



## BOOK OF ABSTRACT

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### I. SESSION DESCRIPTION

ID: T6

#### Title of session:

Plural, Inclusive and integrated valuation of biodiversity and ecosystem services: advances, challenges and opportunities in Latin America

#### Hosts:

	Title	Name	Organisation	E-mail
Host:	Dr	Alexander Rincón Ruiz	National University of Colombia	alrinconru@unal.edu.co

#### Abstract:

During the last years a work team in integrated, plural and inclusive valuation of biodiversity and ecosystem services has been conformed in Latin America. In fact, in the two previous conferences associated to ecosystem services in Latin America: a) the first Latin American conference of the Ecosystem Services Partnership- ESP in Cali - Colombia - 2016. b) the V congress of Ecosystem Services in the Neotropics in Oaxaca - Mexico - 2017, we found that there are an increasing interest in new values visions of biodiversity and ecosystem services that allow a better inclusion of actors and perspectives in decision making. Maybe the most important example of this tendency at the global level is the advance of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) in this area. Our session will be focus on this new



ideas and research in valuation, and the contributions to the challenges of global sustainability in the Latin America context. This development is part as well of the work team in integrated valuation of biodiversity and ecosystem services in ESP (TWG 6). During our session we hope to found new researchers and people interested in this area and socialize our advances.

### Goals and objectives of the session:

Identify challenges and opportunities of the new ideas of valuation of biodiversity and ecosystem services, associated with a plural, inclusive and integrated vision of valuation. To socialize the advances in plural, inclusive an integrated valuation of biodiversity of ecosystem services in Latin America.

### Planned output / Deliverables:

To socialize and article and a book about plural, inclusive and integrated valuation of biodiversity of ecosystem services in Latin America. To Include new people interested in the Latin America work team of plural, inclusive and integrated valuation of biodiversity an ecosystem services

### Related to ESP Working Group/National Network:

[Thematic Working Groups–TWG 6 – Integrated valuation of ES](#)

## II. SESSION PROGRAM

**Date of session:** Wednesday, 24 October 2018

**Time of session:** 13:30–15:00

### Timetable speakers

Time	First name	Surname	Organization	Title of presentation
13:30–13:40	Juan Manuel	Nuñez	Centrogeo	Ecosystem Services Valuation in the Protected Areas of the Sierra Madre de Chiapas
13:40–13:50	Albaluz	Ramos Franco	Universidad Pedagógica y Tecnológica de Colombia	Valoración multicriterio de servicios ecosistémicos en bosques andinos de Boyacá.



Time	First name	Surname	Organization	Title of presentation
13:50-14:00	Caroline	Fassina	. UNICAMP (NEPAM)	Environmental Compensation: the money tree
14:00-14:10	Eidenober	Mena Aristizabal	Universidad del Valle	UNA ARQUEO-ECOLOGÍA A LAS CIUDADES INVISIBLES O CARTOGRAFÍAS PERIFÉRICAS.
14:10-14:20	Abigail	Cardoso Coqueiro	Universidade CEUMA.	Intangible Heritage in the Context of Cultural Ecosystem Services
14:20-14:30	Ana Alice	Eleuterio	Universidade Federal da Integração Latino-Americana – UNILA	Perceptions of the environment in cities located in Brazil's Atlantic Forest
14:30 - 15:00	Questions and Discussion			

### III. ABSTRACTS

The abstracts appear in alphabetic order based on the last name of the first author. The first author is the presenting author unless indicated otherwise.

#### 1. Type of submission: **Abstract**

T. Thematic Working Group sessions: T6 Plural, Inclusive and integrated valuation of biodiversity and ecosystem services advances, challenges and opportunities in Latin America

## Intangible Heritage in the Context of Cultural Ecosystem Services



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The conceptualization of ecosystem services, according to Postchin and Haines–Young (2016), involves judgments about human actions related to nature, and about what we value in nature. The main evaluations MEA (2005), TEEB (2010), IPBES (2012) and CICES (2016) classify ecosystem services as production, regulation, support and cultural services. Milcu et al. (2013) can define cultural ecosystem services as the non–material benefits people derive from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, aesthetic experiences and cultural heritage. However, although few studies address sociocultural preferences regarding ecosystem services, Martín–López et al., (2012), a growing group of scholars are seeking sociocultural evaluation methods to capture the value of ecosystem services: Agbenyega et al. , 2009; Casado–Arzuaga et al., 2013; Hartter, 2010, Winthrop, 2014. Although some cultural values may have little dependence on ecosystems, Daniel et al. (2012) argues that cultural services, like all others, must demonstrate a significant relationship between structures and functions of the ecosystem. In this bias, cultural heritage is generally defined as the legacy of biophysical characteristics, physical artifacts, and intangible attributes of a group or society that are inherited from past generations, maintained in the present and granted for the benefit of future generations. Through a research carried out using the terms ecosystem services, ecosystem cultural service, intangible heritage and cultural heritage, it was noticed that most of the articles only address the environmental issue of ecosystem services, not relating to the cultural aspect of the services offered by ecosystems. Also, when considered the cultural variable, the authors related to the tangible assets, not addressing the intangible variables. Thus, the present work aims to contribute to the debate by identifying how intangible heritage has a greater adherence to the concept of ecosystem services.

