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Symbols

The following standard symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- p preliminary
- r revised
- x suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published

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Highlights

Federal government expenditures on scientific activities, 2007/2008 (intentions)

- The federal government's spending on science and technology is expected to reach \$9.5 billion in the fiscal year 2007/2008, after surpassing \$9 billion in 2005/2006. Research and development will be the main beneficiary of this federal investment. (Table 3-1)
- A survey of science and technology activities of federal departments and agencies shows that intended spending on research and development for 2007/2008 will be an estimated \$6.1 billion. Related scientific activities such as scientific and general data collection and information services will receive \$3.5 billion. (Table 3-1)
- As a result, science and technology will account for about 4.5% of the total federal government budget in 2007/2008, compared with 5.1% two years earlier. (Table 1-1)
- Federal science and technology spending will contract slightly in 2007/2008, from \$9.7 billion in 2006/2007 to \$9.5 billion. This decline will occur in related scientific activities. However, indications are that federal research and development spending will hold steady. (Table 3-1)
- Almost half (48%) of federal science and technology investment in 2007/2008 will be performed outside the federal government with the majority (80%) of this funding directed towards natural sciences and engineering. (Table 3-2)
- The higher education sector will receive \$2.9 billion and Canadian business enterprises \$1.1 billion to fund science and technology activities this year. (Table 3-2)
- The higher education sector will receive \$2.6 billion, while the federal government departments and agencies will receive \$2.3 billion to conduct research and development. (Table 4-1)
- Intentions for direct federal funding of research and development by Canadian business enterprises are down slightly from \$791 million in 2005/2006 to \$733 in 2007/2008. (Table 4-1)

Analysis

Federal government expenditures on scientific activities, 2007/2008 (intentions)

This bulletin presents recent statistical information on the performance and funding of federal government expenditures on scientific activities, 2007/2008. The statistics presented are derived from a survey of federal science and technology (S&T) activities of federal departments and agencies. The data in this publication are consistent with expenditures of departments and agencies as reported in the Main Estimates 2007/2008, but do not reflect changes to 2007/2008 spending plans which may result from supplementary estimates or other departmental planning decisions.

Between 1995/1996 and 2007/2008 federal spending on science and technology as a percentage of the total budget peaked in 2005/2006 at 5.1% and intentions indicate that the funding of S&T has begun a decline although it will remain much higher than the 3.5% registered in 1995/1996 (table 1-1).

Federal investment in research and development (R&D) stood at 3.3% of the total federal budget in 2005/2006 with indications of decline in 2007/2008 (2.9%), again much higher than the 2.1% reported for 1995/1996 (table 1-1).

Related scientific activities (RSA) including scientific and general data collection saw their peak in dedicated federal spending as a percentage of the total budget earlier first hitting 1.9% in 2001/2002. Federal S&T spending intentions indicate a contraction of RSA spending in 2007/2008 (table 1-1).

In terms of constant 1997 dollars, federal S&T spending peaked in 2005/2006 and intentions indicate that this spending may be in a plateau. Federal S&T spending underwent a major increase between 2000/2001 and 2001/2002 due in part to the introduction of the Canada research chairs. (Table 1-1)

The major federal departments and agencies in 2007/2008 investing in S&T activities will include the three funding councils: Natural Sciences and Engineering Research Council (\$905 million); Canadian Institutes of Health Research (\$876 million); and Social Sciences and Humanities Research Council (\$622 million) (table 3-3).

There will be four leading departments and agencies in S&T spending: National Research Council (\$757 million); Statistics Canada (\$641 million); Environment Canada (\$581 million); and Natural Resources Canada (\$573 million) (table 3-3).

The socio-economic objectives of federal S&T investment differ depending upon whether the spending is by federal departments or agencies (intramural spending) or is funding for S&T activities by non-federal organisations (extramural spending). Based on the level of investment, the leading intramural socio-economic objective in 2005/2006 was social structures and relationships at \$1.0 billion whereas protection and improvement of human health (\$1.2 billion) led for extramural S&T spending (table 3-4).

When looking at R&D spending by socio-economic objective, almost 15%, or \$336 million of the \$2.3 billion federal intramural R&D expenditure, went to agriculture in 2005/2006 with the next largest expenditure (\$245 million) going to defence. On the other hand, extramural R&D spending was directed towards protection and improvement of human health (30% or \$1.1 billion) and industrial production and technology (24%, or \$884 million) (table 4-3).

The leading federal departments or agencies performing R&D in 2007/2008 will continue to be the National Research Council (\$544 million), Agriculture and Agri-Food Canada (\$307 million), National Defence (\$238 million), Natural Resources Canada (\$229 million), and Environment Canada (\$183 million) (table 7).

Related products

Selected publications from Statistics Canada

88-202-X	Industrial Research and Development...intentions
88-204-X	Federal Scientific Activities
88-522-X	Science and Technology Activities and Impacts: A Framework for a Statistical Information
88F0006X	Science, Innovation and Electronic Information Division Working Papers
88F0006X2001005	Provincial Distribution of Federal Expenditures and Personnel on Science and Technology 1990-91 to 1998-99
88F0006X2002008	Provincial Distribution of Federal Expenditures and Personnel on Science and Technology, 1991-92 to 1999-2000
88F0006X2003008	Provincial Distribution of Federal Expenditures and Personnel on Science and Technology, 1994-95 to 2000-2001
88F0006X2004005	Provincial Distribution of Federal Expenditures and Personnel on Science and Technology 1995-1996 to 2001-2002
88F0006X2005002	Provincial Distribution of Federal Expenditures and Personnel on Science and Technology, 1996-1997 to 2002-2003
88F0006X2005019	Estimation of Research and Development Expenditures in the Higher Education Sector, 2003-2004
88F0017M	Science, Innovation and Electronic Information Division Research Papers

Selected technical and analytical products from Statistics Canada

88F0017M1999006	Diffusion of Biotechnologies in Canada: Results from the Survey of Biotechnology Use in Canadian Industries
88F0017M2000008	Explaining Rapid Growth in Canadian Biotechnology Firms
88F0017M2001009	Internationally Comparable Indicators on Biotechnology: A Stocktaking, a Proposal for Work and Supporting Material
88F0017M2001010	Analysis of the Survey on Innovation, Advanced Technologies and Practices in the Construction and Related Industries, 1999

88F0017M2001011	Capacity to Innovate, Innovation and Impact: The Canadian Engineering Services Industry
88F0017M2001012	Patterns of Advanced Manufacturing Technology (AMT) Use in Canadian Manufacturing: 1998 AMT Survey Results

