Volume 60 Issue 1 January – February 2002

Winnicentrics

The Journal of the Winnipeg Centre of the Royal Astronomical Society of Canada

IN THIS ISSUE . . .

Deadline for the next issue is February 17

The Leonids at Ayers Rock

By Jay Anderson

It's been a wet year in central Australia this year, with double the normal rainfall and a desert that is remarkable for its many shades of green instead of the normal drab brown. Clear skies had also been in short supply, so it was a precious moment when Leonid night - the 19th on the Australian side of the date line - was clear from horizon to horizon at 2 AM when we began observing. We had selected a site about a kilometre south of the hotel complex at the Rock, closer than we would have liked had we more time to scout a site, but still dark enough for a Milky Way down to the horizon.

We decided from the start that we would count the meteors in five-minute intervals throughout the morning hours. To avoid biases and correction factors, only one of us would do the counting. Since Judy has the better eyesight - she's got at least a 7th magnitude limit - the job fell to her while I did the timekeeping and the recording. We took pictures too, but the main goal was to get an accurate count of the meteor rate from 2 AM until sunrise.

When we had checked in, we found a note on the bed advising guests of the meteor shower and offering a wake-up call. We stopped by the desk and asked for a 1 AM call - a challenging task for the hotel staff, as there was no time slot for 1 AM on the duty sheet. No previous guest had ever asked for a wake-up so early in the morning!

We were on site by two, and the counting began. Watches were set using the GPS signal and a timer was used to maintain a precise 5-minute interval. I had allowed for a one-minute break between counts, but we quickly realized that this was too long; by the end of the night we had reverted to 15 to 30 second intervals between counts. We kept each other honest: once the timer had signaled the end of an interval, no other meteors were counted even if the sky erupted in several brilliant trails (which it did on occasion).). We were alone, but when the first brilliant streaks shot across the sky - before we were ready - the desert around us responded with distant cheers as other watchers marked the passage of the speck of Comet Temple-Tuttle.

Continued on page 6

Winnicentrics is published six times each year by the Winnipeg Centre, RASC. *Winnicentrics* is produced by and for the members of the Winnipeg Centre, and any opinions expressed are those of the author. If you have comments, questions or concerns about *Winnicentrics*, you can contact any of the councilors above, or write to RASC, Winnipeg Centre, Box 2694 Winnipeg MB R3C 4B3

January

Beginners Session 7:00
Regular Meeting 7:30

January 11 Friday

The Astronomical Tourist

Centre member and astronomical tourist Jay Anderson will share some of the sights from his last two adventures, to Australia for the Leonids in November and to Costa Rica for the annular eclipse in December. Jay's presentations are always fascinating, placing a rare astronomical spectacle against the backdrop of an exotic culture. We'll also have the regular features of "What's New", the "Explore the Universe" certificate and Gail's "Constellation of the Month" looks at Eridanus.

February

Beginners Session 7:00
Regular Meeting 7:30

February 8 Friday

Faint Fuzzies

Whether it's hunting galaxies in Virgo, or chasing star clusters in the Milky Way, deep-sky observing requires some skill and patience. What kind of telescope/eyepiece is best? How can I improve my "deep-sky eyes"? What are the best faint fuzzies to look for with my telescope? Deep-sky observers will share their experiences and discuss techniques, tools and tricks of the trade. Plus: how to set up and use the "ultimate" deep-sky scope...the 14.5" Dobsonian!

PARTY, PARTY, PARTY !!!

