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Distribution of federal expenditures on science and technology by province and territories, 2001-2002

This service bulletin presents the geographic distribution of federal government science and technology expenditures. Data on federal government expenditures on science and technology are found in Volume 27 No. 8 of this publication series, released in December 2003. In both this and the earlier bulletin, science and technology (S&T) expenditures are the sum of expenditures on research and development (R&D) and on related scientific activities (RSA).

Highlights

- ▶ Of the total \$8.2 billion spent on S&T in 2001-2002 by the federal government, \$7.5 billion was distributed regionally. Of this amount, \$5.6 billion was spent in the National Capital Region, Ontario and Quebec.
- ▶ Two provinces, Alberta and Quebec, increased their share of federal expenditures on S&T, respectively from 5.4% to 6.4% in Alberta and from 16.8% to 18.5% in Quebec. (Ontario and Quebec figures exclude funding for S&T performed by the federal government in its own departments and agencies within the National Capital Region).
- ▶ In 2001-2002, the federal government awarded \$814 million in R&D grants and contracts in the natural sciences to Canadian industry. About 52% of the total was allocated to industries in Ontario, and 31% to those in Quebec.
- ▶ Federal government R&D grants and contracts to the higher education sector increased by 25% in 2001-2002. This is primarily due to the inclusion of indirect costs of university research funded by the Social Sciences and Humanities Research Council.

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As shown in Table 1, \$ 4.9 billion, or 60%, of the total federal government's expenditures on S&T was spent in the provinces and territories. The rest consists of categories of expenditures which are not distributed geographically. They are the following:

- All federal expenditures in the National Capital Region (NCR) for the performance of S&T in federal institutions (intramural S&T), whose expenditures were \$ 2,603 million;
- All payments abroad for S&T of \$ 282 million;
- Various other categories of federal expenditures which could not be assigned geographically, amounting to \$420 million.

The reason for treating the intramural S&T expenditures in the NCR as a separate category is the following: whether or not these expenditures accrue to one side of the Ottawa River or the other depends on the location of the particular federal agency performing the S&T and could change merely as a result of the way in which office space is allocated within the NCR.

S&T expenditures can be divided into R&D and RSA expenditures. In this bulletin, there are two other divisions that can be applied to any expenditure. They are science type and intramural versus extramural expenditures. The terms "natural sciences" and "social sciences" are to be regarded as synonymous with "natural sciences and engineering" (NSE) and "social sciences and humanities" (SSH) respectively. Definitions of these and other terms are given in the annual publication, "Federal Scientific Activities" (Catalogue number 88-204-XIE).

Tables

Table 1 is a historical presentation of identified federal S&T spending in the provinces and territories. Tables 2 and 3 provide details of the identified federal S&T spending for the year 2001-2002: S&T spending is in Table 2 and R&D spending is in Table 3. The difference in the values in the two tables provides the same level of detail for RSA.

Table 4 provides a distribution of the intramural R&D spending of selected government departments. Tables 5 and 6 deal with spending on S&T in the natural sciences.

Tables 7 and 8 deal with extramural spending on grants and contracts. Table 7 presents the value of grants and contracts to universities for R&D, while Table 8 provides the same information for industry, but for R&D in the natural sciences only.

Finally, Tables 9 and 10 provide detail for the NCR. Table 9 gives the intramural expenditures which have been excluded from the provincial and territorial distribution. Table 10 provides sectoral detail for the year 2001-2002.