Selected CANSIM tables from Statistics Canada

358-0001	Gross domestic expenditures on research and development, by science type and by funder and performer sector, annual
358-0024	Business enterprise research and development (BERD) characteristics, by industry group based on the North American Industry Classification System (NAICS), annual
358-0026	Intellectual property management, by federal departments and agencies indicators, annual

Selected surveys from Statistics Canada

4201	Research and Development in Canadian Industry
4204	Research and Development of Canadian Private Non-Profit Organizations
4208	Provincial Research Organizations (PRO)
4209	Provincial Government Activities in the Natural Sciences
4212	Federal Science Expenditures and Personnel, Activities in the Social Sciences and Natural Sciences

Selected summary tables from Statistics Canada

- *Research and development performed by the business enterprise sector*
- *Domestic spending on research and development (GERD), funding sector, by province*
- *Domestic spending on research and development (GERD), performing sector, by province*
- *Domestic spending on research and development (GERD)*

Statistical tables

**Table 1-1
Federal expenditures on science and technology and its components — In current dollars and in constant 1997 dollars**

	Current dollars				GDP implicit price index	Constant 1997 dollars			
	Science and technology					Science and technology			
	Main Estimates ¹	Total science and technology	Research and development	Related scientific activities		Main Estimates ¹	Total science and technology	Research and development	Related scientific activities
millions of dollars				index = 1997	millions of dollars				
1995/1996	164,191	5,693	3,465	2,228	97.2	168,921	5,857	3,565	2,292
1996/1997	156,985	5,694	3,391	2,303	98.8	158,892	5,763	3,432	2,331
1997/1998	149,555	5,509	3,379	2,130	100.0	149,555	5,509	3,379	2,130
1998/1999	145,457	5,802	3,578	2,224	99.6	146,041	5,825	3,592	2,233
1999/2000	151,559	6,252	3,890	2,362	101.3	149,614	6,172	3,840	2,332
2000/2001	156,157	6,707	4,150	2,557	105.5	148,016	6,357	3,934	2,424
2001/2002	165,234	8,169	4,989	3,180	106.7	154,858	7,656	4,676	2,980
2002/2003	170,367	8,014	4,927	3,087	107.8	158,040	7,434	4,571	2,864
2003/2004	175,937	8,765	5,462	3,303	111.3	158,075	7,875	4,907	2,968
2004/2005 ^r	183,290	8,934	5,454	3,480	114.7	159,799	7,789	4,755	3,034
2005/2006 ^r	185,863	9,449	6,042	3,407	118.3	157,112	7,987	5,107	2,880
2006/2007 ^r	198,595	9,662	6,062	3,600	121.0	164,128	7,985	5,010	2,975
2007/2008 ^p	210,311	9,533	6,066	3,467

1. Part 1, Government Expenditure Plan, Estimates.

**Table 1-2
Federal expenditures on science and technology and its components — By growth rate**

	Science and technology		Research and development		Related scientific activities	
	constant 1997 dollars	current dollars	constant 1997 dollars	current dollars	constant 1997 dollars	current dollars
percent						
1996	-1.6	0.0	-3.7	-2.1	1.7	3.4
1997	-4.4	-3.2	-1.5	-0.4	-8.6	-7.5
1998	5.7	5.3	6.3	5.9	4.8	4.4
1999	5.9	7.8	6.9	8.7	4.4	6.2
2000	3.0	7.3	2.4	6.7	3.9	8.3
2001	20.4	21.8	18.9	20.2	22.9	24.4
2002	-2.9	-1.9	-2.2	-1.2	-3.9	-2.9
2003	5.9	9.4	7.4	10.9	3.6	7.0
2004 ^r	-1.1	1.9	-3.1	-0.1	2.2	5.4
2005 ^r	2.5	5.8	7.4	10.8	-5.1	-2.1
2006 ^r	0.0	2.3	-1.9	0.3	3.3	5.7
2007 ^p	..	-1.3	..	0.1	..	-3.7

Table 2
Federal science and technology spending estimates for major intramural departments and agencies, 2007/2008

	Sources of expenditures on science				
	Total estimated expenditures on science	External sources	Other science and technology costs	Budgetary sources	
				Indirect non-program costs	Other federal agencies ¹
millions of dollars					
Agriculture and Agri-Food Canada	364	0	16	-3	351
Atomic Energy of Canada Limited	171	21	0	0	150
Canadian Space Agency	373	0	5	-6	374
Environment Canada	580	67	35	26	452
Fisheries and Oceans Canada	270	14	16	8	232
Health Canada	349	29	27	2	291
Industry Canada	417	0	14	-1	404
National Defence	427	5	11	-18	429
National Research Council	757	21	23	40	673
Natural Resources Canada	573	8	27	-29	567
Statistics Canada	641	33	57	97	454

1. Negative amounts denote net transfer from budget for science and technology.

Table 3-1
Federal science and technology spending — By activity

	2003/2004	2004/2005 ^r	2005/2006 ^r	2006/2007 ^r	2007/2008 ^p
millions of dollars					
Science and technology	8,765	8,934	9,449	9,662	9,534
Research and development	5,462	5,454	6,042	6,062	6,067
Current expenditures	5,033	5,033	5,611	5,633	5,635
Administration of extramural programs	257	269	285	281	296
Capital expenditures	172	152	146	149	136
Related scientific activities	3,303	3,480	3,407	3,600	3,467
Data collection	1,618	1,702	1,715	1,770	1,603
Information services	663	679	676	756	803
Special services and studies	615	666	627	662	658
Education support	206	230	259	272	266
Administration of extramural programs	56	58	59	63	65
Capital expenditures	145	146	70	78	73

Note(s): Due to rounding, components may not add to the totals.

Table 3-2
Federal science and technology spending — By science and by performing sector¹

	2003/2004	2004/2005 ^r	2005/2006 ^r	2006/2007 ^r	2007/2008 ^p
	millions of dollars				
Total sciences	8,765	8,934	9,449	9,662	9,534
Intramural	4,579	4,685	5,024	5,062	4,973
Canadian business enterprises	1,039	979	1,044	1,042	1,061
Higher education	2,255	2,396	2,698	2,851	2,870
Canadian non-profit institutions	514	444	307	256	252
Provincial and municipal government	32	22	19	50	25
Foreign	288	358	306	360	309
Other performers	57	51	51	41	43
Natural sciences	6,723	6,780	7,171	7,151	7,246
Intramural	3,277	3,341	3,618	3,497	3,601
Canadian business enterprises	998	942	1,010	998	1,019
Higher education	1,761	1,848	2,097	2,182	2,210
Canadian non-profit institutions	459 ²	397 ⁴	248	219	206
Provincial and municipal government	27	20	17	46	23
Foreign	168	202	147	182	160
Other performers	33	31	34	27	28
Social sciences	2,042	2,155	2,279	2,511	2,288
Intramural	1,302	1,344	1,406	1,565	1,373
Canadian business enterprises	41	37	34	44	42
Higher education	494 ³	549 ³	601 ⁵	669 ⁶	661 ⁷
Canadian non-profit institutions	55	47	59	37	46
Provincial and municipal government	5	2	2	3	2
Foreign	120	156	159	178	150
Other performers	24	21	18	15	15

1. As reported by the funder, the federal government, not by the performers.
2. Includes \$50 million for the Canadian Foundation for Climate and Atmospheric Sciences and \$125 million for the Sustainable Development Technology Fund funded by Environment Canada.
3. Includes \$225 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.
4. Includes \$100 million for the Sustainable Development Technology Fund funded by Environment Canada.
5. Includes \$245 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.
6. Includes \$260 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.
7. Includes \$300 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.