January
19
Saturday

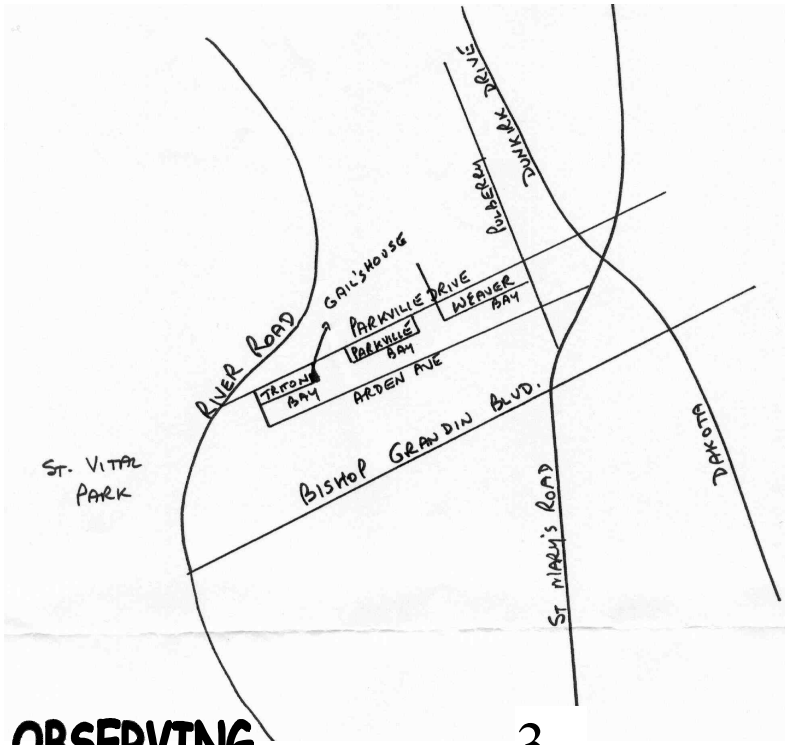
Time: 7:00p.m. till we collapse
Place: Gail's house
81 Triton Bay

'Tis the season for our annual post-Christmas holiday potluck supper!

Everybody bring your wife/husband/girlfriend/boyfriend/ significant/insignificant other and get ready for a great start to your new year with the RASC.

Call Gail (253-8297) and let her know what you'll be bringing.

Need directions to Triton? Fly past Neptune, turn right at Naiad, past Nereid, and it's the first moon on your left. Don't want to travel to outer space? See the map below.



The following members are working toward their

Messier certificates:

Eugene d'Auteuil	32
Ray Philippe	12
Mike Karakas	87
Sean Ceaser	101
Robin Woods	49
Lindsay Price	5

Finest NGC's:

Stan Runge	5
Sean Ceaser	41
Gail Wise	84

Herschel 400's:

Sean Ceaser	92
Kevin Black	362
Gail Wise	201

Are you working on your Messier list?
Explore the Universe?
Finest NGC's?
Herschel 400's?
Let me know how many you have and I will publish it here so we can encourage each other!

Humans in Space

by Ray Philippe

This series takes us on a journey through time to explore the human race's quest for space flight.

Part 6

Continued from last issue

The Jet Propulsion Laboratory (JPL) was instrumental in the successful launch of the American *Explorer I* satellite in January 1958. Although Wernher von Braun's *Redstone* rocket provided the first stage of the launch vehicle, the second, third, and fourth stages of the rocket consisted of a battery of JPL solid-fuel rockets. Plus, JPL took part in the preparation of the satellite's scientific payload. After *Explorer I*, JPL tried to position itself as the United States central agency for space exploration. The space race was starting to heat up. JPL would soon propose a series of unmanned robotic missions to the Moon, Venus, and Mars. At the same time, the U.S. Army and Wernher von Braun began planning manned expeditions into space: a manned lunar expedition by 1966, a permanent moon base by 1973, and a manned expedition to a planet by 1977.

The Eisenhower administration, however, called a halt to these scenarios on July 29th, 1958, with the creation of NASA, a new branch of the U.S. government responsible for the investigation of outer space.

Meanwhile, the identity of the man who had orchestrated the Soviet *Sputnik* launches still remained shrouded in mystery; in the west, Sergei Korolev was known only as the Chief Designer. Despite a series of successful U.S. satellite launches following *Explorer I,* the Chief Designer's powers still seemed invincible. When the U.S. announced plans to launch a satellite around the sun in March 1959, the Soviets launched one in January. JPL had plans to send a probe on a flyby of the moon by July 1960; in October 1959 the Soviet probe *Luna 3* successfully orbited the moon and returned photographs of its far side.

