EPHEMERIS

Vol 3 No. 8 Official Publication of the San Jose Astronomical Association AUGUST, 1991

ECLIPSE TOTAL DE SOL

THIS MONTH'S SPECIAL ISSUE THE ECLIPSE OF THE MILLENNIUM

The most widely observed total eclipse of the Sun occurred on July 11, 1991. Scientists and astronomers are calling it the most spectacular total eclipse witnessed in recorded history. The combination of excellent observing conditions and the extensive solar activity in recent months (part of an upswing in the current solar maximum) resulted in a FANTASTIC view of the solar corona out to 3 solar diameters.

This month's Ephemeris features stories and descriptions from individuals fortunate enough to be along the path of totality, from Hawaii to the jungles of Mexico. Much of the information was taken off the UseNet computer network. I'd like to thank those individuals for taking the time to share their experiences. These stories will certainly be of interest to those who saw the eclipse. If you missed the total eclipse, hopefully you will be inspired to see one at least once in your lifetime.

AUGUST MEETING

The August 3rd General Meeting has been dedicated to all SJAA eclipse chasers. Please bring in your stories and photos. You might want to give Jack Zeiders call and let him know you're coming. Prints and slides are most welcome. Meeting starts at 8 PM. Presenters should be prepared to give a little talk about their personal experiences in the shadow of the moon.

FIELD OF VIEW

August 3rd
TOTAL ECLIPSE SHOW AND TELL 8 PM

August 3: General Meeting. Solar eclipse night for SJAA memebers. Bring in you photos and stories to share with the membership. 8 pm.

August 10: Halls Valley Group public star party at the Grant Ranch. This also includes the outdoor session of the Introductory Astronomy Class.

August 16: Public Star Party at Branham lane park. Starts at Dusk

August 17: FPOA Star-B-Q at Fremont Peak state park.

August 24: Introductory Astronomy class meets at the Los Gatos Red Cross building. 8 pm.

August 31: No activity scheduled.

September 6: SJAA night at the Fremont Peak Observatory. Dusk till Dawn on the 30 inch telescope.

September 7: SJAA annual picnic and barbecue at Fremont Peak.

September 7: AANC conference and Stary Party at Grant Ranch???

SJAA HOTLINE
24 HOUR INFORMATION
408-997-3347

Please note that there is a star party slated for Grant Ranch on August 10th. This star party also includes the outdoor session of the Introductory Astronomy Class. Other notable events are: August 20 Friday public star part at Branham lane park. Volunteers are needed. August 24 Introductory Astronomy Class at 8 PM to be held at the Los Gatos Red Cross. There is no activity scheduled for August 31. Please note the September 6th (Friday) date at Fremont Peak. Jack has reserved the 30" at the Peak for the SJAA astro class and any other members that wish to attend. This is a unique opportuinty for SJAA members to use the 30 inch instrument and to get aquainted with the Fremont Peal Observatory. Saturday the 7th is a public night at the peak. As the SJAA picnic was such a disaster, there will be a SJAA picnic and barbecue at Fremont Peak that day, with a star party to follow that evening. More specific details in the September Ephemeris.

There has been some word that the Astronomical Association of Northern California (AANC) will be holding their conference and star party at Grant Ranch on the weekend of September 6th. This information is not yet confirmed.

MEMBERSHIP RENEWAL REMINDER

Take a close look at your address label this month. If it says expires June 91 it means your membership with the SJAA expired last June. He we are in August and you are still receiving your copy of the Ephemeris. This is mainly due to the fact that I am such a nice

guy, and don't want anyone to miss another exciting issue of the Ephemeris. Especially when its filled with wonderful reports of the great eclipse. If members do not renew their membership by the end of August, your names will be removed from the mailing list. Please use the handy form on the back of this month's issue. Remember that it is only $10 for general membership including a copy of the Ephemeris for the next 12 months. For $28 you also get a 12 month subscription to Sky & Telescope magazine. Why wait any longer. Please fill out the form and make your checks out to the **SJAA.** Mail them to Jack Peterson's address as shown on the form. To those members who have already renewed, a hearty THANK YOU!

