



Australian Government

Australian Research Council

University of Sydney

ERA 2010 and beyond

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CEO, Australian Research Council

Research

Information



Research Strengths

Research Gaps



ERA will inform

- Government
- Universities
- Research agencies
- Innovation system
- Business
- Postgraduate students
- International partners

Research



Quality assessment exercises overseas

1986—The United Kingdom

1993—Hong Kong

1997—Germany

1998—Ireland

2002—The Netherlands

2003—New Zealand

2005—France

General ERA Principles

1. Unit of Evaluation is the four-digit ANZSRC Field of Research code (i.e., 157 possible **Units of Evaluation**); evaluation occurs at the two-digit level as well
2. Evaluation by **Research Evaluation Committees** in discipline clusters; eight clusters in total
3. There is a minimum level of output for a discipline to be considered '**research active**' for evaluation in ERA
4. Evaluations informed by a '**dashboard**' of discipline-specific indicators
5. Some **peer review of outputs** accessed through institutional **repositories** in some clusters

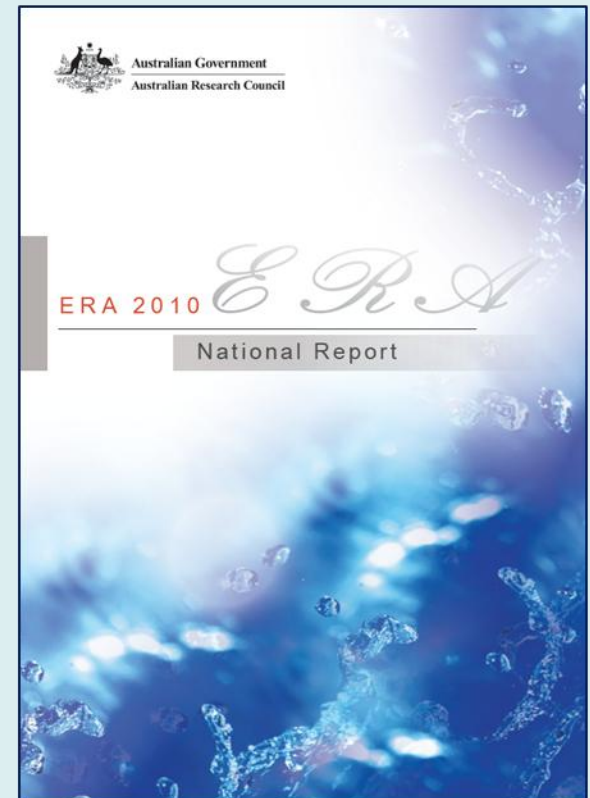
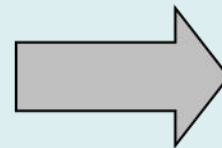
ERA Process Overview

Volume & Activity	Ranked Outlets
Citation Analysis	Esteem
Research Income	Applied Measures
Peer Review	

International Benchmarks



Research Evaluation
Committees



ERA

Background Statement

Volume
and
Activity

Ranked
Outlets

Peer
Review

Citation
Analysis

Esteem
Measures

Research
Income

Applied
Measures

ERA Unit of Evaluation – the FoRs

10 Technology

2-digit

- 1001 AGRICULTURAL BIOTECHNOLOGY
- 1002 ENVIRONMENTAL BIOTECHNOLOGY
- 1003 INDUSTRIAL BIOTECHNOLOGY
- 1004 MEDICAL BIOTECHNOLOGY
- 1005 COMMUNICATIONS TECHNOLOGIES
- 1006 COMPUTER HARDWARE

4-digits

100601 Arithmetic and Logic Structures

100602 Input, Output and Data Devices

6-digits

100603 Logic Design

100604 Memory Structures

100605 Performance Evaluation; Testing and Simulation of Reliability

100606 Processor Architectures

100699 Computer Hardware not elsewhere classified

The ERA Unit is not the department nor the individual researcher

Why a matrix approach to indicators?

- Not all indicators are suitable for all disciplines
- Pick and choose what is right for each discipline
- The indicator suite must ensure comparable quality across a range of indicator types
- Journal Rankings are not THE indicator

The ERA Clusters

Cluster 1	Physical, Chemical & Earth Sciences
Cluster 2	Humanities and Creative Arts
Cluster 3	Engineering and Environmental Sciences
Cluster 4	Social, Behavioural and Economic Sciences
Cluster 5	Mathematics, Information and Communication Sciences
Cluster 6	Biological Sciences and Biotechnology
Cluster 7	Biomedical and Clinical Research
Cluster 8	Public and Allied Health, and Health Sciences

The ERA 2010 reference periods

- Publications reference period
1 January 2003 – 31 December 2008
- Non-publication reference period (income, applied, esteem)
1 January 2006 – 31 December 2008
- Staff census date
31 March 2009
- Citation reference period
1 January 2003 - 1 March 2010



ERA 2010 – the data....

Research

The ERA 2010 Rating Scale

Rating	Descriptor
5	The Unit of Evaluation profile is characterised by evidence of outstanding performance well above world standard presented by the suite of indicators used for evaluation.
4	The Unit of Evaluation profile is characterised by evidence of performance above world standard presented by the suite of indicators used for evaluation.
3	The Unit of Evaluation profile is characterised by evidence of average performance at world standard presented by the suite of indicators used for evaluation.
2	The Unit of Evaluation profile is characterised by evidence of performance below world standard presented by the suite of indicators used for evaluation.
1	The Unit of Evaluation profile is characterised by evidence of performance well below world standard presented by the suite of indicators used for evaluation.
NA	Not assessed due to low volume. The number of research outputs does not meet the volume threshold standard for evaluation in ERA.

National Strengths

- Astronomical and Space Sciences
- Optical Physics
- Quantum Physics
- Macromolecular & Materials Chemistry
- Physical & Structural Chemistry
- Geology
- Ecology
- Evolutionary Biology
- Plant Biology
- Zoology
- Electrical and Electronic Engineering
- Historical Studies
- Cardiovascular Medicine and Haematology
- Human Movement and Sports Science
- Immunology
- Oncology and Carcinogenesis
- Pharmacology and Pharmaceutical Sciences
- Medical Physiology

Gaps

- **Agriculture, Land and Farm Management**
- **Automotive Engineering**
- **Maritime Engineering**
- **Engineering Design**
- **Complementary and Alternative Medicine**

Pockets

- **Classical Physics**
- **Aerospace Engineering**
- **Transportation and Freight**

Discipline Specific Information

Discipline	FoR	A*	A	B	C
Immunology	1107	7%	14%	24%	55%
Plant Biology	0607	3%	8%	14%	74%
Ecology	0602	9%	18%	36%	37%
Zoology	0608	1%	7%	18%	73%
Historical Studies	2103	6%	22%	32%	38%
Electrical and Electronic Engineering	0906	6%	16%	28%	49%
Macromolecular and Materials Chemistry	0303	14%	19%	31%	36%

ERA 2012

- Publications 1 Jan 2005- 31 December 2010
- Review of ranked journal list underway
- Other areas where we are seeking feedback
 - Low volument thresholds (plus outputs that contribute)
 - FORs allocated to clusters
 - Utility of 2-digit versus 4-digit
 - Indicator matrix for each discipline
 - 3 year reference period for income etc
 - Researcher eligibility
 - Applied research indicators