

**PACE-NET Plus Platform
of bi-regional policy dialogue
Brussels, 23-24 June 2016**

Bibliometrics to support State of the Art analyses on Pacific-EU Cooperation



**Dr Katherine Daniell
The Australian National University**

Data analyses:

Brett Cuthbertson, Dr Paul Wong, Dr Katherine Daniell (ANU)

Additional preparatory work contributors:

Dr Rado Faletić (Montroix Pty Ltd), PACE-NET Plus partners IRD, ZMT, LCR

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

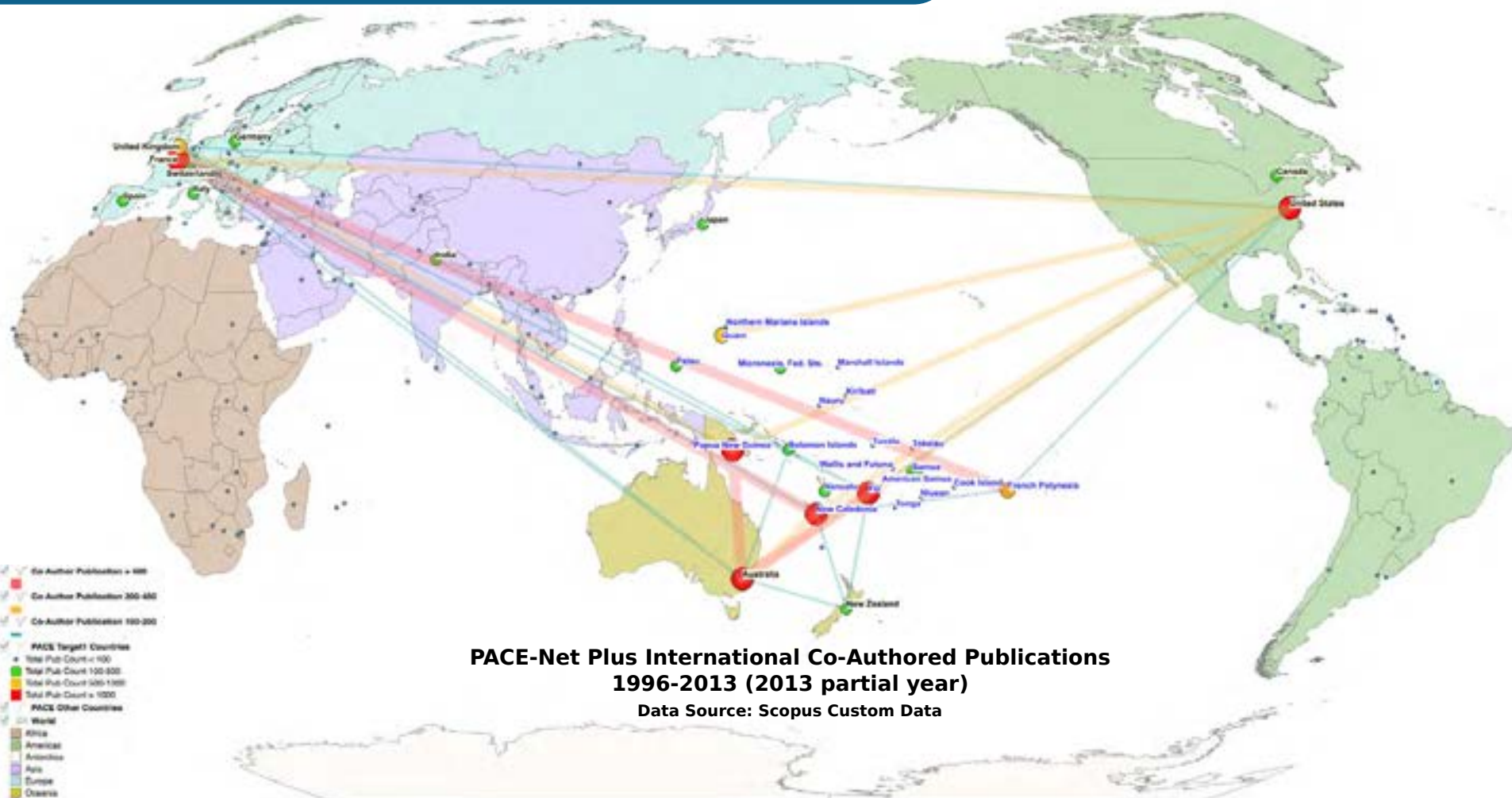
Introduction to bibliometrics