In 1958, NASA initiated Project Mercury, which was to place an American in space by 1961. It was the United States' first man-in-space program, with the objectives of orbiting manned spacecraft around Earth, investigating man's ability to function in space, and recovering both man and spacecraft safely. Seven astronauts were selected to fly in the Mercury program. Although NASA was formally an institution for civilian space flight research, the Mercury astronauts were all from the military. By August 1959, the project was entering its unmanned testing

The Project Mercury Astronauts

phase. Unmanned test of both the boosters and the capsule were made, some carrying a chimpanzee.

Project Mercury was progressing well, and it looked as though the U.S. would soon close the gap in the space race. But on April 12, 1961, the Soviet Chief Designer (Sergei Korolev) stunned the Americans again, this time by launching 27-year-old cosmonaut major Yuri Gagarin into Earth orbit aboard the *Vostok 1*. Gagarin became the first *human in space*, and also the first human being to orbit Earth.

Yuri Gagarin, the first human in space

The Vostok 1: carrying Gagarin into space

The launch site was the Baikonur Cosmodrome, which is located near the city of Tyuratam in Kazakhstan, close to the Aral Sea. Gagarin made a single orbit of the Earth. His flight lasted 1 hour and 48 minutes. The apogee was about 203 miles above sea level. The orbital speed was approximately 17,000 miles per hour.

After the flight, Gagarin reported, "I could clearly discern the outlines of continents, islands and rivers. The horizon presents a sight of unusual beauty. A delicate blue halo surrounds the Earth, merging with the blackness of space in which the stars are bright and clear cut."

As part of the flight plan, Gagarin exited the spacecraft at an altitude of about 20,000 feet and then parachuted to the ground (he was an experienced parachutist with the Soviet air force). He landed near Saratov in the Volgograd region. The Soviet government apparently kept this parachute detail secret for many years. The Soviets sought to give an impression that the Vostok spacecraft made a soft landing with Gagarin still inside. The Federation Aeronautique International required that a pilot land with his vehicle in order to claim a complete flight for the record books.

In the United States, another round of panic ensued in response to Gagarin's successful mission. All of Congress seemed to feel that NASA had failed its mission. The day after the launch, President Kennedy held a press conference and all but conceded the space race. But the president quickly realized that surrendering the space race would be politically very damaging, so a week later he reversed his position and put his staff to work on a plan of attack for beating the Soviets in the space race.

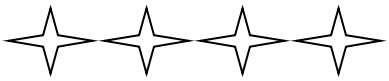
A few short weeks later, the first manned flight of Project Mercury took place. The first American in space was Alan Shepard, launched on May 5th 1961, in the

Alan B. Shepard's Mercury 3 mission patch

Mercury-Redstone 3. The Redstone rocket was the launch vehicle used for suborbital Mercury flights, while the Atlas rocket would be used later for the orbital Mercury flights. The capsule was christened Freedom 7 (each Mercury astronaut was allowed to name his own capsule, adding the numeral 7 to denote the teamwork of all seven astronauts on Project Mercury). Although the difference between the Gagarin and Shepard launch dates was only 23 days, the performance of the Russians was much better. Gagarin was 89 minutes weightless, Shepard only for five minutes. Gagarin made an orbit, while Shepard was just launched to an altitude of 180 kilometers and dropped back down to Earth, for a total flight duration of just 15 minutes.

On July 21st 1961, Virgil Grissom became the second American in space. He made a suborbital flight that was almost the same as Shepard's mission. Grissom was the astronaut of Mercury-Redstone 4 (Liberty Bell 7). This Mercury flight was the first to use an explosively actuated side egress hatch. During the flight, that took also a quarter of an hour, there were no problems. However, after splashdown, the hatch was apparently opened prematurely; Grissom nearly drowned and the Liberty-Bell 7 sank. Grissom was rescued after being in the water for 3 to 4 minutes. The capsule was later found and recovered from the ocean floor in May 1999.

