

North Pacific Oceanography: Past, Present and the FUTURE

A Half-Century Bibliometric Survey

<http://www.pices.int>

PICES XVII

Annual Meeting

October 23-November 2, 2008

Dalian, China

Dr. Ahat A. Nabiullin

Scientific Information Laboratory
Pacific Oceanological Institute FEB RAS
Vladivostok, Russia

How to measure the science?

**We may count inputs
in the science:**

**We may count the
scientific outputs:**

People involved

Institutions involved

University funds

Grants supported

etc.

INPUT

**“Black Box”
of
Science**

Papers published

Journals issued

Books published

Conferences held

Patents, reports, etc.

OUTPUT

We used:

1) Databases of Institute for Scientific Information (**ISI**, now is **Thomson Reuters**, Philadelphia, USA)

<http://www.isiknowledge.com>

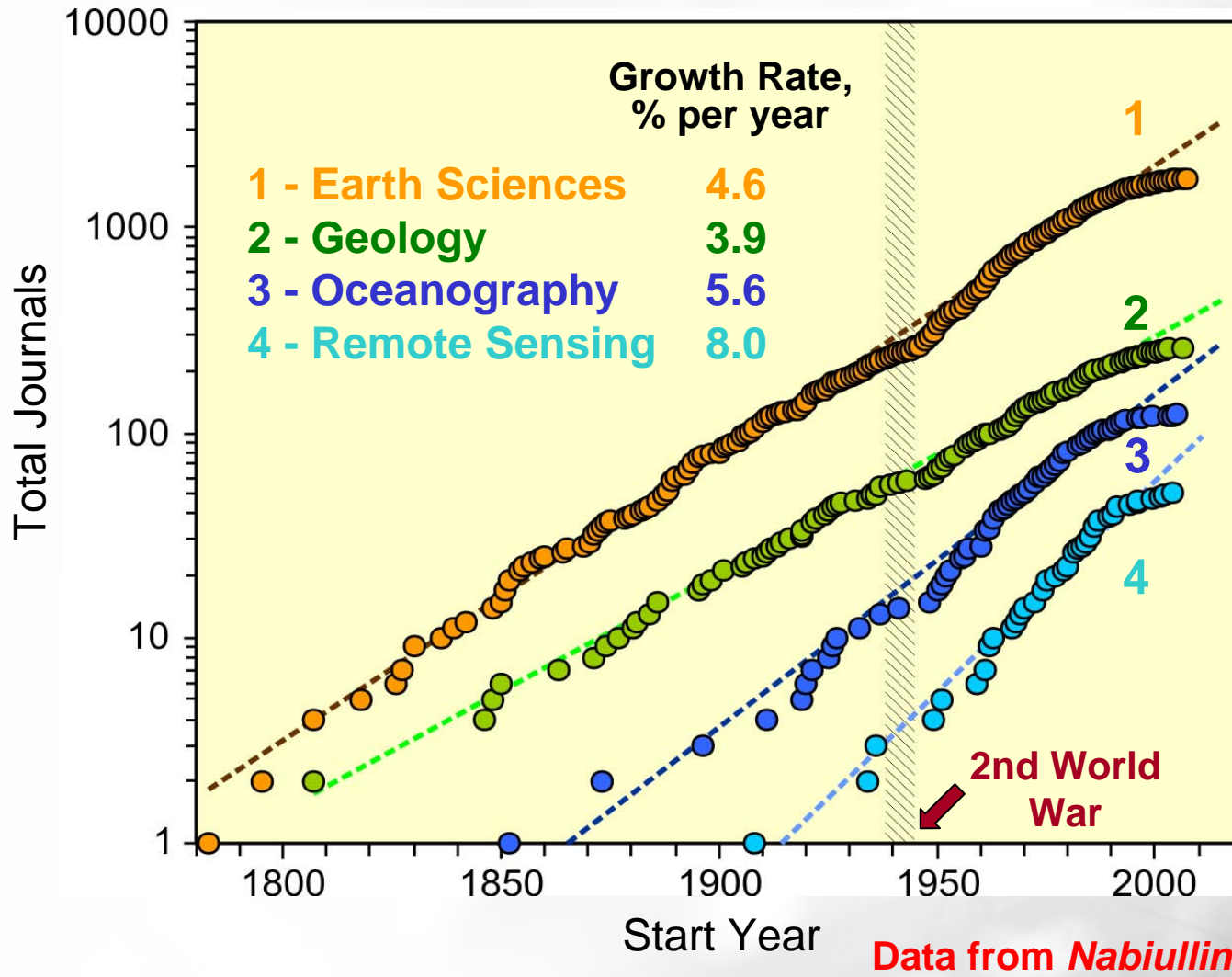
- Science Citation Index Expanded (**SCI-Expanded**)
1945-present (more then 6500 journals);
- Social Sciences Citation Index (**SSCI**)
1956-present (more then 2000 journals);
- Arts & Humanities Citation Index (**A&HCI**)
1975-present (less then 1500 journals)

2) Ulrich's Periodicals Directory (**Bowker**, USA)