Note(s): Due to rounding, components may not add to the totals.

Table 3-3
Federal science and technology spending — By major¹ department or agency

	2003/2004	2004/2005 ^r	2005/2006 ^r	2006/2007 ^r	2007/2008 ^p
	millions of dollars				
Total	8,765	8,934	9,449	9,662	9,534
Agriculture and Agri-Food Canada	334	340	354	392 ⁵	364
Atlantic Canada Opportunities Agency	63	101	63	88	88
Atomic Energy of Canada Limited	179	148	182	128	171
Bank of Canada	69	68	70	74	77
Canada Economic Development (Québec Regions)	32	51	75	74	61
Canada Foundation for Innovation	365	271	437	412	442
Canada Mortgage and Housing Corporation	31	33	34	34	37
Canada Science and Technology Museum	34	44	33	32	36
Canadian Food Inspection Agency	47	46	53	51	51
Canadian Institutes of Health Research	693	759	808	871	876
Canadian International Development Agency	366	415	346	441	404
Canadian Museum of Civilization	127	127	80	83	83
Canadian Museum of Nature	31	30	34	63	88
Canadian Space Agency	269	276	281	327	373
Environment Canada ²	776	675	696	605	581
Fisheries and Oceans Canada	283	291	292	272	270
Foreign Affairs and International Trade Canada	45	31	68	59	53
Genome Canada	86	85	92	88	106
Health Canada	332	284	291	330	349
Industry Canada	434	426	579	453	417
International Development Research Centre	89	108	118	127	140
Library and Archives Canada	...	83	100	94	94
National Defence	403	430	434	439	427
National Gallery of Canada	54	59	62	60	59
National Research Council	778	793	824	774	757
Natural Resources Canada	651	632	542	530	573
Natural Sciences and Engineering Research Council	732	808	864	909	905
Parks Canada Agency	103	109	79	78	78
Public Health Agency of Canada	...	61	62	65	71
Social Sciences and Humanities Research Council	460 ³	523 ³	574 ⁴	631 ⁶	622 ⁷
Treasury Board	44	32	41	50	52
Statistics Canada	581	610	703	842	641
Total of major departments	8,491	8,749	9,271	9,476	9,346
Other	274	185	178	186	187

1. Represent departments and agencies with the highest expenditures over the last three years.
2. Environment Canada resources include large one-time grants and contributions to initiatives outside of the department which did not result in increases in departmental expenditures (\$60M for Climate and Atmospheric Sciences in 1999/2000, \$50M for the Sustainable Development Technology Fund in 2001/2002, \$50M for the Canadian expenditures (\$60M for Climate and Atmospheric Sciences in 1999/2000, \$50M for the Sustainable Development Technology Fund in 2001/2002, \$50M for the Canadian Foundation for Climate and Atmospheric Sciences and \$125M for the Sustainable Development Technology Fund in 2003/2004 and \$100M for the Sustainable Development Technology Fund in 2004/2005).
3. Includes \$225 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.
4. Includes \$245 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.
5. Includes \$30 million for the Agriculture Development Fund Project.
6. Includes \$260 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.
7. Includes \$300 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.

Note(s): Due to rounding, components may not add to the totals.

**Table 3-4
Federal science and technology spending — By socio-economic objective**

	2003/2004		2004/2005		2005/2006	
	Intramural ¹	Extramural	Intramural ¹	Extramural	Intramural ¹	Extramural
millions of dollars						
Science and technology expenditures	4,275	4,188	4,398	4,250	4,721	4,465
Exploration and exploitation of the earth	382	123	414	98	448	101
Infrastructure and general planning of land use						
Transport	112	33	96	34	109	59
Telecommunication	40	29	58	31	57	32
Other	162	35	145	32	133	34
Control and care of the environment	393	313	396	281	470	247
Protection and improvement of human health	362	1,006	407	1,051	447	1,186
Production, distribution and rational utilization of energy	249	215	231	186	263	121
Agricultural production and technology						
Agriculture	396	97	405	89	413	114
Fishing	172	26	168	36	168	37
Forestry	92	62	92	58	95	56
Industrial production and technology	270	810	272	797	296	958
Social structures and relationships	999	262	1,005	291	1,021	336
Exploration and exploitation of space	135	202	141	194	176	168
Non-oriented research	275	406	283	458	317	799
Other civil research	17	1	19	2	26	5
Defence	193	198	233	184	265	156
Other	26	368	32	429	17	56

1. Non-program (indirect costs) are excluded.

Note(s): Due to rounding, components may not add to the totals.

**Table 4-1
Federal research and development spending — By science and by performing sector¹**

	2003/2004	2004/2005 [†]	2005/2006 [†]	2006/2007 [†]	2007/2008 [‡]
	millions of dollars				
Total sciences	5,462	5,454	6,042	6,062	6,067
Intramural	2,083	2,084	2,414	2,298	2,338
Canadian business enterprises	770	704	791	737	733
Higher education	2,059	2,173	2,442	2,568	2,590
Canadian non-profit institutions	340	260	206	193	183
Provincial and municipal government	22	15	10	44	19
Foreign	144	185	146	196	174
Other performers	43	33	33	27	30
Natural sciences	4,860	4,814	5,370	5,346	5,348
Intramural	1,964	1,965	2,289	2,173	2,208
Canadian business enterprises	766	700	788	734	729
Higher education	1,661	1,734	1,974	2,056	2,082
Canadian non-profit institutions	310 ²	242	186	185	174
Provincial and municipal government	18	14	9	41	19
Foreign	112	135	100	139	118
Other performers	29	25	23	19	20
Social sciences	602	640	672	716	719
Intramural	120	118	125	124	131
Canadian business enterprises	4	4	3	3	3
Higher education	398 ³	439 ³	469 ⁴	512 ⁵	509 ⁶
Canadian non-profit institutions	30	18	20	8	9
Provincial and municipal government	4	2	1	3	0 ^s
Foreign	32	50	46	57	56
Other performers	14	9	10	9	10

1. As reported by the funder, the federal government, not by the performers.

2. Includes \$50 million for the Canadian Foundation for Climate and Atmospheric Sciences funded by Environment Canada.

3. Includes \$225 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.

4. Includes \$245 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.

5. Includes \$260 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.

6. Includes \$300 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.

Note(s): Due to rounding, components may not add to the totals.

