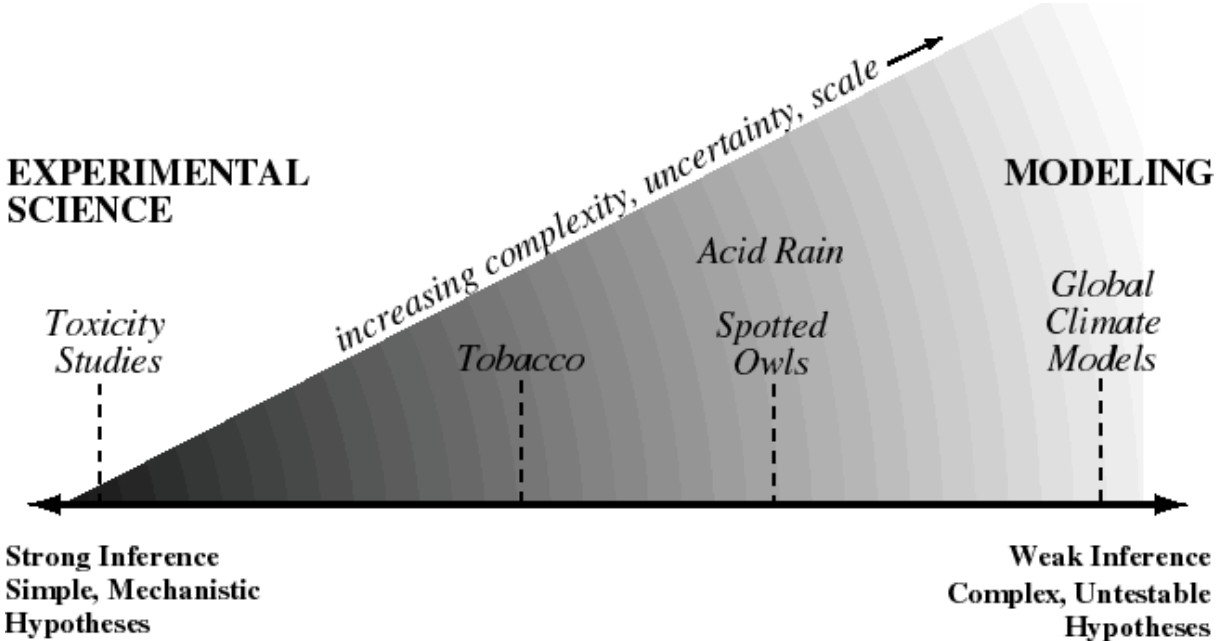
- Uncertainty increases along the chain of climate change predictions

Compounding uncertainty:



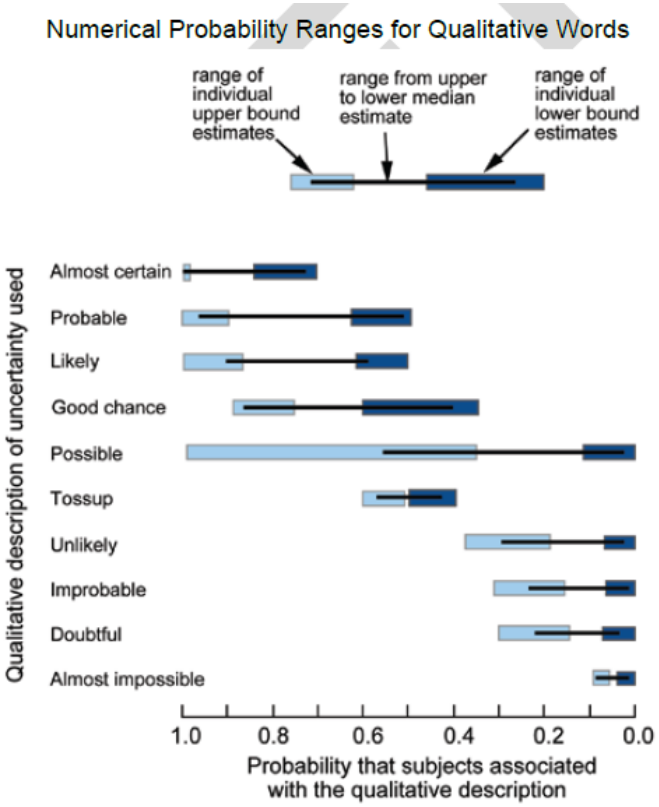
From Schneider & Kuntz-Duriseti 2002

Nature of this type of scientific prediction:



From Bradshaw & Borchers 2000

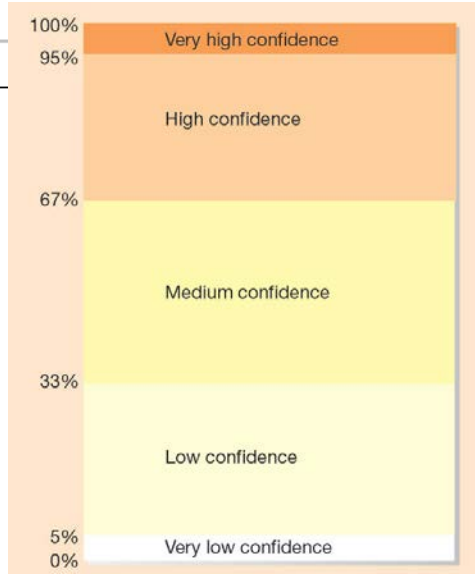
- Different types and sources of uncertainty
- Scientific uncertainty can be defined, qualitatively and quantitatively