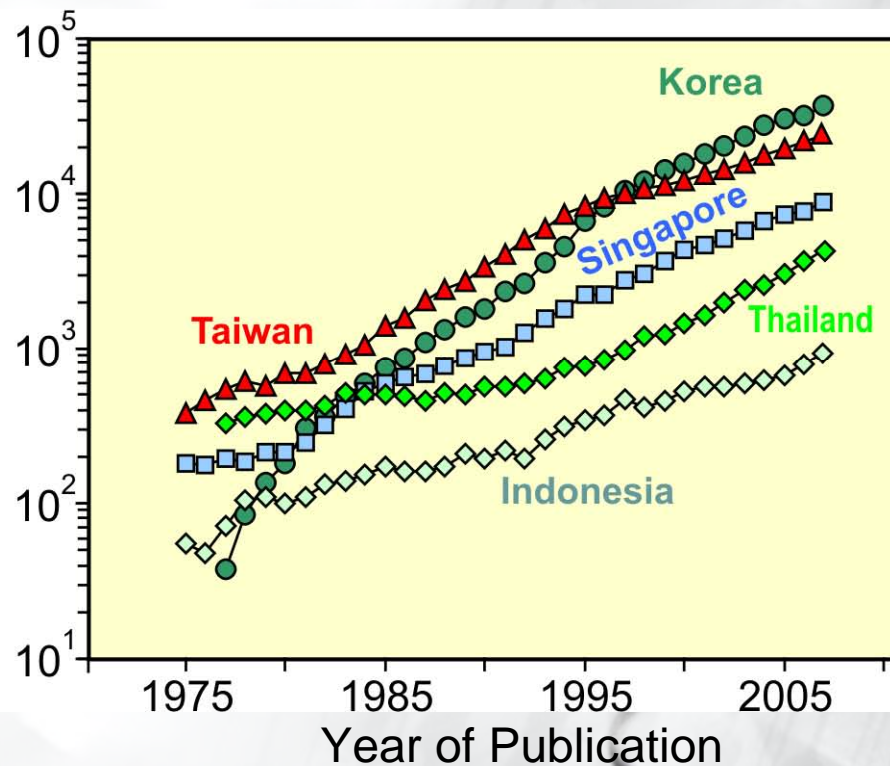
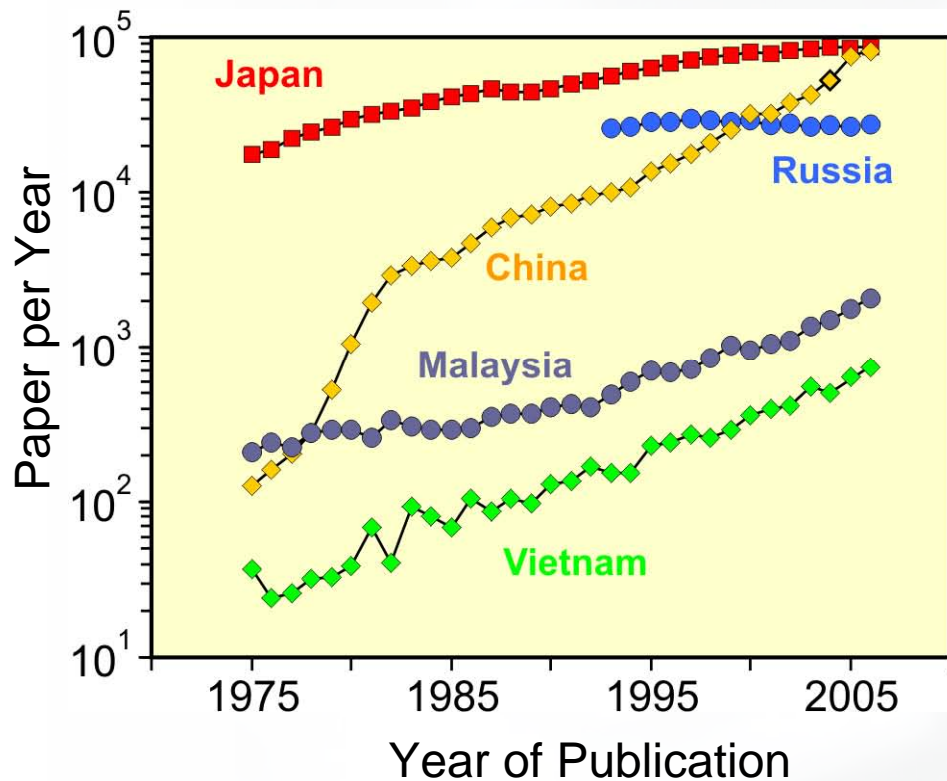
- More then 300,000 scientific journals and other serials

<http://www.ulrichsweb.com>

Growth of Earth Science Journals



Growth of East Asia Science



Data from Nabiullin (2007)