Table 4-2
Federal research and development spending — By major¹ department or agency

	2003/2004	2004/2005 ^r	2005/2006 ^r	2006/2007 ^r	2007/2008 ^p
	millions of dollars				
Total	5,462	5,454	6,042	6,062	6,067
Agriculture and Agri-Food Canada	252	247	327	364 ⁵	335
Atlantic Canada Opportunities Agency	63	101	63	88	88
Atomic Energy of Canada Limited	179	148	182	128	171
Bank of Canada	28	28	26	27	28
Canada Economic Development (Québec Regions)	28	45	68	68	56
Canadian Food Inspection Agency	17	15	18	20	22
Canadian Foundation for Innovation	365	271	437	412	442
Canadian Institutes of Health Research	687	749	795	856	862
Canadian International Development Agency	62	85	58	81	66
Canadian Space Agency	256	263	267	310	355
Environment Canada ²	264	209	253	220	211
Fisheries and Oceans Canada	71	74	77	73	73
Genome Canada	86	85	92	88	106
Health Canada	103	56	49	63	61
Industry Canada	376	327	478	381	338
International Development Research Centre	66	82	89	96	106
National Defence	282	296	349	355	321
National Research Council	699	691	756	706	688
Natural Resources Canada	420	378	281	274	296
Natural Sciences and Engineering Research Council	638	706	755	798	789
Public Health Agency of Canada	...	35	34	36	36
Social Sciences and Humanities Research Council	402 ³	444 ³	478 ⁴	522 ⁶	516 ⁷
Statistics Canada	20	21	19	17	20
Western Economic Diversification Canada	25	28	17	8	11
Total of major departments	5,385	5,382	5,968	5,991	5,996
Other	77	72	74	71	71

1. Represent departments and agencies with the highest expenditures over the last three years.
 2. Environment Canada resources include large one-time grants and contributions to initiatives outside of the department which did not result in increases in departmental expenditures (\$60M for Climate and Atmospheric Sciences in 1999/2000, \$50M for the Sustainable Development Technology Fund in 2001/2002, \$50M for the Canadian Foundation for Climate and Atmospheric Sciences and \$125M for the Sustainable Development Technology Fund in 2003/2004).
 3. Includes \$225 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.
 4. Includes \$245 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.
 5. Includes \$30 million for the Agriculture Development Fund project.
 6. Includes \$260 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.
 7. Includes \$300 million for indirect costs of university research funded by the Social Sciences and Humanities Research Council.
- Note(s):** Due to rounding, components may not add to the totals.

Table 4-3
Federal research and development spending — By socio-economic objective

	2003/2004		2004/2005		2005/2006	
	Intramural ¹	Extramural	Intramural ¹	Extramural	Intramural ¹	Extramural
	millions of dollars					
Total science and technology expenditures	1,976	3,379	1,983	3,371	2,312	3,649
Exploration and exploitation of the earth	85	75	98	55	110	78
Infrastructure and general planning of land use						
Transport	56	19	53	27	69	48
Telecommunication	35	27	43	30	52	31
Other	38	31	38	28	49	29
Control and care of the environment	178	171	181	155	216	185
Protection and improvement of human health	196	960	203	988	210	1,106
Production, distribution and rational utilization of energy	245	210	199	181	229	103
Agricultural production and technology						
Agriculture	275	86	269	79	336	102
Fishing	42	23	44	26	47	25
Forestry	72	56	71	49	75	44
Industrial production and technology	189	778	174	732	198	884
Social structures and relationships	60	170	62	189	59	203
Exploration and exploitation of space	121	197	125	190	162	164
Non-oriented research	206	376	208	428	219	496
Other civil research	14	1	15	2	23	4
Defence	157	116	191	94	245	93
Other	6	82	10	119	13	54

1. Non-program (indirect costs) are excluded.

Note(s): Due to rounding, components may not add to the totals.

Table 5-1
Federal related scientific activities spending — By science and by performing sector¹

	2003/2004	2004/2005	2005/2006 ^f	2006/2007 ^f	2007/2008 ^p
		millions of dollars			
Total sciences	3,303	3,480	3,407	3,600	3,467
Intramural	2,496	2,601	2,610	2,764	2,635
Canadian business enterprises	269	275	253	306	329
Higher education	196	223	256	283	280
Canadian non-profit institutions	174	184	101	63	69
Provincial and municipal government	10	7	9	6	6
Foreign	144	173	160	164	135
Other performers	14	18	19	14	13
Natural sciences	1,864	1,965	1,801	1,805	1,897
Intramural	1,314	1,376	1,328	1,324	1,393
Canadian business enterprises	232	242	221	265	290
Higher education	100	114	123	126	128
Canadian non-profit institutions	148 ²	155 ³	62	34	32
Provincial and municipal government	9	6	8	5	5
Foreign	56	67	47	43	42
Other performers	4	6	10	8	8
Social sciences	1,439	1,515	1,606	1,795	1,570
Intramural	1,182	1,225	1,282	1,440	1,242
Canadian business enterprises	37	33	31	41	39
Higher education	95	109	133	157	152
Canadian non-profit institutions	26	29	39	29	37
Provincial and municipal government	1	1	1	1	1
Foreign	87	106	113	121	93
Other performers	10	12	8	6	5

1. As reported by the funder, the federal government, not by the performers.

2. Includes \$125 million for the Sustainable Development Technology Fund funded by Environment Canada.

3. Includes \$100 million for the Sustainable Development Technology Fund funded by Environment Canada.

Note(s): Due to rounding, components may not add to the totals.

