

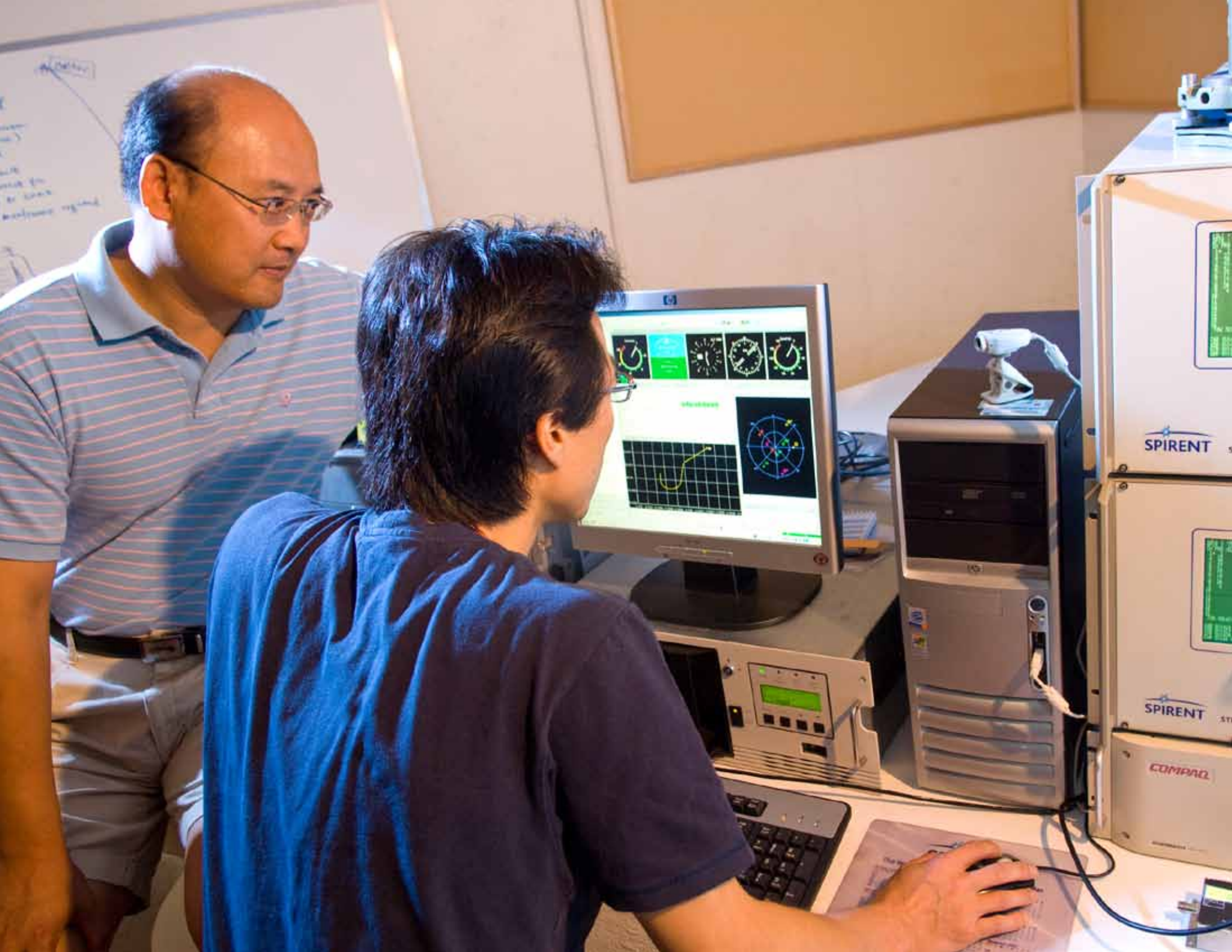
***Geodesy and Geomatics Engineering  
at the  
University of New Brunswick***





# January 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1  New Years Day	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31					December 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	February 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28



# February 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14 Valentines Day	15	16	17	18	19	20
21	22	23	24	25	26	27
28						
					January 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	March 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31



# March 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			
					February 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	April 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30





# April 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2 Good Friday	3
4 Easter Sunday	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	
					March 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	May 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31



# May 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9 Mothers Day	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31				April 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	June 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30



# June 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20 Fathers Day	21	22	23	24	25	26
27	28	29	30			
					May 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	July 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31