A MESSAGE FROM TOM AHL

I've been involved with the SJAA for over a decade, on the Board of Directors for almost that long and President and V.P. half that long and have seen a few changes for the good and a few for the not so good. All in all, it has been fun experience. Now that I am leaving and have relinquished the Presidency to the able hands of Jack Zeiders, I have been able to step back and look at the changes that have come about since 1980 and also some of the goals that I hope the Board, with the drive of Jack Z., will accomplish within the next decade.

In 1980 when I first started coming to the meetings at the Red Cross building there were amateur telescope makers working on grinding their own mirrors there. Mystic Mints were in attendance and a lot of group sessions on various aspects of amateur observing. Our observing sites were at Mt. Umunum (rattle snakes and rabid land owners et al), Sanborn Canyon, Loma Prieta, Henry Coe and Fremont Peak. Every March we would have a Messier Martahon lead by Don Machholz and Jerry Rattley at Loma Prieta, usually resulting in icy telescopes. Annual picnics at Portal Park in Cupertino featuring frisbe flying and best of all the German Chocolate Cake.

Our pubic involvement was limited to Great America Amusement Park where someone tried to use Shea Pratt's telescope tube for a trash can and Kevin Medlock's refractor polar shaft as a chinning bar. It wasn't until Halley's Comet made it's appearance in 1985-86 that Don Machholz arranged for us to set up at Branham Lane Park for about 9 months to show the public this famous "fuzzy cotton ball". With the return of Mars in 1988 we returned to Branham Lane and have been there ever since. Thanks to the help from the San Jose Mercury News Science & Medicine Section editor Sylvia Wright and also the KPIX-5 weatherman Brian Sussman, we have been quite successful in making ourselves known to the public and especially to the educational community, where almost every month we are asked by various schools to bring out 'scopes to show the students the skies and its many wonders. Since 1981 we have participated in an annual outing to Yosemite Park to put on a public observing session at Glacier Point, with excellent dark skies (most of the times).

One thing that hasn't changed in the past 12 years is that we still do not have a club observatory. Early in the '80's we (the Board) started an Observatory Fund account by asking for donations to help us find, build and equip an observatory. With several false starts and misdirections we fond ourselves once again at the "door" to achieving this goal. With the help of the Grant County Park on Mt. Hamilton Road, the Friends of Grant Ranch, Halls Valley Astronomical Group specifically Ron Bricmont and Ed Tanaka (the Ranger) we have the opportunity to build an observatory, install the club's Compustar C-11 (recently purchased from Paul Barton) and with the HVAG staff an ongoing public program.

The opportunity is there, all that is lacking is the necessary drive/initiative (and cooperation of the Santa Clara Co. Parks & Rec. Department) to see this endeavor through to its completion, and I feel that Jack Zeiders, the Board, and the cooperation and help of the membership, the SJAA should be able to complete this project by the summer of 1991. There are several other sites that could be used if Grant Ranch should fall through. Even Mt. Umunum is a possibility with a little work with the Mid-Peninsula Regional Open Space District.

I will be moving up to the Tri-Cities area of Washington State sometime this summer (sale of the house permitting) and I will be keeping in contact with the club and continuing my membership, too. I've really enjoyed myself and greatly appreciate all the help that everyone has given me while I've been President.

SJAA YOSEMITE WEEKEND

- Jack Zeiders

I went to Yosemite for the annual SJAA weekend. Getting there about Friday, it was warm and a bit hazy. Paul Mancuso was there and set up his Questar in a small patch of shade just in front of the souvenir shop. He found some climbers on the face of Half Dome and immediately gathered a crowd. I set up the 80mm fluorite and put on a sun filter and presented the Sun and its retinue of spots for some of the tourists. Many of the passers by seemed more interested in a close up view of Nevada Falls or the hikers on the "beak" of Half Dome, so I showed them those also. About 4:00 pm Jim Van Nuland arrived at Glacier Pint and set up his 4 1/4" table top Dobsonian with the $800 sky computer attached. He showed Venus, Jupiter, a nice 2+ day old moon, and I think Mars.

