

Detalle Proyecto

DATOS DEL PROYECTO DE INVESTIGACION			
Título:	Estudio de la percepción de los valores sociales en los ríos urbanos		
Director del Proyecto:	VINICIO ANTONIO MOYA ALMEIDA		
Grupo de Investigación:	Grupo Internacional de Investigaciones de Ambiente y Territorio	Centro de Investigación:	Centro Internacional de Investigaciones de Ambiente y Territorio
Fecha de inicio:	2024-03-01	Fecha de fin:	2025-12-12
Duración:	1 años	Total meses:	9 meses

Justificación:	El presente proyecto surge como la continuación de un estudio realizado en las ciudades de Loja, Cuenca y Sangolquí, y que busca mapear la percepción de los valores sociales, positivos y negativos, de los ríos que atraviesan entornos urbanos. Éstos, han sufrido continuas degradaciones por la presencia del ser humano a pesar de su alta capacidad de resiliencia. Sin embargo, no solamente resulta útil conocer qué valores sociales evocan estos cuerpos de agua, sino en dónde y cuánto representan, lo cual se ha conseguido mediante herramientas de PPGIS.
Línea de Investigación:	Otra
Relevancia Científica:	Generar información de base participativa y comunitaria para la toma de decisiones, ayudándonos en información basada e el lugar y procesada con herramientas de inteligencia artificial.
Planteamiento del problema de Investigación:	Existen muy pocos estudios científicos relacionados con servicios ecosistémicos culturales en el Sur Global. Existe poca bibliografía que considere análisis y valoración no monetaria ni material. Existen pocos estudios sobre servicios ecosistémicos en entornos urbanos y a escala ciudad.
Objetivo General:	Desarrollar una metodología enfocada en el mapeo de valores intengibles de los servicios ecosistémicos en entornos urbanos relacionados a cuerpos de agua.
Objetivos Específicos:	Realizar un mapeo participativo de las zonas de la oferta y pérdida de los servicios ecosistémicos culturales. Verificar la viabilidad de utilización de herramientas de IA para aplicaciones de mapeo. Verificar la posibilidad de realizar una transferencia de valores culturales entre ciudades.
Articulación con los objetivos del Plan Nacional de Desarrollo, de la región y de la zona de influencia local:	Plan de Creación de Oportunidades 2021-2025. Objetivo 11: Conservar, restaurar, proteger y hacer un uso sostenible de los recursos naturales, Objetivo 13: Promover la gestión integral de los recursos hídricos.

Estado del Arte:

"Texto tomado del artículo original del que se desprende el presente estudio: ""Rivers are not simply bodies of water; they are complex socio-ecological systems that provide a wide range of ecosystem services (ES) to people (Hanna et al. 2018), which are essential for social well-being (Vallecillo et al. 2018). These services include material resources, species habitats, freshwater supply and flood control (Grizzetti et al. 2016), as well as intangible benefits that satisfy the social, spiritual and recreational needs of local communities (Riechers et al. 2018), making them particularly valuable in urban areas where green spaces and blue infrastructure are often limited. However, urban rivers face human activities associated with the processes of urbanisation, leading to continuous modification of the landscape. These processes have a significant impact on the functional diversity of river ecosystems, reducing their capacity to provide ES. These anthropogenic pressures are particularly exacerbated in the context of developing cities in the Latin American and Caribbean (LAC) Region (International Union for Conservation of Nature (IUCN) and Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) 2016). Despite their high biodiversity and a high degree of endemism, these water bodies face additional stress factors (Tellman et al. 2018, Walteros and Ramírez 2020), mainly due to accelerated urban expansion (NU, CEPAL 2022), alongside practices such as the discharge of contaminated water, channelling works and loss of riparian vegetation. These factors have contributed to the transformation of water ecosystems, shifting from multifunctional and resilient landscapes to monofunctional channels and open sewers (da Cruz e Sousa and Ríos-Touma 2018, Walteros and Ramírez 2020). These challenges are further compounded by the effects of the climatic emergency, which intensifies the vulnerability of urban rivers (Jiang et al. 2018). Hydrological events, such as floods, have been observed to occur more frequently in areas where rivers have experienced a significant loss of their natural characteristics essential for resilience and mitigation of impacts (Sabater et al. 2018). Consequently, many urban rivers have become degraded and at risk, with consequences not only for their ecological dimensions, but also for the quality of life of residents. The loss of ecosystem services and anthropogenic pressures generate various negative impacts, such as areas perceived as unpleasant and unsafe due to the presence of waste, unpleasant odours, lack of lighting, fear of crime and inadequate infrastructure, amongst other aspects that affect people's well-being. These aspects have been studied as ecosystem disservices (Shapiro and Báldi 2014, von Döhren and Haase 2015, Rodríguez- Morales et al. 2020, Montes-Pulido and Forero 2021). These negative social perceptions can pose a direct threat to the intrinsic social value of urban river landscapes, which, in turn, could perpetuate aggressive and polluting practices in these coupled socioecological systems (Pascual et al. 2017, Gottwald and Stedman 2020). However, considering these impacts contributes to an integrative framework that enables effective addressing of current challenges in landscape management (Lyytimäki 2015). For this reason, several researchers emphasise the need to focus attention on the social values and importance that a local community assigns to a given landscape and its ES (Arias-Arévalo et al. 2017, Chen et al. 2017, Rey-Valette et al. 2017, Pascual et al. 2017). However, this category of analysis of ES remains limited compared to the biophysical and economic approaches traditionally used to assess and analyse water bodies (Nedkov et al. 2015, Garcia-Rodrigues et al. 2017, Karimi et al. 2020, Kaiser et al. 2021). Additionally, the scientific literature on ecosystem services has primarily focused on provisioning and regulating services, rather than intangible services, such as recreation and aesthetic values (Hanna et al. 2018, Cheng et al. 2019). This trend can be attributed to the challenge of quantifying cultural services in monetary terms due to their intangible nature. However, overlooking the social dimension, subjective values and cultural benefits of ecosystems (Chan et al. 2012, Plieninger et al. 2015, Ruiz-Frau et al. 2017) leads to incomplete assessments that undermine the inherent pluralistic nature of the concept of ecosystem services. Therefore, a closer look at the socio-cultural valuation of ES and the landscape provides a crucial perspective to identify and recognise social preferences and areas of particular interest to the community. In the context of altered and degraded ecosystems, these perceptions can have positive or negative connotations. Thus, considering diverse ecosystem values expands the possibilities to identify opportunities and conflicts in the same territory (Reyers et al. 2013, Polizzi et al. 2015), facilitating the identification of management priorities with greater acceptance and social support. These aspects can only be captured through participatory and community-based approaches (Nijnik and Miller 2017, Himes and Muraca 2018), enabling the challenge of traditional visions and prevailing power asymmetries in planning to be addressed. In this sense, participatory mapping has been applied as an effective tool to collect data from multiple social agents and integrate it with ecological information to reveal socio- environmental relationships and their spatial association (van Riper et al. 2012, Rey- Valette et al. 2017), which allows establishing a dialogue with the actors and, thus, knowing their preferences about the landscape (Alvarado-Arias 2021). This research aims to assess and map the socio-cultural, non-monetary, positive and negative values of the Zamora and Malacatos Rivers and the ES, in their course through the urban-rural gradient in Loja City, Ecuador. With this, it is possible to identify and know the relative importance of the social value and identify its explicit spatial distribution, patterns and ES hotspot from the mapped preferences. Finally, this research achieves several contributions: (1) It provides an ES case study in a city from the Global South, in a field where most studies have focused on landscapes and social values within the Global North (Dobbs et al. 2018, Escobedo et al. 2019); (2) It contributes to closing the knowledge gap by enquiring about ES in urban areas since previous works have been applied mainly over large scales in national parks and rural areas and the studies that approach urban environments tend to evaluate specific areas like parks (Palomo et al. 2014, Sun et al. 2019), leaving ES patterns at the city scale largely unknown (Kremer et al. 2015, Rall et al. 2017); (3) Finally, this study contributes to the limited representation of the negative values of the ecosystems, also known as disservices (Blanco et al. 2019, Baumeister et al. 2022), which are more relevant in the context of the anthropogenised landscape.""