Growth Dynamics of East Asia Science

1992-2007
years only

Very fast

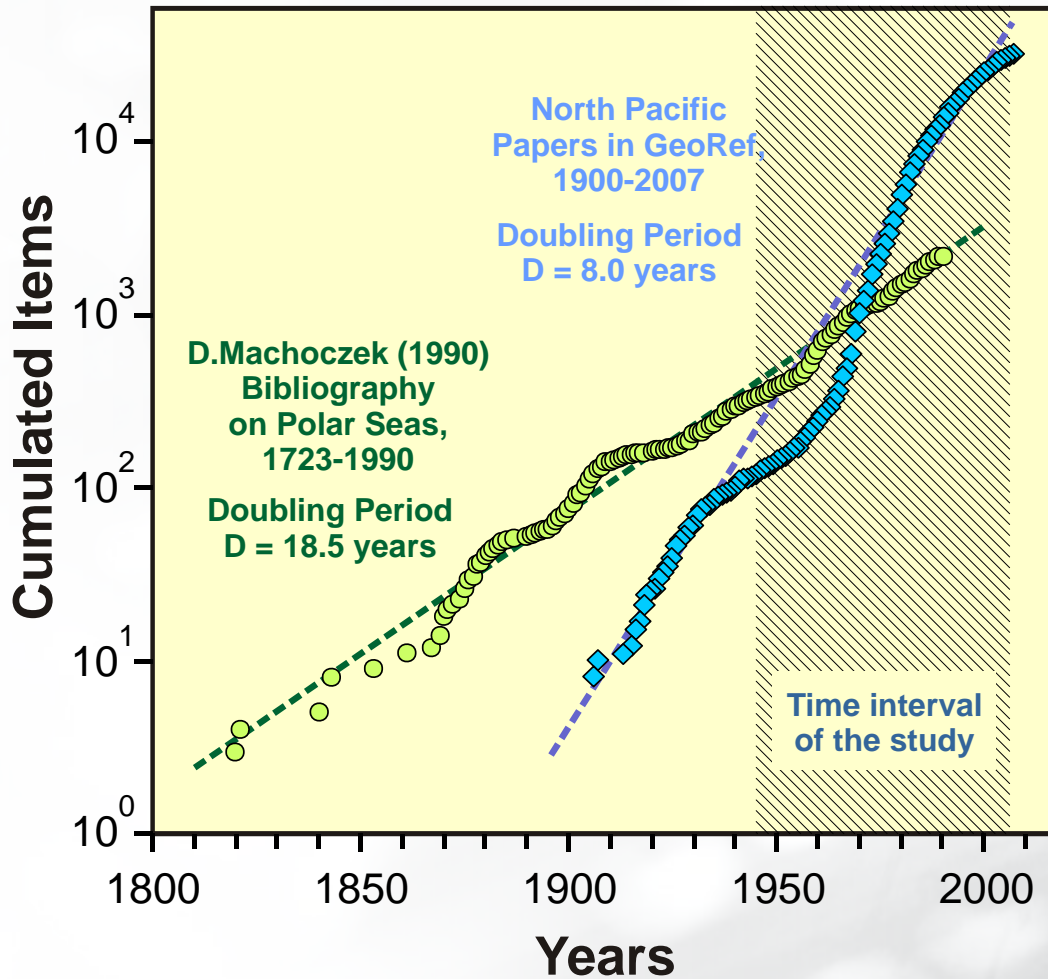
Fast

Relatively Slow

Country	Growth Rate % per year
Korea	30.4
China	22.0
Singapore	20.9
Taiwan	16.8
Vietnam	16.3
Indonesia	14.1
Thailand	13.3
Malaysia	12.9
Japan	10,8
Philippines	9,8