About 8:00 pm the Ranger gave his sunset talk and Jim Baumgart gave a slide show at 8:30. By now several Members had arrived and set up their telescopes. It didn't get dark until after 10 pm or so. We entertained the public with various double and multiple stars until dark. Some of the campers were quite enthusiastic. I had one group of Japanese that were obviously amateur astronomers. When they saw M51 in the 17" under the Glacier Point skies they made all kinds of orgasmic noises. M13 at the zenith and 150X was completely resolved and showing 15th mag. halo stars. WOW! I proceeded to do the big bright show objects tour. The group seemed to be enjoying themselves. When I went to the Veil with the Oxygen III filter in the 20mm Na-

gler, one young girl squealed with delight. This had the immediate effect of creating a line. I pretty much stayed with the bright stuff all evening, didn't even need to break out a chart. Paul Mancuso had set up his 16" Dobson up near my 17" and I could tell he was having about as much fun as I was. I could hear Jim Van Nuland talking about Saturn to many folks, he had set up nearby with his 8" on the German equatorial mount. At 2:00 AM I was feeling the effect of 7000 feet and an 5 hour drive so I packed it in.

Saturday morning was clear, bright and a bit cooler. I went for a drive along 120 to burn some film, easy to do in Yosemite. I arrived back at Glacier Point about 2:00 PM and set up the 80mm again. Jim Baumgart had set up his 10"? Cass/Newtonian and was showing the climbers on the shear face of Half Dome to a group of 20-30 tourists most of the afternoon. Again I showed the sun spots, Nevada Falls, and Half dome. Saturday evening turned out to be the best of the two nights. There was no breeze to keep the mosquitoes down and I swear some of them were big enough to have needed "N" numbers, running lights, and a mode "C" transponder.

More SJAA folks had arrived and just about filled the open area at Glacier Pint. Paul Mahaney had set up his 18" split ring, Bob Ashford his C8, David Enos a 5" Cristen refractor, Ken Muira? I think had a 6" f/long refractor, Noodle again with the 8" Optical Craftsman. There were others I have left out, I'm sure, as I did not get far away from my scopes. In the early evening I used the 80mm and had Bob Zimmerman operate the 17". He seemed to have fun with it. Later on I had a couple of German tourists with some astronomical experience that had a good time exploring the clear, dark skies. With the transparent dark sky, Barnard 86 and 92 were spectacular against the glow of the Milky Way star clouds. As a finale I took a peak at Stephan's Quintet, all five galaxies were easily visible with direct vision. One could spot 5 companions to NGC 7331. Not bad at all.

A most pleasant weekend. I would recommend that more of the SJAA members to consider attending next year.

TELESCOPES TO DONATE

- Del Johnson

While at the RTMC, I happened upon two clubs which made a policy of making and donating telescopes to organizations (schools, scouts, senior centers, etc). The donations where made as a result of application/competition during which the organizations spelled out their intended usages.

While something of that nature may need a little time to organize, I have two small telescopes which I would be willing to contribute. One of them is a Meade 60mm refractor and the other is a Tasco 4 1/2 inch reflector. Both of them use .965 eyepieces and are mounted on the standard equatorial head with wooden tripod.

If any of your know of an organization which could use either of the telescopes for educational/recreational purposes, please let me know. Another type of recipient could be an individual such as a winner in an astronomy division of a science fair.

If anyone would like to join me in donating similar items, or would like to discuss a SJAA policy of this nature, please contact me at 408-448-0239.

Editors note: Due to the extensive coverage of the eclipse in this month's issue, Comet Comments and Astro Ads will not appear. They will be featured again in the September Ephemeris. I have also been informed by Jim Richardson that he will no longer be contributing his Meteor Notes report as he is moving out of the Bay Area. Thank you Jim for your efforts, and good luck.

IN THE SHADOW OF THE MOON

From the lava fields of Hawaii to the jungles of Mexico, countless thousands witnessed the "biggest disappearing act of the century". It had been estimated that over 35,000 amatuer astronomers were in La Paz alone, for what has been called the "Woodstock" of amateur astronomy. Many more were in Hawaii where many observations were hampered by clouds. Yet, a remarkable number of people did see the eclipse from the the 50th state . Join us now as we relive those few fleeting moments of totality.