# July 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1  Canada Day	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
					June 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	August 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31





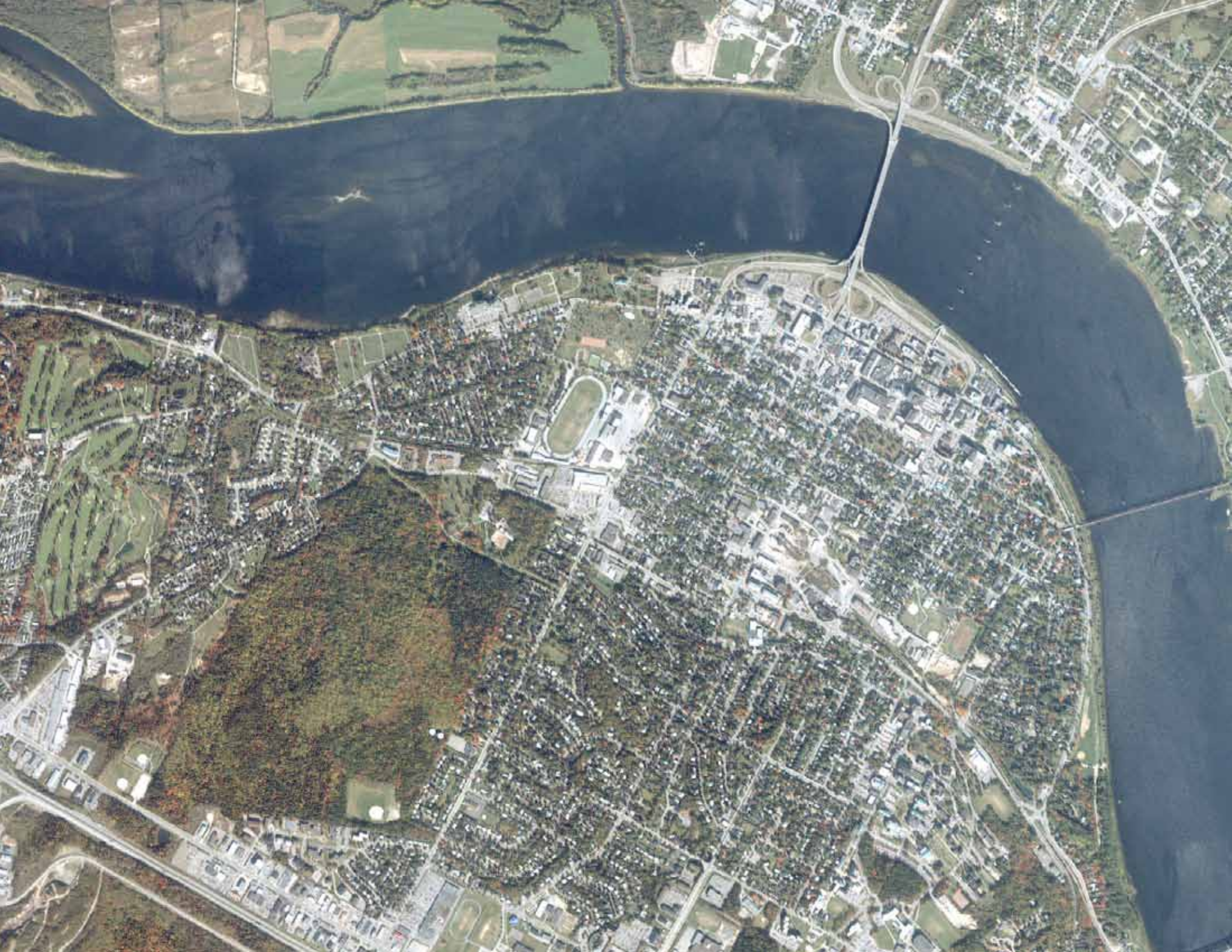
# August 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 New Brunswick Day	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
					July 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	September 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30



# September 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6  Labour Day	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		
					<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> <p>August</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</p> </div> <div style="text-align: center;"> <p>October</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</p> </div> </div>	



# October 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11 Thanksgiving Day	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31					September 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	November 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30



C-GCFY

Cessna

Surveying equipment

Surveying equipment

Fuel tank







# December 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
					Christmas Eve	Christmas Day
26	27	28	29	30	31	
					New Years Eve	
					November 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	January 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

The Department of Geodesy and Geomatics Engineering is celebrating its golden anniversary in 2010. It was established in 1960 as a program in the Department of Civil Engineering and became the fully fledged Department of Surveying Engineering in 1965. The department changed its name to Geodesy and Geomatics Engineering in 1994 to better reflect the interdisciplinary spectrum of its activities.