Arctic Ocean v. Pacific Ocean Studies: A Comparison



Search in the ISI Databases

Results: **8870**

Topic = **North Pacific OR Northern Pacific**

- **8 597 records in Natural Sciences**

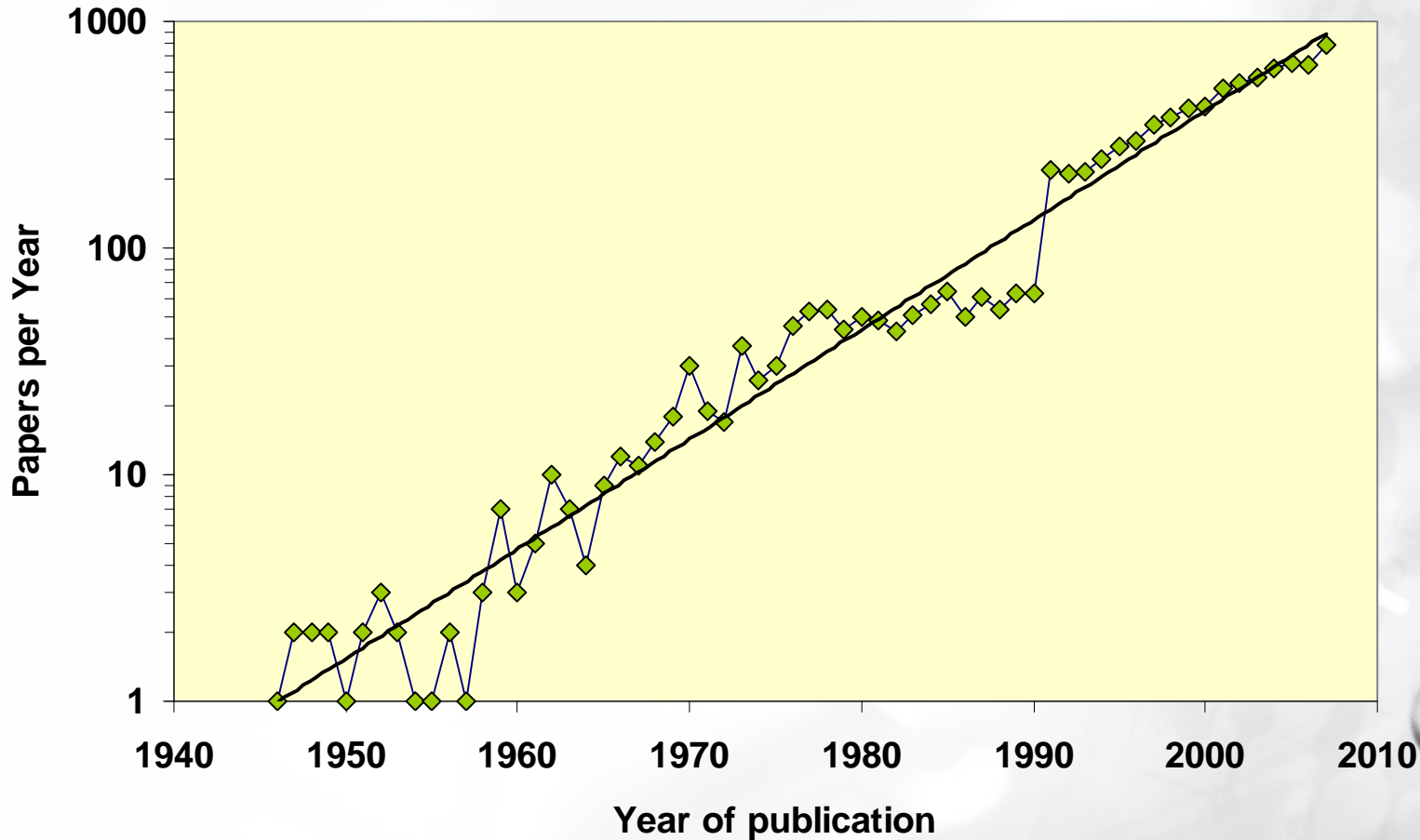
- **201 records in Social Sciences**

- **154 records in Arts & Humanities**

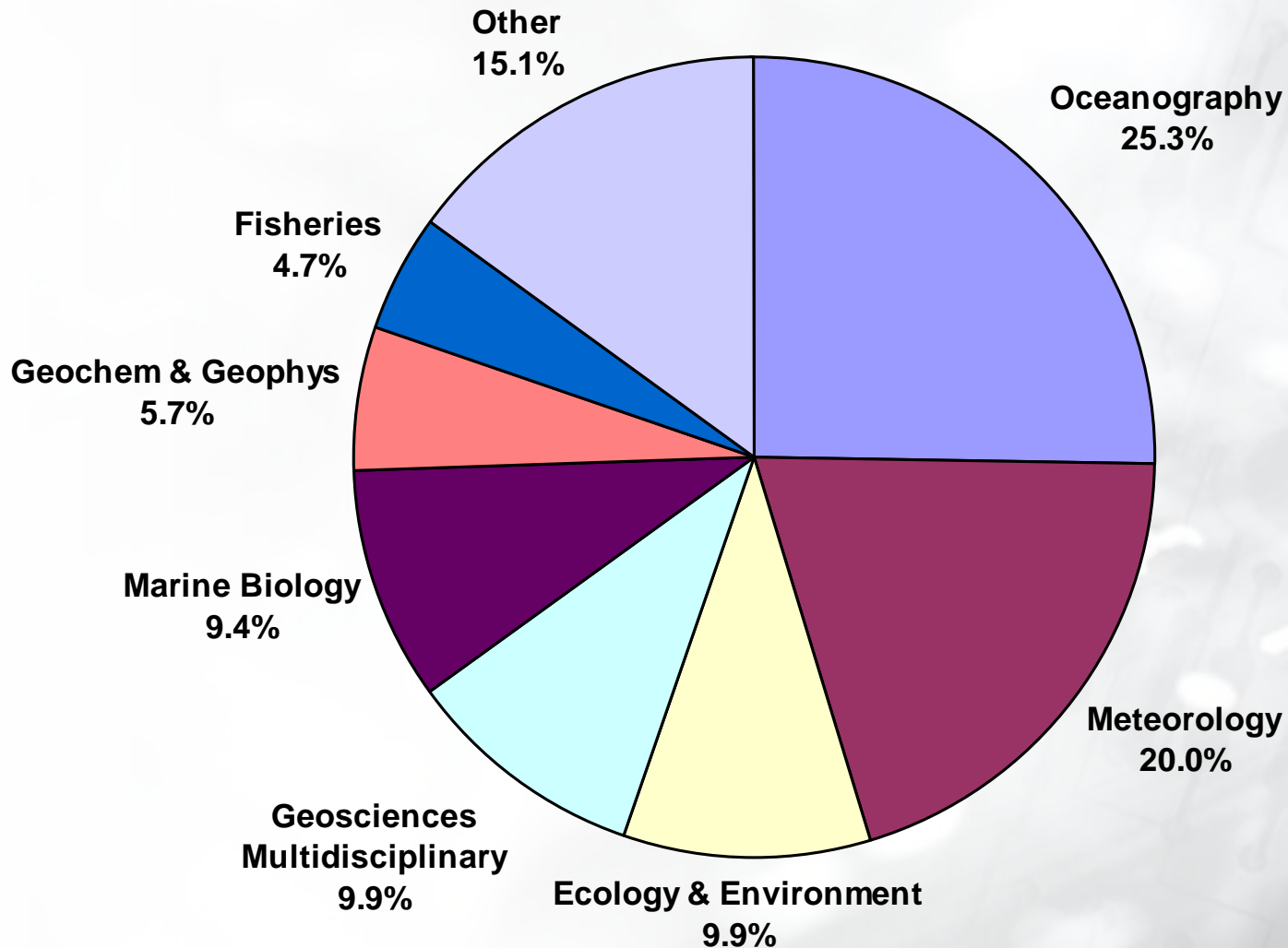
Search Date: 17 September, 2008



Growth of the North Pacific Publications



Subjects of the North Pacific Publications