From Wallsten et al. 1986, reprinted in Morgan et al. 2009 draft

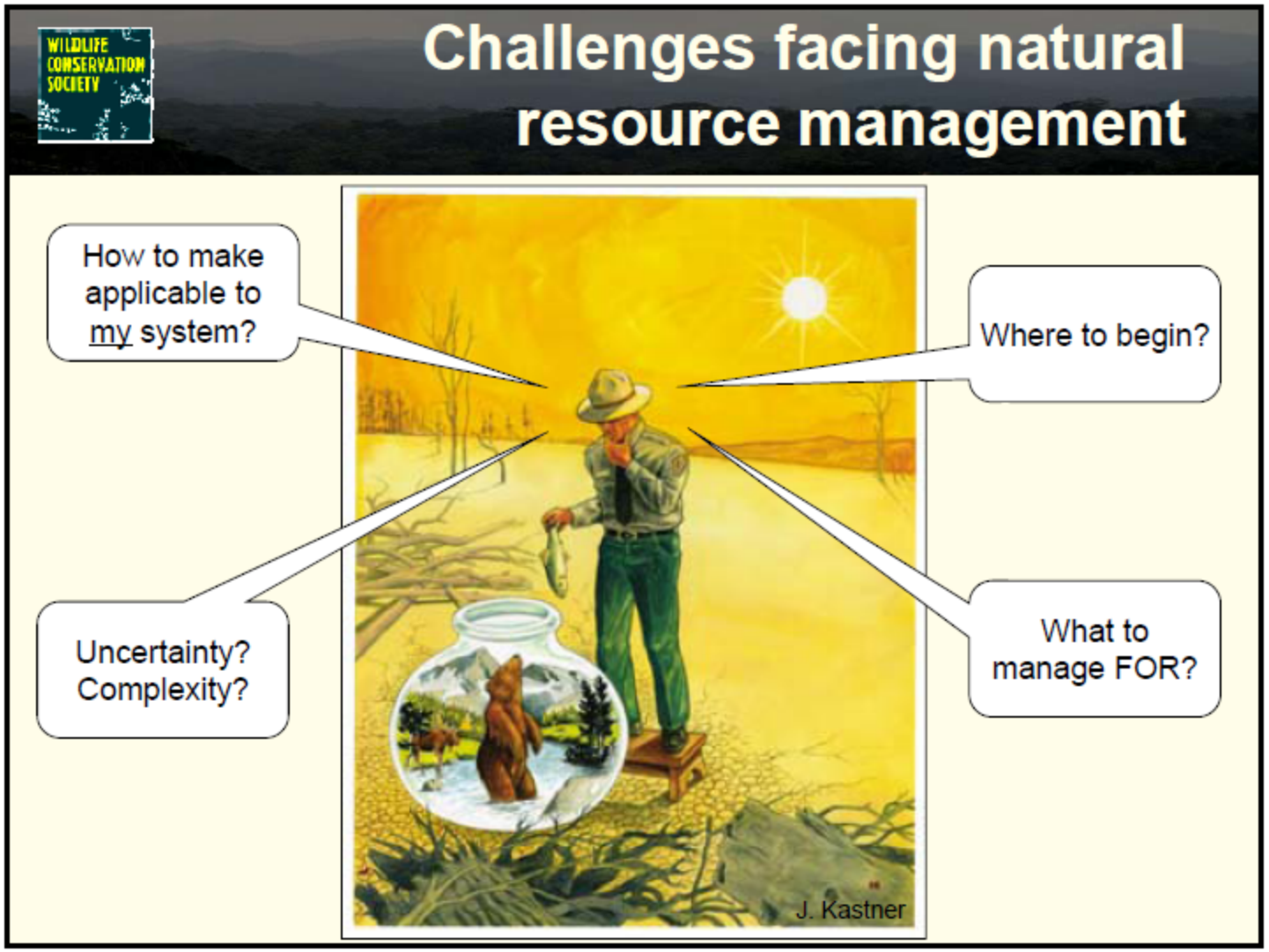
Terminology	Degree of confidence in being correct
Very High confidence	At least 9 out of 10 chance of being correct
High confidence	About 8 out of 10 chance
Medium confidence	About 5 out of 10 chance
Low confidence	About 2 out of 10 chance
Very low confidence	Less than 1 out of 10 chance

From International Panel on Climate Change



From Giles 2002

Making conservation decisions in the face of uncertainty

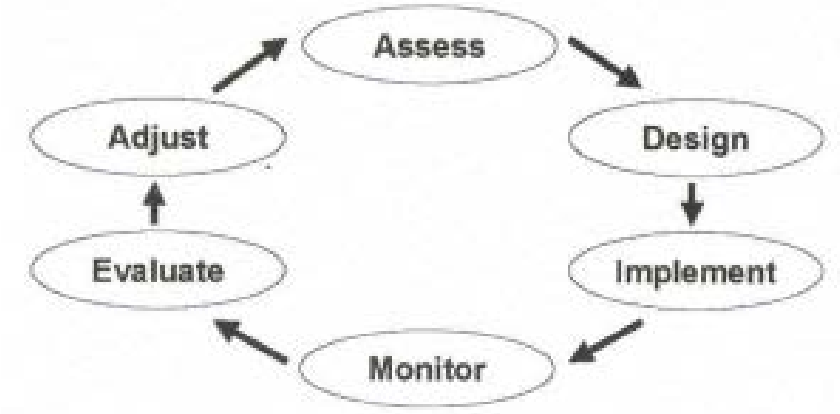


From M. Cross presentation 2010

Avoiding paralysis

- Resilient strategies

- Adaptive strategies



Images from https://anticap.wordpress.com, www.leadershippost.com ,and www.eri.nau.edu