ALCUE NET

Latin America, Caribbean and European Union Network on Research and Innovation

Biodiversity and Climate Change Research in ERA-LAC

Progress on a bibliographic analysis

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INTRODUCTION

Workpackage 5
Biodiversity and Climate Change

Identify / Quantify cooperation activities
between Europe and Latin America/Caribbean

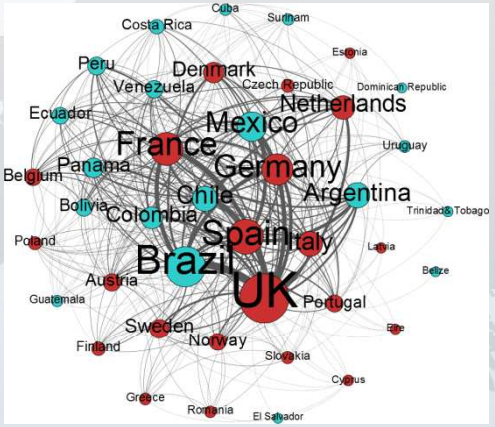
Mapping network

Research domains

Funding schemes

Previous Web of Science survey (Santa Marta)

- Analyse joint research in Biodiversity AND Climate change between EULAC
- Map the EULAC cooperation network
  - Global description
  - Disciplines
  - Themes and Biomes



Conservation

Resources

Ecosystem

Improvements

US-LAC

Biodiversity definition

Network monopolizations

Databases

INTRODUCTION

Previous Survey

Restricted *Biodiversity / Climate Change* profil
EU (28 countries + Norway) + LAC (32 countries)
All documents types

Refinement

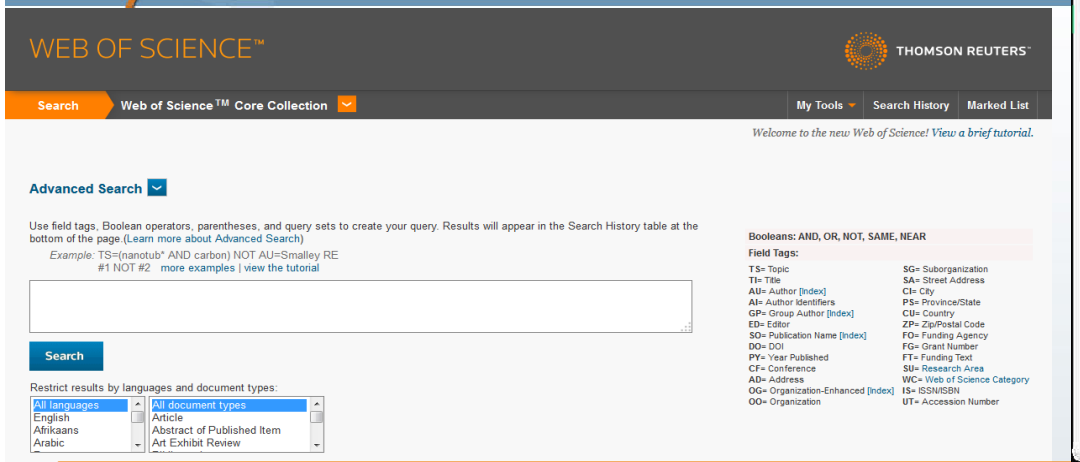
New Survey

Profil *Biodiversity + Climate change* developed
Europe: +13 countries
Only Articles, Reviews

Recover and refine: Mapping world/biregional networks, Disciplines
New outputs: Fundings, Organizations

New database survey (in progress)

METHODOLOGY



Booleans: AND, OR, NOT, SAME, NEAR

Field Tags:

TS= Topic
TI= Title
AU= Author [Index]
AI= Author Identifiers
GP= Group Author [Index]
ED= Editor
SO= Publication Name [Index]
DO= DOI
PY= Year Published
CF= Conference
AD= Address
OG= Organization-Enhanced [Index]
OO= Organization
SG= Suborganization
SA= Street Address
CI= City
PS= Province/State
CU= Country
ZP= Zip/Postal Code
FO= Funding Agency
FG= Grant Number
FT= Funding Text
SU= Research Area
WC= Web of Science Category
IS= ISSN/ISBN
UT= Accession Number

Recovery of previous analysis from Web of Science database

- ***Countries:*** Community of Latin American and Caribbean States (LAC) and European Research Area (ERA), defined by ZSI.
- ***Co-Affiliation*** => Cooperation
- ***Period:*** 2003-2013
- ***Documents Types:*** Articles, Review
- ***Thematic criteria:*** keywords defining Biodiversity and Climate Change
- ***Network mapping tool:*** Gephi

METHODOLOGY

Biodiversity keywords

- biodivers*
- Biological diversity
- species richness
- species diversity
- taxonom*
- phylogen*
- animal diversity
- mammal diversity
- bird diversity
- fish diversity
- reptile diversity
- amphibian diversity
- frog diversity
- insect* diversity
- plant diversity
- weed diversity
- microbial diversity
- bacteria* diversity
- fung* diversity
- virus diversity
- ecosystem diversity
- habitat diversity
- landscape diversity
- biological conservation
- species conservation
- habitat conservation
- genetic resource*
- functional diversity
- functional trait*
- invasive species
- biological invasion*
- functional type
- functional group

Climate Change keywords

- Climat* chang*
- Global warming
- Global chang*
- Climat* variab*
- Environment* chang*
- Climat* warming
- Extreme event*

METHODOLOGY

LAC countries

- Antigua & Barbados
- Costa Rica
- Grenada
- Mexico
- St Lucia
- Belize
- Cuba
- Guatemala
- Nicaragua
- St Vincent
- Bolivia
- Dominica
- Guyana
- Panama
- Surinam
- Uruguay
- Venezuela
- Brazil
- Dominican Rep
- Haiti
- Paraguay
- Trinidzd & Tobago
- Argentina
- Chile
- Ecuador
- Honduras
- Peru
- Bahamas
- Colombia
- El Salvador
- Jamaica
- St Kitts & Nevi
- Barbados

METHODOLOGY

ERA countries

EU

- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- United Kingdom

+ ERA partners FP7

- **Norway**
- **Switzerland**
- Turkey
- Serbia
- Croatia
- Israel
- Iceland
- Liechtenstein
- Macedonia
- Albania
- Montenegro
- Bosnia
- Faroe Islands
- Moldova
- Greenland

RESULTS – Biodiversity and Climate Change

Previous Criteria

Biodiversity / Climate Change (4 keywords)
EU (28 countries + Norway) + LAC (32 countries)
All documents types