The growth of North Pacific Research in Some Disciplines

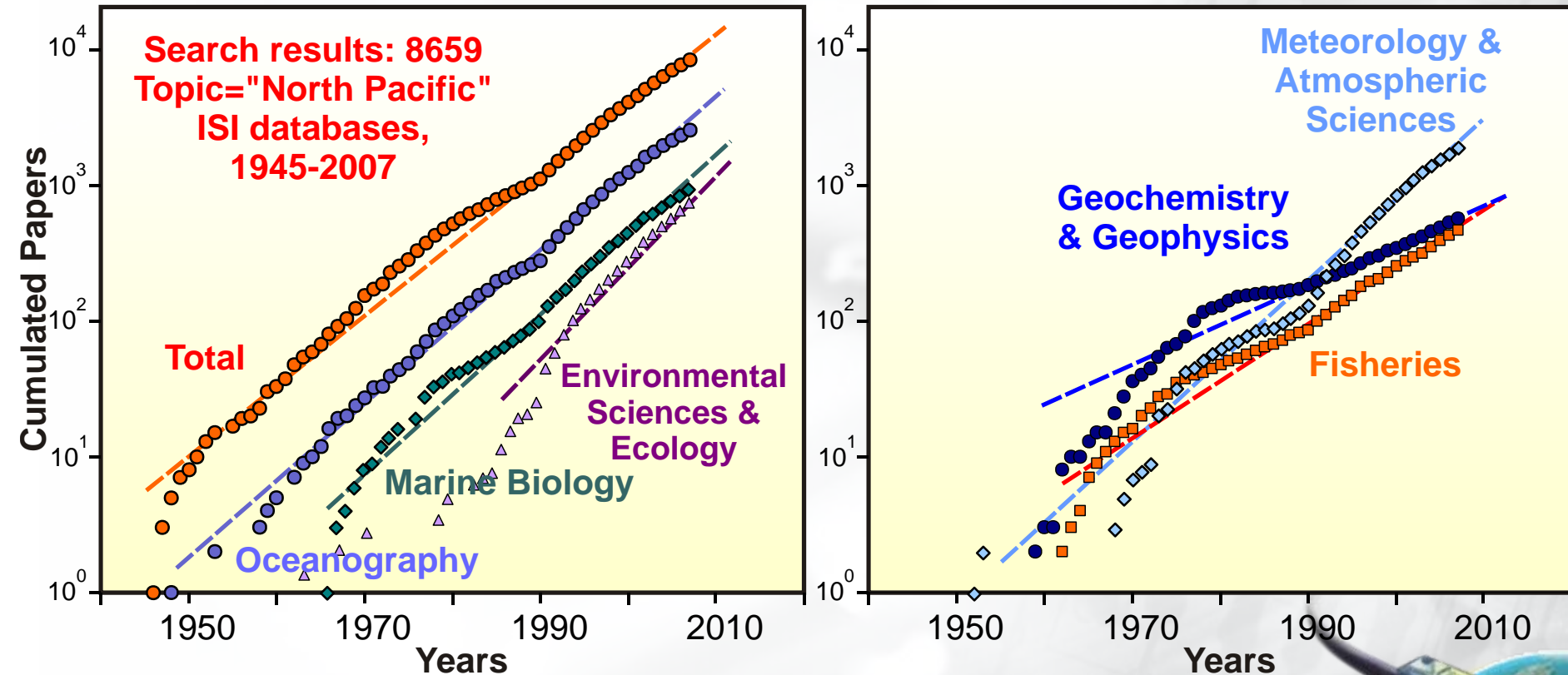
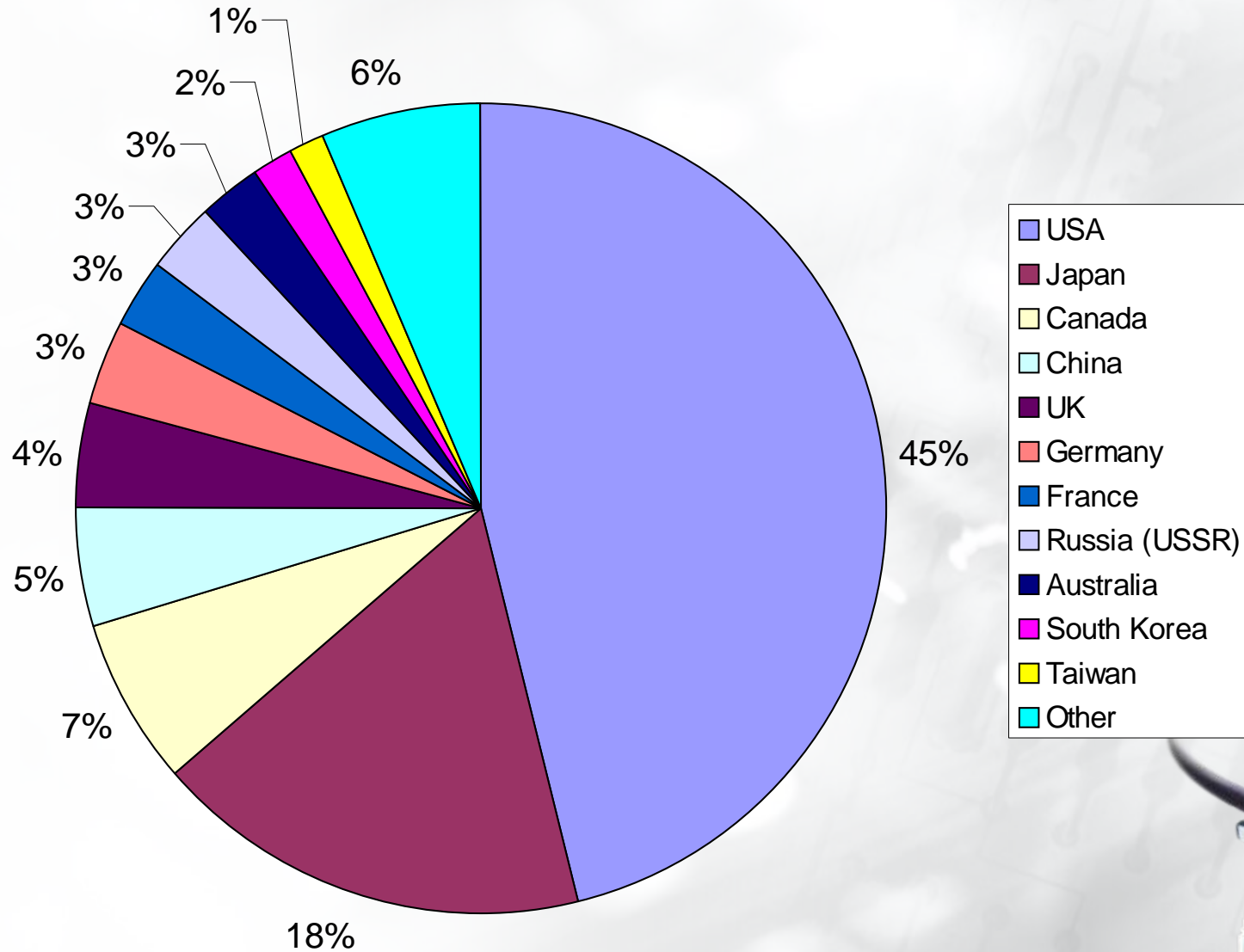


Table 1. Growth rates of some disciplines in North Pacific Research

Discipline	D (Years)	S (% per Year)
Environmental Sciences & Ecology	4.15	24.1
Meteorology & Atmospheric Sciences	4.89	20.5
Marine Biology	5.03	19.9
Oceanography	5.21	19.2
Fisheries	7.05	14.2
Multidisciplinary Geosciences	7.47	13.4
Geochemistry & Geophysics	10.38	9.6
Total Papers	5.52	18.1