#### **Cover**

The venerable Wild Heerbrugg (now Leica) T2 micrometer theodolite has been used in many surveying applications including triangulation; precise traversing; astronomy; tacheometry; engineering, cadastral, and mining surveying; setting-out surveys; and optical tooling. The department acquired a number of these instruments in the 1950s and 1960s for teaching and research. Students in the Space Geodesy course still use the T2 on the roof of the Head Hall engineering building to learn the principles of space-based positioning. Photograph courtesy of Alex Penner.

#### **January**

Ocean Mapping Group (OMG) personnel, aboard the CSL Heron and CCGS Amundsen, mapped a glacier front near Devon Island, Nunavut, in 2006. The OMG works closely with the Canadian Coast Guard and the Canadian Hydrographic Service during arctic operations. Photograph courtesy of Steven Brucker.

#### **February**

The department's Global Navigation Satellite Systems (GNSS) Simulation and System Integration Laboratory carries out research in high-precision positioning and navigation using simulated and real-world signals. A pair of dual-frequency Spirent STR4760 GPS Simulators figures prominently in its work. Photograph courtesy of Joy Cummings.

#### **March**

A first year student completes a topographic survey on the rugged Bay of Fundy coastline during the initial stages of construction of the offshore liquefied natural gas receiving jetty located at Canaport LNG in Saint John, New Brunswick. This project was the first of its kind in Canada. Photograph courtesy of Ben McGovern.

#### **April**

The research satellite CASSIOPE on a test platform at the Canadian Space Agency's David Florida Laboratory. CASSIOPE hosts the GPS Attitude, Positioning, and Profiling instrument designed by GGE researchers. It is currently scheduled for launch in 2010. The four white antennas on the left-facing side of the spacecraft will be used to determine the position, velocity, and attitude of the spacecraft while the antenna on the upper side will be used to profile the ionosphere's electron density. Photograph courtesy of MacDonald, Dettwiler and Associates Ltd.

#### **May**

The Ocean Mapping Group's survey launch, the Heron, performed a multibeam survey of Dufour Inlet, off Oliver Sound on northern Baffin Island, in 2006. Photograph courtesy of Ian Church.

#### **June**

The UNB GNSS Research Group is a world leader in the development of algorithms and software for high-precision positioning and navigation. The group developed a computer-controlled motion table for investigating the performance of algorithms for determining platform attitude using GPS. It is shown being tested on the roof of the Gillin Hall engineering building. Photograph courtesy of Don Kim.

#### **July**

GGE students have interesting summer jobs – often with side benefits – such as laying out town houses next to the Tucker's Point Club golf course, Bermuda. Photograph courtesy of Blake Trask.

#### **August**

The Ocean Mapping Group's survey launch, the Heron, is shown coming into the harbour at Lords Cove on Deer Island, New Brunswick. Taken during the Hydrographic Surveying Operations course, 2005. Photograph courtesy of Ian Church.

#### **September**

For the past three years, GGE students have traveled to the Land Management Department at Mzuzu University, Malawi, to assist with teaching and curriculum development. Thanks to the generous donations by the New Brunswick Department of Transportation and the City of Saint John, the department can now hold survey camps and lab sessions. Photograph courtesy of Jaime MacLellan.

#### **October**

Fredericton in October. The image was taken by the Ikonos satellite in October 2001 and pan-sharpened using the UNB-Pansharp software developed by GGE researchers. UNB-Pansharp is now an industry standard software tool for image fusion used worldwide. Image courtesy of the City of Fredericton and Yun Zhang.

#### **November**

GPS shore stations were established to aid repeat multibeam surveys carried out by the Ocean Mapping Group in 2008 including this one on Bylot Island, Nunavut. Photograph courtesy of Steven Brucker.

#### **December**

A fueling stop for the multibeam-equipped CCGS Amundsen (visible at far right) at Nanisivik, on the northern tip of Baffin Island, Nunavut, provided hiking opportunities for Ocean Mapping Group personnel. Photograph courtesy of Steven Brucker.



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