TABLE 1 Federal expenditures on science and technology, by province and territories, 1995-96 to 2001-2002

Province and territories	Year						
	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^r	2001-2002
	millions of dollars						
Newfoundland and Labrador	90	79	71	86	87	101	95
Prince Edward Island	17	17	14	17	20	29	26
Nova Scotia	199	199	175	200	197	220	226
New Brunswick	81	67	65	75	72	68	82
Quebec	792	824	787	788	833	1,017	1,382
Ontario	1,071	1,077	1,141	1,143	1,309	1,347	1,644
Manitoba	176	184	149	136	161	190	211
Saskatchewan	108	93	120	122	131	148	164
Alberta	252	248	247	254	301	327	475
British Columbia	383	347	373	446	528	479	526
Yukon, North West Territories and Nunavut	14	17	16	15	20	28	33
Canada (Excluding NCR*)	3,183	3,152	3,158	3,282	3,659	3,954	4,864
National Capital Region*	1,926	1,967	1,819	1,942	1,981	2,130	2,603
Canada (Including NCR)	5,109	5,119	4,977	5,224	5,640	6,084	7,467

*Federal intramural expenditures only.

Federal expenditures on science and technology, by province and territories

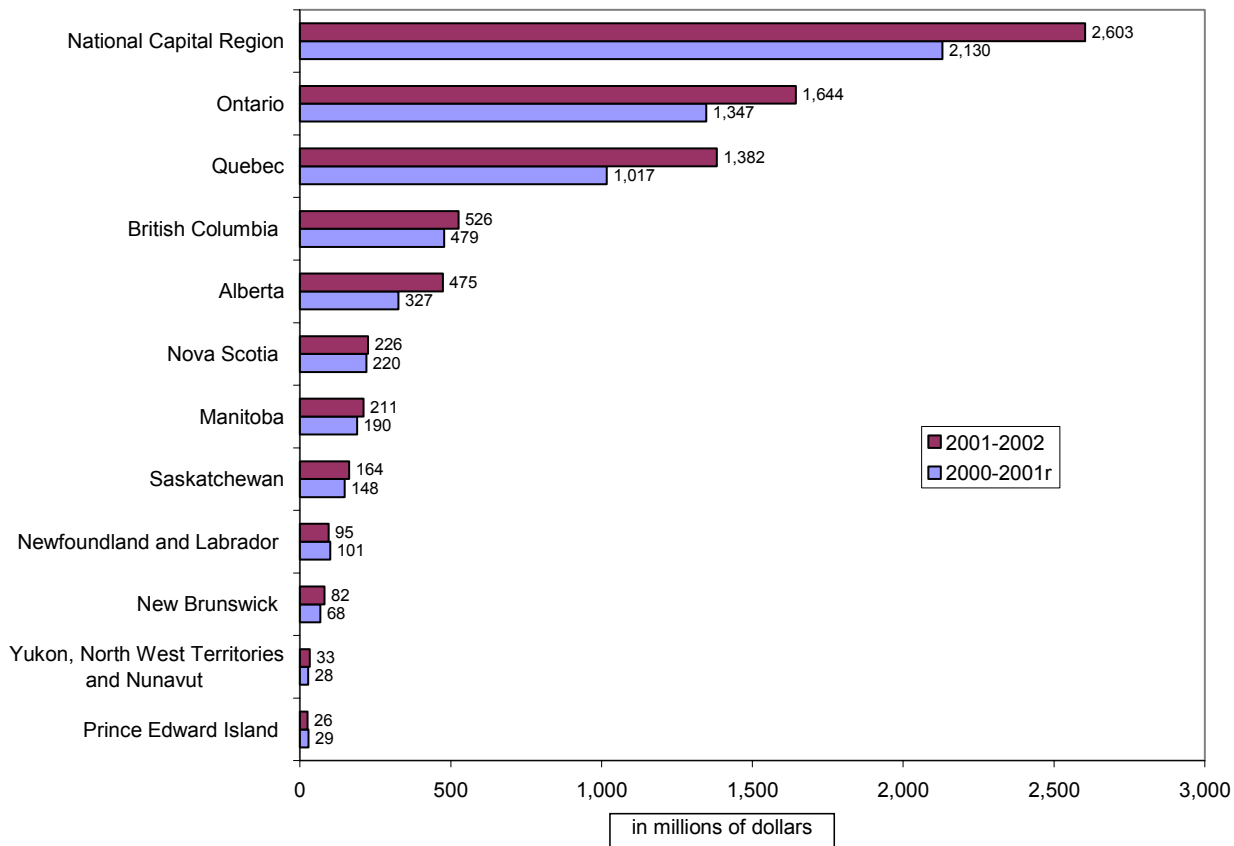


TABLE 2 Federal expenditures on science and technology, by science, by province and territories and sector of performance, 2001-2002