Kailua Kona

- Griff Smith

I watched the eclipse from a rented condo a few miles from the midline near Kailua Kona, which should make me one of the first few thousand to see totality. The haze and dust reduced the contrast of the corona to a soft glow, and I was surprised by the darkness being more like twilight than moonlight. If I hadn't a Questar to watch it, I would have said that the Sunsets on Maui a few days earlier were a more sublime experience. With the telescope, the prominences were more than I ever expected to see. My memory is that the larger one at 12:00 filled half the field of the scope, but the account in the paper suggests that the right number is more like 8%.

If I were doing this again, I would be much more cautions about going to a tropical site. Even two days later, when the weather on Hawaii had cleared considerably, the sky at 20 degrees had the same blue-white appearance that it had on eclipse day. I suspect the contrast under ideal conditions would have been much less impressive than what was reported from Baja. Still, a vacation in Hawaii was a fine consolation prize.

Report from Kona

- Guy Ridley

The bad news from Hawaii is that many people missed totality due to bad weather.

I drove up to the Kohala coast at 4:30 am to escape an overcast Kona, but after driving 20 minutes into a downpour, passed hordes of campers and parked cars I want back to Kona. My host had been monitoring amateur radio and had heard that South Point was clear, so seven of us headed there in two cars. 45 minutes later I tuned in to hear a truck driver back in Kona declare "Blue skies on Alii Drive". We both turned around and reach Kona as the Sun cleared the mountain about 25%

eclipsed. parked and observed until it became apparent that the Sun was rising into a large cloud bank. With 30 minutes left, we again raced south for about 5 miles, parking on a side road with about 30 other people.

There was no racing shadow and on stars during totality, perhaps both due to the 70% overcast sky. Some high cirrus slightly blurred the corona. The largest prominence was bright read and visible the entire time. The birds stopped singing and no cars passed on the normally busy road. Totality itself was just too strange to be adequately described.

I observed fourth contact back at the house, to which my host had returned just before totality in time to see the eastern clouds burn off. Yes, I had driven back and forth for 3 hours from no reason at all. My sympathies to those stuck in the "clear weather zone".

Hyatt Regency Hotel In Waikoloa
- Jeff Stevens

We just returned from a week on the Big Island of Hawaii, staying at the Hyatt Regency Hotel in Waikoloa, which was filled to capacity with people who had come to see the total eclipse of the Sun. Several tours, including one organized by Sky & Telescope, were staying at the same hotel, and other including a 2000 member tour organized by Hawaii's Bishop Museum were staying nearby.

The total eclipse was to occur from 7:28 to &;32 am last Thursday, July 11.

At this time, it would be 20 degrees above the horizon above the saddle between Mauna Kea and Mauna Loa. For the three mornings preceding the eclipse, people were out on the golf course early in the morning setting up telescopes, looking for the best viewing spots, checking out the Sunspots, and practicing their techniques for photographing the eclipse.

The afternoon of July 10 was cloudier than usual, with some rain, causing some concern among eclipse watchers, but not too much, since the normal weather pattern is to be clear in the morning with increasing cloudiness in the afternoon. In the middle of the night, the clouds cleared away and the sky was clear.

At dawn on the morning of July 11, there was a bank of clouds in the east extending up to about 20 degrees above the horizon. As the Sun rose, the clouds started to thin out. We could see the partially eclipsed Sun from time to time through gaps in the clouds, and it looked like it would just make it above the clouds for totality. Then, 15 minutes before totality, a black cloud formed in exactly the wrong place and remained, completely blocking the Sun until 20 minutes after totality. At 7:28, we experienced the eerie darkness of the eclipse -- similar to late twilight, but not quite like any other darkness. At 7:30, we turned around and noticed that someone had turned on a television in one of the hotel rooms, and we could see the picture of the fully eclipsed Sun taken from the top of Mauna Loa. Several people took a picture of the television to record what totality looked like from Waikoloa! At 7:32, as expected, the lights came back on.

The total eclipse was seen from much of the island of Hawaii. It was seen through breaks in the clouds from points two miles north and five miles south. It was visible to people getting off of airplanes at the Kona airport, and to people having breakfast at restaurants in Kona. It was clearly visible from the garbage dump in Waimea on the lower slopes of Mauna Kea. But from Waikoloa, at the very center of the region predicted to have the highest probability of good weather, and which had the greatest concentration of experienced eclipse watchers, amateur astronomers, and people who had done careful long rang planning (including one of the authors of the book "Totality"), was completely obscured.

