



## 2019 Natural Capital Symposium

*The Natural Capital Symposium runs a full program of sessions from Monday-Wednesday. Thursday has a more flexible schedule, which includes working groups, workshops, additional training sessions, and visits to highlights of the Stanford campus. When we are not in plenary, the full program is split across three simultaneous “tracks.” Attendees are encouraged to pick and choose which sessions they would like to attend, across all three tracks.*

### **#NatCap2019 TRACKS**

***Pathways to Impact:*** This track highlights engagements where information about ecosystem services has had an impact on a decision, a stakeholder process, or an outcome. This track focuses on work that addresses a real policy window in collaboration with local stakeholders, and where it can be demonstrated—or at least there is good reason to believe—that a new understanding of ecosystem services will be used to inform decisions.

***New Frontiers:*** This track focuses on leading edge, experimental, and theoretical work. Sessions in this track feature new research, lessons learned, and exciting opportunities to advance the frontiers of research and practice.

***Approaches & Applications:*** This track contains a mix of workshops on key topics for practitioners and project teams who are looking to get their own natural capital-based projects underway, as well as more traditional conference sessions with presentations followed by opportunities for discussion.

***Special Topics:*** This track features smaller-group sessions to allow for deeper dives into key themes. These sessions will be more interactive, allowing Symposium attendees to “get into the weeds” on specific topics.

***The full agenda can also be found online at [bit.ly/natcap2019](https://bit.ly/natcap2019)***



**#NatCap2019 | @NatCapProject**

## **Monday, March 18**

**8:00 – 8:30 AM Registration**

*Paul Brest Hall Lobby*

**8:30 – 9:00 AM**

### **Welcome and Overview**

*Paul Brest Hall*

A warm welcome to this year's event featuring Gretchen Daily and leaders from across the NatCap partnership.

**9:00 – 10:30 AM**

### **Plenary: Natural Capital Approaches in India**

*Paul Brest Hall*

As one of the world's fastest growing economies with rich swaths of biodiversity and ecosystems still intact, India represents an exciting, and urgent, opportunity for accelerating uptake of natural capital approaches to link ecosystems and human wellbeing in decisions. Speakers will discuss inspiring science and policy work underway from watersheds to cities, and challenges that must be met in order for India to grow sustainably.

*Moderator:* Rafael Schmitt, Natural Capital Project, Stanford University

*Speakers:*

- Bhaskar Vira, Director, University of Cambridge Conservation Research Institute
- Madhu Verma, Professor, Indian Institute of Forest Management
- Harini Nagendra, Professor of Sustainability, Azim Premji University
- Seema Paul, Managing Director, India Program, The Nature Conservancy

**11:00 AM – 12:00 PM**

### **Plenary: Natural Capital Impact and Technology**

*Paul Brest Hall*

NatCap is pioneering the science, technology, and partnerships that enable people and nature to thrive. In this session, we will explore how science, technology, and partnerships together can enable understanding of natural capital to fundamentally change decisions. After brief presentations about science and partnerships, the session will feature technology. We will explore the close modern relationship between science, governance, and information technology. The tight coupling of these systems can, and has, caused one to affect the other with sometimes catastrophic results. Indeed, most every human construct has metaphorical pressure points that can be manipulated to affect large change with minimal effort. It is time for us to develop a strategy to understand and use these technological linchpins to affect large-scale positive change towards environmental sustainability.

*Moderator:* Mary Ruckelshaus, Managing Director, Natural Capital Project, Stanford University

*Speakers:*

- Anne Guerry, Chief Strategy Officer and Lead Scientist, Natural Capital Project, Stanford University
- Mary Ruckelshaus, Managing Director, Natural Capital Project, Stanford University
- Rich Sharp, Software Architect, Natural Capital Project, Stanford University

**12:00 -12:30 PM Symposium Introductions**

*Paul Brest Hall*

**12:30 – 1:00 PM Group Photo**

*Paul Brest Hall East Patio/Stairs*

**1:00 – 2:00 PM LUNCH**

*Rehnquist Courtyard*

## 2:00 – 3:30 PM Monday Concurrent Sessions

### Pathways to Impact Track:

*Paul Brest East*

#### **Global Environmental Assessments to Inform Sustainable Development**

Global modeling of natural capital and a vision for what is possible for the global sustainable development agenda with continued technological advances.

