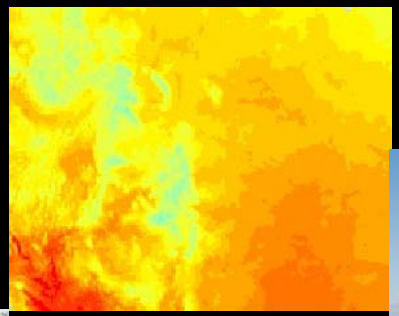
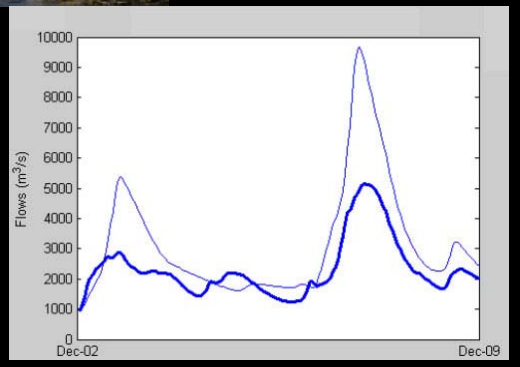




Unit 2. Elements of a Vulnerability Assessment

Goals

Goal 1. Be able to identify, recognize, and discuss the different components of vulnerability and how they are measured.

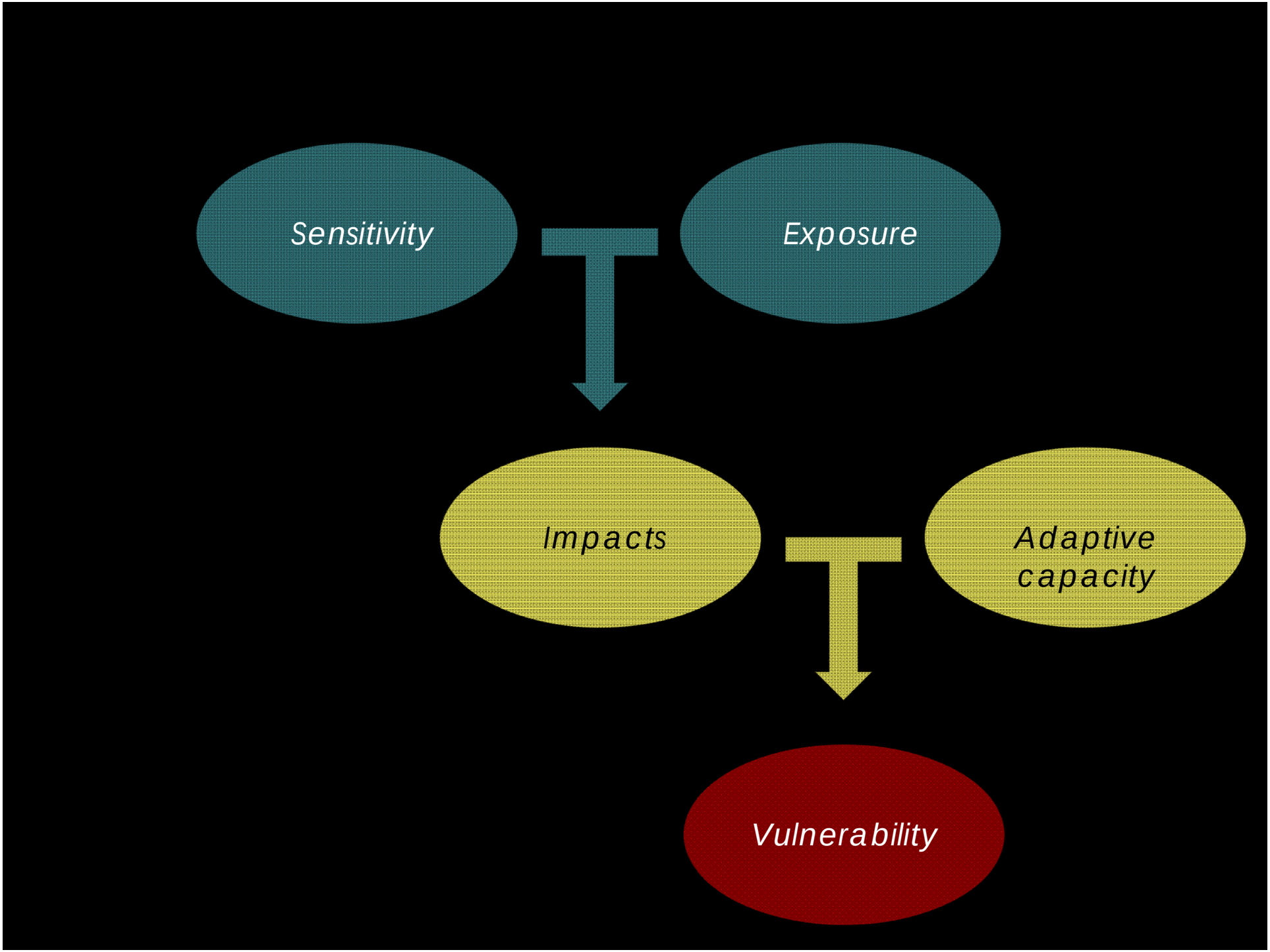
Goal 2. Recognize how to assess those components by comparing the data, tools, and models used in the assessment.

