

**PACE-NET Plus Platform  
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# **Bibliometrics to support State of the Art analyses on Pacific-EU Cooperation**



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***Data source:***

**Scopus Custom Data 1996-2013 (Partial Year)**

## Key messages

- Pacific Islands Countries and Territories (PICT) publication numbers are small but growing
- There is significant EU-Pacific collaboration potential in the three societal challenge areas studied
- Multi-lateral co-publications (e.g. with Australia/NZ) typically receive greater citations than bi-lateral EU-PICT ones
- Greater quality EU-Pacific collaboration building can likely be most easily supported by connecting with ‘broker’ countries, e.g. France, Australia, UK, New Zealand & USA

## Introduction to bibliometrics

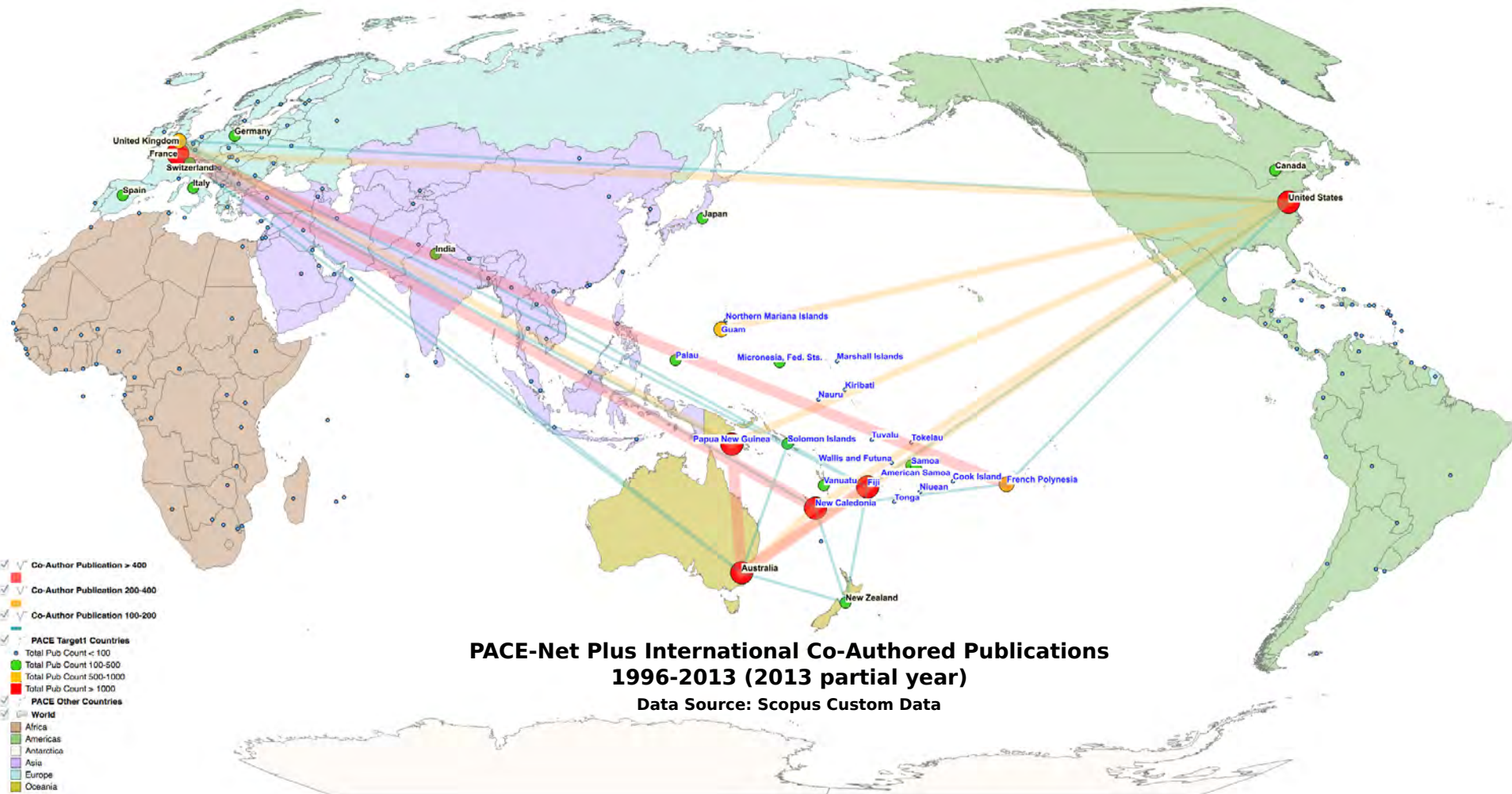
- Data mining and statistics based on scientific publications
- Why bibliometrics for Pacific-EU ST&I cooperation?
  - Complementary analyses to questionnaires and surveys
  - Provides one ‘objective’ measure of existing collaboration volumes based on a specific set of publications (here from the Scopus database)
  - Can also provide insights into collaboration patterns (e.g. geographical, temporal) and quality (i.e. through citations)
  - Supporting science and innovation policy-making



## Methodology

- Stage 1: focus on publications with PICT co-authors
  - Direct extraction of publications with a PICT author (*7341 records*)
  - Analysis of these publications and co-authoring patterns within them
  - Country and institutional level visualisations
  
