InVEST 3.1.0 now available!

InVEST 3.1.0 was released on November 20, 2014. This latest version includes a new sediment model, our new helper tool Scenario Generator, performance improvements, and more.

In the field, stakeholder engagement is paramount, but high resolution forecasts are hard to come by. The new Scenario Generator aims to meet this information need by allowing users to quickly and easily explore future landscapes and compare ecosystem services outcomes.

At the ACES conference this month, Amy Rosenthal and others held a Scenario Generator workshop to introduce the tool and explain how it works.

The tool has already been used to assess options with stakeholders in several contexts, including alternative development trajectories in Cambodia, expansion of gold mining in Peru, and road-building in Myanmar.

Google Impact Award

Helping Governments Offset Development Impacts
A new software program accounts for the impacts of development projects on local people, and offers possible remedies to the ecological damage they may cause.

Increasingly, countries and funders are requiring development projects to account for and mitigate environmental damage, in addition to the benefits to people they are intended to provide. However, mitigation plans often locate restoration projects far from affected communities, leading to a loss or redistribution of ecosystem services such as flood mitigation or clean water.

The Natural Capital Project's latest software tool - Offset Portfolio Analyzer and Locator (OPAL) - links mitigation activities to the people most affected. OPAL applies NatCap's Integrated Valuation of Ecosystem Services and Tradeoffs (InVEST) suite of ecosystem service tools to quantify where development impacts occur and the benefits of possible offset projects (such as protection of intact forest or habitat restoration). OPAL allows users to specifically keep track of whether communities likely to lose services (such as water filtration) from development also would benefit from alternative mitigation projects designed to offset the losses in service.

The tool is especially useful for conducting rapid assessments of multiple development projects and offset options. For example, OPAL can be used to compare among different projects being considered within a region or to assess alternative options for a particular project. A predecessor of OPAL is already in use in Colombia. Businesses use that software, Mapping Alternatives for Equivalents, or MAFE, to determine ways of compensating for development's damage to natural ecosystems and the benefits those ecosystems provide such as clean water and climate stabilization. Government regulators use MAFE to verify whether proposed offsets are adequate. While MAFE was designed specifically for use in Colombia to meet its national guidelines, OPAL can be used by businesses and regulators anywhere.

OPAL users input development plan details in order to return a list of suggested offsets, complete with detailed maps. As users select potential offsets from a menu of options, the software shows the resulting effect on ecosystem service delivery to different communities.
In early December, Google.org announced an Impact Award of $1.8 million to the Natural Capital Project, to support our ongoing development of approaches and tools to integrate the value of natural capital into decisions.

"NatCap will make it faster, easier, and less expensive than ever for people to understand and integrate the value of nature into development decisions - reducing the time needed for analysis from months or years to days or hours, and affecting billions of dollars in development investments globally."

Learn more

Happy Holidays To The NatCap Community!

OPAL will become increasingly relevant as interest grows in the benefits of including ecosystem services in development considerations. Globally, road and rail networks are expected to increase 60 percent by 2050, and infrastructure investment projections are near $USD 60 trillion by 2030. The governments of Peru, Paraguay and Mongolia, among others, are moving forward with ambitious offset policy plans. NatCap ecologist Lisa Mandle and computer science engineer James Douglass and colleagues plan to customize OPAL so that it can auto-populate all the necessary data for offset decisions anywhere in the world.

The OPAL installer and sample input data are available for download at http://naturalcapitalproject.org/opal_download.html.

There is a lot to celebrate this holiday season, including the gifts nature brings to us:

- The most amazing creatures to spark our imaginations and share the earth,
- A bounty of foods to grace our holiday tables and satisfy our hunger,
- Protective habitats shielding us from storms and rising seas,
- Festive trees and greenery to bring joy to our lives,
- Peace on earth through securing access to water and ways of living, and
- Inner peace through giving us places to walk, run, swim, and just absorb the benefits of natural wonders wherever we are

We are very grateful for the opportunities to learn with you as we work to secure these many gifts from nature. Have a wonderful, nature-filled holiday season!

Mary Ruckelshaus
Recent Press and Publications

The economic decisions people make every day are at the core of the world's conservation issues: climate change, Amazonian deforestation, tiger poaching, vulture declines in Asia, and countless others. An understanding of the economic forces behind these decisions can help conservationists safeguard biodiversity and ecosystem services in a more sophisticated and effective way.

To this end, Brendan Fisher, Robin Naidoo and Taylor Ricketts have published a volume, entitled *A Field Guide to Economics for Conservationists*. The authors use simple illustrations, examples from around the world, and readable prose to describe the central economic principles that are relevant to conservation. They assume no previous economic training. The book should prove an excellent resource for both teachers and students in conservation and ecology classes at the undergraduate and graduate levels, as well as for working scientists and others interested in learning more about conservation and economics.

Additionally, Maria Jose Pacha and Andre Dias published a report that consolidates lessons learned by WWF offices about the use of ecosystem service approaches to support decision-making. The lessons come from various projects developed by WWF offices in Peru, Brazil and Colombia and under the Living Amazon Initiative.

**Valuation of ecosystem services as a decision making tool: Concepts and Lessons Learned in the Amazon**

The report summarizes strengths and limitations of InVEST, and opportunities to improve its use. While the report is in Spanish, the English version is coming out soon.

*A Field Guide to Economics for Conservationists*
Fisher, Brendan; Robin Naidoo; Taylor Ricketts.

*Valuation of ecosystem services as a decision making tool: Concepts and Lessons Learned in the Amazon*
Maria Jose Pacha.
*WWF Living Amazon Initiative, Brasilia*, (2014).

Other Press and Publications:

*Sensitivity analysis of a sediment dynamics model applied in a Mediterranean river basin: Global change and management implications*
RIOS is a software tool that helps design cost-effective investments in watershed services. RIOS 1.0.0b8 was released on November 6, 2013.

For help using InVEST, RIOS and OPAL, visit the NatCap Forums, our online user community.

Newsletter Archive
Check out NatCap’s previous newsletters in our Newsletter Archive.

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Stanford scientist examines ways to put stormwater to use in big cities
Stanford News, December 12, 2014

Affecting change on the ground: an interview with Anne Guerry of the Natural Capital Project
Leopold Leadership 3.0, December 8, 2014, by Josh Lawler

Stanford collaboration helps governments offset damage caused by development projects

Exploring scenarios of light pollution from coastal development reaching sea turtle nesting beaches near Cabo Pulmo, Mexico

The biodiversity-dependent ecosystem service debt

Global pollinator decline may lead to human malnutrition
Science for Environment Policy, November 27, 2014

A full list of news stories and publications are available on our website. Access to full articles may require library access.

Thank you for your continued interested in the Natural Capital Project. If you have any questions, please feel free to contact us at invest@naturalcapitalproject.org.