Continued in next issue



Leonids** – **continued from page 1

We began the count at 16:15 UTC (times mark the start of each five minute interval). The night started slowly with only two to five meteors in the first intervals. About half of them were "brilliant" - brighter than Sirius. Each interval became a lottery. Would the count go above the previous interval? Would the shower show several peaks? How many brilliant meteors would there be, how many sporadics and how many trails would linger after the streak of light had extinguished itself?

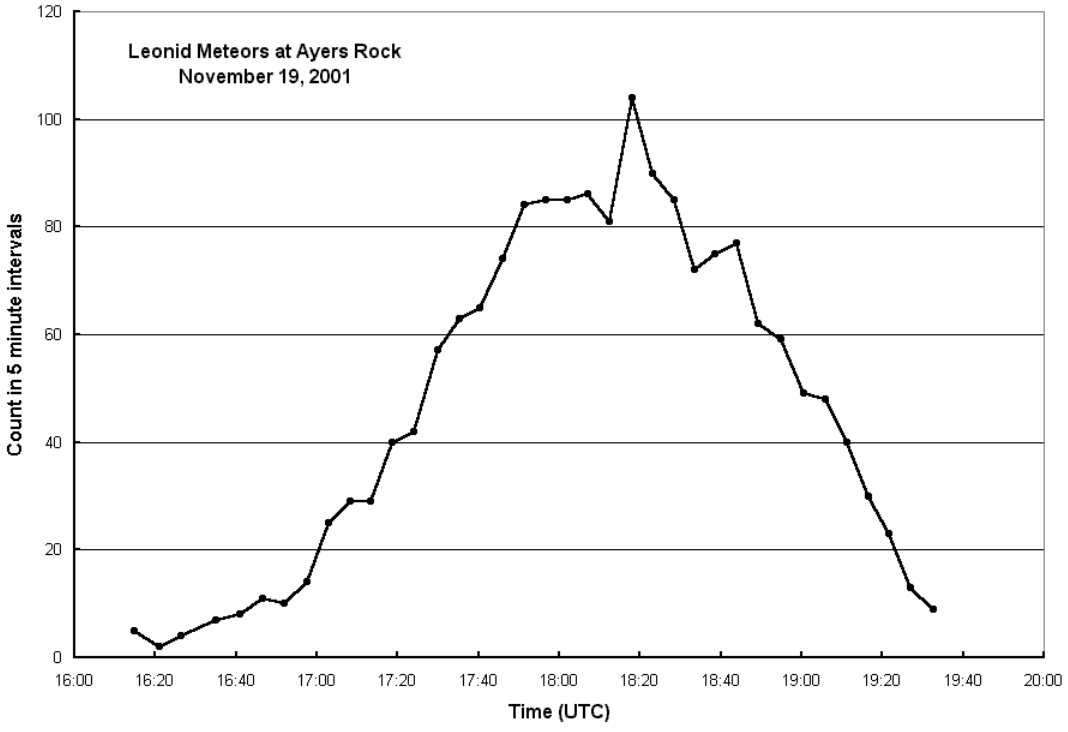
The count increased steadily. First 11 meteors, then 14, then 25. It was never boring - every interval was another challenge. Multiple meteors were noted, occasional brilliant flashes caused us to turn rapidly about; exclamations of delight marked the brighter flashes. Even the poorer performers were bright - in the first two hours my count remained in step with Judy's in spite of my poorer eyesight. The proportion of brilliant meteors declined as the count increased, but every five-minute interval brought a half-dozen noteworthy trails. The brighter meteors that had made up about 50 percent of the count at the start declined to about 10 percent as the shower peaked. At 17:28 an exceptional fireball streaked across a hundred degrees of sky leaving a long smoke trail through Orion. There had been others, but this one lingered for over 20 minutes, twisting into an elongated Z-shape. Through the binoculars it could be seen to be double in parts. It glowed, brighter than the Magellenic Clouds, a ghostly wisp attracting occasional glances to see if it was still there, but not taking away from the task of counting.