- 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

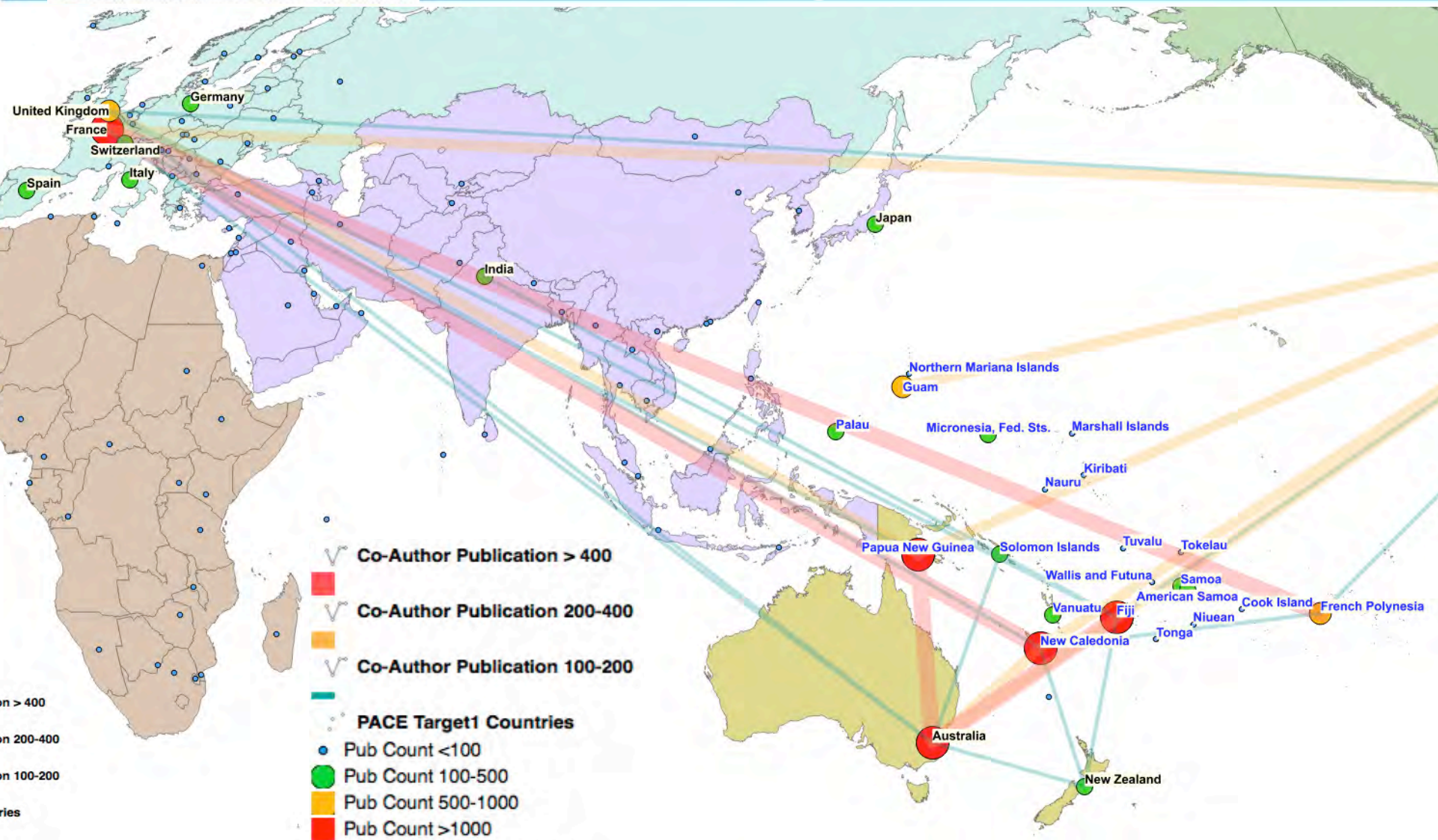
Methodology

- 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



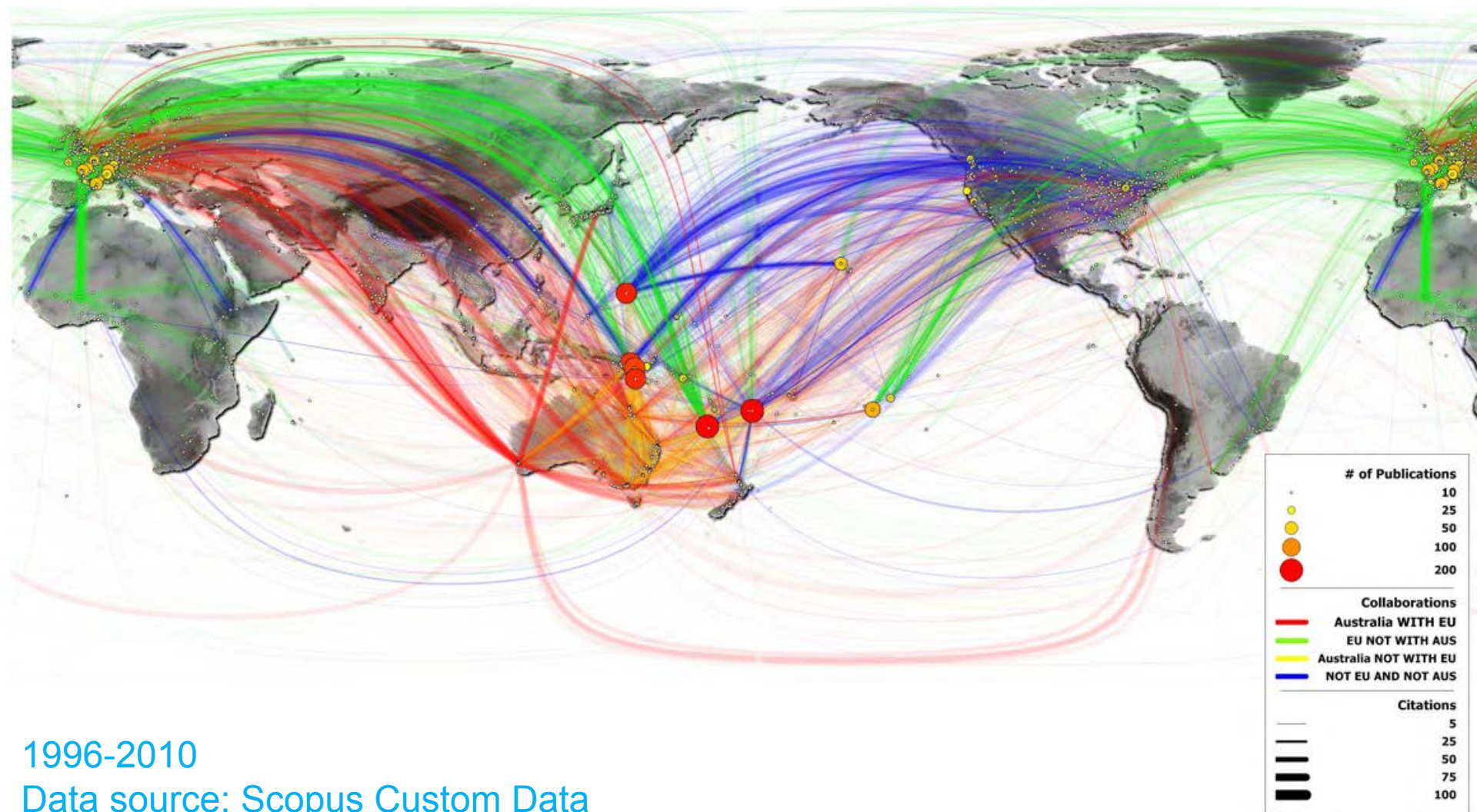
Pacific co-authored publications

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

