Tools selection

Jennie Hoffman
EcoAdapt

What we think you want to know
(but may not tell you)

- What tools, processes, or approaches are best for helping me move forward?
  - Who to engage
  - How to engage them
  - What information/data I need and where to get it
- What are the best practices?
- What are the pitfalls to avoid?

Two key principles for choosing data and tools

1. Your goals and objectives should drive the selection of tools and data, not vice versa

2. The sophistication of the VA should not exceed the sophistication of possible uses of VA results.

Choosing tools and data comes back to the basic questions:

- *What is the goal of your VA?*
  - *"Assessment questions": what do you need to know to answer them?*
- *Who will use the output and how?*
- *What resources do you have?*

If you don't ask the right question, every answer feels wrong

Ani DiFranco

Goal/question?

- Educate/engage
- Rethink conservation management goals/objectives
- Initiate/develop adaptation plans
- Integrate climate change into existing guidelines, processes, etc.

Who and how?

- What do they do?
- What are their existing decision-making processes?
- How do they take in information?
- What's the level of scientific/technical comfort?
- Where are they relative to climate change?

Resources?

Answering these questions helps you determine appropriate tool types…

- *Quantitative to qualitative*
- *Visual or not*
- *Complex models to transparent processes*
- *Descriptive or prescriptive*

…and data sets

- *Key drivers of vulnerability for your target*
  - *Specific climate variables*
  - *Critical species, community, and ecosystem characteristics*
  - *Important interacting stressors*
- *Necessary spatial and temporal resolution*
- *Necessary level of precision*

You don’t have to pick just one!

Can use different tools and data at different points in the engagement or adaptation planning process

NatureServe Refuge VA Framework

Refuge Context | Regional Context

Supporting Landscape Context

Step 1 Characterization
Policy framework
Resource Inventory

Step 2 Prioritize Issues
Resources List
Mission-Critical Infrastructure List
Stressors List
Regional context assessment
Tools: Gap Analysis (GIS)

Step 3 Data Needs
Sources and Costs
Availability and Timing

Step 4 Current Conditions
Resource distribution
Scenario Development
Management
Stressors
Tools: Maxent, NatureServe Vista

Step 5 Forecasts
Scenario Development
Stressors (future growth, development proposals, climate change)
Tools: Visioning, NatureServe Vista, SLAMM, Community Viz, Maxent

Step 6 Evaluate Effects
Issues, Opportunities, and Conflicts
Tools: NatureServe Vista, N-SPECT, VDDT

Step 7 Strategies
Concepts and lists for actions to mitigate undesired effects
Adaptation
Tools: Miradi, NatureServe Vista

Step 8 Inform Alternatives
For new or revised plans
Tools: NatureServe Vista, Marxan, CommunityViz, N-SPECT, VDDT

A quick overview of tools and portals

- Portals
  - Tools portals, e.g. Digital Coast, EBM Tools, CAKE, WeAdapt
  - Data portals, e.g. PNW Climate Sensitivity Database, NE Climate Data, DataBasin, Climate Wizard

Tool types

- Data access
- Visualization
  - Complex (e.g. Climate Wizard)
  - Simple (e.g. CanViz)

Tool types

- Data access
- Visualization
- Analytical
  - NatureServe Vista, CC Vulnerability Index
  - SLAMM

Tool types

- Data access
- Visualization
- Analytical
- Socioeconomic
  - COAST
  - Spatial Trends in Socioeconomics

Tool types

- Data access
- Visualization
- Analytical
- Socioeconomic
- Indices

The spreadsheet