By 17:51 the count had reached the magic 85 - a rate of 1000 meteors per hour! It stopped climbing, holding in the 80s: 85, 86, 81. Then it spiked to 104 at 18:18. We were over the 100 mark! What would it reach now?

But the next count was 90 and then 85 again and we had passed the peak. A slow decline began, with each five-minute interval 5 or 10 or 15 below the previous. By 18:44 we were down to 77 in an interval and the Zodiacal Light could be seen angling sharply above the eastern horizon. Ten minutes later the horizon began to show the first hint of dawn, but the count had only declined to 60. The count eroded steadily until 19:16 when the encroaching daylight began to seriously limit the count. Yawns began to interrupt the attention we were paying to the sky but even when only three lights were left in the sky - Jupiter, Sirius, and Canopus - we were still counting 9 meteors in our five-minute interval.

Throughout our three hours and 22 minutes - 37 intervals - we had counted 1742 meteors. About 100 more had passed in the moments between counts. There were moments when three or four burned in, leaving a brief impression of moving through space, but the feeling never really took hold. The radiant was easily noted, especially in the few occasions when three meteors simultaneously diverged from the centre of Leo. One meteor was a point and a dozen had very short trails, marking the divergent point almost precisely. It was a marvelous show in a marvelous place.

The graph of the count shows a steady rise and fall, with a 42-minute interval in which the rate remained above 1000/hour. There is no obvious evidence of a double peak, but the broad shoulders of the curve suggest that more than one dust trail may be involved - there is a small hint of a downturn in the interval before the peak. But more than anything else it was a visual spectacle under marvelous Southern Hemisphere skies. It doesn't get any better than this.



MORE LEONIDS . . . by our members

ANDORA JACKSON

I was in Nanaimo, and even in my relatively light-polluted suburban setting (about 20 minutes from my Mom's house), I was able to see a great show.
I was torn between heading back to the house to get up my mom and sister to come out and look, and at the same time didn't want to miss any potential zingers! (Had one that lit up so bright I thought that someone had come by with a flashlight to see what I was up to, truly amazing.)

So now how long do I have to wait for a potential re-run -- 31 years??

Best wishes to you all at the Winnipeg Centre. Hope to get into town sometime so that I can make pizza -- oh, and the meeting too ;-)

Later,
Andora

GAIL WISE

Early in the shower were a number of long "burners" that streaked across the entire sky, from the meridian to way past the zenith. It is general knowledge not to bother watching until after midnight, but the best one I saw was at 10 minutes to midnight. It was very low, just above the trees and it traveled very slowly for about 50 degrees. It was huge and it burned blue, then green, then pink, blue, green and pink again. It got very bright, maybe magnitude –8 for about a second, and then it just disappeared. The smoke trail was visible for 20 minutes.

ALAN SHERLOCK

Finally! In 1998 I spent 8.5 hours in total driving north of Winnipeg trying to find holes in the clouds: 9 meteors total, including only 2 Leonids. In 1999 my wife and I ended up in Minnesota with a group of Winnipeg Centre members looking for clear skies - 12 hours total, 380 km, 23 meteors all told, 16 of those Leonids.

This year my wife, Lorna, and I packed up our three kids; five, seven and nine, and left Winnipeg at 10:00 PM (we had to wait for a family birthday party to wind up). We set up tarps and sleeping bags at the edge of a field of stubble about 40 km east of Yorkton, SK at 3:30 AM.

The last 45 minutes or so before we escaped the clouds and found a place to stop, we saw 22 Leonids through the windows of the van as we drove along, the first of which was so bright we thought it was a long lasting bolt of lightening in a band of cloud to the north.

From 3:30 AM to 5:31 AM, our five pairs of eyes (mine alone for the last 20 minutes) counted a total of 1392 meteors! Absolutely spectacular. I didn't do an official test but I would guess that the limiting magnitude was just a touch under 6.