- Stage 2: potential for EU collaboration
  - Expansion of data set to include Pacific-related publications with no PICT authors (*+4651 records*)
  - Topic modelling (MALLET) and matching to societal challenge areas
  - Extraction of EU + AUS/NZ publications on these topics (*1.4M rec*)
  - Country and institutional level volumetric analyses
  - Thematic/disciplinary analysis

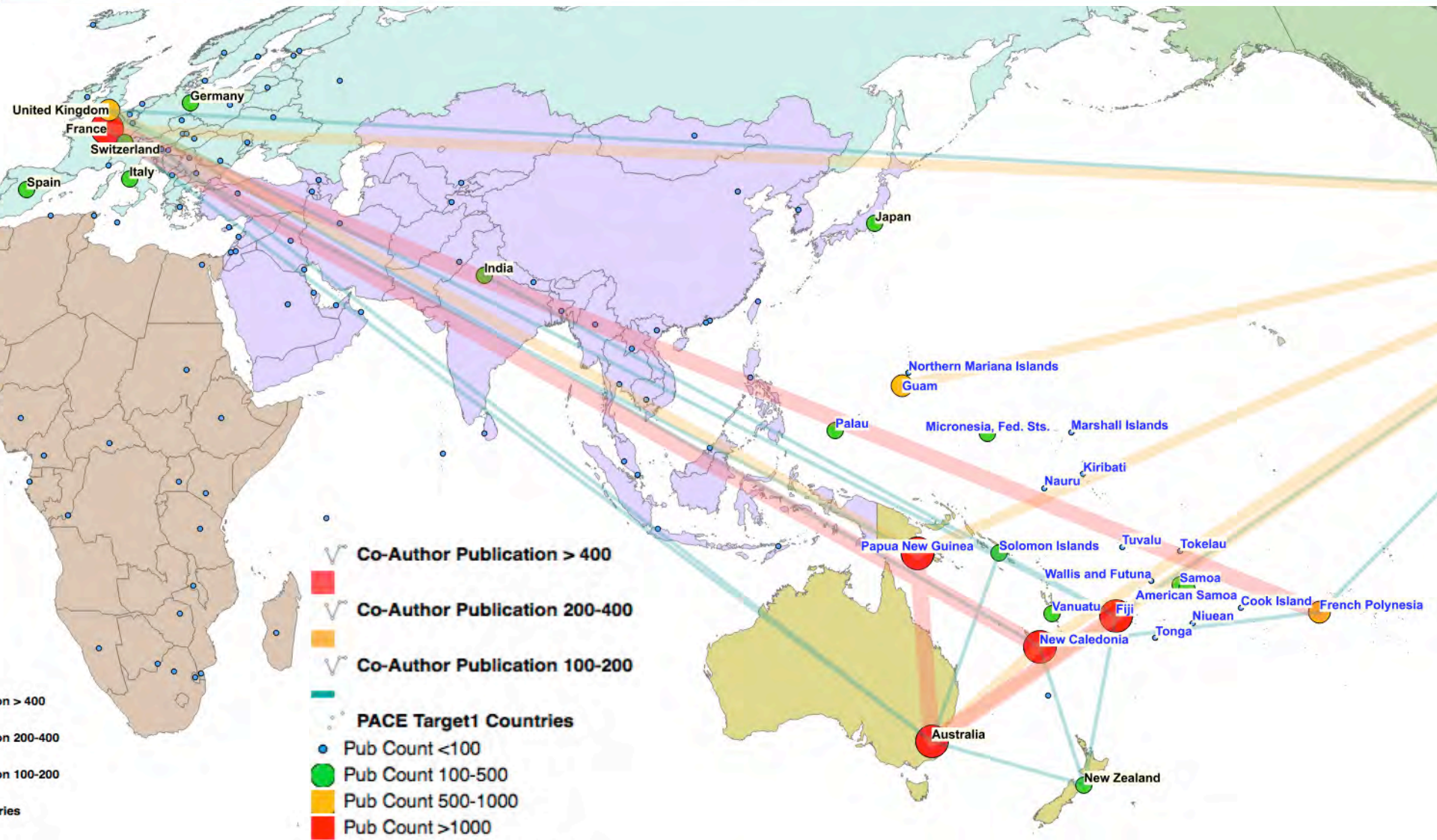
## Results







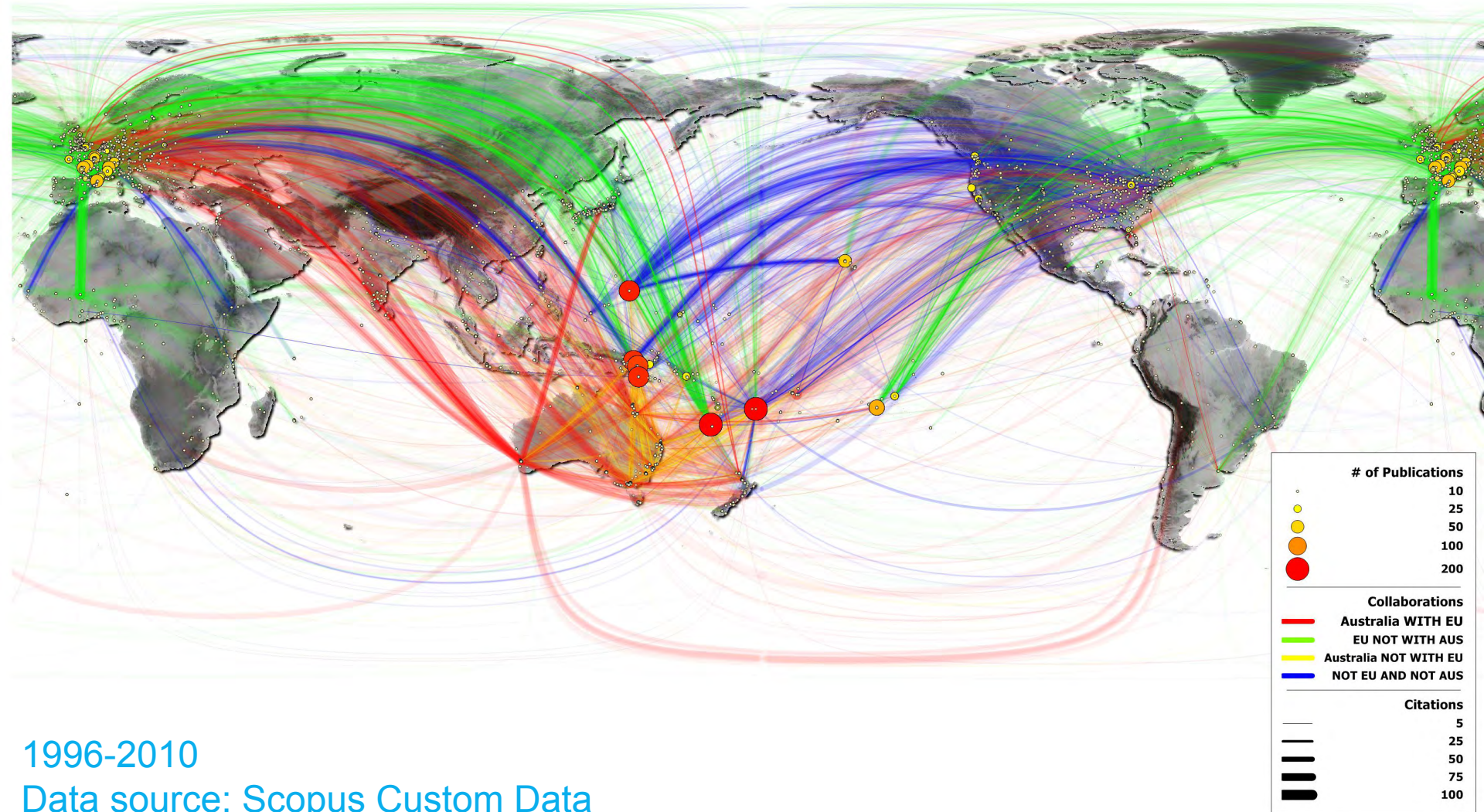
# Pacific publication volumes and co-authoring relationships



| Country          | Publication count |
|------------------|-------------------|
| Papua New Guinea | 1752              |
| Australia        | 1727              |
| New Caledonia    | 1600              |
| Fiji             | 1554              |
| USA              | 1542              |
| France           | 1387              |
| French Polynesia | 959               |
| Guam             | 612               |
| United Kingdom   | 566               |
| New Zealand      | 425               |

| Country 1        | Country 2        | Publication volume |
|------------------|------------------|--------------------|
| France           | New Caledonia    | 780                |
| Australia        | Papua New Guinea | 692                |
| France           | French Polynesia | 522                |
| Australia        | Fiji             | 457                |
| Papua New Guinea | USA              | 344                |
| Australia        | USA              | 318                |
| Guam             | USA              | 298                |
| Australia        | New Caledonia    | 258                |
| New Caledonia    | USA              | 257                |
| United Kingdom   | Papua New Guinea | 221                |
| France           | USA              | 212                |
| French Polynesia | USA              | 200                |