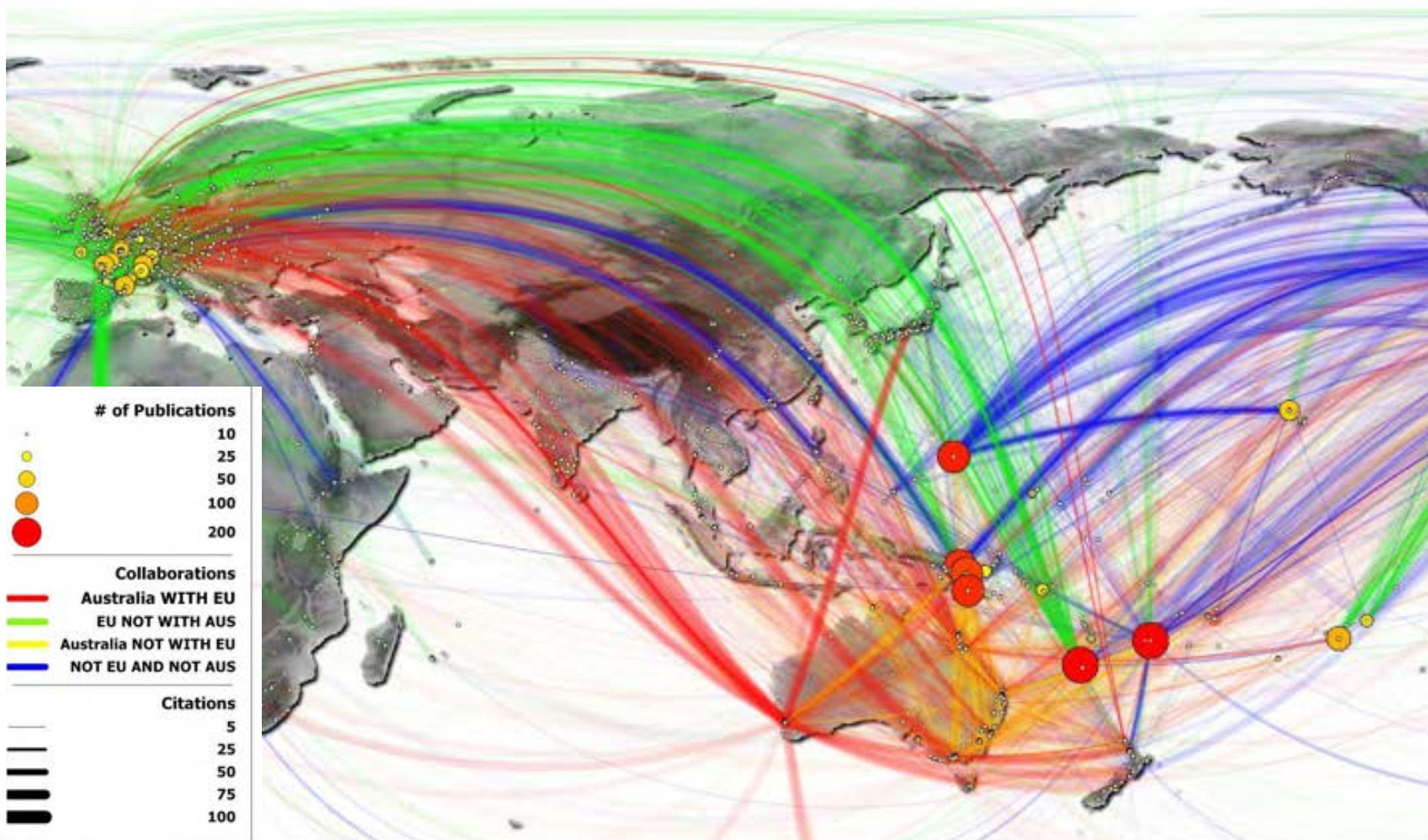
Pacific co-authored publications

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

Pacific institution-level collaborations and citations



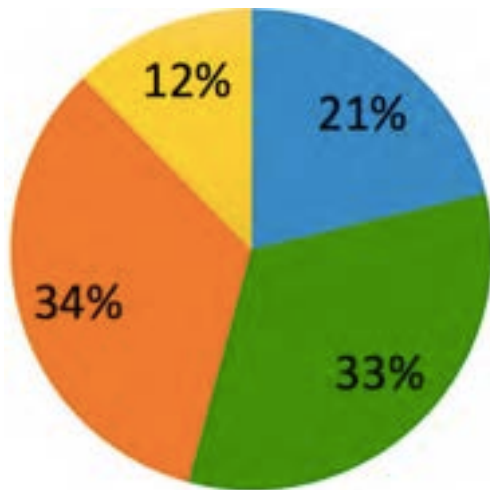
Pacific institution-level collaborations and citations