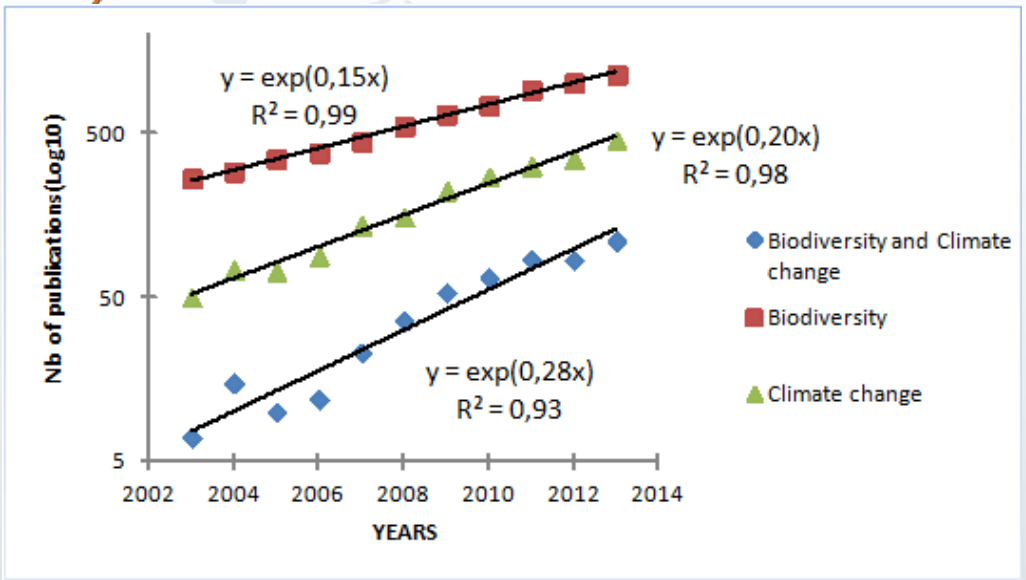
411 Publications

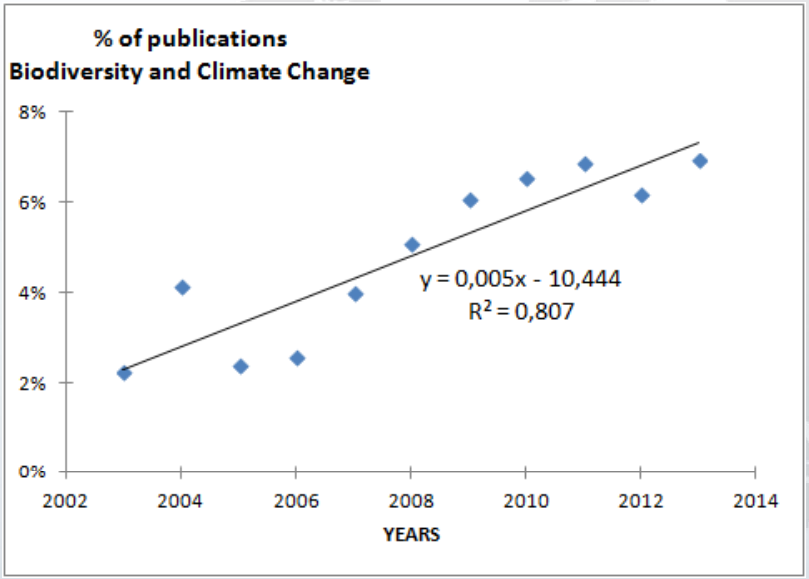
New Criteria

Profil BiodivERsA (32 keywords) + *Climate change* (8 keywords)
ERA (42 countries) + LAC (33 countries)
Only Articles, Reviews

500 Publications

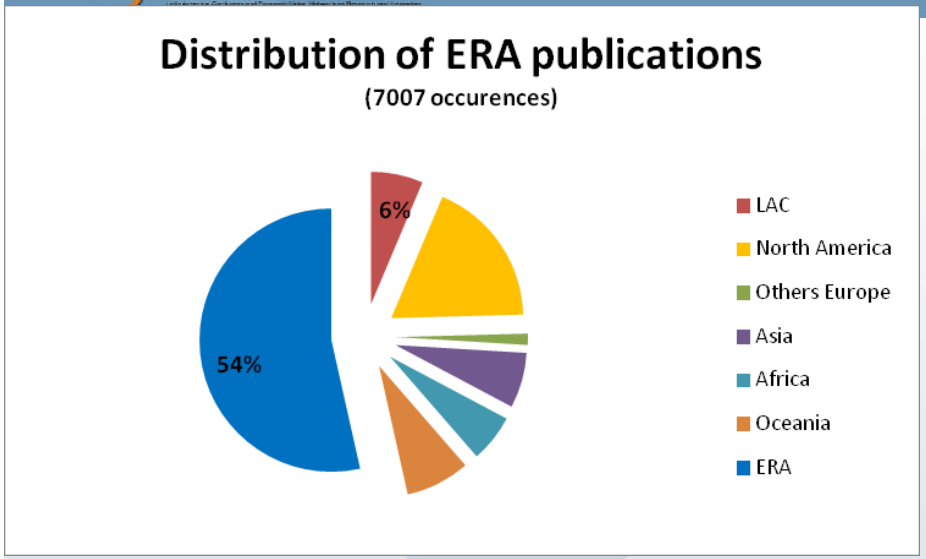
RESULTS – Biodiversity and Climate Change