Vulnerability

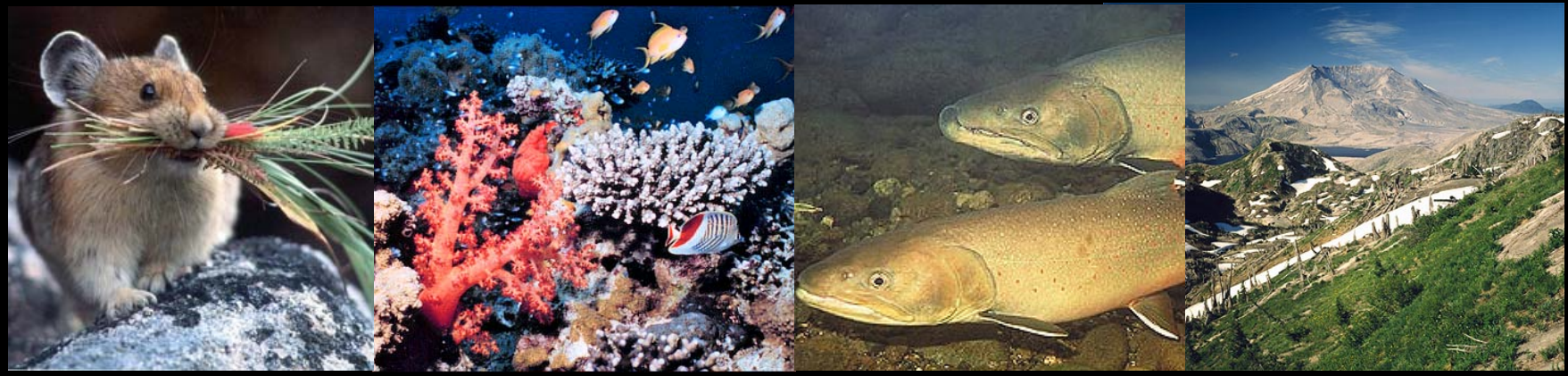
Sensitivity – the degree to which the persistence or functioning of a species or system is dependent on climate or factors driven by climate

Exposure – the magnitude of the change in climate or climate driven factors that the species or system in question will likely experience

Adaptive capacity – the degree to which a species or system can change or respond to address climate impacts