Province and territories	Federal government	Business enterprises	Higher education	Other ¹ Canadian performers	Total
millions of dollars					
Total sciences:					
Newfoundland and Labrador	61	9	20	5	95
Prince Edward Island	19	3	3	1	26
Nova Scotia	153	21	47	5	226
New Brunswick	46	8	24	4	82
Quebec	527	258	444	153	1,382
Ontario	500	440	601	103	1,644
Manitoba	148	15	42	6	211
Saskatchewan	90	10	57	7	164
Alberta	159	27	172	117	475
British Columbia	219	60	214	33	526
Yukon, North West Territories and Nunavut	30	1	0	2	33
Canada (Excluding NCR*)	1,952	852	1,624	436	4,864
National Capital Region*	2,603	...	...	...	2,603
Canada (Including NCR)	4,555	852	1,624	436	7,467
Natural sciences:					
Newfoundland and Labrador	59	9	14	4	86
Prince Edward Island	18	3	2	0	23
Nova Scotia	136	21	35	4	196
New Brunswick	45	8	9	3	65
Quebec	493	256	350	19	1,118
Ontario	465	429	463	62	1,419
Manitoba	139	15	33	4	191
Saskatchewan	87	10	49	5	151
Alberta	149	27	138	113 ²	427
British Columbia	204	58	174	27	463
Yukon, North West Territories and Nunavut	26	1	0	1	28
Canada (Excluding NCR*)	1,821	837	1,267	242	4,167
National Capital Region*	1,345	...	...	...	1,345
Canada (Including NCR)	3,166	837	1,267	242	5,512
Social sciences:					
Newfoundland and Labrador	2	0	6	1	9
Prince Edward Island	1	0	1	1	3
Nova Scotia	17	0	12	1	30
New Brunswick	1	0	15	1	17
Quebec	34	2	94	134 ³	264
Ontario	35	11	138	41	225
Manitoba	9	0	9	2	20
Saskatchewan	3	0	8	2	13
Alberta	10	0	34	4	48
British Columbia	15	2	40	6	63
Yukon, North West Territories and Nunavut	4	0	0	1	5
Canada (Excluding NCR*)	131	15	357	194	697
National Capital Region*	1,258	...	...	...	1,258
Canada (Including NCR)	1,389	15	357	194	1,955

¹ Includes Canadian non-profit institutions, provincial and municipal governments and other Canadian performers.

² Includes \$100 million for the Sustainable Development Technology Fund (Environment Canada and Natural Resources Canada each provided \$50 million).

³ Includes a \$125 million grant to the Pierre Elliott Trudeau Foundation.

* Federal intramural expenditures only.

TABLE 3 Federal expenditures on R&D, by province and territories and sector of performance 2001-2002

Province and territories	Federal government	Business enterprises	Higher education	Other ¹ Canadian performers	Total
millions of dollars					
Newfoundland and Labrador	27	8	19	3	57
Prince Edward Island	16	3	2	1	22
Nova Scotia	70	20	27	4	121
New Brunswick	26	7	22	3	58
Quebec	372	252	412	23	1,059
Ontario	328	423	518	84	1,353
Manitoba	77	13	39	4	133
Saskatchewan	63	9	43	6	121
Alberta	98	26	159	111 ²	394
British Columbia	97	54	200	29	380
Yukon, North West Territories and Nunavut	3	1	0	1	5
Canada (Excluding NCR*)	1,177	816	1,441	269	3,703
National Capital Region*	926	...	...	...	926
Canada (Including NCR)	2,103	816	1,441	269	4,629

¹ Includes Canadian non-profit institutions, provincial and municipal governments and other Canadian performers.