Table 5-2
Federal related scientific activities spending — By major¹ department or agency

	2003/2004	2004/2005	2005/2006 ^f	2006/2007 ^f	2007/2008 ^p
	millions of dollars				
Total	3,303	3,480	3,407	3,600	3,467
Agriculture and Agri-Food Canada	82	94	27	28	29
Bank of Canada	41	40	44	47	49
Canada Mortgage and Housing Corporation	22	23	26	24	26
Canada Revenue Agency	10	9	13	13	13
Canada Science & Technology Museum	34	44	33	32	36
Canadian Food Inspection Agency	30	30	35	32	30
Canadian International Development Agency	304	330	288	360	339
Canadian Museum of Civilization	122	121	73	77	77
Canadian Museum of Nature	28	27	30	59	84
Canadian Space Agency	13	13	14	17	17
Environment Canada	512	466	443	385	369
Finance	28	31	31	30	32
Fisheries and Oceans Canada	212	216	214	199	198
Foreign Affairs and International Trade Canada	45	31	68	59	53
Health Canada	229	229	242	268	288
Industry Canada	59	99	102	72	80
International Development Research Centre	23	26	28	31	34
Library and Archives Canada	...	83	100	94	94
National Defence	121	134	85	84	107
National Gallery of Canada	43	47	49	48	47
National Research Council	79	102	68	68	68
Natural Resources Canada	232	254	261	256	277
Natural Sciences and Engineering Research Council	95	102	110	112	116
Parks Canada Agency	102	109	79	78	78
Public Health Agency of Canada	...	26	28	29	35
Social Sciences and Humanities Research Council	58	79	97	109	107
Statistics Canada	562	589	684	826	622
Total of major departments	3,086	3,354	3,272	3,437	3,305
Other	217	126	135	163	162

1. Represent departments and agencies with the highest expenditures over the last three years.

Note(s): Due to rounding, components may not add to the totals.

Table 6-1
Federal intramural science and technology spending — By activity

	2003/2004	2004/2005	2005/2006 ^f	2006/2007 ^f	2007/2008 ^p
	millions of dollars				
Science and technology	4,579	4,685	5,024	5,062	4,973
Research and development	2,083	2,084	2,414	2,298	2,338
Current expenditures	1,655	1,662	1,983	1,868	1,906
Administration of extramural programs	257	269	285	281	296
Capital expenditures	172	152	146	149	136
Related scientific activities	2,496	2,601	2,610	2,764	2,635
Data collection	1,393	1,479	1,588	1,637	1,451
Information services	584	587	588	664	709
Special services and studies	311	326	304	321	337
Education support	7	7	1	1	1
Administration of extramural programs	57	58	59	63	65
Capital expenditures	145	146	70	78	73

Note(s): Due to rounding, components may not add to the totals.

Table 6-2
Federal intramural science and technology spending — By major¹ department or agency

	2003/2004	2004/2005	2005/2006 ^r	2006/2007 ^r	2007/2008 ^p
	millions of dollars				
Total	4,579	4,685	5,024	5,062	4,973
Agriculture and Agri-Food Canada	316	328	325	331	332
Atomic Energy of Canada Limited	168	141	172	118	161
Bank of Canada	69	68	70	74	77
Canada Economic Development (Québec Regions)	8	13	19	18	16
Canada Mortgage and Housing Corporation	26	26	28	28	31
Canada Revenue Agency	10	9	13	13	13
Canada Science and Technology Museum	34	44	33	32	36
Canadian Food Inspection Agency	47	45	53	51	51
Canadian Institutes of Health Research	45	54	54	53	53
Canadian International Development Agency	22	24	25	27	26
Canadian Museum of Civilization	127	127	80	83	83
Canadian Museum of Nature	31	30	34	63	88
Canadian Space Agency	105	112	145	123	187
Environment Canada	533	506	610	531	510
Finance	28	31	31	30	32
Fisheries and Oceans Canada	280	276	275	256	254
Health Canada	280	258	263	307	329
Industry Canada	98	110	115	117	122
International Development Research Centre	42	42	48	52	57
Library and Archives Canada	...	80	97	92	91
National Defence	205	246	277	302	267
National Gallery of Canada	54	59	62	60	59
National Research Council	643	656	696	645	612
Natural Resources Canada	456	458	457	446	482
Natural Sciences and Engineering Research Council	38	42	43	48	46
Parks Canada Agency	101	107	77	76	76
Public Health Agency of Canada	...	38	51	53	57
Social Sciences and Humanities Research Council	23	25	25	26	25
Statistics Canada	581	609	702	842	641
Transport Canada	15	13	11	13	8
Treasury Board	44	32	41	50	52
Total of major departments	4,429	4,609	4,932	4,959	4,872
Other	150	76	92	103	101

1. Represent departments and agencies with the highest expenditures over the last three years.
Note(s): Due to rounding, components may not add to the totals.

Table 7
Federal intramural research and development spending by major¹ department or agency

	2003/2004	2004/2005	2005/2006 ^r	2006/2007 ^r	2007/2008 ^p
	millions of dollars				
Total	2,083	2,084	2,414	2,298	2,338
Agriculture and Agri-Food Canada	238	236	302	307	307
Atomic Energy of Canada Limited	168	141	172	118	161
Bank of Canada	28	28	26	27	28
Canada Economic Development (Québec Regions)	5	9	14	14	11
Canada Mortgage and Housing Corporation	7	7	7	9	10
Canadian Food Inspection Agency	17	15	18	19	22
Canadian Foundation for Innovation	10	8	10	12	12
Canadian Institutes of Health Research	45	53	53	52	52
Canadian Space Agency	95	101	133	108	172
Environment Canada	187	182	220	191	183
Fisheries and Oceans Canada	68	72	77	73	72
Health Canada	75	51	46	59	57
Industry Canada	43	44	47	48	46
International Development Research Centre	28	28	33	35	39
National Defence	167	202	257	279	238
National Gallery of Canada	11	12	12	12	12
National Research Council	564	554	629	578	544
Natural Resources Canada	231	213	218	212	229
Natural Sciences and Engineering Research Council	33	36	38	42	40
Public Health Agency of Canada	...	23	28	29	30
Social Sciences and Humanities Research Council	14	15	17	18	17
Statistics Canada	20	21	19	17	20
Total of major departments	2,052	2,048	2,376	2,259	2,302
Other	31	36	38	39	36

1. Represent departments and agencies with the highest expenditures over the last three years.

Note(s): Due to rounding, components may not add to the totals.

Methodology

The Federal Government is a principal funder of science and technology in Canada. This report presents information on the disposition of monies and human resources for science and technology (S&T) by federal departments and agencies. The information has been assembled to serve as a reference document for program managers, government officials, the media and the general public. It records the allocation of S&T resources for the last five years.

The statistics are collected through the survey of Federal Science Expenditures and Personnel, which records past, current and proposed expenditures for activities in the natural and social sciences. The survey is designed to correspond as much as possible to the system of budgetary estimates used by the federal government. This is done to ease the response burden, assist in editing and, most importantly, to produce comparable data for policy planning and program evaluation. Thus, the questionnaire covers the same time span as the estimates including: actual expenditures for the past fiscal year, e.g. 2005/2006; forecast expenditures for the current fiscal year, e.g. 2006/2007; and proposed estimates for the fiscal year, e.g. 2007/2008 (as also reported in the Public Accounts).

