

ENVIRONMENT AND COMMUNICATIONS REFERENCES COMMITTEE

Re Australian Antarctic Division Funding

Clarification of Antarctic project numbers

In my evidence I stated that the average number of Antarctic projects in the past was around 100 per year. I attached the data from which this was calculated. It is from the AAD web site.

Clarification of the development of and selection of Antarctic scientific projects outside of external schemes

For many years the AAD ran a combined project and grant scheme. Both AAD staff and externals could apply for support with university applicants being able to apply for grants. The grants were not substantial, usually covering cost of travel to Hobart, Antarctic medicals, and some analysis/ support staff. Often universities projects needed ARC or other larger funds to complete the work, hence often, a timing mismatch between Antarctic access and funds for research developed, or a total mismatch (access and no funding or funding a no access). Solving this mismatch was behind some of the thinking in the Clarke review.

What was honed within the AAD, however, was the process to develop and deliver strategic science. AAD science projects were not developed on the whim of a scientist. The sequence of AAP Strategic plans/ science plans/ science implementation plans was well developed (although this fell substantially in the last 2-3 years). Regardless, for well over the last decade, internal AAD science projects were developed through significant stakeholder discussions and stakeholder pull. Hence not supporting internal AAD science, usually means a gap in Governmental/ departmental needs.

One of the most productive times, I was involved with (~mid 2010's) focussed around the role of the Antarctic Research Assessment Committee. AAD Program and Section leaders, in response to stakeholder pull, would develop the AAP Science Implementation plans. Science project calls would go out to the wider science community with AAD program staff actively encouraging multiple university/ external institutions to apply to address elements of the implementation plans. Often AAD staff were embedded in university projects as brains trusts because of their deep Antarctic knowledge. Calls for "season determining plans", big, campaign style projects that would alter the way a summer season would run, were also called for many years in advance. Project applications would be assessed by the committee, made up of both AAD internal and external members, with the committee also tracking annual progress. This approach led to substantial progress in some areas of science, with the AAD being the central hub to a greater spoke of Antarctic science. Project assessment criteria has always included science plan goal, integrational and internal elements.

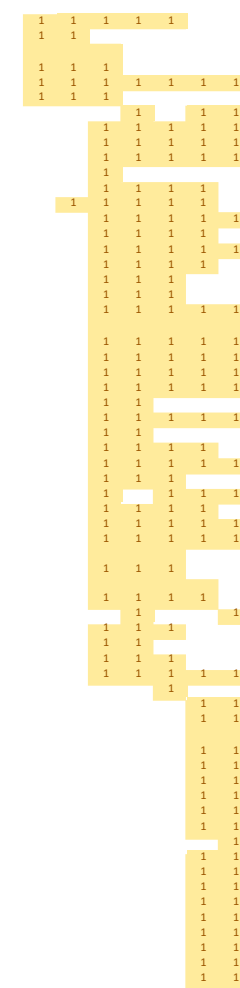
It is my opinion, that this model: the AAD and the AAD Science Branch being the lead Antarctic science agency was a good model, as it focussed on policy, the internal realm, and operational needs, while still allowing for fundamental and cutting-edge science to be met by universities in conjunction with the AAD. Universities by their nature and funding models have different criteria for success. One being delivery of novel, world-leading, and ground-breaking science. While such science may feed into the science-policy nexus, it may not deliver the information on whether, for example, sea-ice conditions allow for ships to reach Casey for resupply, or remediation of oil spills can stop, or simply what is the biodiversity in areas of the AAT. Systematic biodiversity studies and knowledge are fundamental to the Antarctic Treaty and essential to any modelling or sophisticated cutting-edge science that university teams like to deliver, but somewhat impossible to get funding for through systems like the ARC. The recent trend of the AAD Science Branch moving towards being like an adjunct university department (but with their hands tied), attached to a government department, competing for access to Antarctica, with large university teams with multimillions of grant dollars is not effective, and does not meet the needs of the nation.

The challenge is to set up a system that the AAD leads, in a hub and spoke model with universities and other agencies, that can work with the ARC for support for university science. It is a multi-part problem, as well as a need for an effective governance model problem.