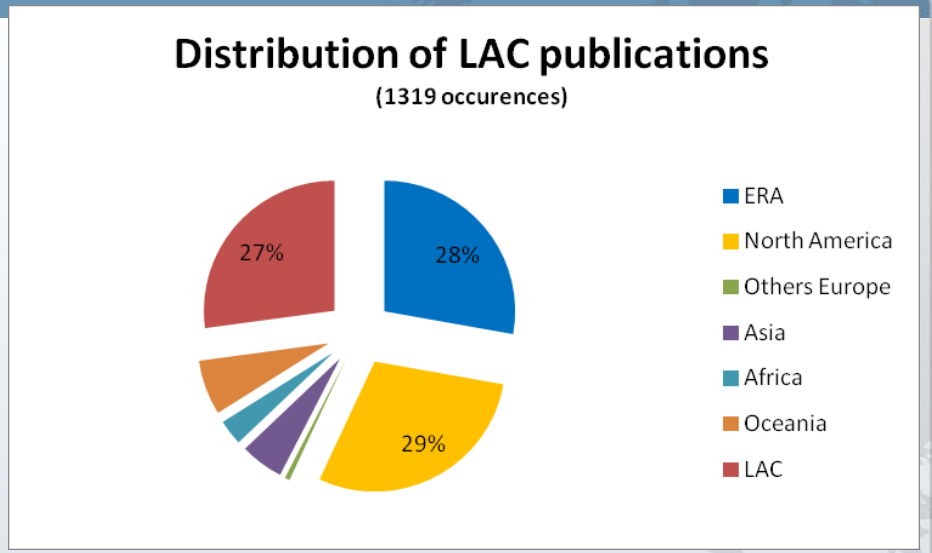


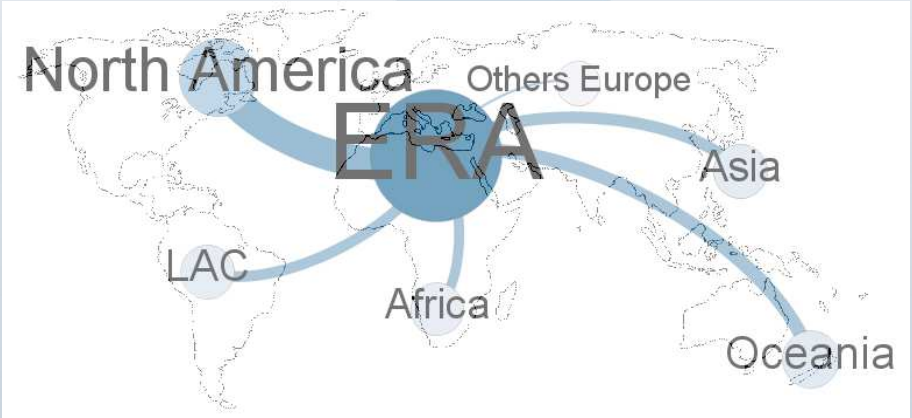


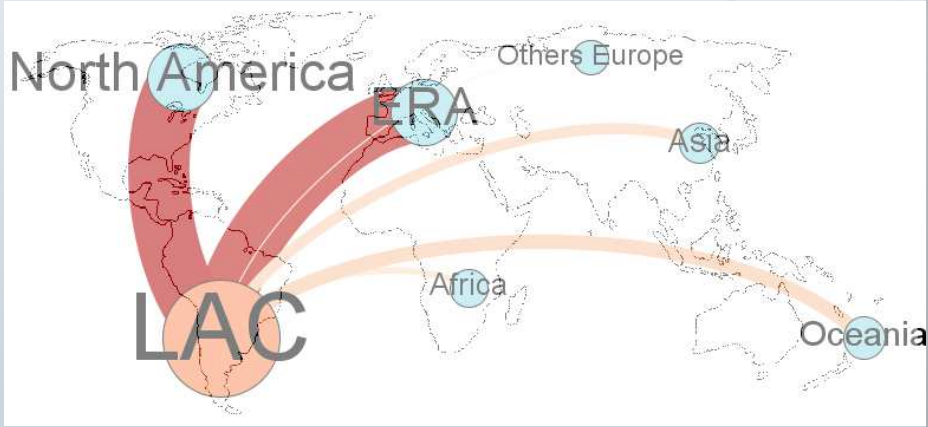
- Independent publication trend
- Increasing part of Biodiversity and Climate Change *from 2% to 6% over the past decade*

RESULTS – Inter-continental collaborations







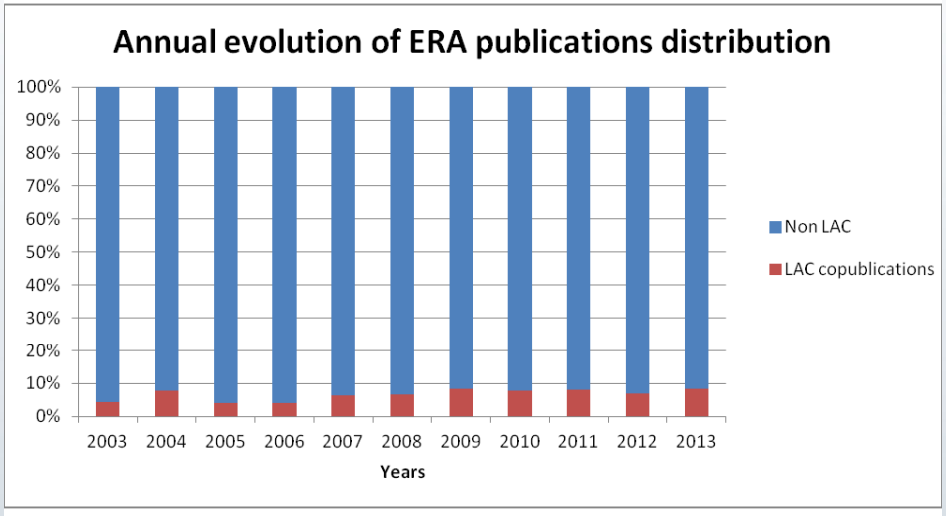


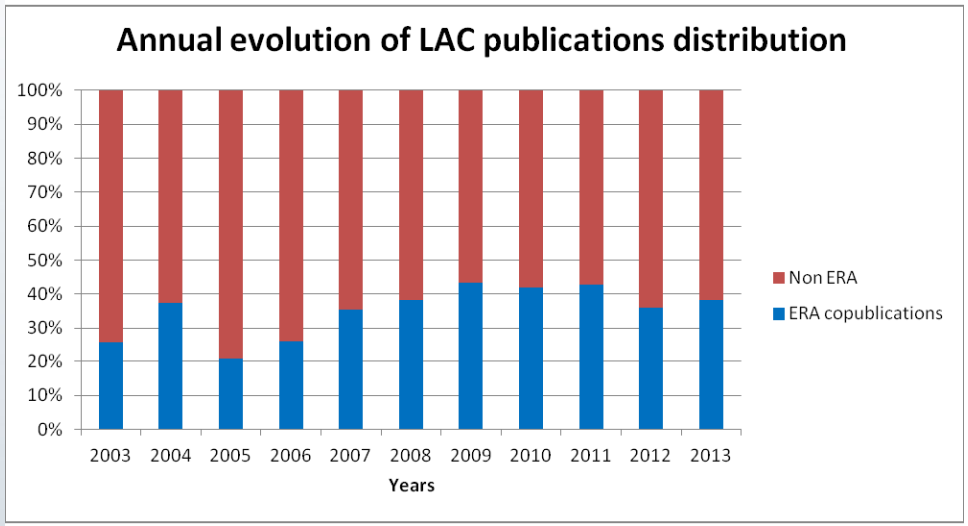
- LAC ~ Asia ~ Africa ~ Oceania
- Mainly ERA-ERA