The eclipse was disappointing, but as my 13 year old daughter, Brenda, pointed out, we got to see two eclipses: the eclipse of the Sun and the eclipse of the eclipse.

Another eclipse report from Kona
- Robert Frederking

My experiences in Kailua-Kona were similar to those already reported, with one or two exceptions. I started occasionally watching the clouds at 4am, looking to see whether they were going to break somewhere. Numerous people headed off north, and then later south, but I wasn't going anywhere unless I was fairly certain there'd be visibility; on previous mornings, I had seen that the sky cleared in different places, not always in the north, by 7:30 am. By 6:30 it seemed like the clouds were beginning to break overhead and nowhere else. (This seems to be what happened, except that there was a clear area much further south.) At 7 we headed a few miles south to Keauhou shopping center, where there was a large parking lot and a view of the sea. We saw the entire eclipse unobstructed. So while there is certainly a lot of luck involved, I think watching the weather closely and being prepared to move quickly to an opening is the key. (some of the people I was with had seen the overcast Oregon eclipse by zipping around the back roads of Oregon at 70mph looking for holes in the clouds.)

We did not see a moving shadow or shadow bands, presumably because of the high haziness and surrounding cloud cover. However, we did spot one star during totality, above and to the left of the Sun (Capella, I guess). It was also not as dark as I had heard, but since I had never seen totality before, we could see the corona and prominences clearly, both naked eye and with my binoculars, I was deeply impressed. It was distinctly dim, cool, and breezy. The parking lot's lights came on, as did its lawn sprinklers. I was also impressed with the way one tiny spot of the photosphere was so brilliant compared to the whole corona. Apparently the visible corona was much bigger in Baja, but I was impressed. It was definitely worth the effort. I was also greatly relieved that I was lucky enough to see it after worrying so much the night and morning before.

Dead Ends
- Alan Silverstein

Mauna Kea was completely shut down by Civil Defense two days in advance, even to hikers. Eight avenues to the

summit, including a press pass requested from the University, were dead ends for me.

Report from a different Hawaii location

- Joe Dellinger

I was told in no uncertain terms that there was NO WAY to finagle a way onto Mauna Kea, and I had the advantage of being in the same department as the people that were running the show. But there is another mountain on the Big Island, almost as tall: I set my sights on Mauna Loa.

The main annoyance was that the people coordinating access to Mauna Loa on eclipse day at Hawaii Volcanoes National Park changed their minds literally twice a month over the year preceding the eclipse, making long-term planning very difficult. In the end I just went early and hoped. My timing was good, and I got my pass by dint of waiting in a rock-concert style overnighter line. (The park service limited access mainly because the area is rather dangerous and they wanted to be able to make sure people got back out again, and to make sure the limited supplies of water on the trail were not exhausted. 100 people got permits.)

Tuesday morning I started the 23 mile hike from the end of Mauna Loa strip road (6600') up to the Mauna Loa cabin (13300'). The hike was to be done in 2 days, with an overnight stay at the Red Hill cabin (10040'). The hike proceeds up the East Rift Zone of Mauna Loa, with evidence of volcanic activity EVERYWHERE around you the entire way. (Every different kind of lava imaginable, lava tubes, spatter cones, rifts, fresh flows, etc. The trail through the devastated landscape is marked by piles of rocks every 50 feet or so locally called Ahus)

Alas, I ended up getting altitude sickness, and elected to watch the eclipse from Red Hill (10,200'), a prominent volcanic cone jutting a couple hundred feet above the surrounding landscape and providing and incredible view of the Central, Southern, and Eastern part of the Big Island. As it turned out Red Hill only had two disadvantages over Mauna Loa: 1) You couldn't see to the west because the bulk of Mauna Loa was in the way. 2) You weren't as high, and you were further East, so the weather prospects were worse.

On the plus side, Red Hill has probably the finest view of Mauna Kea on the entire island. The centerline ran between us and Mauna Kea, about 4 times closer to Mauna Kea than to us. (Mauna Loa itself is so flat and broad on top that the edges of the island literally set as behind the horizon of a small planet as you go up; you can't see the lower part of Mauna Kea from Mauna Loa.)