Over 55 different federal government departments and agencies either perform science and technology (S&T) activities or have a budgetary allocation to fund S&T. In addition to the expenditures attributable to program budgets, there are additional costs attributable to scientific activities which must be included if a full picture of the resources devoted to science activities is to be obtained. These include other sources of funds and other S&T costs which are defined below:

Transfers into the program from other federal government departments and agencies, net of transfers out;

Income from external sources such as industry and provincial governments;

Other S&T costs: Non-Program Costs (indirect costs) are costs that are not part of the budgets of scientific programs and include services provided by other departments, such as:

- accommodation by Public Works and Government Services Canada and own department;
- employer's share of health and employment insurance premiums paid by Treasury Board;
- employee compensation under Workers Compensation Acts paid by Human Resources and Social Development Canada;
- cost of legal services provided by the Department of Justice;
- cheques issue cost by Public Works and Government Services Canada.

Indirect costs are included in departmental totals; however, these costs have not been included in expenditures classified by socio-economic objective.

According to international convention, science and technology activities are divided into two fields; natural sciences and engineering (NSE) and social sciences and humanities (SSH). These fields of science are further divided into research and development (R&D) and related scientific activities (RSA). The Federal Government may choose to perform S&T in its own laboratories (intramural expenditures) or may pay another organization to perform S&T (extramural expenditures). Data are presented in this article on S&T activities funded by the federal government for R&D and RSA and distinguished by performer (that is, intramurally by the government itself or extramurally, by business enterprises (industry), universities, provincial and municipal governments, Canadian non-profit organizations, other performers and foreign performers). Definitions of these terms are provided in the Technical Notes section. Crown corporations which have an industrial function are not included. They are treated as

commercial enterprises and the crown corporation expenditures in aggregate are included in the Statistics Canada report, *Industrial Research and Development*, Catalogue No. 88-202-XIE.

Considerable effort has been expended to maintain the continuity and compatibility of the data series to permit analysis and study of the impact of scientific activities. Efforts of the departments and agencies in ensuring accurate and complete information are gratefully acknowledged.

Technical notes

Scope and limitations of the data

The expenditures data for scientific activities controlled by federal departments and agencies provided in this document correspond to the budgetary expenditures by program presented in Main Estimates for the approval of Parliament. The following kinds of non-budgetary costs or expenditures are not included:

- loans or advances to and investments in Crown Corporations; loans or advances for specific purposes to other governments and international organizations or persons or corporations in the private sector.

Reliability of the data

All the possible sources of error were examined. Definitions have been taken from a compendium of methods of error evaluation in **censuses and surveys**, Statistics Canada, catalogue no. 13-564E.

- A complete enumeration is carried out of all federal departments and agencies involved in scientific activities.
- Being a census, coverage and non-response are very minor causes of error.
- No imputation, coding, or sampling is done by Statistics Canada for this exercise.

Data capture

The data capture operation in a census or survey consists of converting the data received on questionnaires (e.g., respondent answers) or coding forms to a machine readable format.

All data capture for science statistics is through manual intervention, at a computer terminal.

Significant uncorrected data capture errors are unlikely because of the examination of numerous tables and listings prepared for data analysis before publication tables are created. Mistakes in expenditures due to coding error are believed to be less than 1%.

Edit

The edit procedures usually consist of:

- checking each field of every record to ascertain whether it contains a valid code or entry;
- checking codes or entries in certain predetermined combinations of fields to ascertain whether codes or entries are consistent with one another. Although there are a number of edits, all cases of failed edit checks are corrected after consideration by editors.

Definitions

Scope and limitations of the data

According to international convention, science and technology activities are divided into two fields; natural sciences and engineering (NSE) and social sciences and humanities (SSH). These fields of science are further divided into research and development (R&D) and related scientific activities (RSA). The federal government may choose to perform S&T in its own laboratories (intramural expenditures) or may pay another organization to perform S&T (extramural expenditures). Data are presented in this article on S&T activities funded by the federal government for R&D and RSA and distinguished by performer (that is, intramurally by the government itself or extramurally, by business enterprises (industry), the higher education sector, provincial and municipal governments, Canadian non-profit organizations, other performers and foreign performers).

Definitions applicable to both Natural sciences and engineering and Social science and humanities

Scientific research and experimental development (R&D)

Creative work undertaken on a systematic basis in order to increase the stock of scientific and technical knowledge and to use this knowledge in new applications.

The central characteristic of R&D is an appreciable element of novelty and of uncertainty. New knowledge, products or processes are sought. New knowledge involves the integration of newly acquired information into existing hypotheses, the formulation and testing of new hypotheses or the re-evaluation of existing observations.

An R&D project generally has three characteristics:

- a substantial element of uncertainty, novelty and innovation;
- a well-defined project design;
- a report on the procedures and results of the projects.

Related scientific activities (RSA)

Those activities which complement and extend R&D by contributing to the generation, dissemination and application of scientific and technological knowledge.

Intramural performance

Where the science and technology (S&T) activities are managed and carried out primarily by federal government employees they are classified as intramural S&T. Even where major components of the project are provided by outside agencies, such as computer services, laboratory construction, testing of prototype equipment, if the planning, supervision, reporting, and key operating functions are performed by federal personnel, then the activity is considered to be intramural. This also applies to S&T activities carried out by a department or agency on behalf of another federal department or agency on a cost recovery basis.

The intramural expenditures reported for scientific activities are those direct costs, including salaries, associated with scientific programs. These costs include that portion of a program's contribution to employee benefit plans (e.g. superannuation) which is applicable to the scientific personnel within the program.

Non-program ("indirect") costs, such as the value of services provided by other departments without charge and accommodation provided by the reporting program are to be excluded. Support services (i.e. administration, finance) provided by the reporting program, proportional to S&T expenditures should be included.

Extramural performance

The management and conduct of an S&T activity is entrusted to a non-federal organization. The six extramural performance sectors used in surveying S&T expenditures by the federal government are:

Business enterprise

This sector is composed of business and government enterprises, including public utilities and government owned firms. Incorporated consultants providing scientific and engineering services are also included. Industrial research institutes located at Canadian universities are considered to be in the Higher education sector.

Higher education

This sector is composed of all universities, colleges of technology and other institutes of post-secondary education, whatever their source of finance or legal status. It also includes all research institutes, experimental stations and clinics operating under the direct control of, or administered by, or associated with, the higher education establishments.

Canadian non-profit institutions

Charitable foundations, voluntary health organizations, scientific and professional societies, and other organizations not established to earn profits comprise this sector. Canadian non-profit institutions primarily serving or controlled by another sector should be included in that sector.