Propuesta Metodológica:	Tipo de investigación: Investigación aplicada. Se utilizó metodología "PPGIS: public participation geographic information system", basada en encuestas. Posteriormente, se realizó una combinación de los datos levantados con un vector de variables biofísicas, que devuelve un conjunto de variables estadísticas (modelo SolVES). Con esta data, se realizó una distribución de máxima entropía (Maxent), para determinar el espacio físico de influencia de las variables mencionadas. Una de estas publicaciones, utiliza un método alternativo, de generación de un modelo de regresión lineal. Finalmente, se realizará una comparación mediante transferencia de valores inter ciudades.
Referentes Bibliográficos:	Alvarado-Arias, Natalia; Moya-Almeida, Vinicio; Cabrera-Torres, Francisco and Medina-Enríquez, Andrea. (2024). Evaluation and mapping of the positive and negative social values for the urban river ecosystem. doi: 10.3897/oneeco.8.e101122. Sherrouse BC, Semmens DJ, Clement JM (2014) An application of Social Values for Ecosystem Services (SolVES) to three national forests in Colorado and Wyoming. Ecological Indicators 36: 68-79. https://doi.org/10.1016/j.ecolind.2013.07.008 . Sherrouse BC, Semmens DJ, Ancona ZH, Brunner NM (2017) Analyzing land-use change scenarios for trade-offs among cultural ecosystem services in the Southern Rocky Mountains. Ecosystem services 26: 431-444. https://doi.org/10.1016/j.ecoser.2017.02.003 . Sherrouse BC, Semmens DJ, Ancona ZH (2022) Social Values for Ecosystem Services (SolVES): Open-source spatial modeling of cultural services. Environmental modelling & software : with environment data news 148 https://doi.org/10.1016/j.envsoft.2021.105259
Productos Esperados:	5 artículos en revistas indexadas con pares ciegos. Scopus, Q1.
Impacto esperado sobre la colectividad:	Provee una metodología de estudio para el análisis de la valoración social de los servicios ecosistémicos en entornos urbanos, lo que produce una herramienta eficiente a los tomadores de decisión para la posterior elaboración de políticas públicas.

PARTICIPANTES INTERNOS			
Identificación	Nombre	Categoría	Teléfono
0501617963	VINICIO ANTONIO MOYA ALMEIDA	DIRECTOR	0992504493

PARTICIPANTES EXTERNOS		
Institución	Nombre	Categoría
Universidad UTE	NATALIA ALVARADO ARIAS	INVESTIGADOR

RECURSOS ECONOMICOS		
Descripción	UHE (USD)	Institución Beneficiaria (USD)
APCs Papers 3 y 4	4000	
APCs Papers 2 y 5		4000
APCs Paper 1		1500
TOTAL	4000	5500

CRONOGRAMA		
Actividad	Fecha Inicio	Fecha Fin

Paper 1	2023-01-01	2023-07-10
Paper 2	0024-03-01	2024-08-06
Paper 3	2024-08-07	2025-03-31
Paper 4	2025-02-01	2025-06-30
Paper 5	2025-07-01	2025-12-12

INFORMACION ADICIONAL	
Tipo de investigacion:	APLICADA
Desarrollo experimental según el área del conocimiento UNESCO:	Ingeniería, industria y construcción Ciencias
Disciplina Científica:	Ciencias sociales Ingeniería y tecnología Humanidades
Objetivo socioeconómico:	Avance general del conocimiento: I+D financiada con los Fondos Generales de Universidades
Ámbito geográfico:	Nacional
Articulación con los Objetivos de Desarrollo Sostenible (ODS):	Garantizar una vida sana y promover el bienestar para todos en todas las edades Garantizar la disponibilidad de agua y su gestión sostenible y el saneamiento para todos

OBSERVACIONES