Countries of the North Pacific Research



The growth of research on North Pacific in different countries

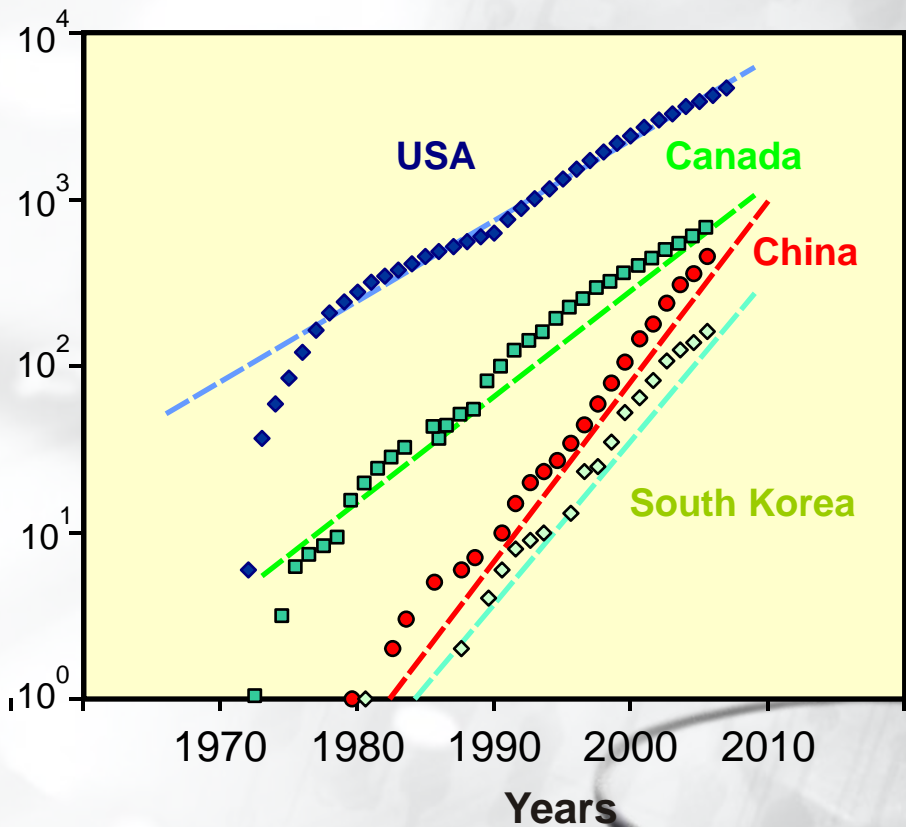
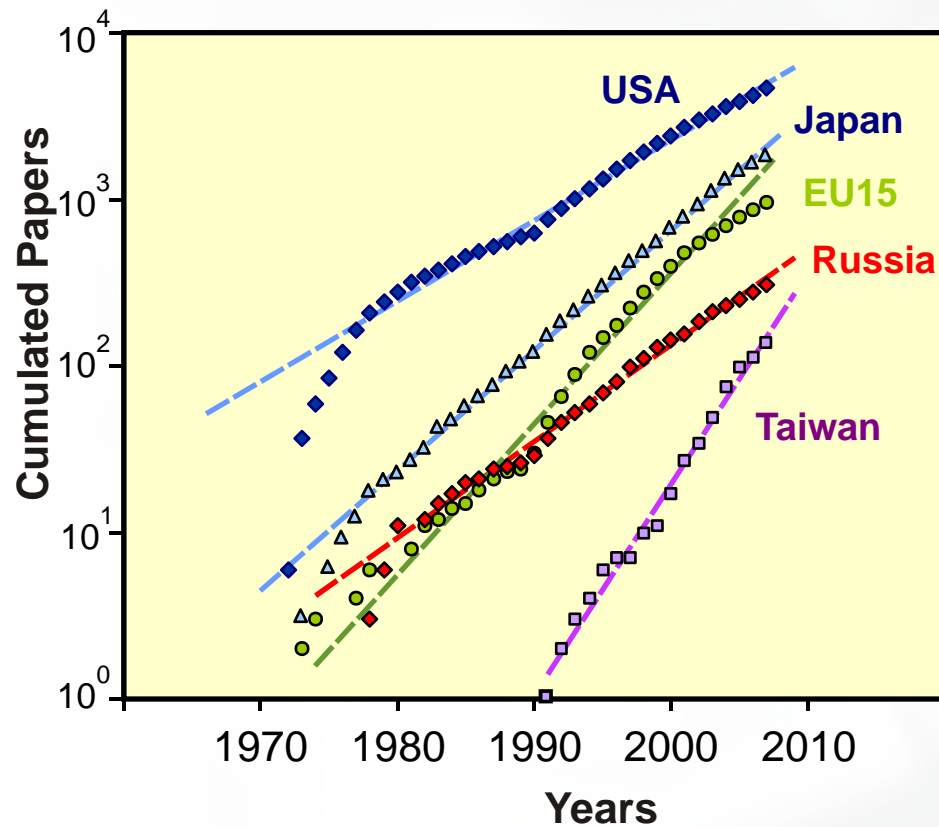
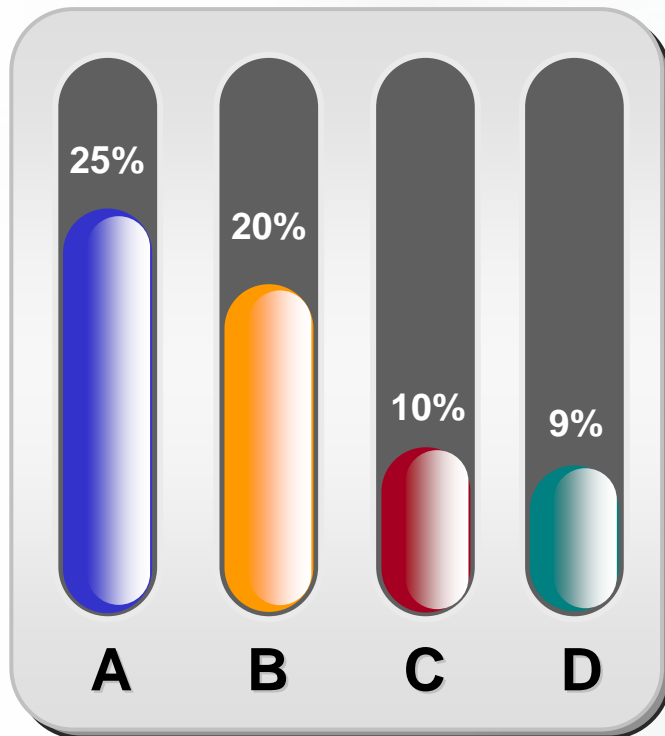



Table 2. Growth rates of participations of some countries in North Pacific Research

Country	D (Years)	S (% per Year)
Taiwan	2.37	42.2
China	2.78	35.9
South Korea	3.07	32.6
Japan	4.18	24.0
Russia/USSR	4.60	21.8
Canada	4.73	21.1
USA	6.23	16.0