**Keywords:** ecosystem services, ecosystem cultural service, intangible heritage and cultural heritage



2. Type of submission: **Abstract**

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## Perceptions of the environment in cities located in Brazil's Atlantic Forest

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Urban expansion, especially in biodiversity hotspot areas, is a major cause of biodiversity loss around the world. Urban planning for future cities should enhance resilience while accounting for environmental quality and human wellbeing. Also, should not disregard the importance of cities for the provision of ecosystem services, and biodiversity conservation. In this study, we aimed to evaluate how people from cities located in biodiversity hotspots of Atlantic Forest, Brazil, perceived the environmental quality in their municipalities. We used data from online questionnaires answered by 1188 citizens of 13 municipalities in the states of Sao Paulo, Parana, and Santa Catarina, Brazil. Questions assessed what participants thought about the quality, access, and management of water supplies, solid waste, green areas, air quality, food security, and participation, including access to information, knowledge about citizen's rights and governmental responsibilities. 54% of the people interviewed were members of civil society, and the remaining declared to represent a wide range of institutions. 93% of the people interviewed lived in urban areas, 51% were women, and 47% were man. Issues perceived as positive by most citizens interviewed included air quality, solid waste management, and presence (but not management) of public green areas. Although most participants recognized their role in biodiversity conservation in urban areas, preliminary results showed low involvement in issues related to environmental management. Environmental education programs, especially for building cities' resilience to climate change, were either perceived as absent or lacking information by most interviewees. Environmental programs that aim to enhance public participation in decision making should consider these results to build effective strategies. Further analysis will possibly identify groups with different perceptions, and contrast perceptions with real measures of environmental quality in the study area.

**Keywords:** Online questionnaire; urban planning; participation; resilience; biodiversity hotspot



3. *Type of submission:* **Abstract**

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## Environmental Compensation: the money tree.

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In essence, we are building our infrastructure at the expense of 'natural infrastructure'. This natural infrastructure – made up of ecosystems and their processes – is so vast and has supported human life for so long that its loss has historically been neglected as a cost of society's development. That is, nature has been a public good without price and without market. But this devaluation effect is now reaching us. Because we can no longer ignore natural capital, society is beginning to incorporate biodiversity and ecosystem services values into economy and political decision-making.

One of these economic mechanisms is environmental compensation, that value and valorize environmental resources and services, that will be impacted by some human activity. However, despite Federal Decree No. 6848/2009, which regulates environmental compensation in Brazil has been applied for almost 10 years, the litigation in relation to the methodology considered appropriate for all stakeholders causes recurrent changes in compensation calculation method, based on decisions taken exclusively by legal experts. That is, environment valuation, as a public policy, is still a matter debated mostly in the courts, when it should be treated as something extremely broad and interdisciplinary, with the scientific view contribution.

Our PhD project aims to analyze the environmental compensation concept and to resolve methodological inconsistencies of its practice. Therefore, we analyze the gap between legal and regulatory framework for environmental compensation in Brazil, which has caused a technical and legal imbroglio for decades. It starts with a more theoretical incursion on environmental resources valuation/compensation literature, to later carry out a survey, selection and critical analysis of compensation methodologies adopted in Brazil and in the world. The final objective



is the proposal of a compensation accounting methodology, and simulations of its application in a concrete and current case: port expansion on São Paulo's coast.

**Keywords:** Environmental valuation, Compensation, Biodiversity Offset.

4. *Type of submission:* **Abstract**

T. Thematic Working Group sessions: T6 Plural, Inclusive and integrated valuation of biodiversity and ecosystem services advances, challenges and opportunities in Latin America

## Valoración multicriterio de servicios ecosistémicos en bosques andinos de Boyacá

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El proyecto "Valoración de servicios ecosistémicos a partir de componentes esenciales para la biodiversidad Norandina: hongos, abejas, aves silvestres y recurso hídrico, como una estrategia de conservación de los bosques andinos de Boyacá" es la primera aproximación multidisciplinar a la valoración de servicios ecosistémicos en el departamento; priorizando los municipios de Miraflores, San Mateo, Togüi y Pauna, que poseen gradientes altitudinales y de humedad representativos de la región Norandina. Se espera reconocer y demostrar los valores económicos de uso y no uso, así como los valores no económicos, asociados a los servicios de provisión y soporte a partir de componentes característicos de la biodiversidad del Norte de los Andes, como lo son las abejas nativas, aves y hongos silvestres y los bosques andinos y altoandinos nativos donde nacen las fuentes hídricas.