² Includes \$100 million for the Sustainable Development Technology Fund (Environment Canada and Natural Resources Canada each provided \$50 million).

* Federal intramural expenditures only.

TABLE 4 Federal intramural expenditures on R&D, by province and territories and selected departments 2001-2002

Province and territories	AECL	AGR	CSA	ENV	F&O	NDEF	NRC	NRCan	Other	Total
millions of dollars - millions de dollars										
Newfoundland and Labrador	0	2	0	1	14	0	9	1	0	27
Prince Edward Island	0	14	0	0	1	0	0	0	1	16
Nova Scotia	0	11	0	3	22	15	14	3	2	70
New Brunswick	0	13	0	1	5	0	0	7	0	26
Quebec	0	56	141	18	13	54	55	22	13	372
Ontario	153	35	0	80	10	13	14	21	2	328
Manitoba	11	23	0	3	12	0	13	0	15	77
Saskatchewan	0	38	0	6	1	0	17	0	1	63
Alberta	0	55	0	2	1	13	0	21	6	98
British Columbia	0	18	0	8	29	0	23	18	1	97
Yukon, North West Territories and Nunavut	0	0	0	0	2	0	0	1	0	3
Canada (Excluding NCR)	164	265	141	122	110	95	145	94	41	1,177
National Capital Region										
Ontario	4	53	11	1	9	43	351	149	263	885
Québec	0	0	0	24	0	1	0	0	16	41
Total National Capital Region	4	53	11	25	9	44	351	149	279	926

TABLE 5 Federal expenditures on science and technology in the natural sciences, by province and territories, 1995-96 to 2001-2002

Province and territories	Year						
	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^r	2001-2002
	millions of dollars						
Newfoundland and Labrador	85	73	65	79	81	94	86
Prince Edward Island	16	17	14	17	19	27	23
Nova Scotia	171	171	150	172	172	185	196
New Brunswick	77	63	61	71	68	64	65
Quebec	730	762	733	734	772	944	1,118
Ontario	965	969	1,037	1,035	1,199	1,210	1,419
Manitoba	163	172	137	122	147	172	191
Saskatchewan	103	88	115	116	125	140	151
Alberta	233	228	231	238	284	301	427
British Columbia	346	316	340	419	495	439	463
Yukon, North West Territories and Nunavut	8	10	11	9	15	21	28
Canada (Excluding NCR*)	2,898	2,819	2,895	3,012	3,377	3,597	4,167
National Capital Region*	1,100	1,026	979	1,046	1,058	1,089	1,345
Canada (Including NCR)	3,998	3,895	3,874	4,058	4,435	4,686	5,512

*Federal intramural expenditures only.

TABLE 6 Federal extramural expenditures on science and technology in the natural sciences, by province and territories, 1995-96 to 2001-2002

Province and territories	Year						
	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001	2001-2002
	millions of dollars						
Newfoundland and Labrador	33	23	21	26	28	35	27
Prince Edward Island	6	6	3	6	5	8	5
Nova Scotia	46	42	37	43	49	45	60
New Brunswick	29	16	17	23	21	23	20
Quebec	432	441	427	406	419	484	625
Ontario	604	520	608	651	731	718	954
Manitoba	45	42	37	38	44	53	52
Saskatchewan	34	30	26	36	46	57	64
Alberta	101	99	101	116	147	151	278
British Columbia	182	169	178	253	295	237	259
Yukon, North West Territories and Nunavut	2	1	1	1	2	3	2
Canada	1,514	1,388	1,457	1,599	1,787	1,814	2,346

TABLE 7 Federal government grants and contracts to the higher education sector for R&D, by province and territories, 1995-96 to 2001-2002

