

DRAFT FOR DISCUSSION

Online Dynamic (Wiki) Wind (Power)-Wildlife-Habitat Decision Tools: Catalogue and Community of Practice



July 15, 2011

A Project Proposed for ESIP Energy and Climate Cluster
ESIP Summer 2011 Meeting, Santa Fe, NM

ESIP Project Idea

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- An online Dynamic (Wiki/Drupal) Wind (Power)-Wildlife-Habitat Decision Tools Catalogue and community of practice to
 - build transparency of the decision tool architecture, data, and functionality;
 - aid the decision maker in tool selection and use appropriate to their planning goals;
 - focus improvements to the kit of decision tools where needed; and
 - facilitate partnerships in tool development and application.

ESIP Community of Practice

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- Users
 - Provide requirements and feedback
- Tool developers
 - Engage in defining/refining the proposed architecture
 - Develop a classification of the types of functions wind (power)-wildlife-habitat decision tools may perform
 - Populate the catalogue
- Academic and Research Community
 - Innovate to update or create new decision tools that can address unmet user needs
 - Engage in education and awareness

ESIP can facilitate a partnership between developers and users

ESIP Wiki - Information for Each Decision Tool

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- A matrix of decision tool functions and features
 - For the field manager, allows transparency to user's process, and
 - For the developer allows for search of tools with desired features
- Listing of base data layers, their source, and follow on adjustments to the data layer that are component to the decision tool
 - This transparency gives an easy way for identifying data gaps in tools, and which tools are obsolete or really need to be updated, and in what way
 - (Later) build a companion catalogue for each referenced base data layer, and create a linkage table for decision tools and their datasets
- Tracking of updates to decision tools e. g.,
 - recompiled with new base layer data,
 - values for stressor to receptor relationship updated
 - different screening criteria capabilities added
- Keeping a tally of applications of each decision tool
 - Determination of how widely the tool is used and for what applications
- Contact information for decision tools
 - Facilitating partnerships for "down the road" activities

ESIP Wiki – Other Information

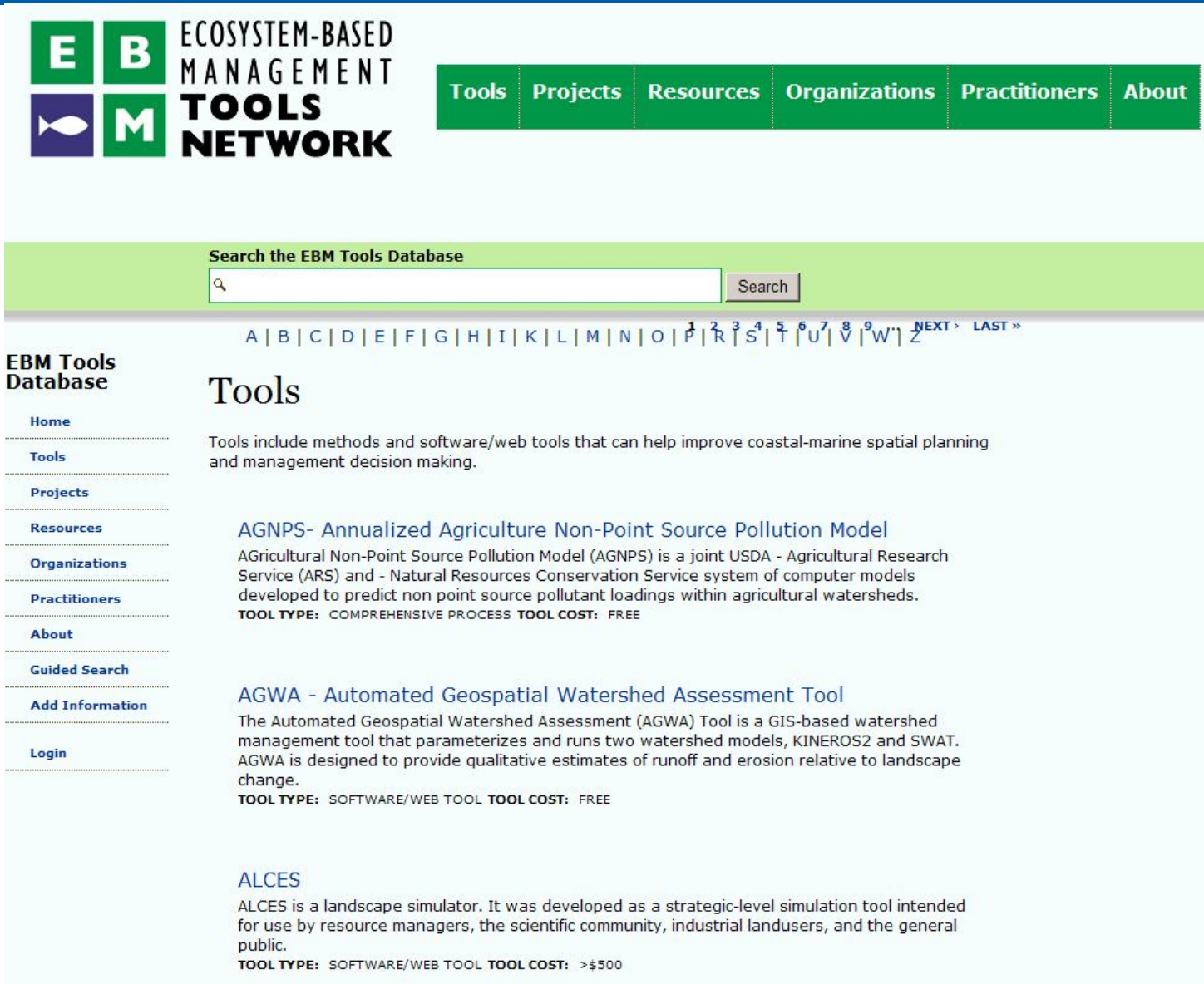
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- User requirements
- Metadata about the decision tools
- Use cases
- Collaborative environment
- Mapping tools to user applications
- Connecting tools to datasets
- How to better utilize and maximize the value of this tool
- Gap analysis