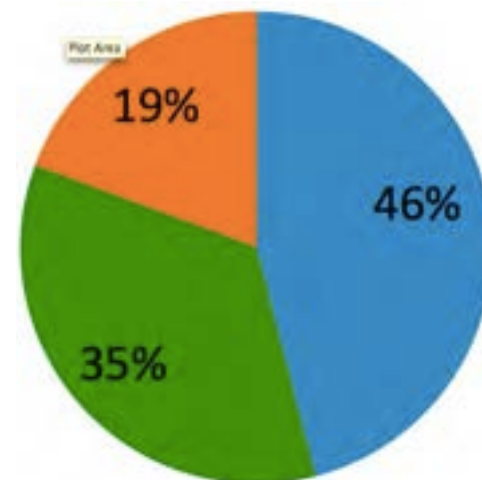
Key Pacific publication set topics

- 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

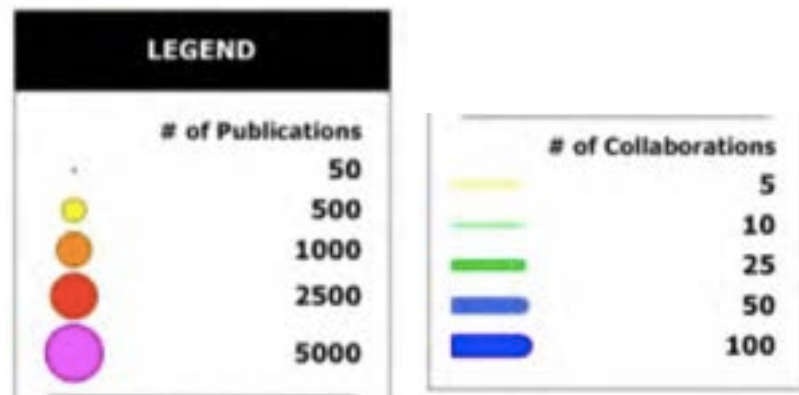


Pacific publications set

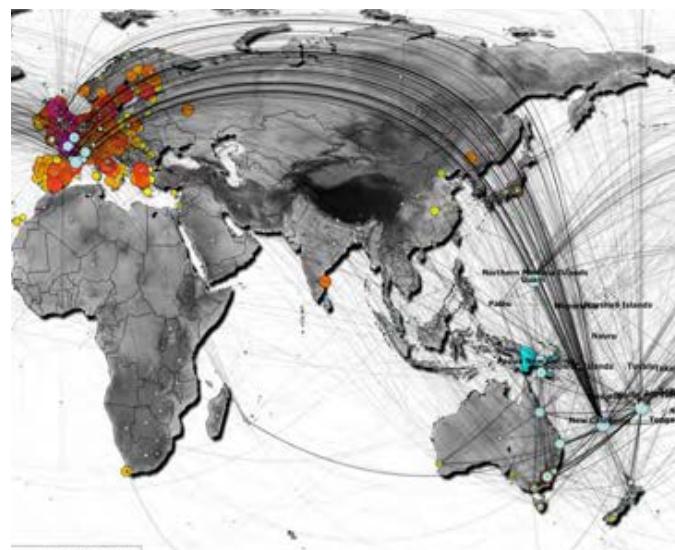
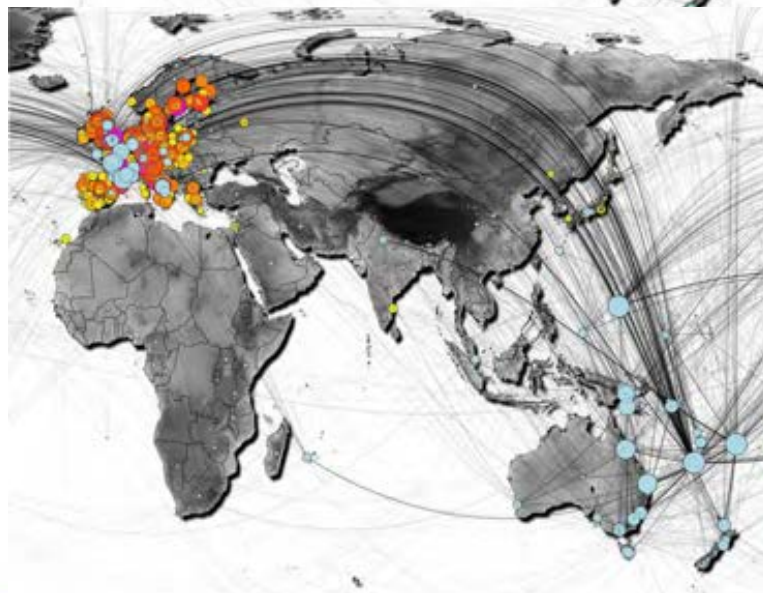
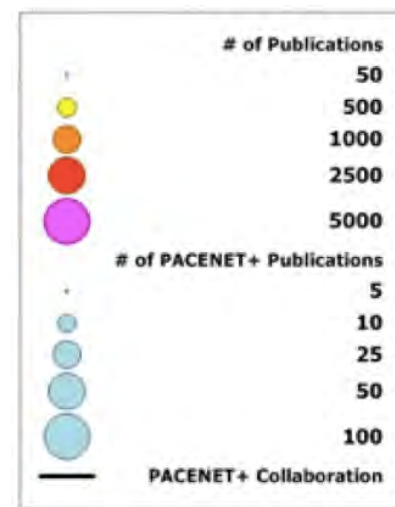
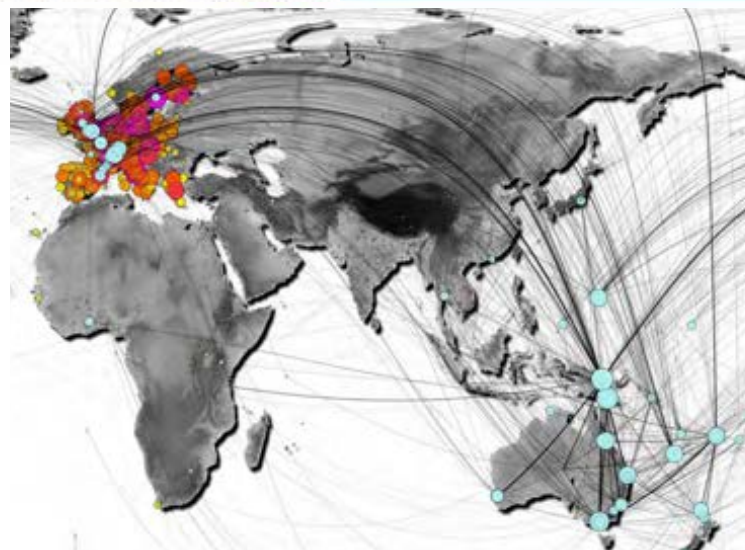