Provincial and municipal governments

Departments and agencies of these governments form this sector. Government enterprises, such as provincial utilities are included in the Business enterprise sector, and hospitals in the Canadian non-profit institutions.

Foreign performers

All foreign government agencies, foreign companies (including foreign subsidiaries of Canadian firms), international organizations, non resident foreign nationals and Canadians studying or teaching abroad, are included in this sector.

Other performers

This sector includes provincial research councils, and individuals or organizations in Canada not belonging to any of the above sectors.

Type of payment

Contracts

These are payments to organizations or individuals outside the federal government for the conduct of S&T by the recipient or to provide support for the federal government's in-house S&T programs.

Grants and contributions

Awards to organizations or individuals for the conduct of S&T and intended to benefit the recipients rather than provide the program with goods, services or information.

Research fellowships

Awards to individuals for advanced research training and experience. Awards intended primarily to support the education of the recipients are reported as education support.

Socio-economic objectives

Socio-economic objectives allow departments to classify their S&T resource allocations according to the purpose for which the expenditure is intended. The objectives are listed on the questionnaire at the highest level of aggregation with sub-levels given for clarification of categories. In many cases, projects have multiple objectives and a department should assign its expenditures consistent with the stated objectives of the department. Care must be taken to avoid “double counting”.

The objectives are based on the Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets (NABS) produced by the Statistical Office of the European Communities (Eurostat).

- **Exploration and exploitation of the Earth**

Scientific activities with objectives related to the exploration of the Earth's crust and mantle, seas, oceans and atmosphere, and scientific activities on their exploitation. It also includes climatic and meteorological research, polar exploration and hydrology.

- **Infrastructure and general planning of land use**

Scientific activities on infrastructure and land development, including research on the construction of buildings. More generally, it covers all scientific activities relating to the general planning of land-use. This includes scientific activities into protection against harmful effects in town and country planning but not scientific activities into other types of pollution.

- **Control and care of the environment**

Covers scientific activities into the control of pollution, aimed at the identification and analysis of the sources of pollution and their causes, and all pollutants, including their dispersal in the environment and the effects on man, species (fauna, flora, microorganisms) and biosphere. Development of monitoring facilities for the measurement of all kinds of pollution is included. The same is valid for the elimination and prevention of all forms of pollution in all types of environment.

- **Protection and improvement of human health**

Scientific activities aimed at protecting, promoting and restoring human health broadly interpreted to include health aspects of nutrition and food hygiene. It ranges from preventative medicine, including all aspects of medical and surgical treatment, both for individuals and groups, and the provision of hospital and home care, to social medicine and pediatric and geriatric research.

- **Production, distribution and rational utilization of energy**

Covers scientific activities into the production, storage, transportation, distribution and rational use of all forms of energy. It also includes scientific activities on processes designed to increase the efficiency of energy production and distribution, and the study of energy conservation.

- **Agricultural production and technology**

Covers all scientific activities on the promotion of agriculture, forestry, fisheries and foodstuff production. It includes: scientific research on chemical fertilizers, biocides, biological pest control and the mechanization of agriculture; research on the impact of scientific activities in the field of developing food productivity and technology.

- **Industrial production and technology**

Covers scientific activities on the improvement of industrial production and technology. It includes scientific activities on industrial products and their manufacturing processes except where they form an integral part of the pursuit of other objectives (e.g. defence, space, energy, agriculture).

- **Social structures and relationships**

Scientific activities on social objectives, as analysed in particular by social and human sciences, which have no obvious connection with other objectives. This analysis includes quantitative, qualitative, organizational and forecasting aspects of social problems.

- **Exploration and exploitation of space**

All civil space scientific activities. Corresponding scientific activities in the defence field is classified in the Defence objective. (Although civil space research is not, in general, concerned with particular objectives, it frequently has a specific goal, such as the increase of general knowledge (e.g. astronomy), or relates to particular applications (e.g. telecommunications satellites).

- **Non-oriented research**

Basic activities motivated by scientific curiosity with the objective of increasing scientific knowledge. It also includes funding used to support postgraduate studies and fellowships.

- **Other civil research**

Civil scientific activities which cannot (yet) be classified to a particular objective.

- **Defence**

Covers scientific activities for military purposes. It also includes basic research and nuclear and space research financed by ministries of defence. Civil scientific activities financed by ministries of defence, for example, in the fields of meteorology, telecommunications and health, should be classified in the relevant objectives.

Personnel

Intramural expenditure data should be supported by data on the personnel devoted to scientific activities by all the employees engaged in these activities.

Scientific and professional

People in jobs that require at least one academic degree or nationally recognized professional qualification, as well as those with equivalent experience.

Technical

People in jobs that require specialized vocational or technical training beyond the secondary level (e.g., community colleges and technical institutes) as well as those with experience equivalent to this training.

Other

Clerical, secretarial, administrative, operational and other support personnel.

In regard to personnel resources there are two caveats:

- where the S&T activities are a part of the program being reported only the auxiliary staff relevant to the S&T activities are reported on a prorated basis;
- whenever financial and administrative support is provided from another program that support is allocated to the S&T resources for the program being reported.

Full-time equivalent (FTE)

A measure of the time actually devoted to the conduct of scientific activities. An employee who is engaged in scientific activities for a half a year has a full-time equivalence of 0.5. Personnel data reported should be consistent with expenditure data.

Administration of extramural programs (AEP)

AEP identifies the FTEs engaged in the administration of contracts and grants and contributions for scientific activities that are to be performed outside the federal government. These FTEs are broken down by the type of scientific activity supported, i.e., R&D or RSA.

Definitions specific to Natural sciences and engineering

The natural sciences and engineering (NSE) field consists of disciplines concerned with understanding, exploring, developing or utilizing the natural world. Included are the engineering, mathematical, life and physical sciences.

Related scientific activities (RSA)

The kinds of related scientific activities for the natural sciences are described below.

Scientific data collection

The gathering, processing, collating and analyzing of data on natural phenomena. These data are normally the results of surveys, routine laboratory analyses or compilations of operating records.

Data collected as part of an existing or proposed R&D project are charged to research. Similarly, the costs of analyzing existing data as part of a research project are R&D costs, even when the data were originally collected for some other purpose. The development of new techniques for data collection is also to be considered to be a research activity. Examples of scientific data collection are: routine geological, hydrographic, oceanographic and topographic surveys; routine astronomical observations; maintenance of meteorological records; and wildlife and fisheries surveys.