Main Subjects of the Publications

- ❖ Four main interrelated subjects accounts for 63% of the total publications



 A. Oceanography (2593)

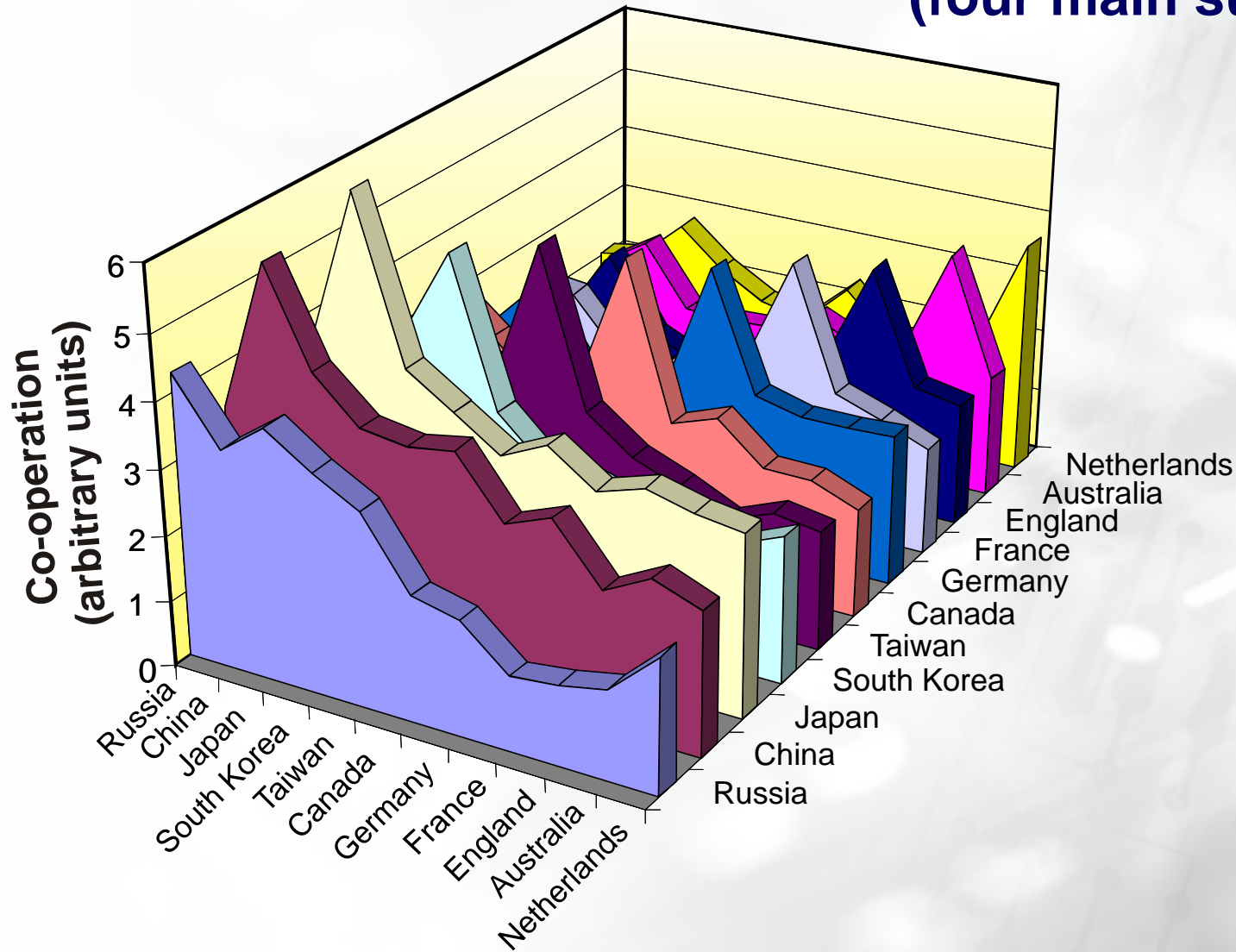
 B. Meteorology (2049)

 C. Ecology (1015)

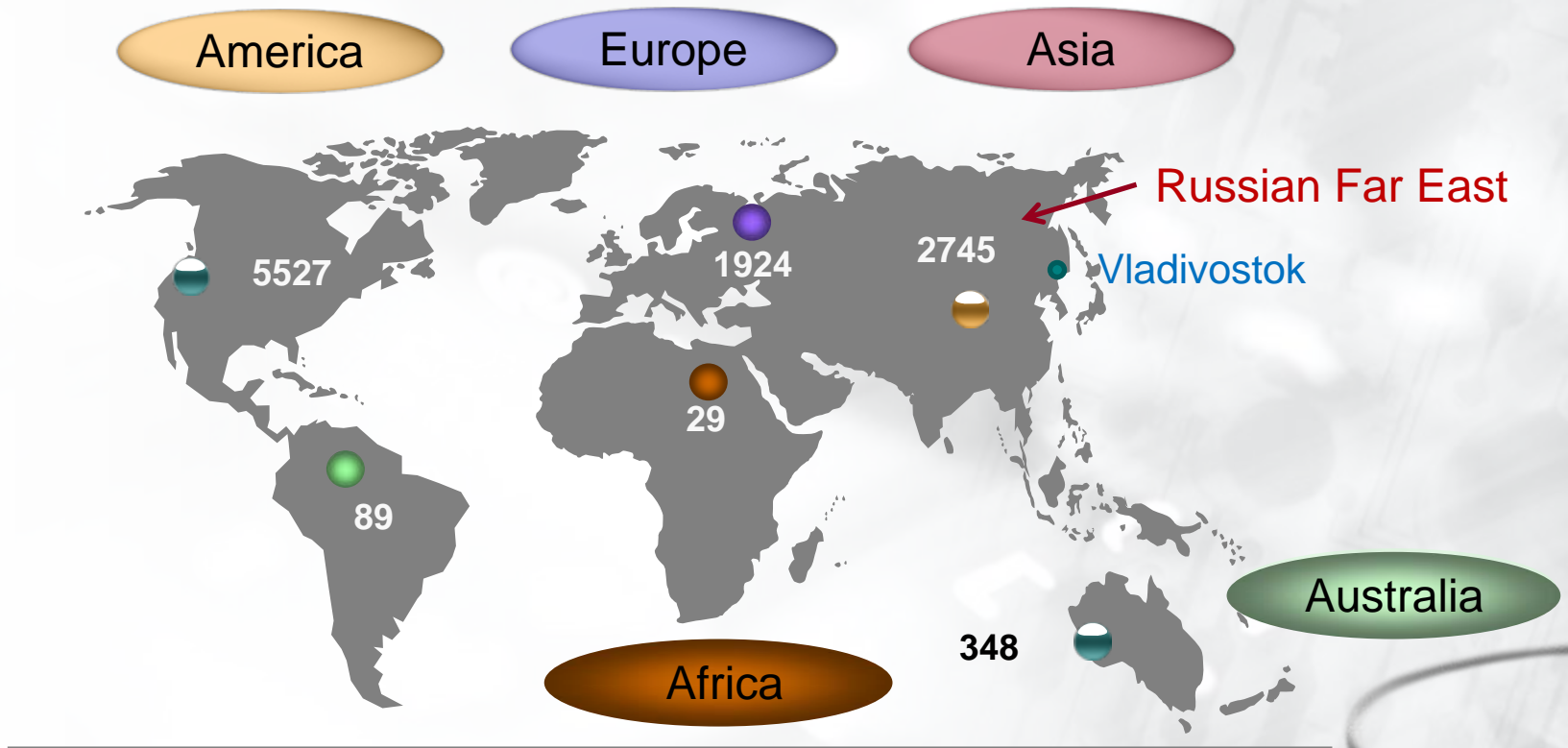
 D. Marine Biology (967)