*Moderator:* Steve Polasky, University of Minnesota

*Speakers:*

- Becky Chaplin-Kramer, Natural Capital Project, Stanford University
- Darcy Bradley, University of California at Santa Barbara
- Justin Johnson, University of Minnesota
- Dave Thau, World Wildlife Fund

### New Frontiers Track:

*Paul Brest West*

#### **Nature in Cities Roundtable**

This session explores ecosystem services in diverse urban contexts.

*Moderator:* Maike Hamann, Natural Capital Project, University of Minnesota

*Speakers:*

- Carrie Schloss, The Nature Conservancy
- Steven Whitman, Resilience Planning and Design
- Léa Tardieu, AgroParis Tech, CIRED
- Hongxiao Liu, The Natural Capital Project
- Ashley Gorst, Vivid Economics
- Alejandra Echeverri, University of British Columbia
- Muniyandi Balasubramanian, Institute for Social and Economic Change
- Dan Richards, Natural Capital Singapore

### Approaches and Applications Track:

*Tresidder Memorial Union, Oak Lounge West*

#### **Getting Started with a Natural Capital Approach**

An introduction to the Natural Capital Project's approach, including case studies, models, and software installation.

## 4:00 – 5:30 PM Monday Concurrent Sessions

### Pathways to Impact Track:

*Paul Brest East*

#### **Climate Risk, Infrastructure, and Sustainable Development**

Recent advances and innovations in addressing tradeoffs between infrastructure development, climate resilience, and environmental sustainability.

*Moderator:* Nirmal Bhagabati, World Wildlife Fund - US

*Speakers:*

- Lisa Mandle, Natural Capital Project, Stanford University
- Thaddeus Pawlowski, Columbia University
- Ryan Bartlett, World Wildlife Fund
- Giuseppe Buscarnera, Northwestern University
- Ning Liu, Guggenheim Partners
- Rajiv Sharma, Stanford University

New Frontiers Track:

*Paul Brest West*

**Planning the Urban Ecosystem**

Presentations and interactive debate on planning and assessment of sustainable cities and thriving urban ecosystems.

*Moderator:* Roy Remme, Natural Capital Project, Stanford University

*Speakers:*

- Catherine Martineau, Canopy
- Baolong Han, Chinese Academy of Sciences
- Raffaele Laforcezza, University of Hong Kong
- Eric Lonsdorf, University of Minnesota
- Davide Geneletti, University of Trento

Approaches and Applications Track:

*Tresidder Memorial Union, Oak Lounge West*

**Getting Started with a Natural Capital Approach**

*Continues from 2:30 PM.* An introduction to the Natural Capital Project's approach, including case studies, models, and software installation.

***End of Monday Concurrent Sessions***

5:30 – 7:30 PM **Poster Session and Happy Hour**

**Tuesday, March 19**

8:00 – 8:45 AM

**Coffeehouse Chat: Poems about People & Nature**

*Paul Brest West*

We invite you join us to share a poem that speaks to you or just come and listen. To quote Rita Dove, "Poetry is language at its most distilled and most powerful."

*Host:* Anne Guerry, Natural Capital Project, Stanford University

8:45 – 9:00 AM **Registration**

*Paul Brest Hall Lobby*

***9:00 – 10:30 AM Tuesday Concurrent Sessions***

Pathways to Impact Track:

*Paul Brest East*

**Eye on Latin America I: Success Stories for Ecosystem Services in Policy and Practice**

***Vision Sobre America Latina I: Historias de éxito sobre servicios ecosistémicos en políticas públicas y prácticas***

Case studies of ecosystem services to improve the well-being of natural systems and human communities in Latin America (Spanish-English with simultaneous translation).

*Estudios de casos sobre servicios ecosistémicos para mejorar el bienestar de los sistemas naturales y las comunidades humanas en América Latina (traducción simultánea español-inglés).*

*Moderator:* Luis Fernandez, Cincia, Peru

*Speakers:*

- Marcelo Guevara, Natural Capital Project, Stanford University
- Armando Muñante, SUNASS, Peru
- Marta Torres, Cincia, Peru
- Nigel Asquith, Fundacion Natura, Bolivia

New Frontiers Track:

*Paul Brest West*

**Sustainable Development Roundtable: Equity & Ecosystem Services**

Participants from around the world will share information and approaches to using applications to integrate natural capital in development planning in sustainable and equitable ways.