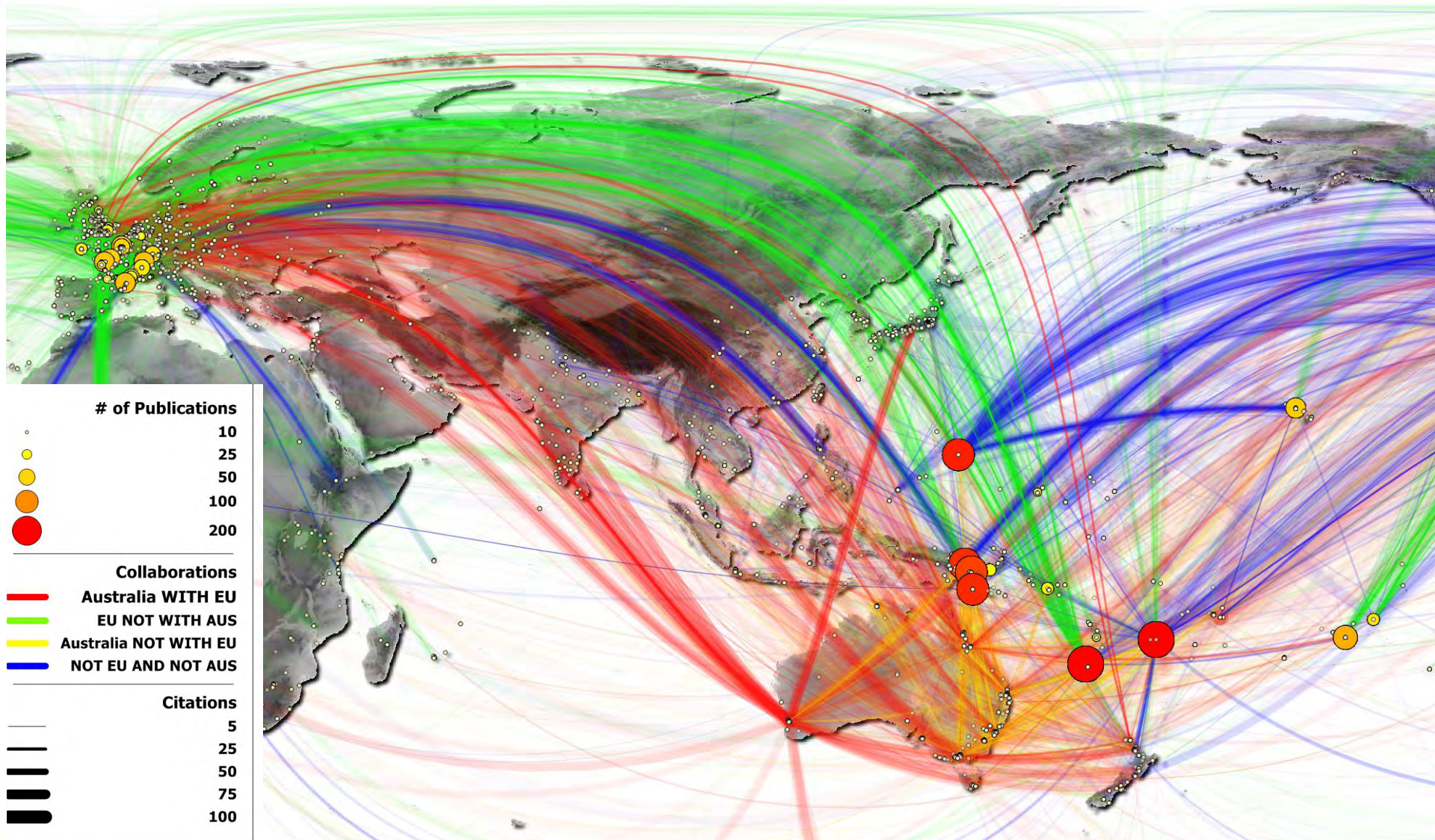




1996-2010

Data source: Scopus Custom Data



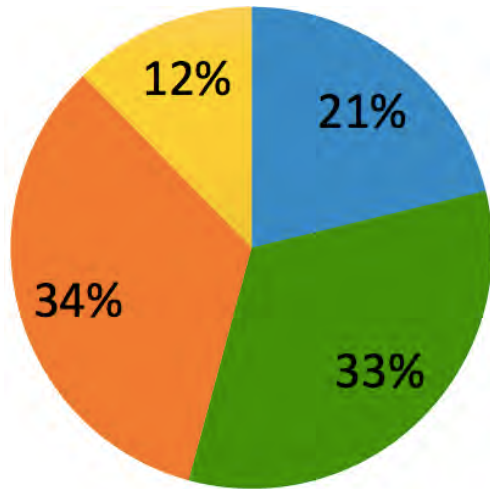


## Key Pacific publication set topics

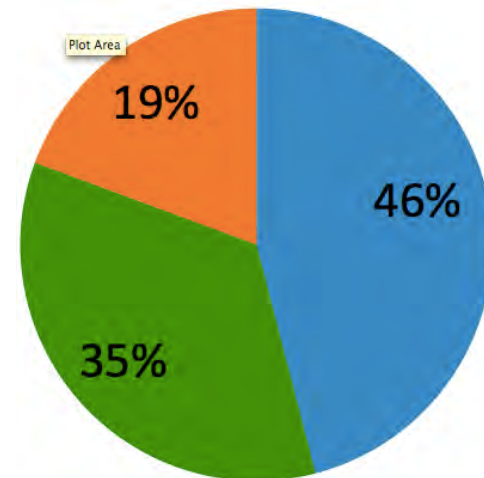
- Coral reef ecology
- Conservation management
- Diseases (including HIV) and public health
- Education and cultural knowledge
- Tropical forestry, agriculture and invasive species
- Community development and capacity building
- Populations and genetic diversity
- Fisheries and resource management
- Climate and oceanography
- Economic development, governance and public policy
- Energy (renewable)



- Challenge 1: health, demographic change and wellbeing
- Challenge 2: food security, sustainable agriculture, marine and maritime research and the bio-economy
- Challenge 5: climate action, the environment, resource efficiency, and raw materials
- Other