EU extracted publications

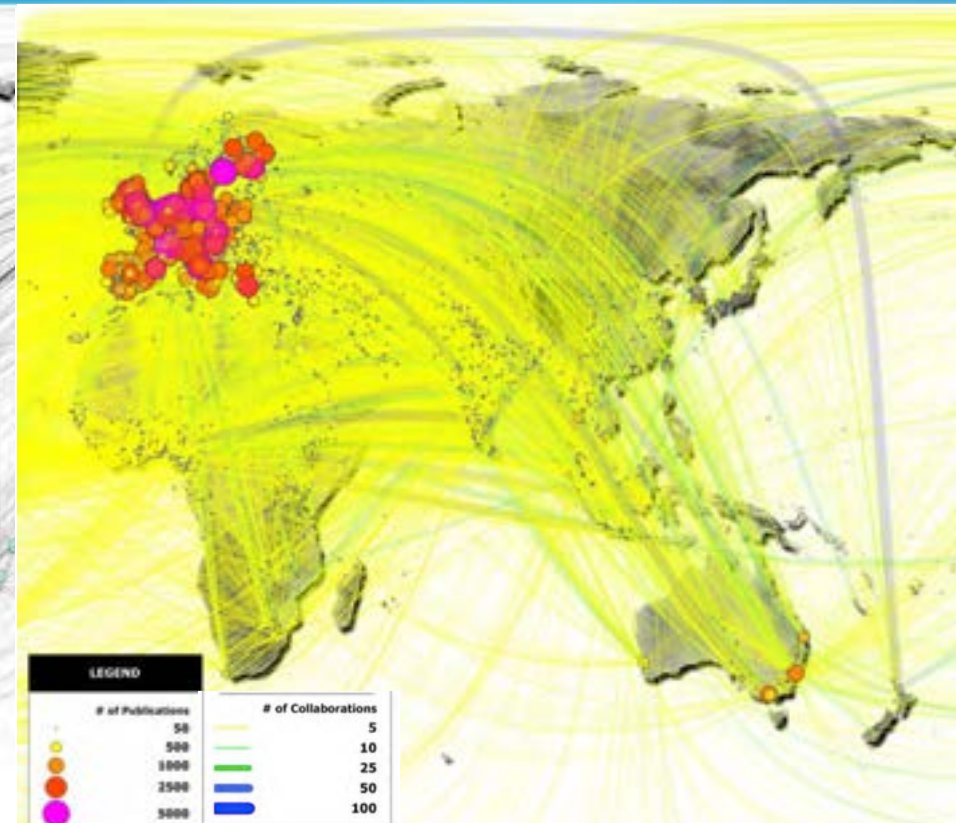
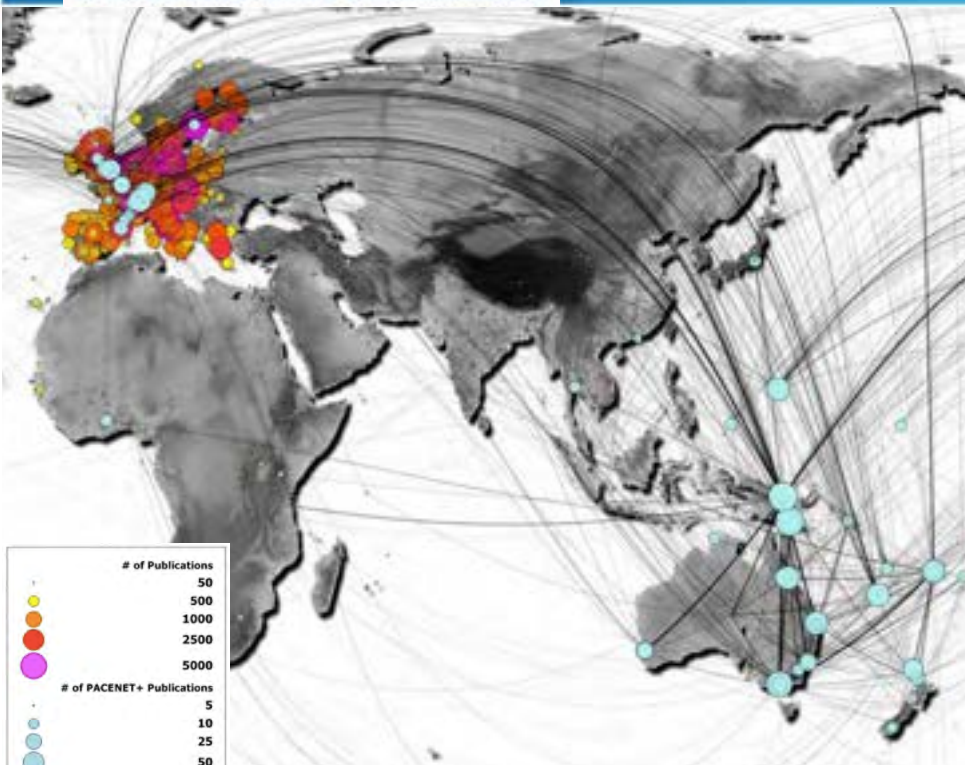
Extracted publications and collaboration patterns