*Moderator:* Kelly Meza Prado, Natural Capital Project, University of Minnesota

*Speakers:*

- Jessie Martin, Earth Economics
- Adeniran Akanni, Ministry of Environment, Nigeria
- Leah Bremer, University of Hawai'i at Mānoa
- Guillaume Peterson, University of British Columbia, Faculty of Forestry
- Maíra Ometto Bezerra, Conservation International
- Isabel Guerrero, Oregon State University
- Pavit Ramachandran, Asia Development Bank

Approaches and Applications Track (2 sessions):

**Technology for Ecosystem Service Applications**

*Tresidder, Oak Lounge West*

Highlighting novel uses of technological advances to monitor and model biodiversity and ecosystem services.

*Moderator:* Stefano Ermon, Stanford University

*Speakers:*

- Rebecca Chaplin-Kramer, Natural Capital Project, Stanford University & Univ of Minnesota
- Christopher Anderson, Stanford University
- Jeffrey Smith, Stanford University
- Lisa Mandle, Natural Capital Project, Stanford University

**Hands-on InVEST: Coastal Resilience Modeling**

*Jacobsen-Sorensen Hall 123*

A brief introduction to marine and coastal models in InVEST, followed by in-depth work with the Coastal Vulnerability model.

**11:00 AM – 12:30 PM Tuesday Concurrent Sessions**

Pathways to Impact Track:

*Paul Brest East*

**Eye on Latin America II: Linking land use and vector-borne disease**

***Vision Sobre America Latina II: Avances en el uso de la tierra y vectores de enfermedades***

Investigating the evidence for linkages between land use change and vector-borne disease in Latin America, and the role for natural capital-based solutions.

*Moderators:* Lisa Mandle, Natural Capital Project, Stanford University & Erin Mordecai, Stanford University

*Speakers:*

- Anna Stewart-Ibarra, SUNY Upstate Medical University
- Mattias Piaggio, CATIE, Costa Rica
- Willy Lescano, Universidad Peruana Cayetano Heredia
- Marissa Childs, Stanford University

New Frontiers Track:

*Paul Brest West*

**Filling the Conservation Finance Gap: Where are the Opportunities?**

This panel will discuss the successes and limitations to the current conservation finance landscape as well as practical recommendations that can help turn the tide.

*Moderator:* Marilyn Waite, Program Officer: Climate & Clean Energy Finance at William & Flora Hewlett Foundation

*Speakers:*

- Mike Korchinsky, WildlifeWorks
- Greg Watson, Inter-American Development Bank
- Jennifer Morris, Conservation International
- Douglas Eger, The Intrinsic Value Exchange

Approaches and Applications Track (2 sessions):

**Natural Capital Investment to Support Green Growth**

*Tresidder Oak Lounge West*

Exploring the implementation, innovation, and effectiveness of natural capital investment in China.

*Moderator:* Hua Zheng, Chinese Academy of Sciences

*Speakers:*

- Lingqiao Kong, Chinese Academy of Sciences
- Fei Lu, Chinese Academy of Sciences
- Ruonan Li, Chinese Academy of Sciences
- Cong Li, Xi'an Jiaotong University

**Hands-on InVEST: Coastal Resilience Modeling**

*Jacobsen-Sorensen Hall 123*

Continued from 9AM. A brief introduction to marine and coastal models in InVEST, followed by in-depth work with the Coastal Vulnerability model.

12:30 – 1:30 PM **LUNCH**

*Rehnquist Courtyard*

**End of Tuesday Concurrent Sessions, Begin Plenary**

1:30 – 2:45 PM

*Paul Brest Hall*

**Plenary: Promoting Green, Inclusive Growth Through Multilateral Development Institutions**

Multilateral Development Banks and development agencies hold huge potential to promote inclusive and sustainable growth, fight poverty and inequality, and protect the planet. We will discuss opportunities to amplify approaches for including the values of natural capital in their policies and investments, including harnessing new technologies and data science in easy-to-use tools, standard frameworks and guidance for assessment of green infrastructure, and building capacity among leaders to mainstream these approaches.