Sensitivity
Exposure
Impacts
Adaptive capacity
Vulnerability

Sensitivity



Sensitivity of species

Species' Sensitivities to Climate Change

Physiological sensitivity

Species' Sensitivities to Climate Change

Physiological sensitivity

Sensitive habitats and

disturbance regimes

Species' Sensitivities to Climate Change

Physiological sensitivity

Sensitive habitats and disturbance regimes

Interspecific interactions

Species' Sensitivities to Climate Change

Physiological sensitivity

Sensitive habitats and

disturbance regimes

Interspecific interactions

Location and range

Species' Sensitivities to Climate Change

Physiological sensitivity

Sensitive habitats and disturbance regimes

Interspecific interactions

Location and range

Phenology

Species' Sensitivities to Climate Change

Physiological sensitivity

Sensitive habitats and disturbance regimes

Interspecific interactions

Location and range

Phenology

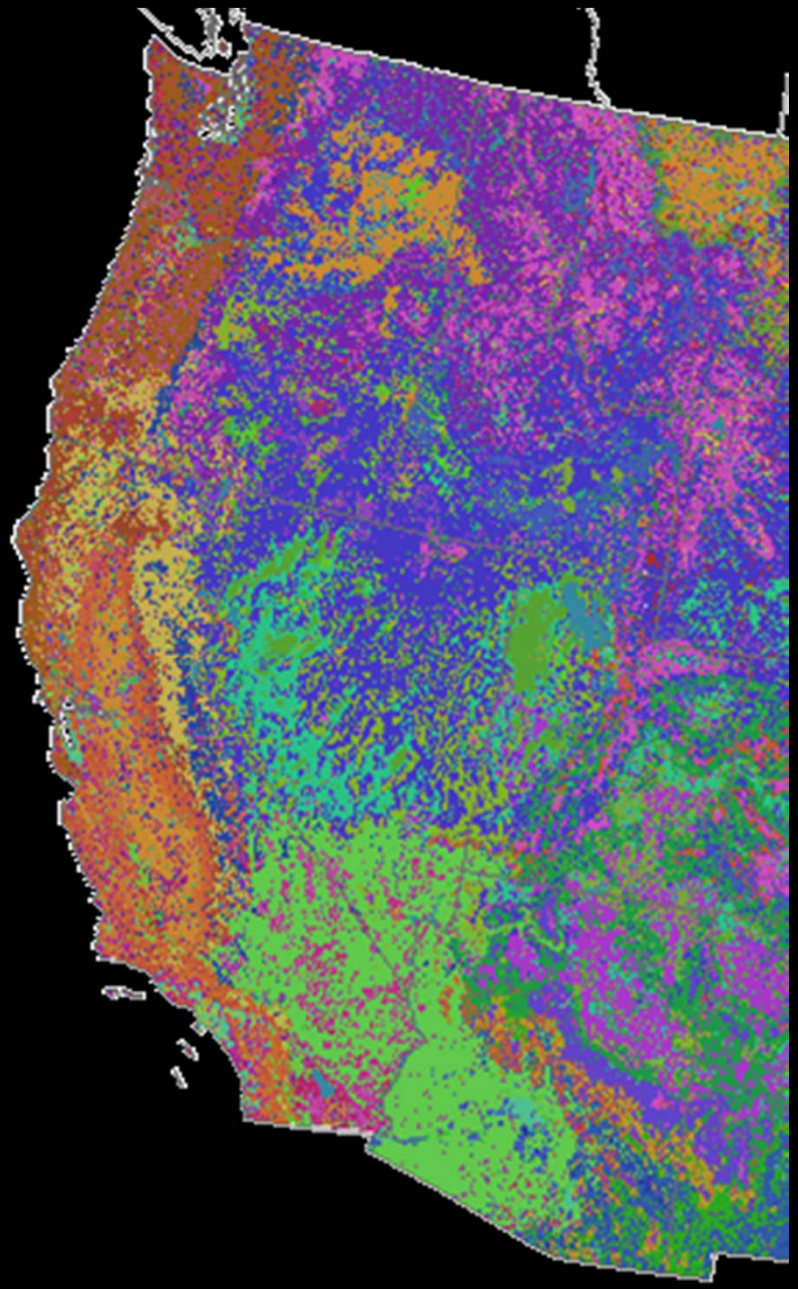
Additional stressors

Species sensitivity: Atlantic Croaker example

Sensitivity of Ecological System

System sensitivities to climate change

Climate breadth



System sensitivities to climate change

Climate breadth

Individual species sensitivities

System sensitivities to climate change

Climate breadth

Individual species sensitivities

Disturbance regimes

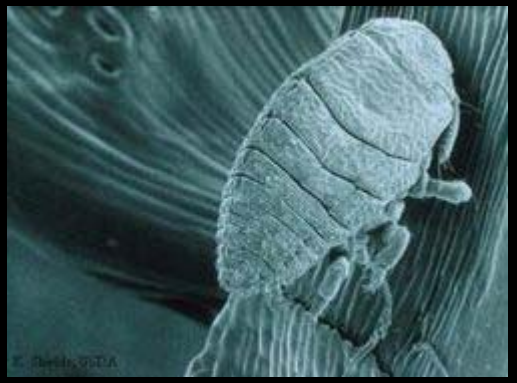
System sensitivities to climate change

Climate breadth

Individual species sensitivities

Disturbance regimes

Other stressors



System sensitivity: Coral Reef example

Activity 1. Assessing sensitivity