Province and territories	Year						
	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001	2001-2002
	millions of dollars						
Newfoundland and Labrador	9	8	9	10	15	18	19
Prince Edward Island	1	1	1	1	2	2	2
Nova Scotia	23	20	20	23	36	31	27
New Brunswick	8	7	7	11	10	11	22
Quebec	206	205	185	209	252	291	412
Ontario	276	257	246	292	360	456	518
Manitoba	23	21	20	23	28	34	39
Saskatchewan	17	19	14	22	27	41	43
Alberta	73	74	73	85	104	114	159
British Columbia	131	120	120	131	149	152	200
Yukon, North West Territories and Nunavut	0	0	0	0	0	0	0
Canada	768	733	695	807	983	1,150	1,441

Note of Appreciation

Canada owes the success of its statistical system to a long-standing cooperation involving Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

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TABLE 8 Federal government grants and contracts to industry for R&D in the natural sciences, by province and territories, 2001-2002

Department or agency/Program	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon, N.W.T., Nvt.	Canada
millions of dollars												
A. Grants												
ACOA	2.4	0.8	3.2	3.8	0	0	0	0	0	0	0	10.2
CED(QUÉ)	0	0	0	0	10.5	0	0	0	0	0	0	10.5
IND:												
TPC	2.6	0	0	0	154.5	108.5	1.1	0	2.9	20.1	0	289.7
Other	0	0	0	0	0	125.0	0	0	0	0	0	125.0
Total	2.6	0	0	0	154.5	233.5	1.1	0	2.9	20.1	0	414.7
NRC												
IRAP	2.7	1.9	4.1	3.1	14.5	29.2	1.7	2.3	6.8	14.0	0.3	80.6
Total	2.7	1.9	4.1	3.1	14.5	29.2	1.7	2.3	6.8	14.0	0.3	80.6
WEDO	0	0	0	0	0	0	0.2	1.0	6.0	2.1	0	9.3
Other	0	0	0.2	0	9.3	42.9	0.2	0.3	1.1	6.4	0	60.4
Total	7.7	2.7	7.5	6.9	188.8	305.6	3.2	3.6	16.8	42.6	0.3	585.7
% of Grants	1.3	0.5	1.3	1.2	32.2	52.2	0.5	0.6	2.8	7.3	0.1	100.0
B. Contracts												
CSA	0.1	0	0.2	0.2	23.4	61.3	8.5	5.1	0.5	5.0	0	104.3
NDEF	0	0	12.0	0	31.8	40.3	0.5	0.1	7.7	4.1	0	96.5
NRCan	0	0.3	0	0.1	1.0	2.1	0	0	0.3	1.2	0	5.0
Other	0	0	0.3	0	7.4	11.7	0.9	0	0.5	1.3	0.2	22.3
Total	0.1	0.3	12.5	0.3	63.6	115.4	9.9	5.2	9.0	11.6	0.2	228.1
% of Contracts	0	0.1	5.5	0.1	27.9	50.6	4.3	2.3	4.0	5.1	0.1	100.0
Total, Grants and Contracts	7.8	3.0	20.0	7.2	252.4	421.0	13.1	8.8	25.8	54.2	0.5	813.8
% of Total	1.0	0.3	2.4	0.9	31.0	51.7	1.6	1.1	3.2	6.7	0.1	100.0

TABLE 9 Federal intramural expenditures on science and technology in the National capital region, 1995-96 to 2001-2002

Activity and science	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ^r	2001-2002
millions of dollars							
TOTAL NCR							
R&D							
SSH	55	67	68	76	85	84	90
NSE	750	704	689	735	736	805	836
Total	805	771	757	811	821	889	926
RSA							
SSH	771	874	772	821	838	957	1,168
NSE	350	322	290	310	322	284	509
Total	1,121	1,196	1,062	1,131	1,160	1,241	1,677
TOTAL S&T							
SSH	826	941	840	897	923	1,041	1,258
NSE	1,100	1,026	979	1,045	1,058	1,089	1,345
Total	1,926	1,967	1,819	1,942	1,981	2,130	2,603
NCR (ONTARIO)							
R&D							
SSH	50	61	63	70	79	77	82
NSE	726	689	675	711	709	773	803
Total	776	750	738	781	788	850	885
RSA							
SSH	618	736	646	700	722	825	1,020
NSE	272	224	201	213	228	200	405
Total	890	960	847	913	950	1,025	1,425
TOTAL S&T							
SSH	668	797	709	770	801	902	1,102
NSE	998	913	876	924	937	973	1,208
Total	1,666	1,710	1,585	1,694	1,737	1,875	2,310
NCR (QUEBEC)							
R&D							
SSH	6	6	5	6	6	7	8
NSE	24	15	14	24	27	32	33
Total	30	21	19	30	33	39	41
RSA							
SSH	152	138	126	121	116	132	148
NSE	78	98	89	97	94	84	104
Total	230	236	215	218	210	216	252
TOTAL S&T							
SSH	158	144	131	127	122	139	156
NSE	102	113	103	121	121	116	137
Total	260	257	234	248	243	255	293