The weather at Red Hill was beautiful right up to Wednesday night, when it started pouring rain (very unusual weather, but it did ensure a good water supply), Dawn was supposed to be at 5:48 am, but we couldn't tell. About 1/3 of the people staying at the cabin took off up the hill trying to get above the clouds. I stayed. By first contact it was only misting, but the Sun was still nowhere to be seen. Then a miracle occurred: as the eclipse progressed it got noticeably colder, dropping from about 60F to about 45F, and as it went from cool to downright cold the thick lower cloud deck dropped until it was JUST below us. Literally the tops of the clouds formed a fog bank about 100 feet below us; the cloud spread apparently unbroken as far as we could see. Looking West up to the Mauna Loa summit there were no clouds in the way at all. (We later found out they saw the entire eclipse.) As if the low clouds weren't enough bother, there was a high thin cirrus layer as well.

There were no plants of any kind around to make crescent shadows, but the volcanic rocks seemed eerily red and sharp as second contact neared. No shadow bands. Sky and Telescope predicted that we should note darkening to the West many minutes before the eclipse, but we mainly noticed a broad East-West band of darkening right over our heads. The darkness grew out from the zenith and approached the Sun low in the East; as it neared the crescent contracted to a bright point.

The corona appeared several seconds before the last bit of photosphere vanished! There was a beautiful diamond ring, but no Bailey's Beads. As full totality began the contrast of the dark Sun with the bright blue sky just below and down to the horizon was startling. The horizon in all another directions was pale blue-red, the colors of Sunset but nowhere near the glorious hues of the Pinatoubo-dust Sunsets we'd been getting the last week. The overall brightness of the day was about that of 5 minutes after Sunset. Nobody was able to see any stars. (No planets were up.)

The corona itself was quite impressive, with lots of fine structure reaching out 3 solar diameters. The basic structure was a symmetric glow, but additionally emanating from the solar poles were several singular arrow-straight rays, while from the equator on each side was a broad triangle of light. Almost everyone claimed they could see the corona moving, but it seemed quite static to me. There were three well-spaced prominences glowing BRIGHT crimson, the best one exactly at the top and noticeably emerging as the moon crept downward.

At mid-totality we noted the cloud bank over Haleakala (a 10000' high mountain on Maui northwest of us just outside the path of totality) started glowing brightly. Now the sky below the Sun to the East started getting dark, and the rest of the sky started to brighten again. The brightness overhead crept towards the Sun,and when it touched... diamond ring, this time diamond on top, and end of totality. (Again no Bailey's Beads or shadow bands.) Strangely enough, totality seemed to last longer to me than the 4 minutes we got.

After totality we got a unique experience afforded to us by our high viewpoint! We could literally see the darkness of totality racing away from us on the high cirrus clouds for the next 10 minutes. (It came out much more clearly in my photographs than I remember seeing, I think because the camera unlike the eye can't compensate for the range of brightness present. The photos show the shadow as a huge east-west elongated ellipse on the clouds to the East. Sure glad I took some photos!)

Again this contradicts what Sky and Telescope predicted, that we would NOT see the shadow well AFTER the eclipse because it would be in the same part of the sky as the brightening Sun. It wasn't our Eastward-looking location that did it, either, because observers at the summit of Mauna Loa who could see both East and West reported the same thing: darkening mostly overhead before totality, and the shadow racing away to the East afterwards.

30 minutes after totality it started to warm up again, the cloud lifted up above us, and it once again commenced pouring rain. The people hiking down from the summit encountered rain at 12000' and arrived very cold and wet.

Two interesting side notes:
Hawaii Volcano National Park employees got a big cloud hole over Kilauea caldera at just the right time, and saw all of the totality clearly. All the tourists, of course, had madly dashed off to the West looking for better weather. (The story was that Pele parted the clouds over her home because she was curious to see totality for herself.)