Dana M. Bergstrom
20 October 2023

Table with columns for Name, Title, Year, Page, and a grid of binary indicators (1/0) across 40 columns. Includes authors like TEAGLE, DAMON, CASPARI, etc., and titles such as 'Tracing the interaction of seawater with the ocean crust during mid-ocean ridge hydrothermal alteration...'.

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RINTOULL, Dr Stephen (Steve)	Tracking the evolution of Southern Ocean variability and change	4479	7
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HEL, Dr Petra	Observatory of East Antarctic near-surface atmosphere and cryosphere	4506	5
ROBERTS, Dr Jason	ICECAP - EAGLE	4511	2
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WATERMAN, Dr Melinda	Old growth mosses as proxies for past Antarctic climates	4516	5
EMERSON, Dr Louise	Outcomes for Antarctic breeding seabirds	4518	5
WHITTAKER, Dr Joanne (Jo)	Continental Shelf	4519	4
BENNETTS, Dr Luke	A susceptibility index for ice shelf disintegration due to sea ice loss and swell impacts	4528	5
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LEA, Prof. Mary-Anne	Implementation of an effective genetic monitoring approach in the Subantarctic	4538	3
HOGG, A/Prof. Andrew (Andy)	Modelling Sea Ice at High Resolution	4541	3
MEINERS, Dr Klaus	the spring transition	4546	5
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DEWAN, Dr Meagan	Diseases of Antarctic Wildlife	4549	5
SUTER, Dr Leonie	Shaping the future use of environmental DNA (eDNA) in Southern Ocean ecosystem	4556	5
FRISIA, A/Prof. Silvia	Antarctic subglacial carbonates as archives of subglacial volcanism and life in extreme	4558	2
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WHITTAKER, Dr Joanne (Jo)	Onset of the Antarctic Circumpolar Current	4567	4
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GALTON-FENZL, Dr Benjamin (Ben)	State Estimate of East Antarctic Ice Shelves	4574	4
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STARIK, Dr Jonathan (Jonny)	BEAUTY - biodiversity of East Antarctica: Underwater and Terrestrial	4633	2
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BERNSTROM, Dr Dana	Antarctic Nearestshore and Terrestrial Observing System - East Antarctica (East-ANTOS)	4644	2
HARDMAN, Mr David	UV monitoring	4646	2



[hyperlink to project description on AAD web site](#)