- LAC ~ ERA ~ North America

RESULTS – Inter-continental collaborations

Percentage of ERA-LAC copublications



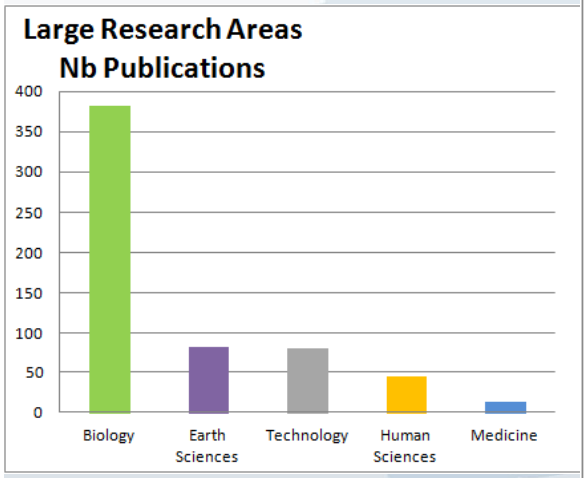


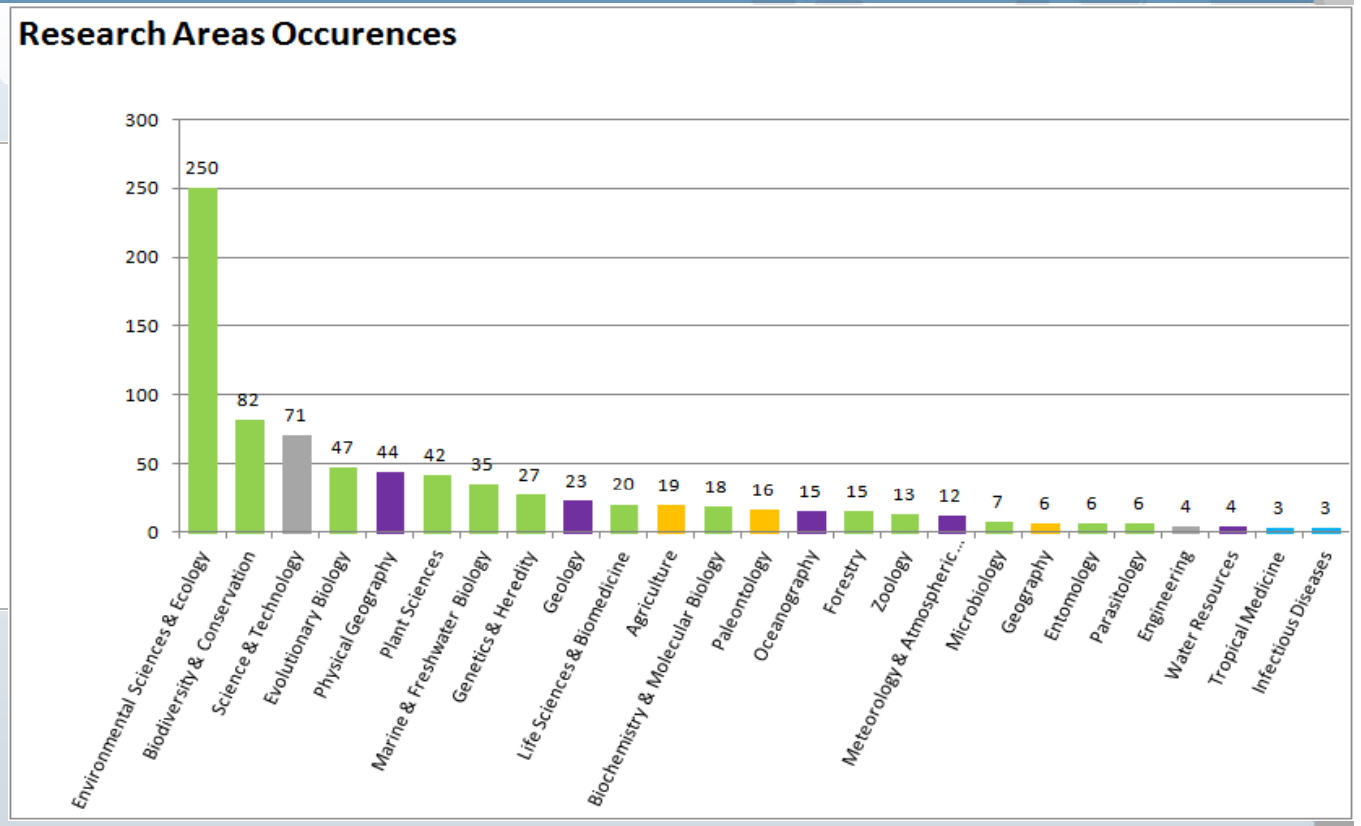
- LAC share in ERA publications ≈ 7%

- Since 2009
  ERA share in LAC publications ≈ 38%

~ Stable proportions for both regions over 2003-2013

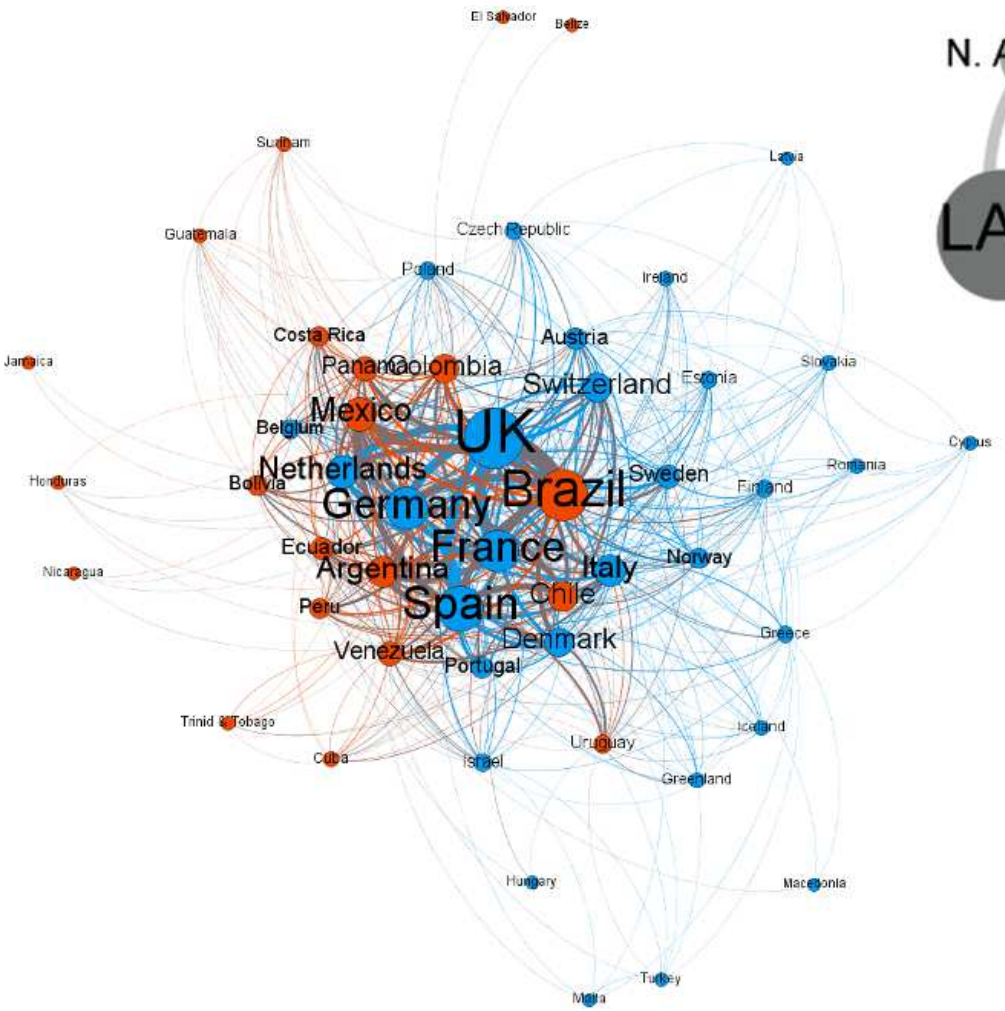