Information services

All work directed to recording, classifying, translating and disseminating scientific and technological information as well as museum services. Included are the operations of scientific and technical libraries, S&T consulting and advisory services, the Patent Office, the publication of scientific journals and monographs, and the organizing of scientific conferences. Grants for the publication of scholarly works are also included.

General purpose information services or information services directed primarily towards the general public are excluded, as are general departmental and public libraries. When individual budgets exist, the costs of libraries which belong to institutions otherwise entirely classified to another activity, such as R&D, should be assigned to information services. The costs of printing and distributing reports from another activity, such as R&D, are normally attributable to that activity.

Sub category under “Information services”

• Museum services

The collecting, cataloguing, and displaying of specimens of the natural world or of representations of natural phenomena. The activity involves a systematic attempt to preserve and display items from the natural world; in some ways it could be considered an extension of information services. The scientific activities of natural history museums, zoological and botanical gardens, aquaria, planetaria and nature reserves are included. Parks which

are not primarily restricted reserves for certain fauna or flora are excluded. In all cases the costs of providing entertainment and recreation to visitors should be excluded (e.g. restaurants, children's gardens and museums).

When a museum also covers not only natural history but also aspects of human cultural activities, the museum's resources should be appropriated between the natural and social sciences. However, museums of science and technology, war, etc., which display synthetic or artificial objects and may also illustrate the operations of certain technologies, should be considered as engaged in museum services in social sciences.

Special services and studies

Work directed towards the establishment of national and provincial standards for materials, devices, products and processes; the calibration of secondary standards; non-routine quality testing; feasibility studies and demonstration projects.

Sub categories under "Special services and studies" include:

- **Testing and standardization**

Work directed towards the establishment of national and international standards for materials, devices, products and processes, the calibration of secondary standards and non-routine quality testing. The development of new measures for standards, or of new methods of measuring or testing, is R&D and should be reported as such. Exclude routine testing such as monitoring radioactivity levels or soil tests before construction.

- **Feasibility studies**

Technical investigations of proposed engineering projects to provide additional information required to reach decisions on implementation. Besides feasibility studies per se, the related activity of demonstration projects are to be included. Demonstration projects involve the operation of scaled-up versions of a facility or process, or data on factors such as costs, operational characteristics, market demand and public acceptance. Projects called 'demonstration projects' but which conform to the definition of R&D should be considered R&D. Once a facility or process is operated primarily to provide a service or to gain revenue, rather than as a demonstration, it should no longer be included with feasibility studies. In all demonstration projects, only the net costs should be considered.

Education support

Grants to individuals or institutions on behalf of individuals which are intended to support the post-secondary education of students in technology and the natural sciences. General operating or capital grants are excluded. The activity includes the support of foreign students in their studies of the natural sciences at Canadian or foreign institutions. Grants intended primarily to support the research of individuals at universities are either R&D grants or research fellowships.

Definitions specific to Social sciences and humanities

The social sciences and humanities (SSH) field embraces all disciplines involving the study of human actions and conditions and the social, economic and institutional mechanisms affecting humans. Included are such disciplines as anthropology, business administration and commerce, information and knowledge management, criminology, demography, economics, geography, history, languages, literature and linguistics, law, library science, philosophy, political science, psychology, religious studies, social work, sociology, and urban and regional studies.

Related scientific activities (RSA)

The kinds of related scientific activities for the social sciences and humanities are described below.

General purpose data collection

The routine gathering, processing, collating, analysis and publication of information on human phenomena using surveys, regular and special investigations and compilations of existing records. It excludes data collected primarily for internal administrative purposes (e.g., departmental personnel statistics) as well as the collection of data as part of an R&D project.

Data collected as part of an existing or proposed research project are charged to research. Similarly the costs of analyzing existing data as part of a research project are R&D costs, even when the data were originally collected for some other purpose. The development of new techniques for data collection is also considered a research activity. The institutions involved are generally the statistical bureaus of Canadian governments and the statistical sections of departments and agencies. If there are units whose principal activity is R&D, their costs and personnel should be assigned to R&D; specialized libraries with separate budgets should be assigned to information services.

Information services

All work related to recording, classifying, translating and disseminating scientific and technological information as well as museum services. Included are the operations of scientific and technical libraries, S&T consulting and advisory services, the Patent Office, the publication of scientific journals and monographs, and the organizing of scientific conferences. Grants for the publication of scholarly works are also included.

General purpose information services or information services directed primarily towards the general public are excluded, as are general departmental and public libraries. When individual budgets exist, the costs of libraries which belong to institutions otherwise entirely classified to another activity, such as R&D, should be assigned to information services. The costs of printing and distributing reports from another activity, such as R&D, are normally attributable to that activity.

Sub category under “Information services” include:

- **Museum services**

The collecting, cataloguing, and displaying of specimens and representations relating to human history, social organization and creations. The activity involves a systematic attempt to preserve and display the works of human beings and to provide information on their works, history, and nature. The scientific activities of historical museums, archaeological displays, and art galleries are included. In all cases, the costs of providing entertainment and recreation to visitors should be excluded (e.g. restaurants, children’s gardens and museums).

When a museum also covers aspects of natural history, the museum’s operation should be divided between the social and natural sciences. However, museums of science and technology, war, etc., which display synthetic or artificial objects and may also illustrate the operations of certain technologies, should be considered as engaged in museum services in social sciences.

Special services and studies

Systematic investigations carried out in order to provide information needed for planning or policy formulation. Demonstration projects are also included.

The work is usually carried out by specialized units in some government departments, by consultants, by royal commissions, and by task forces. The activity is similar to R&D since it may require innovative analyses and a high degree of scientific ability. However, such studies are not intended to acquire new knowledge but to provide specific answers to specific problems (generally immediate, localized and perhaps temporary). The day-to-day operations of units concerned with departmental planning, organization or management are not normally included (i.e. administrative records kept by departments of education) but special projects may be relevant.

Sub categories under “Special services and studies” include:

- **Economic and feasibility studies**

Investigations of the socio-economic characteristics and implications of specific situations. Such studies are generally limited to a specific problem and involve the application of established social science techniques and methodologies.

- **Operations and policy studies**

The analysis and assessment of departmental programs, policies and operations, the activities of units concerned with the continuing analysis and monitoring of external phenomena (e.g., foreign economic statistics, defence and security information) as well as studies to provide an information base for policy development. The work is carried out by specialized units in some government departments, by consultants, by royal commissions and by task forces.

Education support

Grants to individuals or institutions on behalf of individuals which are intended to support the post-secondary education of students in technology and the social sciences. General purpose grants to educational institutions are excluded. The activity includes the support of foreign students in their studies of the social sciences at Canadian or foreign institutions. Grants intended primarily to support the research of individuals at universities are either R&D grants or research fellowships.