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1	3	1986/87	ALLISON, Dr. Ian	Glaciology of the Hinterland of the Lambert Glacier Basin *
2	4	1986/87	FRASER, Prof. Brian	Propagation of PC1-2 Pulsations Across the Polar Cap
3	6	1986/87	JACKA (DECEASED), Dr. Fred	Upper Atmosphere Dynamics - Mawson
4	7	1986/87	YOUNG, Mr. Neal	Distribution, size and dissolution of Antarctic icebergs [observational]
5	12	1986/87	AYTON, Dr. Jeffrey (Jeff)	ANARE health register [observational]
6	13	1986/87	AYTON, Dr. Jeffrey (Jeff)	Human interaction with the antarctic environment
7	15	1986/87	MORGAN, Mr. Vincent (Vin)	Deep Ice Drilling on Law Dome
8	16	1986/87	MORRIS, Dr. Raymond (Ray)	Australia's Magnetospheric Research in Antarctica
9	18	1986/87	QUILTY, Prof. Patrick (Pat)	Origin of Krill-based Ecosystem
10	25	1986/87	BURNS, Dr. Gary	Vertical Electric Field
11	27	1986/87	DENNIS, Mr. Stewart	AGSO Geomagnetic Observatories [Projects 27 and 10 combined - Project No. 760 from 94/95 onwards]
12	29	1986/87	DULDIG, Dr. Marcus (Marc)	Variations of cosmic radiation [observational]
13	30	1986/87	HUMBLE, Dr. John	Low energy cosmic rays at Mawson [this project has been incorporated in #29 Variations of cosmic radiation from 2000-01 (DULDIG)]
14	39	1986/87	COLE, Prof. Keith	Hydroxyl Airglow and Mesospheric Temperatures
15	40	1986/87	WRIGHT, Dr. Simon	The role of antarctic marine protists in trophodynamics and global change and the impact of UV-B on these organisms
16	43	1986/87	BURNS, Dr. Gary	O(1S) Effective Lifetimes
17	46	1986/87	KERRY, Dr. Knowles	Development of an Automated Penguin Recording System and its Subsequent Use in the CCAMLR Ecosystem Monitoring Program
18	48	1986/87	SEPPELT, Prof. Rod	Biology of a Terrestrial Continental Antarctic Ecosystem: Adaptive Strategies and Physiological Ecology of Terrestrial and Aquatic Plants
19	61	1986/87	BURTON, Mr. Harry	Sulfur gas production by the alga 'Phaeocystis' in Antarctic waters
20	77	1986/87	SELKIRK, Dr. Patricia	Quaternary Vegetation History of Australian Subantarctic Islands
21	78	1986/87	SELKIRK, Dr. Patricia	Floristics, reproduction, dispersal, and genetic variation of subantarctic and antarctic bryophytes
22	79	1986/87	GOLDSWORTHY, A/Prof. Simon	Recovery of the Fur Seal Population at Macquarie Island
23	86	1986/87	QUILTY, Prof. Patrick (Pat)	Pliocene Vertebrate Palaeontology, Marine Plain, Vestfold Hills, Antarctica
24	89	1986/87	BURTON, Mr. Harry	Population monitoring and ecology of Weddell seals at the Vestfold Hills
25	97	1986/87	MULLER, Prof. Hans (Konrad)	Analysis of immunity in Antarctic expedition personnel (INCORPORATED IN PROJ #13 FROM 2001-02)
26	98	1986/87	GRAS, Dr. John	Antarctic and Southern Ocean atmospheric aerosol study
27	99	1986/87	ESSEX, Dr. Elizabeth	Satellite Signal Scintillations
28	102	1986/87	BEARDALL, Dr. John	Biology of Antarctic Algae
29	120	1986/87	ELLIS, Dr. David	Petrogenesis of Antarctic Charnockites and Evolution of the Earth's Early Crust
30	124	1986/87	ETHERIDGE, Dr. David	Concentration and isotopic measurements of radiatively important gases in the southern atmosphere [observational]
31	125	1986/87	GREENSLADE, Dr. Penelope	Terrestrial Invertebrates of Heard Island
32	126	1986/87	GREEN, Prof. David	Mafic Dykes and Shear Zones in the Vestfold Hills, East Antarctic Shield
33	143	1986/87	JAGO, A/Prof. James (Jim)	The Biostratigraphy of Middle and Late Cambrian Faunas of Northern Victoria Land, Antarctica
34	155	1986/87	VAN FRANKEKER, Dr. Jan	Ecology of Antarctic fulmarine petrels
35	189	1986/87	ALLISON, Dr. Ian	The East Antarctic sea ice zone: characteristics and ocean- ice-atmosphere interaction
36	228	1986/87	QUILTY, Prof. Patrick (Pat)	Marine Geology of Surficial Sediments, Prydz Bay, Antarctica
37	239	1986/87	WILLIAMS, Dr. Richard (Dick)	Studies on the Fish of the Prydz Bay Region
38	240	1986/87	SHAUGHNESSY, Dr. Peter	Fur Seals at Heard Island, Abundance and Mother Pup Relations
39	242	1986/87	LENNON, Prof. Geof	Towards a Coordinated Program of Australian Antarctic Oceanography