*Moderator:* Mary Ruckelshaus, Managing Director, Natural Capital Project, Stanford University

*Speakers:*

- Greg Watson, Lead Specialist, Natural Capital Lab, Climate Change and Sustainable Development Department, Inter-American Development Bank
- Zhang Qingfeng, Director, Environment, Natural Resources, and Agriculture Division, East Asia Regional Department, Asian Development Bank
- Carter Brandon, World Resources Institute, Senior Distinguished Fellow, and outgoing Global Lead Economist, World Bank
- Alessandra Alfieri, Chief, Environmental Economic Accounts Section, Statistics Division, Department of Economic and Social Affairs, United Nations

3:00 – 4:15 PM

Paul Brest Hall

**Plenary: Achievements and Challenges in a Changing Latin America**  
**Logros y retos en una region cambiante**

This session will showcase the incredible advances that have been made in recent years in policy and financing for integrated planning and management of watersheds in the Andes to Amazon region of Latin America. A distinguished panel of experts will discuss the driving forces behind recent policy advances, as well as the growing challenges in a time of rapid political and social change.

*Esta sesión demostrará los avances increíbles que se han realizado en los años recientes en políticas y financiamiento para el manejo y planificación integral de cuencas desde los Andes hasta la Amazonía en América Latina. Un panel de expertos distinguidos dialogará sobre las fuerzas detrás los avances políticos, así como los retos crecientes en una época de cambio político y social.*

**Speakers:**

- Adrian L. Vogl, Lead Scientist, Natural Capital Project, Stanford University
- Luis Fernandez, Executive Director, Center for Amazonian Scientific Innovation-CINCIA and Research Professor of Biology, Wake Forest University
- Marta Echavarría, Director, EcoDecisión

7:30 – 8:30 PM

**Special Event: Spotlight on Latin America & Dessert Reception**

Bing Concert Hall

**Wednesday, March 20**

8:00 – 8:45 AM

Paul Brest Hall

**Coffeehouse Chat: Transformation to an Ecological Civilization in China**

Zhiyun Ouyang and Shuzhuo Li in conversation with Gretchen Daily

8:45 – 9:00 AM **Registration**

Paul Brest Hall Lobby

9:00 – 9:40 AM

Paul Brest Hall

**Keynote: Mark Tercek, President & CEO of The Nature Conservancy**

Mark Tercek is CEO of The Nature Conservancy, the world's largest conservation organization. He is the co-author of the Washington Post and Publisher's Weekly bestselling book *Nature's Fortune: How Business and Society Thrive by Investing in Nature*. In his remarks he will explore why TNC is working in cities, how his organization is working to accomplish audacious goals in cities and beyond, and share some thoughts on lessons learned over the course of leading the world's largest conservation organization.

*Moderator:* Gretchen Daily, Faculty Director, Natural Capital Project, Stanford University

9:45 – 10:15 AM

Paul Brest Hall

**Keynote: Nik Sekhran, Chief Conservation Officer, World Wildlife Fund**

Nik Sekhran, WWF's Chief Conservation Officer, has worked on the ground in over 45 countries in Africa, Asia, Oceania, and Latin America. He came last year to WWF from his position as Director for Sustainable Development at the United Nations Development Programme (UNDP), leading a team dedicated to advancing the UN's Sustainable Development Goals. His talk will feature WWF's work on building a more sustainable future for nature and people, including approaches to scale engagement around infrastructure financing and development planning around the world.

*Moderator:* Chris Field, Director, Woods Institute for the Environment, Stanford University

**10:30 AM – 12:00 PM Wednesday Concurrent Sessions**

Pathways to Impact Track:

*Paul Brest East*

**Ecosystem Services in the US Forest Service**

Highlighting the importance of ecosystem services in science, planning, and policy by the US Forest Service, from local to national scales.

*Moderator:* Tommie Herbert, US Forest Service

*Speakers:*

- Greg Arthaud, US Forest Service
- Nikola Smith, US Forest Service
- Hugh Safford, US Forest Service and UC Davis
- Spencer Wood, University of Washington and Natural Capital Project
- Sherry Reckler, US Forest Service

New Frontiers Track:

*Paul Brest West*

**Positive Futures for Transformative Change**

This session will explore the power of creating inspiring future visions to guide decision-making in the Anthropocene.