TABLE 10 Federal expenditure on science and technology in the National capital region, 2001-2002

Activity and science	Federal government	Business enterprises	Higher education	Other ¹ Canadian performers	Total
millions of dollars					
NCR (ONTARIO)					
R&D					
SSH	82	1	13	14	110
NSE	803	197	48	4	1,052
Total	885	198	61	18	1,162
RSA					
SSH	1,020	6	15	7	1,048
NSE	405	4	10	4	423
Total	1,425	10	25	11	1,471
TOTAL S&T					
SSH	1,102	7	28	21	1,158
NSE	1,208	201	58	8	1,475
Total	2,310	208	86	29	2,633
NCR (QUEBEC)					
R&D					
SSH	8	0	0	0	8
NSE	33	1	1	1	36
Total	41	1	1	1	44
RSA					
SSH	148	0	0	0	148
NSE	104	0	0	1	105
Total	252	0	0	1	253
TOTAL S&T					
SSH	156	0	0	0	156
NSE	137	1	1	2	141
Total	293	1	1	2	297

¹ Includes Canadian non-profit institutions, provincial and municipal governments and other Canadian performers.

Symbols

- ... figures not appropriate or not applicable
- r revised figures
- 0 amount too small to be expressed, nil or zero

This publication was prepared by **Yvonne Tremblay** under the direction of **Lloyd Lizotte**, Subject Matter Manager, Science, Innovation and Electronic Information Division.

NOTE

Due to rounding, components may not add to totals.

Departments, Agencies and Programs

ACOA	Atlantic Canada Opportunities Agency
AECL	Atomic Energy of Canada Limited
AGR	Agriculture and Agri-Food Canada
CED(QUE)	Canada Economic Development (Quebec Regions)
CSA	Canadian Space Agency
DESA	Development - Economic Sub-Agreements
DIPP	Defence Industry Productivity Program
ENV	Environment Canada
F&O	Fisheries and Oceans
IRAP	Industrial Research Assistance Program
IND	Industry Canada
NDEF	National Defence
NRC	National Research Council
NRCan	Natural Resources Canada
NSE	Natural Sciences and Engineering
SSH	Social Sciences and Humanities
TOP	Technology Outreach Program
TPC	Technology Partnerships Canada
WEDO	Western Economic Diversification Office

Current publications of the Science and Innovation Surveys Section include:

Industrial Research and Development, 2003 Intentions, (with 2002 preliminary estimates and 2001 actual expenditures), Catalogue No. 88-202-XIE, annual. It presents statistics on research and development (R&D) activities performed and funded by Canadian business enterprises. The report covers current and capital expenditures on R&D, R&D as a percent of performing company revenues, R&D expenditures by province, the company's country of control, personnel engaged in R&D and payments for technological services.

<http://www.statcan.ca/english/IPS/Data/88-202-XIE.htm>

Federal Scientific Activities, 2002-2003, Catalogue No. 88-204-XIE, annual. It presents statistics on the federal government's activities in science and technology (S&T). It covers expenditures and person-years by type of science, performing sectors, provinces, Federal departments and agencies.

<http://www.statcan.ca/english/IPS/Data/88-204-XIE.htm>