An Example (not Wiki based and missing some needed classification, use, and tracking items)

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The screenshot shows the EBM Tools Network website. At the top left is the logo with 'E B' in green and 'M' in purple, and the text 'ECOSYSTEM-BASED MANAGEMENT TOOLS NETWORK'. To the right is a green navigation bar with links: Tools, Projects, Resources, Organizations, Practitioners, and About. Below this is a search bar with the text 'Search the EBM Tools Database' and a 'Search' button. A navigation menu below the search bar lists letters A through Z, with 'NEXT >' and 'LAST >>' at the end. On the left side, there is a vertical menu titled 'EBM Tools Database' with links for Home, Tools, Projects, Resources, Organizations, Practitioners, About, Guided Search, Add Information, and Login. The main content area is titled 'Tools' and contains three tool entries: 1. AGNPS- Annualized Agriculture Non-Point Source Pollution Model: A joint USDA - Agricultural Research Service (ARS) and - Natural Resources Conservation Service system of computer models developed to predict non point source pollutant loadings within agricultural watersheds. TOOL TYPE: COMPREHENSIVE PROCESS TOOL COST: FREE. 2. AGWA - Automated Geospatial Watershed Assessment Tool: The Automated Geospatial Watershed Assessment (AGWA) Tool is a GIS-based watershed management tool that parameterizes and runs two watershed models, KINEROS2 and SWAT. AGWA is designed to provide qualitative estimates of runoff and erosion relative to landscape change. TOOL TYPE: SOFTWARE/WEB TOOL TOOL COST: FREE. 3. ALCES: ALCES is a landscape simulator. It was developed as a strategic-level simulation tool intended for use by resource managers, the scientific community, industrial landusers, and the general public. TOOL TYPE: SOFTWARE/WEB TOOL TOOL COST: >\$500.

Tool Function Matrix Example: Selecting Decision Support Tools for Marine Spatial Planning

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| | | DECISION SUPPORT TOOLS | | | | | | | | |
|--------------------|------------------------------------|------------------------|----------|--------------------|--------------------|--------|-----------|-------------------|-------|------------------------------|
| | | ARIES | Atlantis | Coastal Resilience | Cumulative Impacts | InVEST | MarineMap | Marxan with Zones | MIMES | Multipurpose Marine Cadastre |
| TOOL FUNCTION | DATA MANAGEMENT | | | | | | | | | |
| | Data provisioning | ✓ | | ✓ | ✓ | ✓ | | | ✓ | ✓ |
| | Data quality assessment | ✓ | | | | | | | | |
| | Data upload & archival | ✓ | | ✓ | ✓ | | | | ✓ | ✓ |
| | Data development | | | ✓ | | | | | ✓ | ✓ |
| | MAPPING & VISUALIZATION | | | | | | | | | |
| | Spatial | | | | | | | | | |
| | Basemaps/Physical | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Habitats/species | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| | Ecosystem services | ✓ | | | | ✓ | | | ✓ | |
| | Temporal features | ✓ | | ✓ | | ✓ | ✓ | | ✓ | |
| | Vulnerability | ✓ | | ✓ | ✓ | ✓ | | | ✓ | |
| | Uses | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Incompatibility & impacts | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Jurisdictions | ✓ | | ✓ | ✓ | | ✓ | | | ✓ |
| Non-spatial | | | | | | | | | | |
| Graphical display | ✓ | | | | ✓ | ✓ | | ✓ | | |
| Reports | ✓ | | | | | ✓ | | ✓ | | |

http://www.ebmtoolsdatabase.org/sites/default/files/sources/cos_msp_guide_4lo.pdf

(Pages 24-26)

Use of the Wiki Information

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- As a platform for gathering user experience, sense from community of scientific rigor, and degree that data/conceptual model is up to date
- As an aid for any possible peer review requirements of the available decision tools
- As a platform to determine which tools are comparable
- To identify areas for possible tool interoperability
 - linking tool inputs and outputs that operate at different spatial scales
- Support activities to evaluate and further refine assessment tools
 - e.g., upcoming AWWI-Western Governors' Association Landscape Assessment Tool workshop (January 2012)

Sample Listing of Wind-Wildlife-Habitat Tools for the Catalogue

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- Rapid Assessment Tool (USGS in collaboration with USFWS)*
- WGA Western Governors' Wildlife Council's Decision Support Systems (States as described under the WGA-DOI-USDA-DOE wildlife MOU)*
- Energy By Design siting tools (The Nature Conservancy (TNC); funded by AWWI and DOE)*
- Pandion/Normandeau Habitat-Based Wind-Wildlife Risk Tool (Commissioned by DOE)*
- AWWI Landscape Assessment Tool (funded by AWWI and DOE, TNC developed)
- Oklahoma Lesser Prairie Chicken Spatial Planning Tool

* Under development

Target Schedule

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- Oct/Nov 2011 – Workshop (Washington DC ?)
- Jan 2012 – User Requirements / Architecture Draft (ESIP Meeting)
- Jul 2012 – Online System 1.0 (ESIP Meeting)
- Jan 2012 – Update v2.0 (ESIP Meeting)