*Moderator:* Jan Kuiper, Natural Capital Project, Stockholm Resilience Center

*Speakers:*

- Heather Tallis, The Nature Conservancy
- Timon McPhearson, The New School
- David Iwaniec, Georgia State University
- Garry Peterson, Stockholm Resilience Center, Stockholm University
- Elena Bennett, McGill University
- Katherine Wyatt, Natural Capital Project, Stanford University

Approaches and Applications Track:

*Tresidder Memorial Union, Oak Lounge West*

**Hands-on InVEST: Freshwater Modeling**

Sampler of the InVEST freshwater models - Nutrient, Sediment, Annual and Seasonal Water Yield, and hands-on time with one model.

Special Topics Track:

*Jacobsen-Sorensen Hall 123*

**Climate Resilience and Risk**

Speakers in this session will discuss documented climate impacts from global to local levels, and how they are playing out in community response through diverse approaches

*Moderator:* Mary Ruckelshaus, Managing Director, Natural Capital Project, Stanford University

*Speakers:*

- Peter Kareiva, UCLA Institute on the Environment and Sustainability
- Charlotte Weil, Natural Capital Project, Stanford University
- Carter Brandon, World Resources Institute

**12:00 – 1:00 PM LUNCH**

*Rehnquist Courtyard*



**1:00 – 2:30 PM Wednesday Concurrent Sessions**

Pathways to Impact Track:

*Paul Brest East*

**Urban Ecosystem Services**

Elevating the role of nature in cities to enhance global sustainability and people's health and wellbeing.

*Moderator:* Perrine Hamel, Natural Capital Project, Stanford University

*Speakers:*

- Pascal Mittermaier, The Nature Conservancy
- Stuart Allen, Stuart Allen Art Services
- Maïke Hamann, Natural Capital Project, University of Minnesota
- Dhaval Negandhi, The Nature Conservancy
- Tong Wu, Chinese Academy of Sciences

New Frontiers Track:

*Paul Brest West*

**Building a Resilient Food System**

Do you eat food? Then you're part of the problem! Come find out how you can fix it.

*Moderator:* Becky Chaplin-Kramer, Natural Capital Project, Stanford University

*Speakers:*

- Ben Bryant, Natural Capital Project & Water in the West, Stanford University
- Charlotte Weil, Natural Capital Project, Stanford University
- Deborah Bossio, The Nature Conservancy
- Elena Bennett, McGill University

Approaches and Applications Track:

*Tresidder Memorial Union, Oak Lounge West*

**Hands-on InVEST: Freshwater Modeling**

Continues from 10:30AM. Sampler of the InVEST freshwater models - Nutrient, Sediment, Annual and Seasonal Water Yield, and hands-on time with one model.

Special Topics Track:

*Jacobsen-Sorensen Hall 123*

**Conservation Finance in US Forests**

This panel will discuss challenges facing working landscapes, both public and privately owned, and opportunities for private investment to play a role in scalable solutions

*Speakers:*

- Tommie Herbert, US Forest Service
- Kari Cohen, US Forest Service
- Zach Knight, Blue Forest Conservation
- Ricardo Bayon, Encourage Capital

Pathways to Impact Track:

*Paul Brest East*

**San Francisco Bay Resilience**

Increasing coastal resilience in the face of sea-level rise by incorporating natural and nature-based solutions into adaptation planning in the San Francisco Bay Area.

*Moderator:* Jeff Koseff, Stanford University

*Discussant:* Steve Goldbeck, Bay Area Conservation and Development Commission

*Speakers:*

- Katherine Wyatt, Natural Capital Project, Stanford University
- Heather Dennis, Bay Area Conservation and Development Commission
- Jeremy Lowe, San Francisco Estuary Institute
- Dave Pine, Supervisor, San Mateo County
- Anne Guerry, Natural Capital Project, Stanford University

New Frontiers Track:

*Paul Brest West*

**Sustainable Development Lighting Talks**

This session features global stories of research and engagement that address the incorporation of natural capital into sustainable development planning.