Pacific publications set

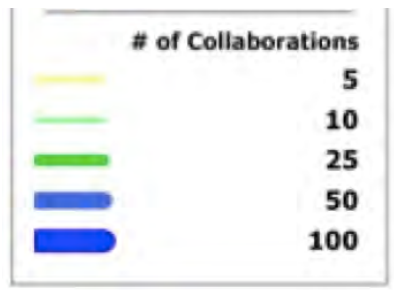
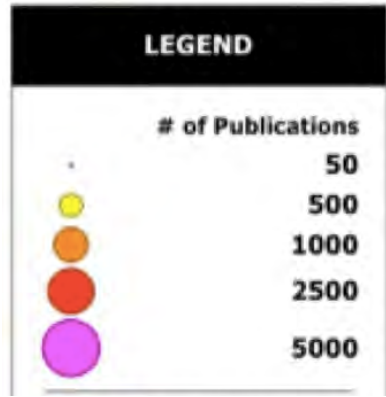
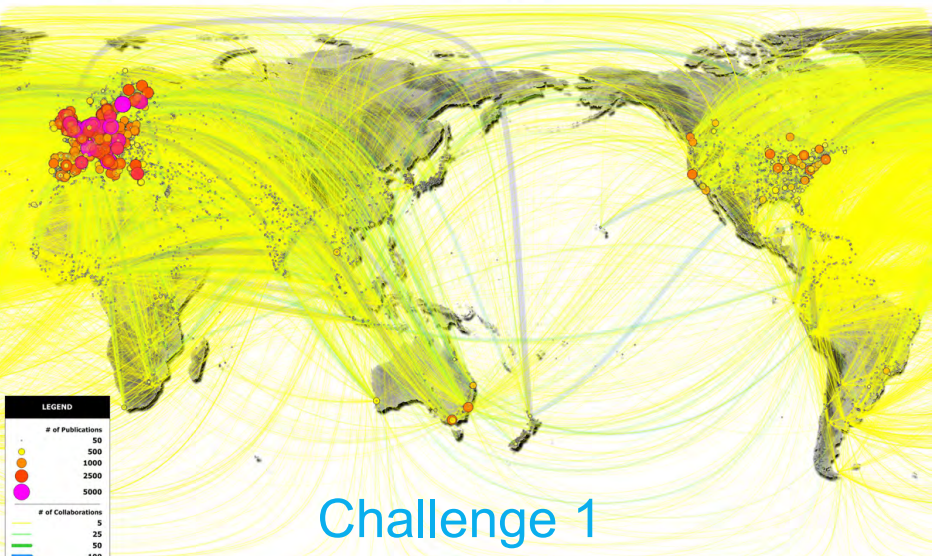


EU extracted publications



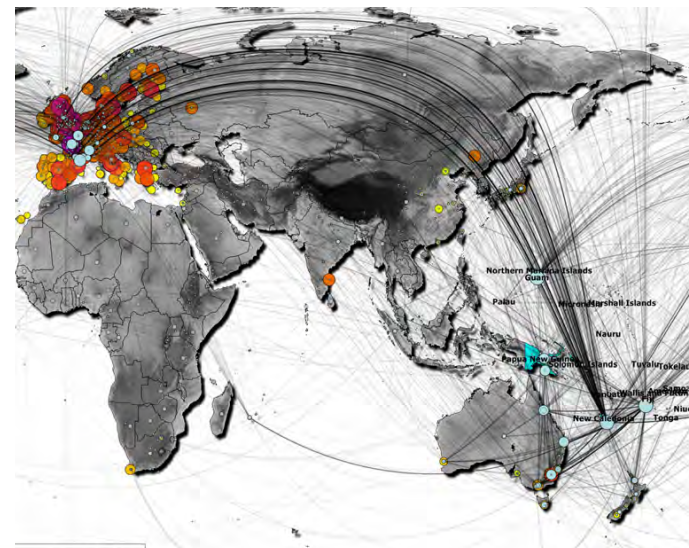
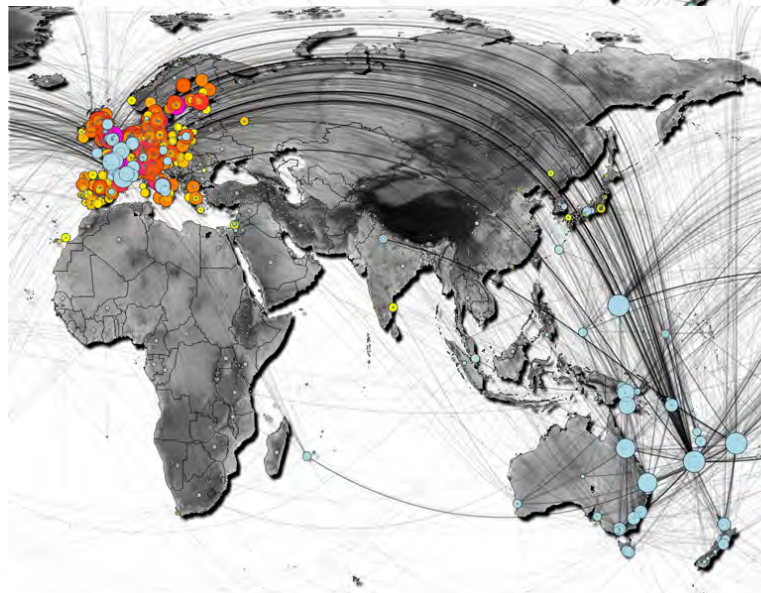
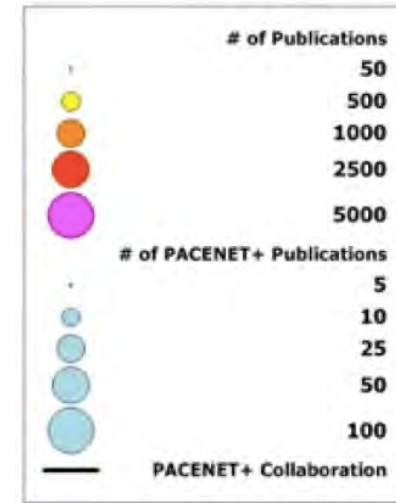
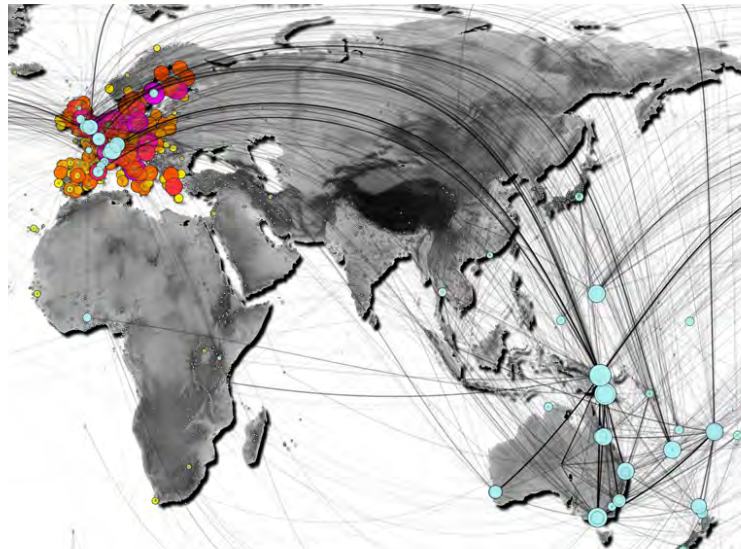