40	276	1986/87	ADAMSON, Dr. Donald (Don)	Cainozoic History of the Bunge Hills Region: A Study of the Dynamic Interaction of Ice and Land
41	279	1986/87	ESSEX, Dr. Elizabeth	Satellite Beacon Studies of the Ionosphere in the Southern Auroral Region
42	291	1986/87	ALLISON, Dr. Ian	Satellite Glaciology
43	294	1986/87	BARTON, Dr. Charles	Location and Motion of the South Magnetic Pole
44	303	1986/87	BURNS, Dr. Gary	Equipment Run for Other Research Agencies
45	308	1986/87	BURTON, Mr. Harry	Physiological Tolerances of Some Antarctic Zooplanktons
46	310	1986/87	BURTON, Mr. Harry	Coring Analyses of Cores from Near Shore Sites in the Vestfold Hills
47	313	1986/87	BUTCHER, Dr. Eric	Oblique Propagation Ionosphere Studies
48	314	1986/87	CHAMALAUN, Dr. Francois	Geomagnetic Variations Studies on Kerquelen Island
49	318	1986/87	LU, Dr. Chung	A Survey of the Benthic Marine Invertebrates of Prydz Bay, Antarctica
50	326	1986/87	GORMLY, Dr. Peter	Gastrointestinal Disease & Hypothermia on Polar Field Work (Incorporated in Project 13 [Lugg] from 1989/90)
51	327	1986/87	ESSEX, Dr. Elizabeth	Radio Propagation Studies
52	328	1986/87	ETTERSHANK, Dr. George	Hormonal Control of Ecdysis in the Antarctic
53	332	1986/87	FRANCEY, Dr. Roger	Meridional and Seasonal Variations in the Stable Isotopes of Atmosphere CO2 [This project has been superceded by ASAC Project 124 - Francey, Pearman]
54	354	1986/87	HEATWOLE, Prof. Harold (Hal)	Ecological Relationships of Antarctic Tardigrades
55	357	1986/87	HIGGINBOTTOM, Mr. Ian	Hydroacoustic Determination of the Abundance and Distribution of Krill in the Region of Prydz Bay, Antarctica
56	365	1986/87	IKEDA, Dr. Tom	Abundance, Life Cycle and Potential Productivity of Euphasia superba in Prydz Bay
57	370	1986/87	DENHAM, Dr. David	Installation of a Long-Period Seismograph, Macquarie Island
58	371	1986/87	JOHNSTONE, Dr. Gavin	Availability of Food of Vertebrate Predators in Neritic Zone, Magnetic Island
59	372	1986/87	JOHNSTONE, Dr. Gavin	Population Dynamics of Breeding Colonies of Seabirds in the Davis Region
60	374	1986/87	JOHNSTONE, Dr. Gavin	Population Studies of Northern Giant Petrels and Wandering Albatross at Macquarie Island
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65	397	1986/87	MCCUE, Mr. Kevin	Monitoring of Earthquakes and Nuclear Explosions
66	400	1986/87	NICHOLLS, Dr. Ian	Genesis of Volcanic Rocks, Heard Island
67	402	1986/87	O'BRIEN, Mr. Domonic	Analysis of Swarming Behaviour in Antarctic Krill Using In Situ Observations
68	403	1986/87	O'DONNELL, Mr. Peter	IAGP Glaciology Support at Casey and Hinterland
69	411	1986/87	QUILTY, Prof. Patrick (Pat)	Palaeogene Biostratigraphy, Heard Island
70	414	1986/87	QUILTY, Prof. Patrick (Pat)	Direct Measurement of Carbonate Compensation Depth (CCD) in Prydz Bay - an attempt to Measure Dissolution Rates of Calcite Blocks as a Guide to Identifying (CCD) in Prydz Bay
71	419	1986/87	ROBERTSON, Dr. Graham	Diet and Feeding Ecology of Emperor Penguins
72	423	1986/87	PETERSON, Dr. James (Jim)	Distribution and Dynamics of Vegetation in Relation to Natural Disturbance Factors, Heard and McDonald Islands
73	432	1986/87	STAHL, Mr. Peter	Biological Survey of Prince Charles Mountains
74	435	1986/87	THOMAS, Mr. Paul	Spawning frequency and fecundity of the Antarctic neritic euphausiid, Euphausia crystallorophias
75	446	1986/87	WILLIAMS, Dr. Richard (Dick)	Taxonomy and Zoogeography of Fishes around Macquarie Island
76	449	1986/87	WILSON, Prof. Christopher (Chr)	Tectonic and Metamorphic Evolution of the Bunge Hills Region
77	453	1986/87	WOOLLER, A/Prof. Ronald	Consistent Individuality of Voice in Antarctic Sea Birds
78	457	1986/87	YOUNG, Mr. Neal	The Dynamics of the Outlet Glaciers
79	461	1986/87	COCHRAN, Dr. Tonia	A Study of the Reproductive Biology of the Brooding Chiton Hemiarthrum Setulosum. Collection of Subantarctic Marine Invertebrates from Macquarie Island
80	663	1986/87	KLEINSCHMIDT, Dr. Georg	Shear Zones in the Bunge Hills, Antarctic Shield: Fabrics, Kinematics and Relations to History of Deformation and Metamorphism
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