*Moderator:* Chris Nootenboom, Natural Capital Project, University of Minnesota

*Speakers:*

- Nilanjan Ghosh, World Wildlife Fund, India
- Heru Komarudin, Center for International Forestry Research
- Leon Baruah, Viridian Logic
- Qing Yang, Beijing Normal University and University of South Florida
- Yu Miao, Tsinghua University
- Onil Banerjee, Inter-American Development Bank
- Martha Rogers, The Nature Conservancy
- Thomas Polzin, Dow Chemical

Approaches and Applications Track:

*Tresidder, Oak Lounge West*

**Communicating and Visualizing Natural Capital**

Compelling, engaging and inspiring ways to communicate Natural Capital actions.

*Moderator:* Charlotte Weil, Natural Capital Project, Stanford University

*Participants:*

- Nicole Newnham, Awavena
- Jorge Caballero & Martin Picalla, Cincia (Centro de Innovación Científica Amazónica)
- Ahmed Ahres, Sami Ben Hassen, Harshdeep, & David Malmström, Swiss Institute of Technology
- Joanna Lin, Natural Capital Project, Stanford University
- Stace Maples & Hannah Wild, Stanford Geospatial Center
- Günes Yurdakul & Cyril van Schreven, Swiss Institute of Technology
- Stephen Standridge, Form is Function
- Anna Muller Queiroz, Stanford University
- Marcelo Guevara, Natural Capital Project, Stanford University
- Katie McCutcheon, Interactive Painter

Special Topics Track:

*Jacobsen-Sorensen Hall 123*

**InVEST in practice: Case Studies from Around the World**

This session features a diverse set of case studies where InVEST was used to answer questions related to land use change, economic valuation of natural areas, inclusion of ES in watershed management, and more.

*Moderator:* Nirmal Bhagabati, World Wildlife Fund - US

*Speakers:*

- Marcello Hernandez-Blanco, Australian National University
- Kwadwo Kyenkyehene Kusi, Mohammed V University of Rabat
- Muniyandi Balasubramania, Institute for Social and Economic Change
- Tiantian Ma, Beijing Normal University
- Joan U. Ureta, Clemson University
- Lucas Clay, Clemson University
- Deissy Andrea Arango Gonzalez, The Nature Conservancy

***End of Wednesday Concurrent Sessions, Rejoin Plenary***

*5:00 – 5:45 PM*

*Paul Brest Hall*

**Boething Lecture: Laura Huffman, Director of The Nature Conservancy of Texas**

The Natural Capital Project is honored to welcome the Boething Lecture to our 2019 Symposium. The Boething Lecture Series, in honor of John and Susan Boething, addresses forests and the human predicament. Laura Huffman, Texas Regional Director of The Nature Conservancy, will give this year's Boething Lecture entitled, "All people, all in: Leading the charge for a livable planet."

*Moderators:* Paul Ehrlich and Gretchen Daily, Stanford University

*5:45 – 6:15 PM Keynote & Boething Reception*

**Thursday, March 21**

***Concurrent Sessions All Day***

***9:00 - 10:30 AM Thursday Concurrent Sessions***

**NatCap Office Hours/Sandbox**

*Jacobsen-Sorensen Hall 138*

This session offers drop-in help from Natural Capital Project staff where you can get one-on-one technical support with a project you've already started, brainstorm on a project you're thinking about, learn more about a NatCap tool, or get InVEST set up on your own computer. The session will be staffed by NatCap analysts and software developers with expertise that spans both terrestrial and coastal systems.

**Learn through play: Trade-Off! Roads to Resilient Future**

*Paul Brest East*

We will explore the natural capital approach through a hands-on board game called Trade-Off! Roads to a Resilient Future. In the second half of the session, we will discuss the game, and explore other ways to teach the natural capital approach in a fun, interactive setting.

**9:00 - 10:30 AM Thursday Concurrent Sessions (continued)**

**Google Earth Engine 101A: Introduction to Earth Engine for Beginners, Part A**

*HANA Immersive Visualization Environment (HIVE), Huang Engineering Building: 475 Via Ortega, Basement*

Meet Earth Engine! Google Earth Engine combines a multi-petabyte catalog of satellite imagery and geospatial datasets with planetary-scale analysis capabilities and makes it available for scientists, researchers, and developers to detect changes, map trends, and quantify differences on the Earth's surface. The Earth Engine API (application programming interface) provides the ability to create your own algorithms to process raster and vector imagery. This session is geared toward people who would like to analyze satellite and vector data. The session will be hands-on, using the Earth Engine Javascript code editor. The first part of the class will focus on accessing imagery, creating composites, and running analyses over stacks of images. The second half will focus on computing statistics on imagery, creating charts and exporting the results of your analyses.