RESULTS – Disciplines

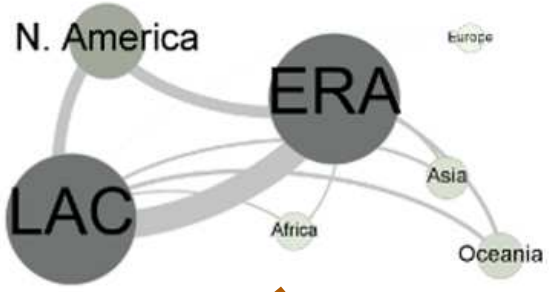




Biology (including mainly Environmental Sciences & Ecology) secondly *Earth Sciences*

RESULTS – ERA-LAC Network mapping

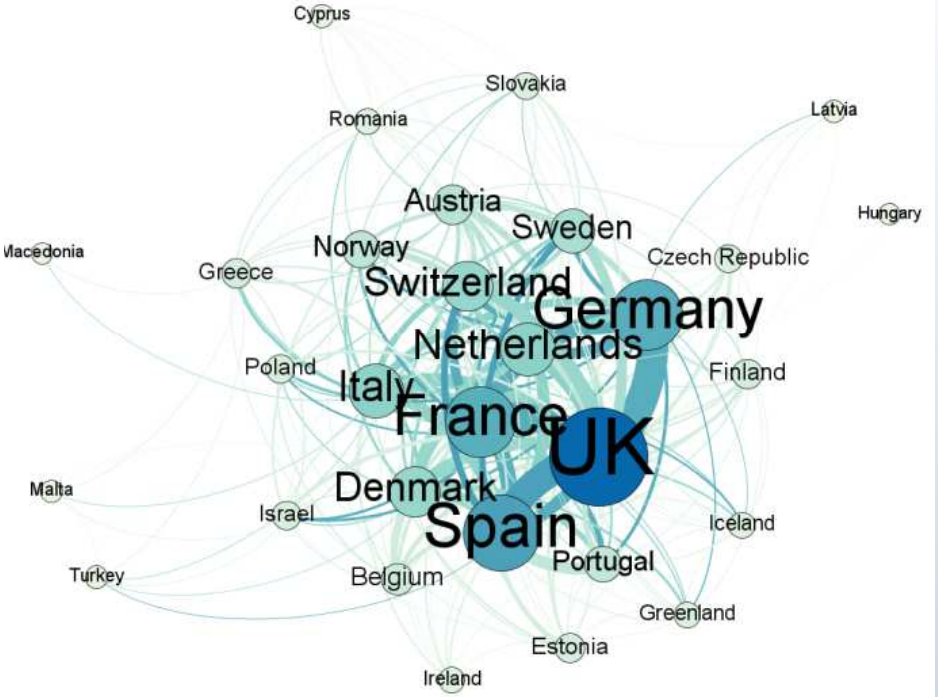


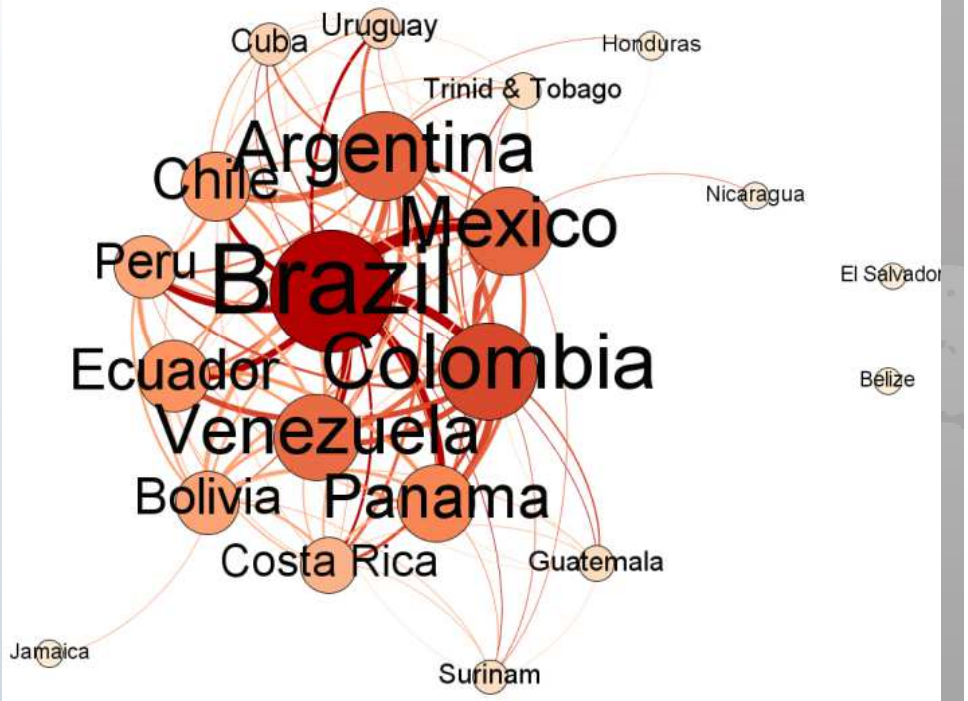


North America involved in 50%

- Well interconnected, 573 links
- Main roles: UK, Brazil, Mexico, Spain, Germany and France