About 10 or twelve of the Leonids left persistent trains, several lasting a couple of minutes.

As we headed back home, I saw another 20 or 25 through the van windows, one of which left a smoke trail visible to the north for about 15 minutes!

At 7:02 AM, right around the Manitoba/Saskatchewan border, a bright Leonid passed about 10 degrees away from Venus in the deep blue sky. Then at 7:15 AM, I saw my final Leonid, about -5, only 40 minutes before the sun was to rise.

We arrived home at 11:15 AM, 13 hours and 15 minutes after leaving, having driven 856.6 km.

Worth every minute.

GUY WESTCOTT

I finally decided to get off my a>s and actually go outside and do some photography. For me this is a return to astrophotography after being away for ten years of inactivity. What a show to come back to. Went up to my brother's cabin in the Interlake Friday night. By 10pm on Saturday the clouds were starting to come in. Into the car and drive, but which way? After about ten minutes of going south back towards Winnipeg I knew that I had it right, maybe. Followed a hole in the cloud all the way back. Stopped in at Birds Hill Park on the way in but was disappointed by the lights and cloud. Got back to Winnipeg at 12:30 and went looking for info on the internet. Phoned everyone on our phoning list. It was cloudy in Winnipeg how come no one is home answering their phones? Thank God someone had the sense to leave a message. Went out to Glenlea at 12:45. Got there at 1:15, now I know why I do astronomy for a hobby. Driving in to the site I turned all my car lights off, half way down the road I was looking up through the windshield towards the east. What's that in my window coming towards me? Holy S>>t!!! Three smokers (not the cigarette type) with rumbles pass over my car and I haven't even got my camera out yet. There were actual spirals and swirls in the smoke trails. A good description of what I saw would be like watching a burning ball of fire coming right at you and going overhead. It was like somebody telling me.... stay here and watch my show. I got into the site and yelled "Hey! Did anyone see that?!" Guess what, I was the first one there! I was there alone until about 2 - 2:30 when some others turned up. Got some good shots through the thin bitty cloud some very pleasing aesthetic shots. The cloud finally filled in the holes at between 4:30 - 5:00 but I would still estimate seeing about 300 per hr even with the clouds. At our peak I would say there were probably 20 to 30 people at the observatory. Went home as the sun was coming up and got ready for the football game.

RON BERARD

Getting Lucky With the Leonids

It's early Sunday afternoon and I'm sipping coffee clearing the cobwebs lingering from another all nighter; but not just any all nighter! Last night was perhaps one of the most unusually fortuitous astronomical adventures of this writer's 40 something lifetime and I'm anxious to share it in chronological detail.

16/11/01, 5:30 p.m. CST (23:30 UST), driving home looking up at a sketchy looking sky. No matter, the weekend outlook was promising last I heard so I'll stop at the beer store for some brewskies because it was the end of another week from hell.

5:45 p.m., start on my first beer, make a couple of calls to my steadfast observing buddies Kevin B. and Ray A. and leave messages on their voice mail to call with the plan, already suspecting they're long gone (no I haven't been dumped, they knew my travel plans didn't include 6 plus hours of driving.) Check email; nothing there either; heavy sigh; start on second beer.

17/11/01, 12:30 a.m., a few beers later, falling asleep in the middle of a movie, still no calls; now I know they're long gone which means either they wanted dryer skies or the Manitoba prospects were taking a turn for the worst. Might as well hit the sack, I'll check the forecast later.

10:30 a.m., sipping coffee clearing the cobwebs from last nights beer, I get on the web to check forecasts for the next 20 hours or so and they all look bleak. A band of high clouds is wedged between two high-pressure systems to the south and northwest. Animated forecasts show the clear patch currently over southern Manitoba moving southeast until at peak time (4:10 a.m.) just a thin sliver is left hanging on to the extreme southeast corner of Mb. By this time a good chunk of western Mb is cleared, but not before 1:00 or 2:00 a.m. The choice is obvious, drive south 2.5 hours or west or northwest 6 to 8 hours. No contest, I'm heading for Sprague.