**Hoover Tower Tour**

*Meet in Munger Lobby*

Tour the historic Hoover Tower, witness the vast landscape of Stanford University and explore the archive collection founded by Herbert Hoover before he became President of the United States.

**11:00 AM - 12:30 PM Thursday Concurrent Sessions**

**NatCap Office Hours/Sandbox (continued)**

*Jacobsen-Sorensen Hall 138*

This session offers drop-in help from Natural Capital Project staff where you can get one-on-one technical support with a project you've already started, brainstorm on a project you're thinking about, learn more about a NatCap tool, or get InVEST set up on your own computer. The session will be staffed by NatCap analysts and software developers with expertise that spans both terrestrial and coastal systems.

**Learn through play: Trade-Off! Roads to Resilient Future (continued)**

*Paul Brest East*

We will explore the natural capital approach through a hands-on board game called Trade-Off! Roads to a Resilient Future. In the second half of the session, we will discuss the game, and explore other ways to teach the natural capital approach in a fun, interactive setting.

**Google Earth Engine 101A: Introduction to Earth Engine for beginners, part A (continued)**

*HANA Immersive Visualization Environment (HIVE), Huang Engineering Building: 475 Via Ortega, Basement Continues from 9:00 AM. See description above.*

**Hoover Tower Tour**

*Meet in Munger Lobby*

Tour the historic Hoover Tower, witness the vast landscape of Stanford University and explore the archive collection founded by Herbert Hoover before he became President of the United States.

**12:30 – 1:30 PM LUNCH**

*Rehnquist Courtyard*

### 1:30 PM - 3:00 PM Thursday Concurrent Sessions

#### **Combining Economics & Ecosystem Services**

*Jacobsen-Sorensen Hall 138*

The environment and economy are deeply connected. Yet economic models are not sufficiently linked to ecosystem service models like InVEST, hampering the answering of critical management questions. We will begin by discussing the need, general approach, and challenges faced in linking economic computable general equilibrium models with high-resolution, spatially explicit ecosystem service models. Next, Uris Baldos and Justin Johnson will present work with WWF-UK that connects the Global Trade Analysis Project (GTAP) model and database to InVEST, highlighting preliminary results that calculate global economic impacts from lost pollination, increased coastal vulnerability, and changes in water yield. We will then have a presentation from Onil Banerjee that applies the Integrated Economic-Environmental Model (IEEM) Platform to assess economic and ES impacts of green growth strategies in Rwanda. We will conclude with a broader discussion about possible future work and collaborations, how results like these can be incorporated into decision making processes, and a variety of other topics. We hope this session will be an opportunity to network and connect participants interested in combining economic models to ecosystem service models.

#### **Hoover Tower Tour**

*Meet in Munger Lobby*

Tour the historic Hoover Tower, witness the vast landscape of Stanford University and explore the archive collection founded by Herbert Hoover before he became President of the United States.

#### **Stanford's Cantor Art Center & Anderson Collection Tour**

*Meet in Munger Lobby*

Tour Stanford's famous art museums and the largest private collection of Rodin sculptures.

### 3:30 PM - 5:00 PM Thursday Concurrent Sessions

#### **Combining Economics & Ecosystem Services**

*Jacobsen-Sorensen Hall 138*

*Continues from 1:30 PM. Read above for description.*

#### **Stanford Walking Tour**

*Stanford Visitor Center, 295 Galvez Street*

A student guided tour exploring the highlights of Stanford's beautiful campus including The Main Quad, Memorial Church, Engineering Quad, and White Plaza

#### **Stanford's Cantor Art Center & Anderson Collection Tour**

*Meet in Munger Lobby*

*Continues from 1:30 PM.* Tour Stanford's famous art museums and the largest private collection of Rodin sculptures.

*Thank you for attending the 2019 Natural Capital Symposium!*