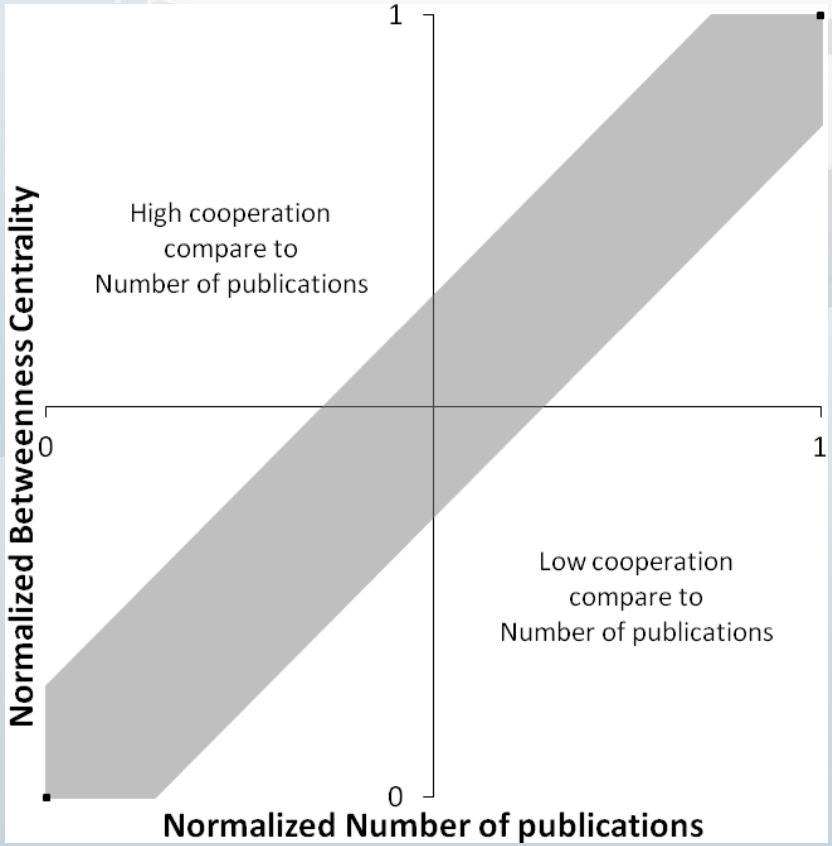
RESULTS – ERA-LAC Network mapping





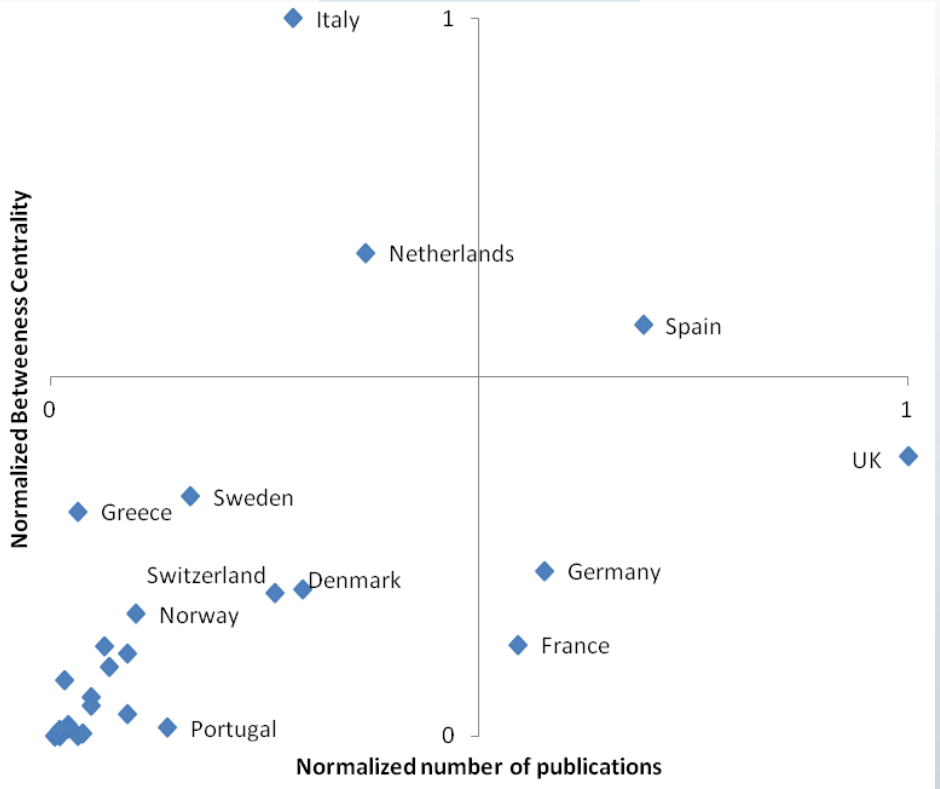
RESULTS – ERA-LAC Network mapping

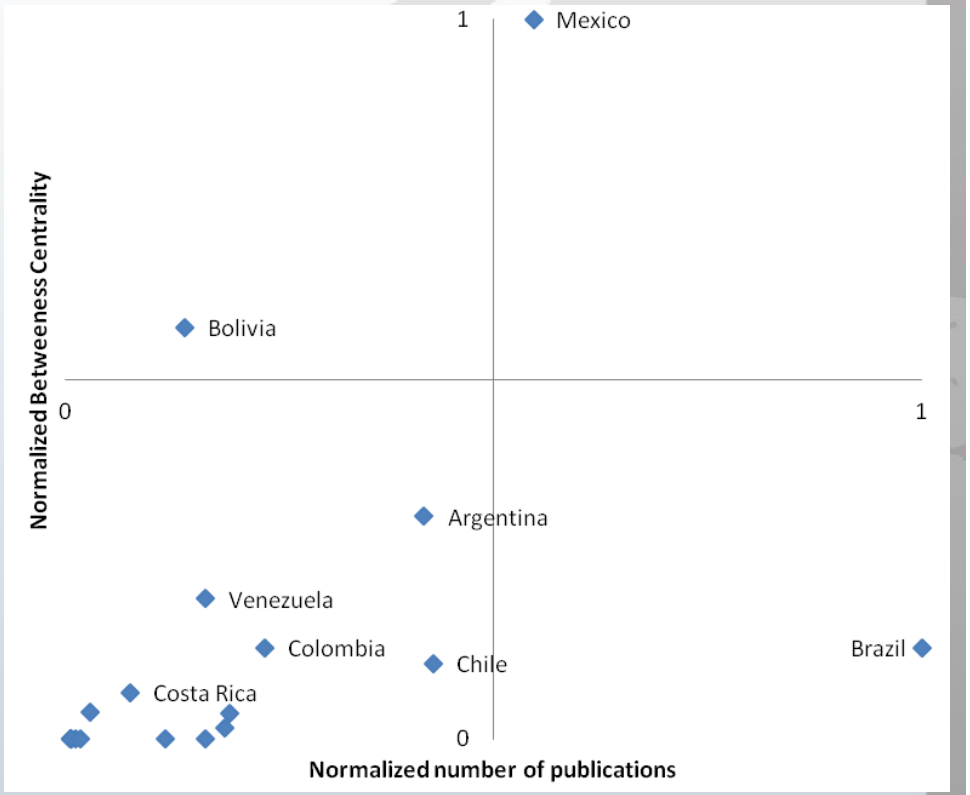
Betweeness Centrality



RESULTS – ERA-LAC Network mapping

Betweeness Centrality





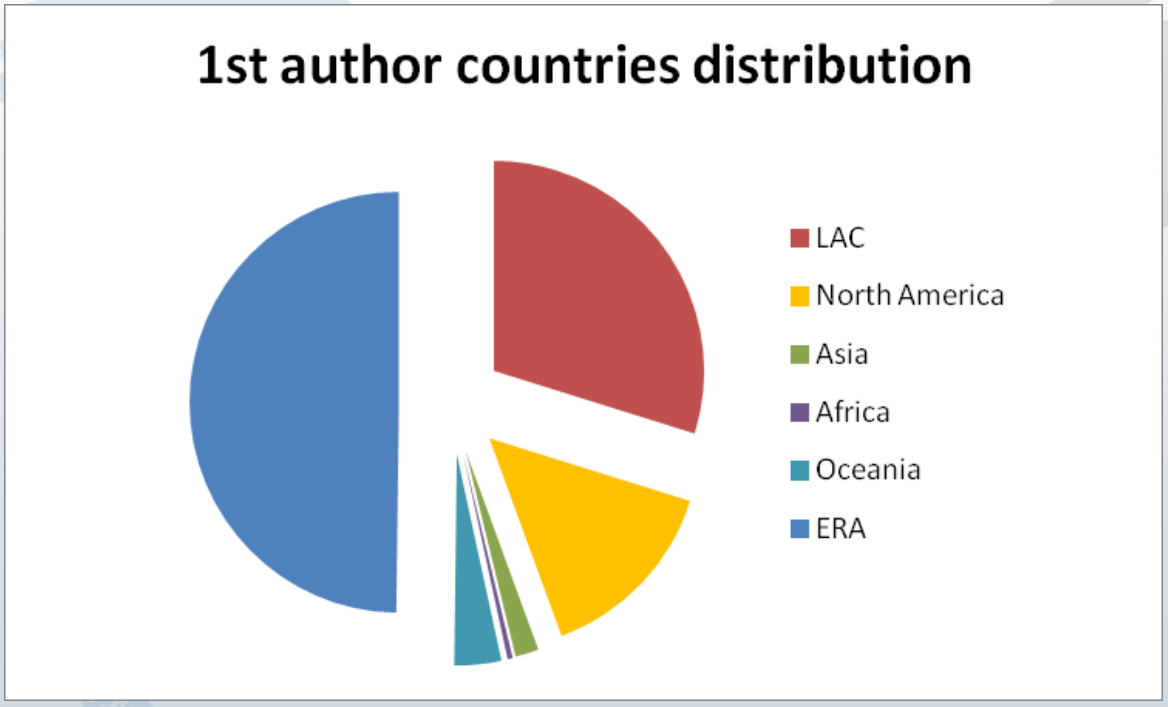
Bridge role:

Italy and Mexico promote inter-regional collaborations

Brazil and UK publish a lot

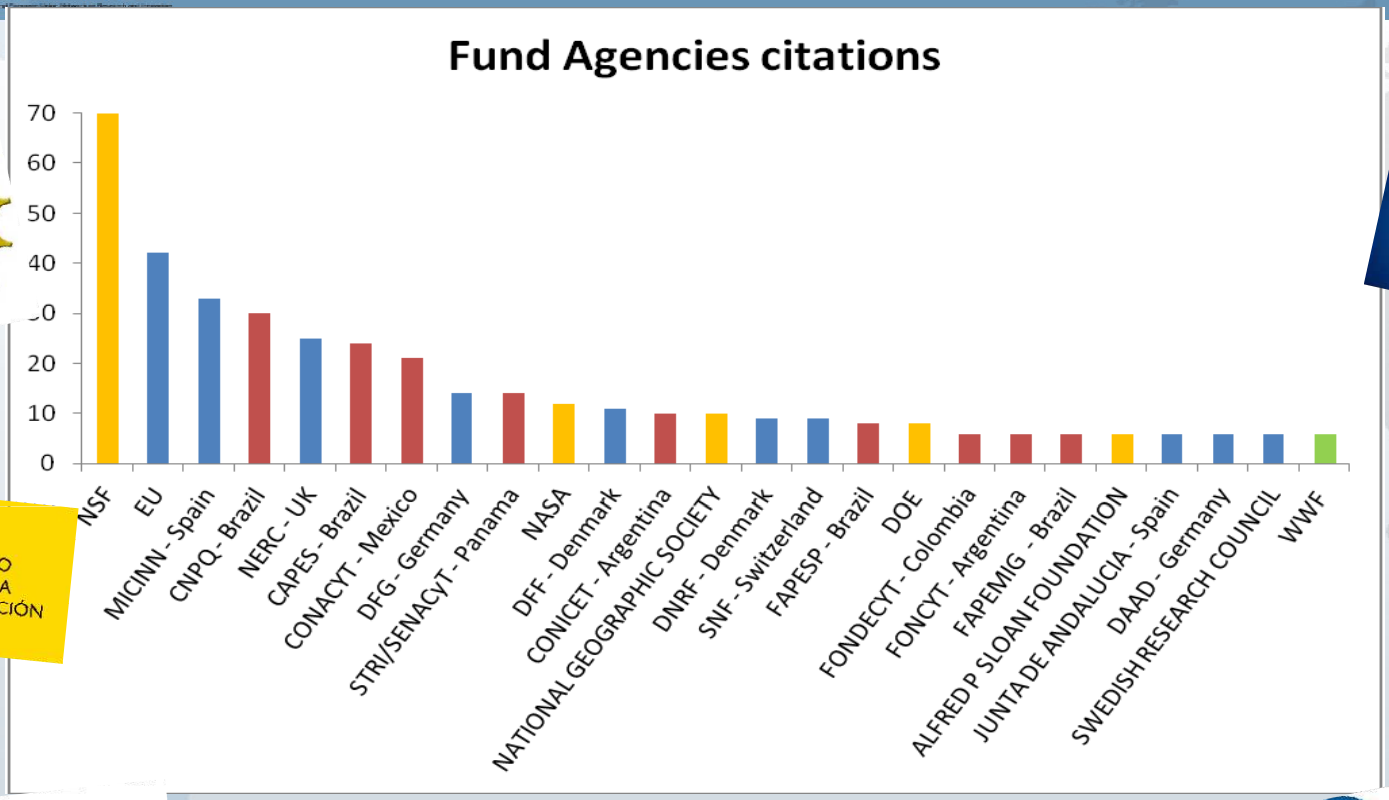
RESULTS – ERA-LAC Network mapping

Main author origins



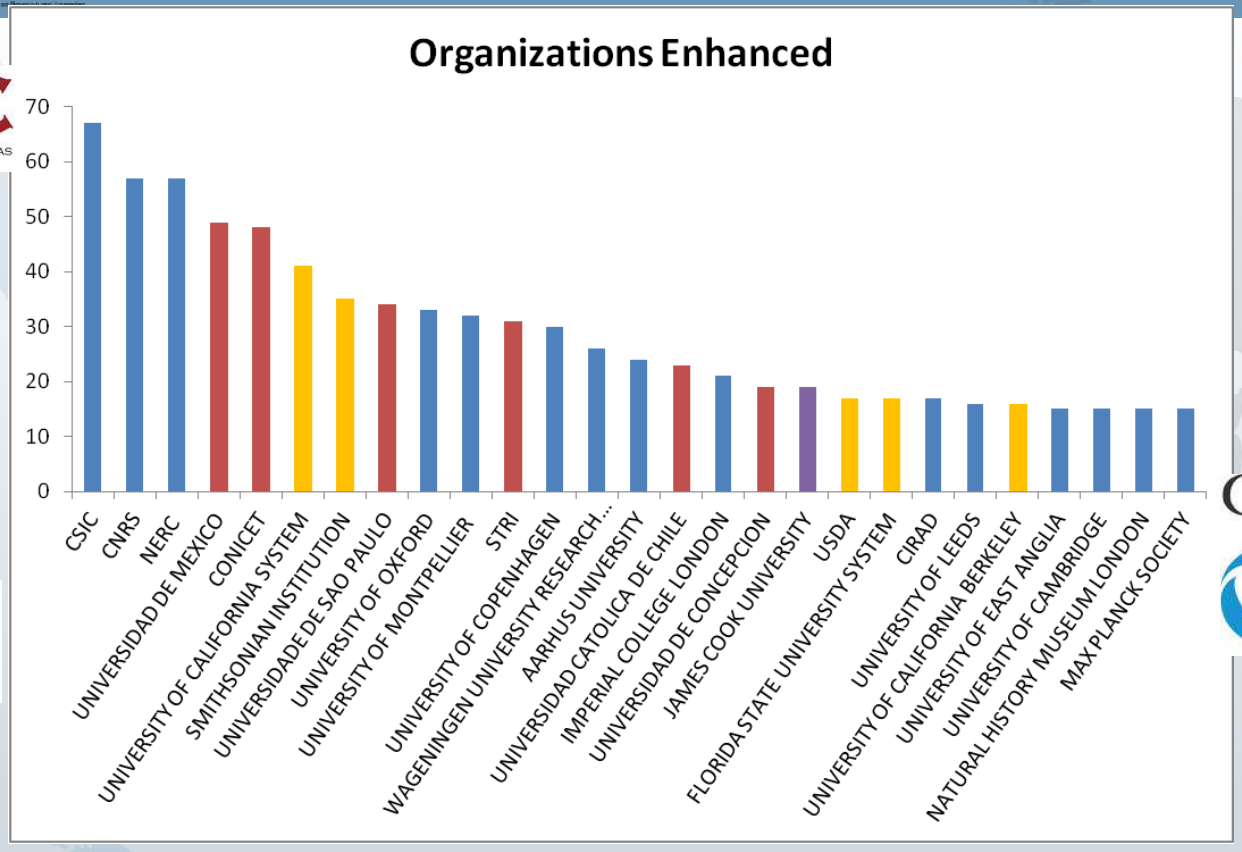
- 1/2 initiated from ERA
- 1/3 initiated from LAC
- 16% initiated from North America

RESULTS – ERA-LAC Fundings



- US NSF prevails
- CNPQ (Brazil): 1st LAC funding source
- Bias from acknowledgement

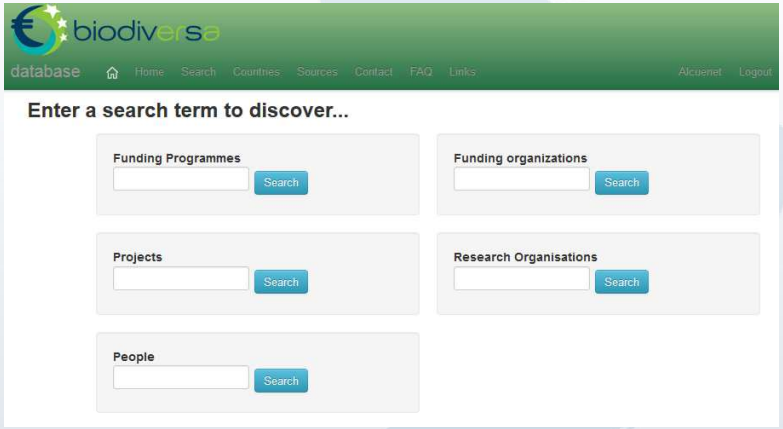
RESULTS – ERA-LAC Organizations Landscape

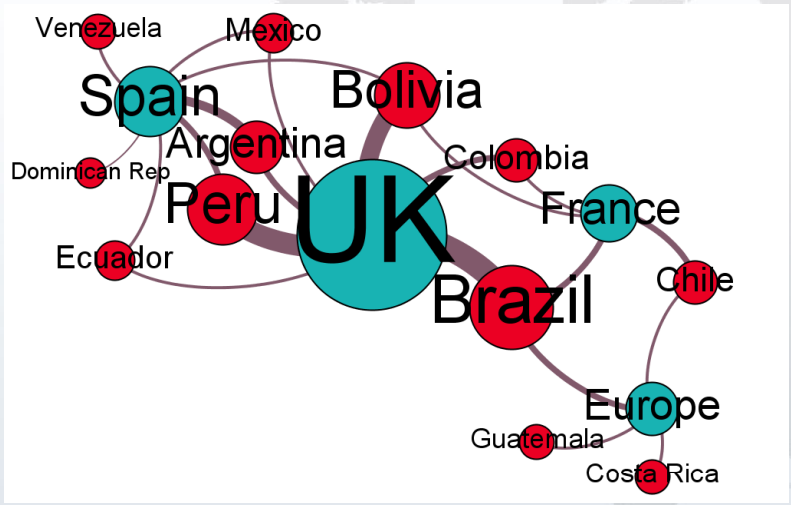


- ERA: CSIC (Spain) / CNRS (France) / NERC institutes (UK)
- LAC: Mexico Univ / Conicet (Argentina)

PERSPECTIVES – BiodivERsA Database

http://www.biodiversa.org





- 31 projects EU-LAC
- 5 main funding sources and programs

Funding Sources	ANR	NERC	MINECO	EU	FRB	BiodivERsA
Funding Programs	Biodiversité	ESPA	CGL - Earth&Global change, subprog Biodiv	FP7-Environment	6th extinction	Biodiversa calls

CONCLUSION

- WoS relevant to depict ERA-LAC scientific cooperation
- Biodiversity and Climate Change: a growing multidisciplinary topic dominated by Biological Sciences
- Interconnected network with visible leaderships and less visible intra-regional cooperation enhancers

NEXT STEPS

Progress to identify EULAC Projects / Programs
Use other database (Biodiversa…)
Feedback from partners via Questionnary
Network dynamic
Compare to each network Biodiversity and Climate separately

Thank you

ALCUE NET

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