Extracted publication overlaid with PICT collaboration patterns



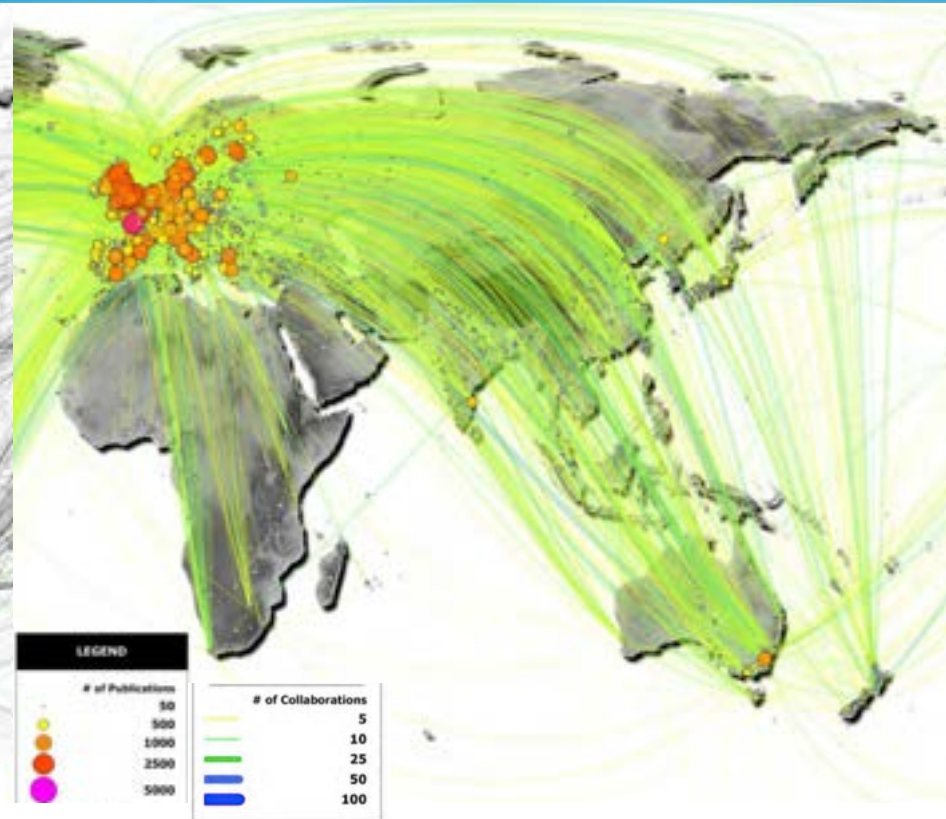
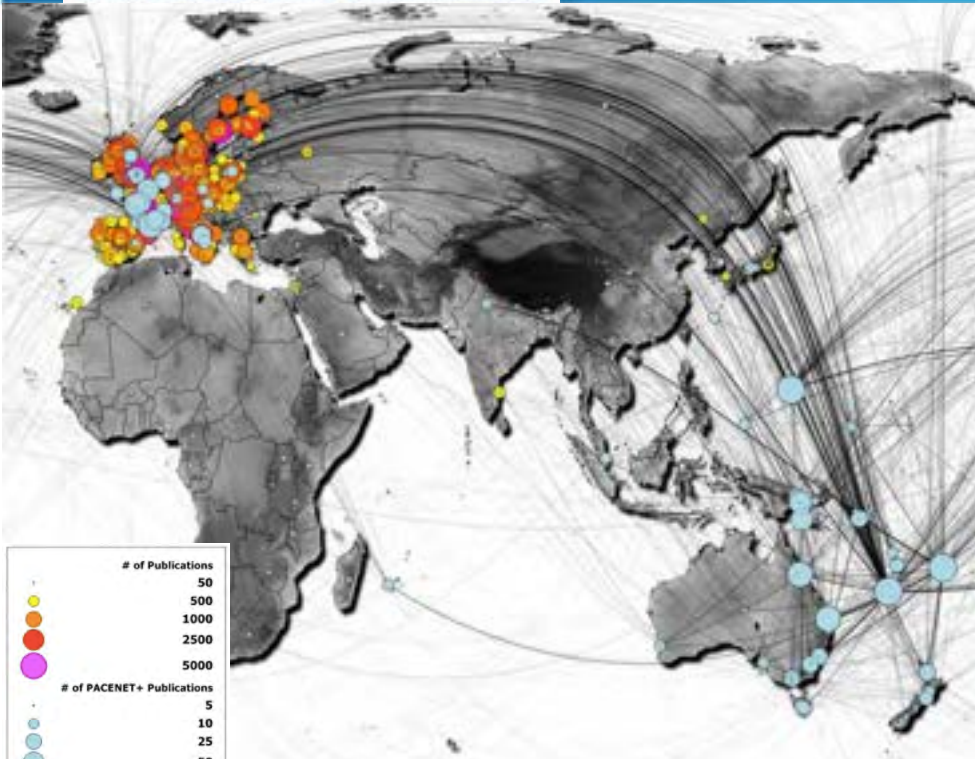
Deciphering EU-Pacific collaboration patterns



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)