La realización de esta investigación arrojará información técnica básica que permita la creación de estrategias de control y herramientas de gestión sostenible para dichos ecosistemas; el desarrollo del proyecto permite:



- conocer las especies de abejas silvestres que polinizan los cultivos frutales aledaños a las zonas boscosas (valor económico de uso consuntivo)
- entender el beneficio que las comunidades próximas al bosque perciben de los hongos silvestres comestibles y que especies de hongos son aprovechadas (valor no económico de uso consuntivo)
- saber qué especies de aves habitan o visitan las áreas boscosas y cuál es su relación con las plantas del bosque (valor no económico de uso no consuntivo)
- y por último, conocer el estado de la provisión de agua que brinda el bosque y qué tipo de coberturas vegetales lo benefician en mayor medida (valor económico de uso no consuntivo)

Esta investigación se encuentra en su fase inicial de ejecución y es financiada por la convocatoria 794 de Colciencias con fondos del programa nacional “Colombia Bio”

**Keywords:** Boyacá, servicio de soporte, servicio de provisión, valor económico de uso, valor económico de no uso, valor no económico

5. *Type of submission:* **Abstract**

[T. Thematic Working Group sessions: T6 Plural, Inclusive and integrated valuation of biodiversity and ecosystem services advances, challenges and opportunities in Latin America](#)

## UNA ARQUEO-ECOLOGÍA A LAS CIUDADES INVISIBLES O CARTOGRAFÍAS PERIFÉRICAS

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El paisaje periurbano es el resultado histórico-estético de la interacción entre una sociedad asentada con el espacio geográfico. Con la explosión de la urbanización o "topofagia" de las metrópolis modernas hacia los espacios periféricos, donde se encuentran condiciones particulares y especiales de modos de vida, entre las lógicas urbanas y rurales, han sido





ampliamente transformados. Estos espacios no son totalmente coherentes o continuos, pero tienen características recurrentes, muy diferentes de los parques urbanos o reservas naturales internas. En ellos se configuran la infraestructura verde y azul fundamental para desarrollo y bienestar de las ciudades. Sin embargo estos espacio están sujetos a diferentes perspectivas y políticas de planificación que resultan divergentes.

Asumiendo las premisas explicativas de la ecología cultura y la arqueo-ecología, que entienden las ciudades como sistemas extrasomáticos de adaptación al medio, producto de la relación dialéctica entre organización social y sistema natural; con el objetivo de aproximarnos tanto a las condiciones medioambientales y ecológicas en que determinados grupos sociales y sujetos se desarrollaron, así como los efectos causados sobre el medio físico por parte de las prácticas políticas y/o económicas desarrolladas por las comunidades humanas en la zonas periurbanas. En ese sentido, recurrimos a las practicas ecosoficas para “excavar” en las tres diferentes capas ecologicas de los socioecosistemas: medioambiental, social y mental, (Guattari, 1990); ya que es en la identificación de las relaciones integrales de reciprocidad entre ciudad y territorio donde surge la sostenibilidad fuerte.

De esta manera y siguiendo la propuesta metodológica de la VIBSE (Rincon Ruiz, et al., 2015); planteamos tres “maquinas ecosoficas” : SALAS SIG, SALA DE SITUACIÓN AMBIENTAL y MAPAS Y GABINETES DE LA SUBJETIVIDAD, que pretenden registrar y cartografiar otras formas relacionales de valorar, vinculando a la universidad, artistas y comunidad con el ecosistema periurbano.

**Keywords:** Espacios periurbanos, cartografias, arqueoecologia, ecosofia, valoracion integral



6. Type of submission: **Abstract**

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## Ecosystem Services Valuation in the Protected Areas of the Sierra Madre de Chiapas

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Protected Areas are ecosystems that contribute to human well-being through the provision of different services, among which are the supply, filtration and regulation of water resources, carbon storage and provision of food, as well as the offer for the development of sustainable recreation activities. They are also natural solutions to adapt to climate change, so the valuation of their benefits has to go beyond the polygons recognized in the decrees.

In this work, a spatially explicit methodology was developed that integrates the biophysical and economic values of the ecosystem services in the Protected Areas of the Sierra Madre de Chiapas, through participatory workshops with decision makers and local stakeholders. In the proposed methodology: (i) they were identified through the use of prioritization matrices, ecosystem services at a regional level based on the perception of social value of the different economic activities; (ii) spatially explicit methodologies were developed for the biophysical and economic valuation of ecosystem services for carbon storage, water infiltration and food provision based on the integration of prospective land use land cover models, climate change scenarios and participatory methods with decision makers and interested actors; (iii) economic valuation results of the ecosystem services were generated for the current and future terrestrial coverage, as well as for different planning spatial typologies.

Obtained results for the Protected Areas, include benefits of between 896 and 1,445 million dollars a year for water infiltration services. The above means that the water infiltration capacity of the Protected Areas of the Sierra Madre de Chiapas is 1.6 times greater compared to the area outside of them. The results obtained with the construction of alternative futures allow to



differentiate the role that the complex of Protected Areas contributes to the region and constitute a support to the decision making for the management of the landscape.

**Keywords:** Protected Areas, Integrated Valuation of Ecosystem Services, Chiapas,