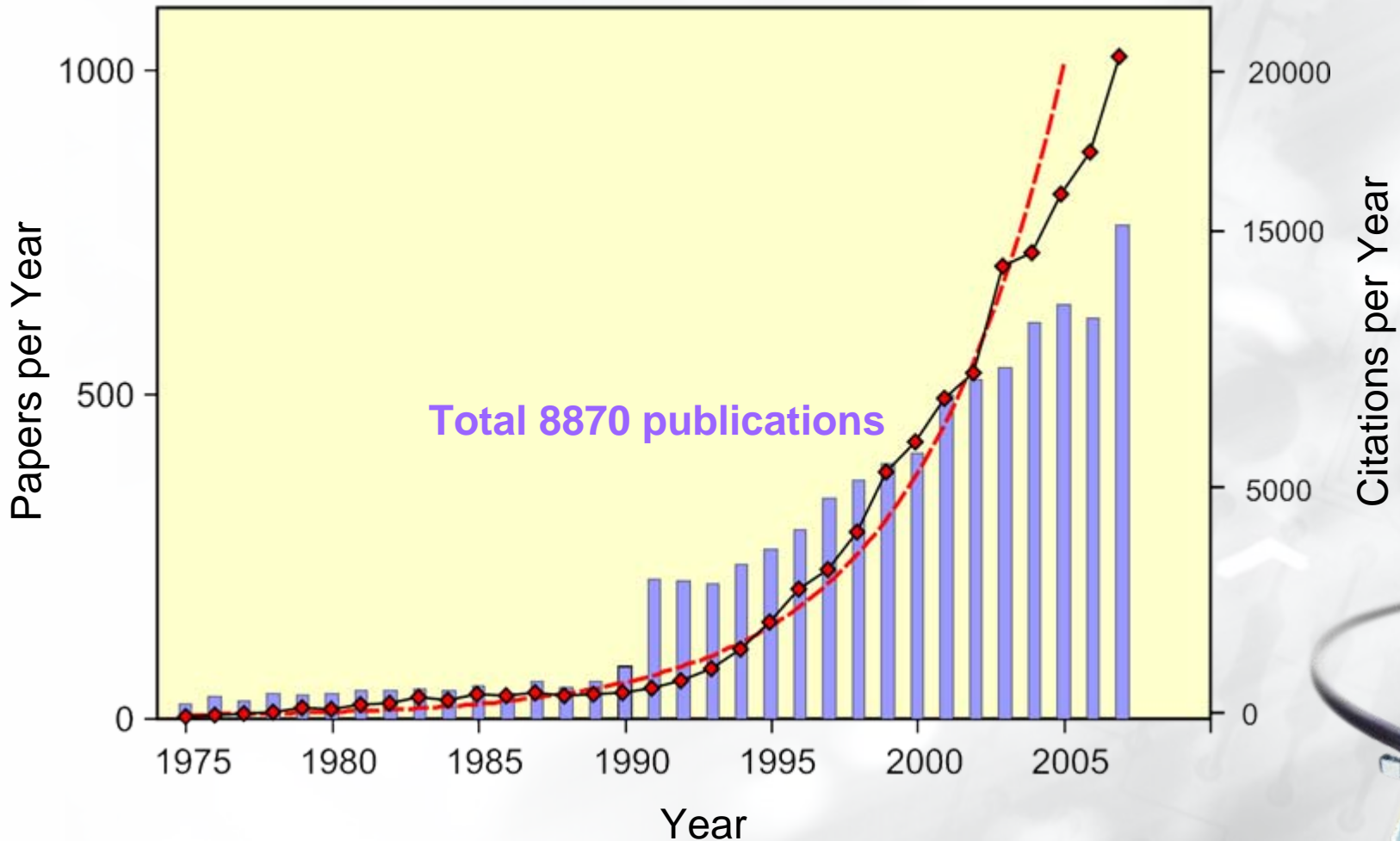
Scientific Co-operation in the North Pacific Science (four main subjects only)



Continents of the North Pacific Publications



Citations of the North Pacific Publications



Scientific Co-operation in the North Pacific Countries in Scientometric Research





Have you any questions?

>>>>>>

Thank You !

Scientific Information Laboratory
Pacific Oceanological Institute FEB RAS
Vladivostok, Russia