# Extracted publications and collaboration patterns

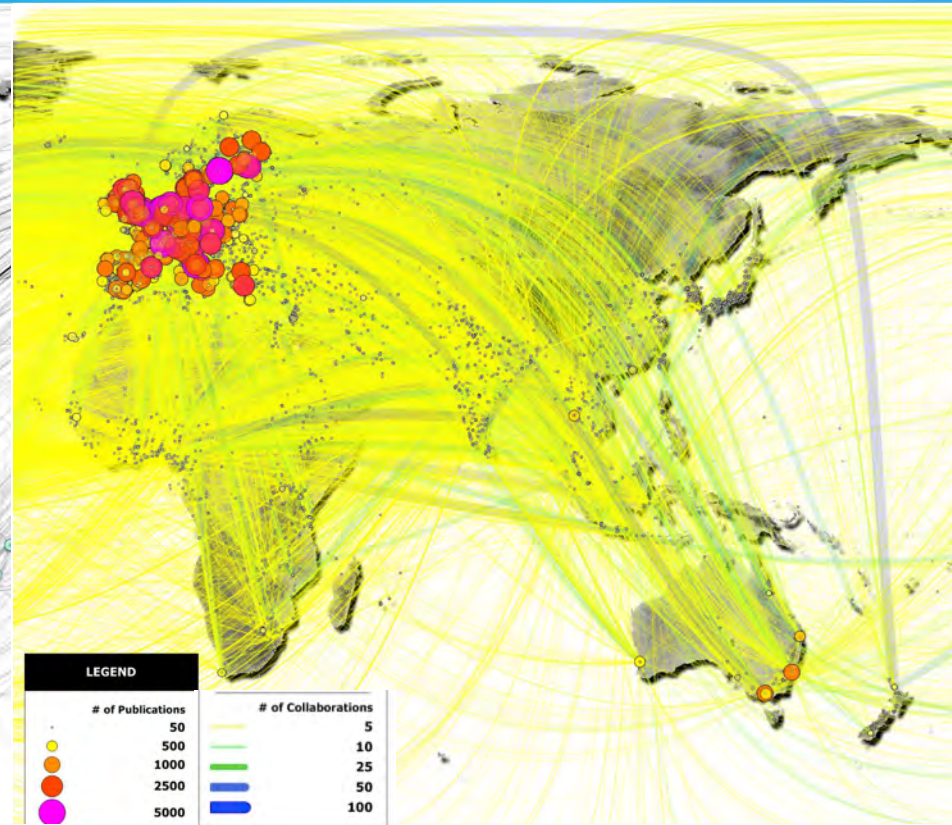
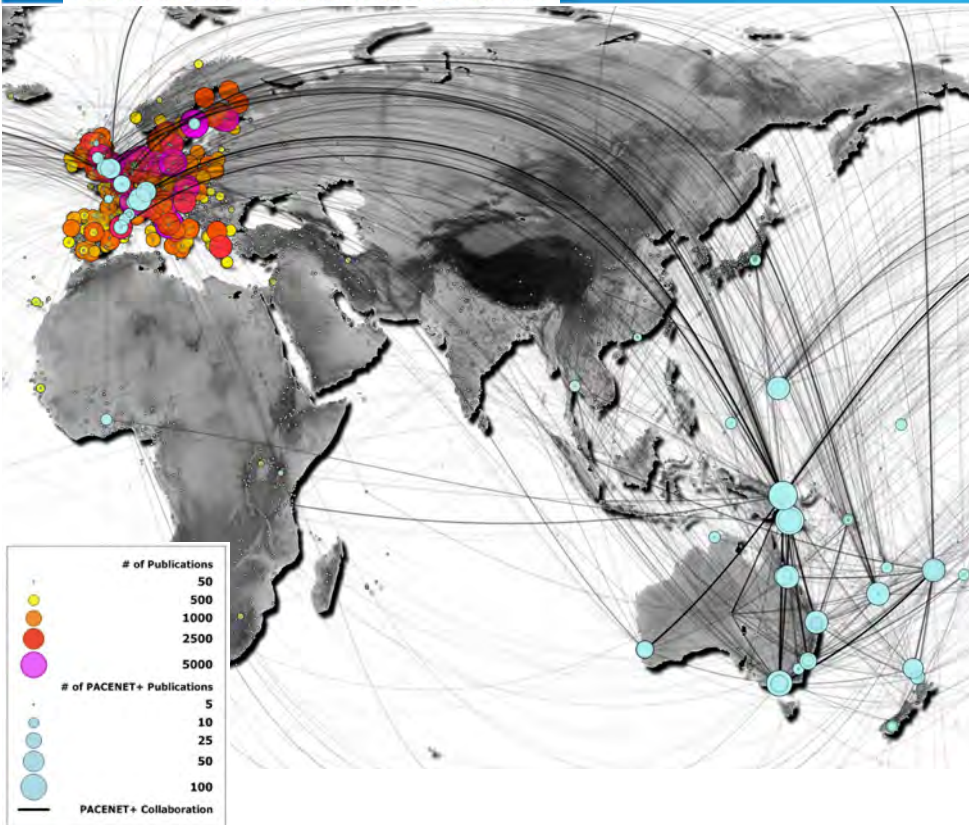