11:30 a.m., made some calls and found that Mike K. and his son Glenn have the same travel limitations I do so the plan is set, meet at 9:00 p.m. at Deacon's corner loaded for bear.

9:30 p.m., were on the road, tunes blaring in my Toyota with Mike's headlights in the rearview. Ominously, the sky looks murkier in front of us than behind. By the time we reach Steinbach, the reason is obvious, our unseasonably warm weather has saturated the air with moisture and as the evening cools, a fog is settling in.

10:30 p.m., with the lights of Steinbach well behind us things are looking up. Mars is shining brightly, a beacon leading us south, and Orion is rising brilliantly to my left raising my enthusiasm level. Oops, I drift onto the shoulder, reminding me to keep my eyes on the road!

10:45 p.m., we hit the first patch of fog. Thin wisps, descending like micro cirrus clouds creating an amazing illusion of ascending in an airplane, but eventually thicker patches emerge from the ditches and fields like a cheesy horror flic. Soon we're having to slow down, at times to 70kms due to soupy patches that come and go as the elevation changes. I've never been to Sprague so I hope it's higher than Sandilands.

11:00 p.m., we just passed through Piney and climb up out of the fog just before Vassar. My hopes rise as I catch a glimpse of the inky black sky overhead.

11:30 p.m. we're doubling back towards Vassar after a bartender at the Sprague Hotel told me that the highest elevation in this area was Piney Hill (the one I just described). The fog by now is intense but an occasional burner visible through the windshield goads us on.

12:00 a.m., we've been crisscrossing back and forth looking for a clearing on Piney hill and finding nothing but trees and/or fog, but the – 4 or 5 mag bolide we saw burn through the soup has us determined. Finally we settle on a high spot on a side road just off the highway with a clearing to the north. On the north side of the road we have a relatively clear vista of the northeast sky to about 15 degrees give or take the occasional pine tree. To the south, Orion skirts the treetops with M42 just clearing the highest trees. Not perfect, but fog free.

12:15 a.m., we're frantically setting up amidst squeals of delight as fireballs crisscross the sky seemingly every 10 or 20 seconds; not a bad prelim! 12:45 a.m. we're finally set up. Mike is glancing at Jupiter through his 6" Mak set up for piggyback, Glenn is looking at a blue star through his refractor, having refused the duty of counting burners during set up, and I've finally finished polar aligning my Vixen mounted 4.5" Newt with my Nikon F, with a 28mm wide angle, pointed at Orion and Gemini; a beautiful composition with mag 5 to –1 burners tracing through the field every half minute or so, my excitement has reached a fever pitch. I look down at my camera to double check my settings and open the shutter for my first exposure at about 12:30 and when I look up the stars are gone! The fog was rising and a light northwesterly had blown it over our heads.

12:45 a.m. and, having spent so much time setting up with no clue which direction would be better, we decided to wait it out. Lying bundled on our lawn chairs, sipping hot chocolate, munching on chips and listening to Neil Young's "Harvest Moon" we watched the stars fade in and out until they disappeared altogether. We had accepted our fate and were enjoying each other's company, giving ourselves an "E" for effort when a single star burned through the Haze. "Starlight, star bright…" I jokingly recited. My wish came true. Gradually, more stars came into view until by 1:00 a.m. or so even Leo was visible, though faintly; and then came the burners! One after the other, as many as 3 or 4 at a time and rarely more than 5 seconds apart. We were counting as best we could until by 1:15 we had counted about 40 or so (we weren't being very methodical). By then it was clear enough for short exposures so Mike and I hastily started firing off 3 and 5 minute exposures. I had gotten 5 or so exposures off and our count was in the high 90s by the time the stars began to fade again at around 1:45 a.m. We settled back into our lawn chairs and again waited and hoped.