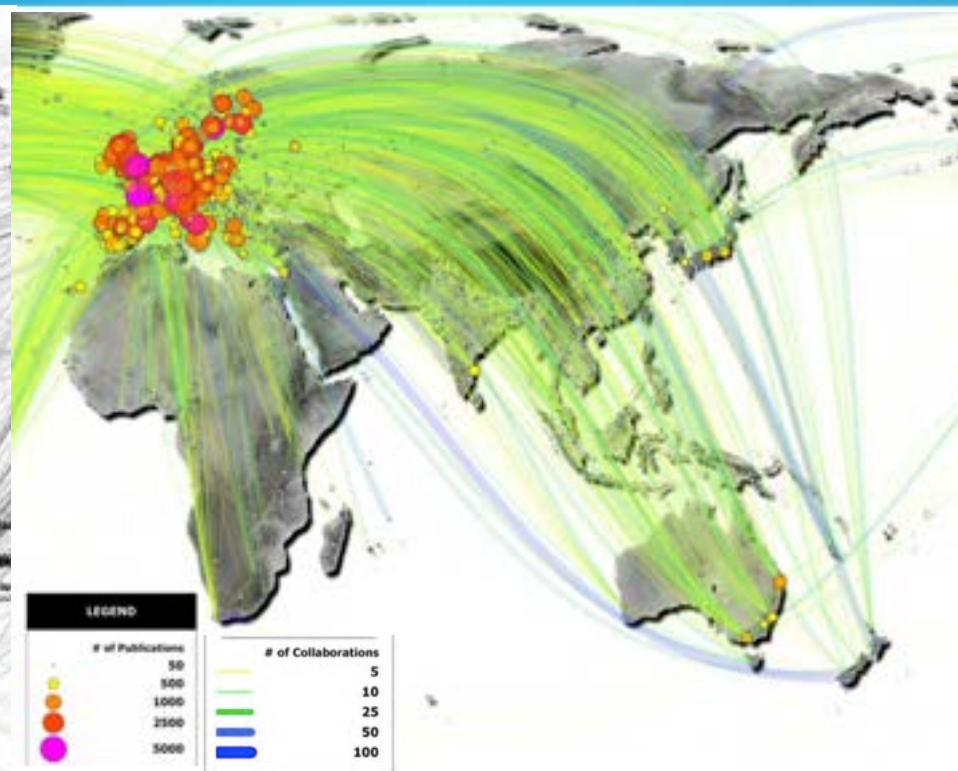
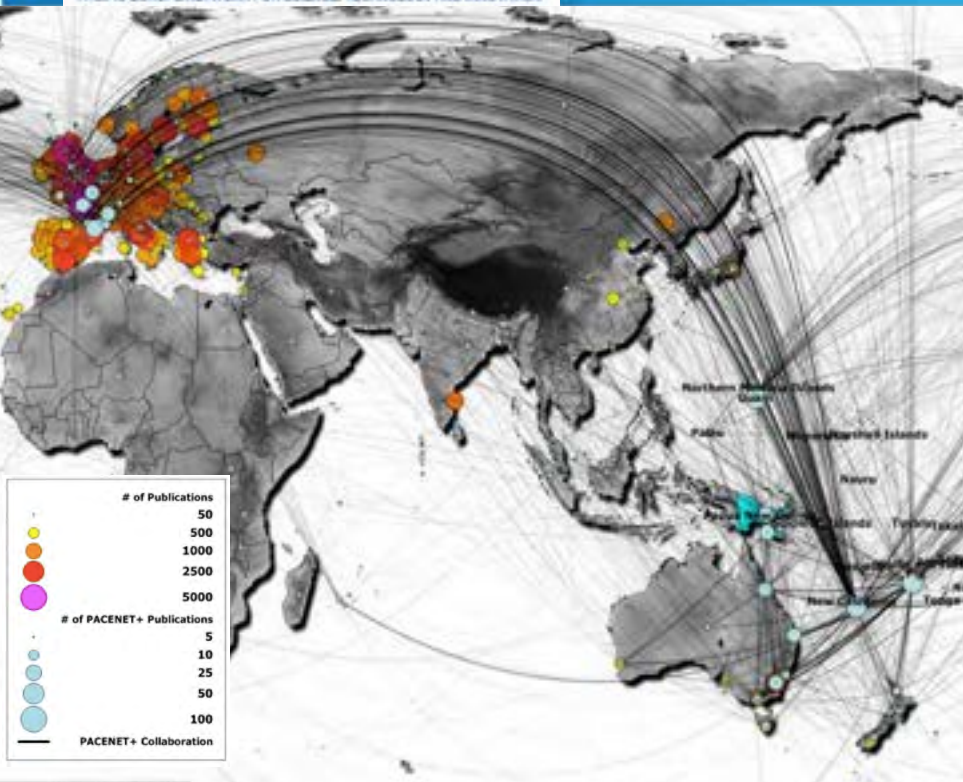
Deciphering EU-Pacific collaboration patterns



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

Deciphering EU-Pacific collaboration patterns



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

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

Thank you from the PACE-NET Plus Consortium