# Extracted publication overlaid with PICT collaboration patterns



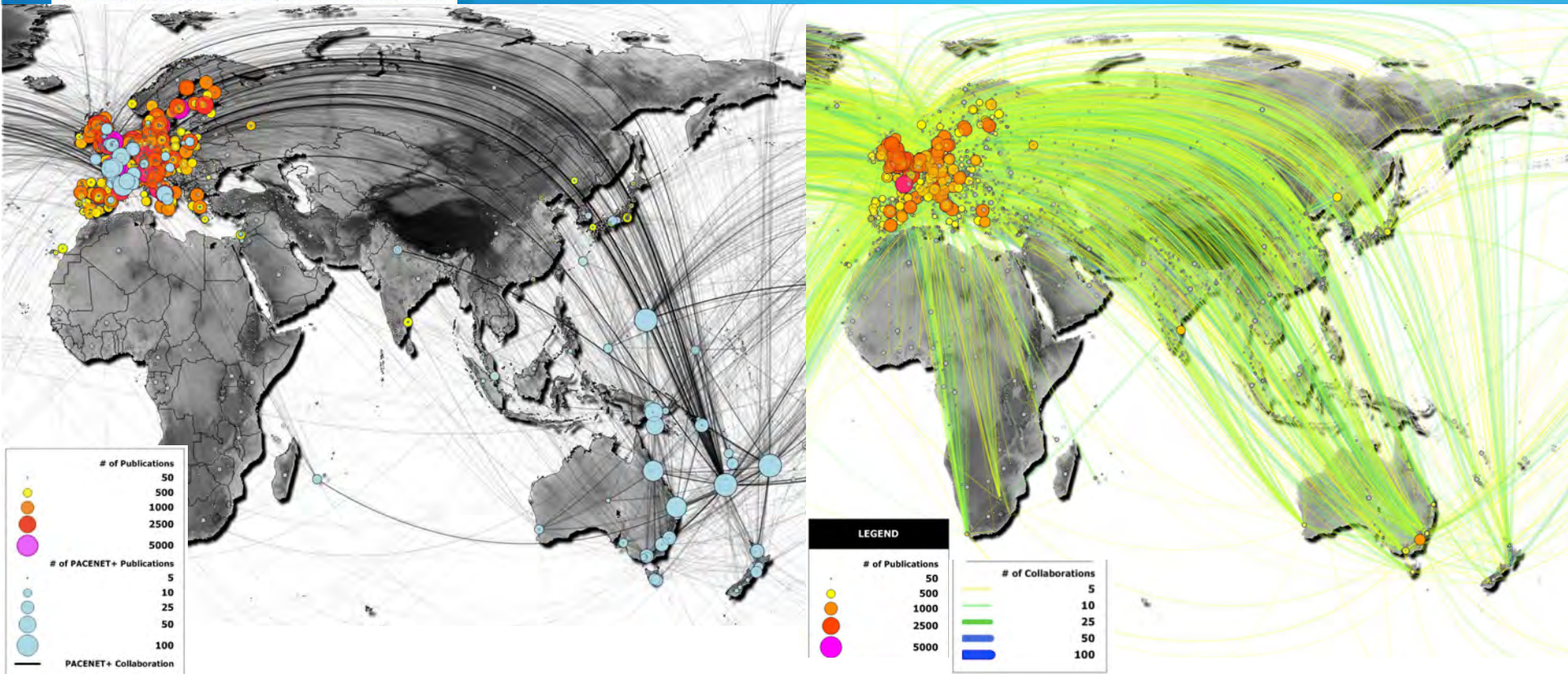




## Challenge 1: health, demographic change and wellbeing

- Largest volume of activity of 3 challenges (most in 'causes and mechanisms of health, healthy aging and disease' subtheme)
- Additional non-PICT collaboration with EU (e.g. Aus/NZ)