By 3:15 we were resigned to the possibility that we'd seen all the night had to offer. We were grateful for what we'd experienced yet still disappointed that the peak would likely elude us. May as well ride it all the way through though, "in for penny, in for a pound."

3:40 a.m.. Is that a star I see or have I drifted off to dreamland? "Starlight, star bright we're not giving up without a fight!" This time we all recited it and again our wishes were granted. From 3:45 through to 4:45 we counted 497 burners, brighter than mag 4. I was also able to fire off 15 more exposures. There was no definite peak, though several flurries of 5 to 15 bright bolides within as many seconds. Many were in the –ve magnitudes and most left trails, some lingering for minutes. They were amazingly fast and clearly radiated from Leo. Lots of bright ones went through Ursa Major so I took several exposures in that direction. Oddly, there were few faint ones, perhaps owing to the mediocre sky.

5:00 a.m., we had stopped counting and by 5:15 Mike and Glenn were both asleep. The sky was becoming too bright for photos so I contented myself with just laying quietly, staring up at the sky, still being entertained by nature's fireworks display; what a treat!

6:00 a.m. and we're all packed up and heading south. We can now see that we had set up under a clear patch of sky flanked to the north *and* south by clouds a mere 15 minute's drive from our spot. Accurate interpretation of a satellite imagery or serendipity? Either way, I'll take it as a gift from above.

18/11/01, 3:15 p.m., I realize that my description has stretched well past the point of acceptable for the newsletter. Guess I'll have to do a reader's digest version, but I'll send this out via email to the RASC members on the list because the experience was too good not to share in detail. Think I'll have a nap now, it feels like I've been up all night again!

CAREY DESCHAMPS

Streaking Leo in November

It was a cool early morning when I awoke startled. It was 18 Nov 2001. I knew I had slept in and rolled off the bed to stretch my tired body. I grabbed my clothes and started putting them on. Contemplating in my head, should I awake the family for this event? This occurs only what, once in about 33 years. It would be a shame to let them sleep through it all.

But then again, I wondered if they'd really care. After all, who the heck in their right mind gets up at 4 am to look, anyways? You'd have to be bonkers to go out in the still of the night just to lie there and look. Hmm, maybe if I made some coffee or hot chocolate they would join me.

Once I had the coffee on, I went to the closet and grabbed some throw blankets for covering up in while outside. I opened the door to a slightly cold morning. Yes, we would definitely enjoy the blankets wrapped around us. With breaks of cloud cover over the sky, it would make it hard to see the faint ones but we would see some nonetheless.

By the time I had set up the lawn chairs facing Leo in the sky, (I could have had them face whatever direction but I wanted my family to understand what was happening) I went in to wake the family. I woke my wife first and to my surprise she was up in a flash. She looked excited about what I had told her. Willingly, she helped me awake my two sleeping beauties. Yet only one stirred and actually got up for this event. Once I got the coffee and hot chocolate made, we proceeded outside to watch the extravagant episode. It was to be the Peak Time of the Century for the Leonids Meteor Shower, which occurs three times in a century. The last one that was spectacular was in the 60's. I was only a child then, but just knowing how often this occurs, one would feel compelled to come out and watch it. I explained this to my daughter. She thought it was cool, as we sat there leaning back in our lawn chairs watching streaks of light flash through the sky.

I have never been one to keep a great record on things but as soon as we got comfortable, I said, okay, lets count how many we see. I looked at my watch and it was 0445 am. By the time it was 0515 am we were all cold enough to go inside. We had counted 106 meteors within a half hour.

We had observed mostly orange streaks, and a few were fairly long. Long enough to make you go OOOwww. I now wonder if it had been a clear sky how many more we would have seen in the sky. It was an impressive morning to remember. One I will cherish as I get older, and one that I hope my child will remember. Hopefully she will take interest to this and show her children when it comes in another 33 years or so. She will be about my age and I may not be here to
see it.

Yes, we will be old by then. Well clear skies to all. May we spark a light in the young souls to look up at night, and see the light.

Carey Deschamps
Brandon Astronomy Club