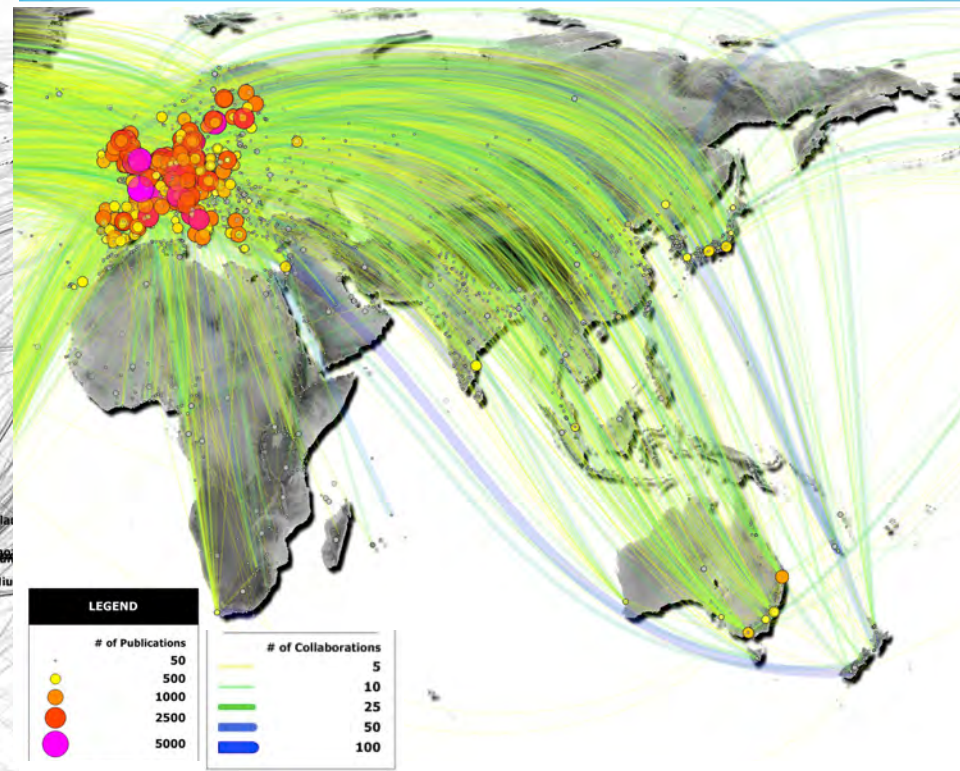
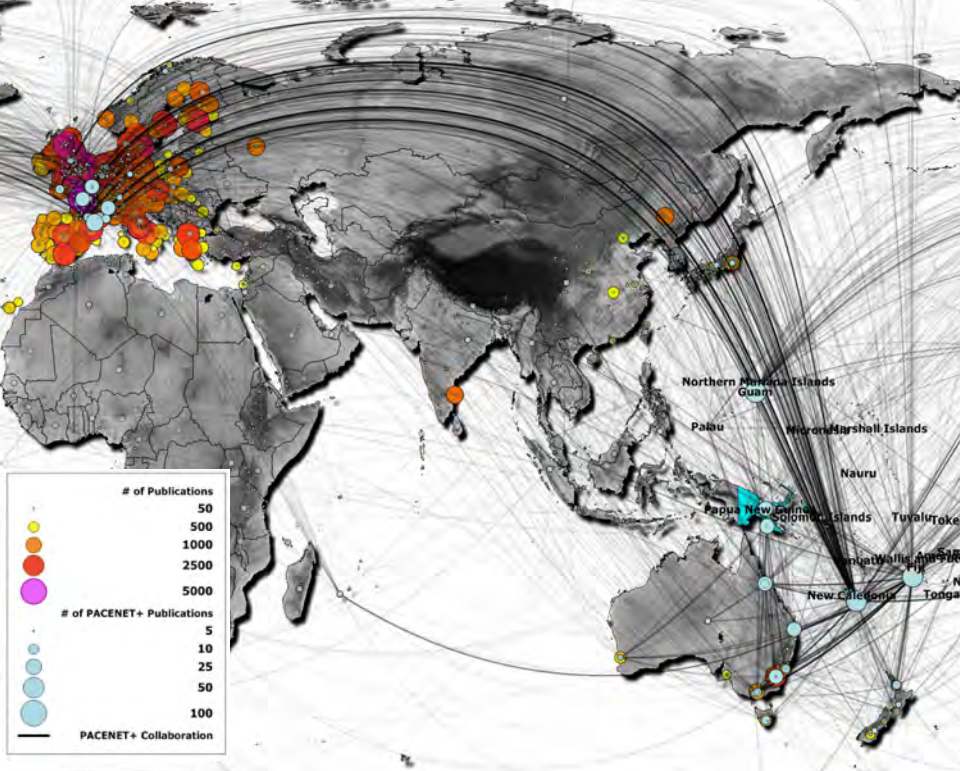




## Challenge 2: food security, sustainable agriculture, marine and maritime research and the bio-economy

- More diverse set of EU/Pacific partners (not as skewed to France/UK)
- Strongest foci on 'aquatic living resources and marine research' subtheme





## Challenge 5: climate action, the environment, resource efficiency, and raw materials

- Most French-centric theme but greatest relative Pacific expertise
- Strongest foci on ‘Developing comprehensive and sustained global environmental observation and information systems’ subtheme

## Bibliometrics study limitations and potential next steps

- Current study just seeks EU publications and possible collaboration linked to current PICT publishing expertise
  - biases are also introduced through the topic model selection and classification - sensitivity analyses could be undertaken
  - bias of Scopus database, e.g. no 'grey' literature
- More targeted EU searches based on key-word sets of relevance to both EU and Pacific ST&I could be undertaken
  - mirroring the work carried out for the Australian Chief Scientist
  - If so, could be a basis for additional strategic partnerships and capacity building in promising areas



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## Thank you from the PACE-NET Plus Consortium