After the eclipse there was a mysterious helicopter buzzing around Mauna Loa. We later found out it contained the mayer of the island and the governor of the state! While they watched the eclipse from Mauna Kea, they noted steaming from Mauna Loa an decided the volcano must be erupting, and went to go see. They did NOT call the Hawaii Volcano Observatory, whose job it is to monitor the mountain. They DID call the press! The press of course rushed over to Hawaii Volcano Observatory to look a the real-time seismograms coming in, and saw numerous events. So the local evening paper for eclipse day carries the banner headline "Mauna Loa Erupts?" over a picture of a previously total eclipse. You guessed it: Mauna Loa ALWAYS steams. The governor evidently hadn't ever looked before. The "earthquakes" were the footsteps of all the people hiking back down the mountain, and the scientists were correctly ignoring them. I'm told the scientists at HVO chewed out the governor and the trigger happy astronomers on Mauna Kea big time.

San Jose del Cabo
- Robert Fenske Jr.

I was down in San Jose del Cabo at the end of Baja California for the eclipse, some tens of miles south of the center line. There was a hill a few hundred feet from where I was staying which I went out to about 45 minutes before 1st contact. There were already people out on it; some had slept out overnight there. I could see other groups forming on some hills farther away. I set up my telescope for eyepiece projection. I was here to observe, not to take pictures (I don't have an adequate camera).

About 10am local time, someone with a thermometer announced it was 92 degrees F. By 1st contact - 10:25 am - about 100 people were congregated on my hill. The sky was mostly clear, there were some clouds to the south far out over the water. As the Moon started eating up the Sun, people were coming to look at my projection to see the progress. Eventually, I had quite a number of people swing by me over the next couple of hours as I was the only one with eyepiece projection.

About 11:20 am a cool breeze started blowing and it was definitely not as bright. An obvious excitement was building in the crowd. The excitement really grew when the shadow bands appeared on a white sheet some people had laid on the ground. They were fast moving/changing light and dark striations - perpendicular to the Moon's path. I had never seen them before and was fascinated. By now it was an erie dusk all around.

It was getting darker and darker and I began to wait for the expected main shadow to sweep over us. A plane flies overhead. But there was no distinct "wall" and I saw no Bailey's Beads (unlike my 1970 experience). 5 - 10 seconds before the predicted time. I looked up and saw: totality.

I don't think I can describe in words what a stunning visual it was. The corona was overpowering, extending about two/three Moon diameters roughly east and west. There were two prominences visible on opposite sides. One looked almost like a loop. The color contrasts were striking. A jet black hole surrounded by iridescent white surrounded by a deep blue of the sky. I looked at my watch: two minutes gone already. I scanned around the sky and found Mercury, Jupiter, and Venus. Regulus was visible and I think I saw mars, but am not sure. On the other side of the Sun/Moon I believe I saw Aldebaran. The clouds to the south were all Sunset red and orange; the mountains to the north were encased in darkness.

Three minutes gone: mid totality. Cameras were clicking away. I was just laying back on a large rock looking up (the Sun/Moon was nearly overhead). Now six minutes gone: it's starting to brighten to the west. Then as I am looking a diamond ring appears overhead. People were cheering and clapping. I look at the diamond ring effect about 5 seconds and looked away. I leap down to my telescope and realize I had totally forgot about it or my binoculars during totality.

I measured 6:24 +- 2 seconds totality time. The guy with the thermometer told me he measured 78 degrees F during totality. The hill was abuzz with conversation, but the universal topic was the sheer visual glory of the event just witnessed.

5 - 10 minutes after 3rd contact Venus was still quite visible, all the other other stars and planets were gone. The few Sunspots on the Sun slowly crept back into view as the Moon released them from hiding.

Most people started slowly packing their gear. By the 4th contact only a fraction of the people were left, but when 4th contact came another round of clapping burst forth. I clock 4th contact at 1:31 pm, about 5 seconds before the predicted time.

As I walked through the town that afternoon, people just wanted to stop and talk about what they experienced. I think a number of people became eclipse chasers that day.

Eclipse Centerline in Baja
- Irwin Horowitz

The 8 of us left Los Angeles on Saturday, July 6th and took two days to drive down to La Paz. We were signed up for the SRAA symposium and were camped out at the Universidad de Baja California Sur campgrounds. As others have already noted, the expected crowds did not materialize and the pre-eclipse concerns about governmental requirements ere so much hot air. We had a fabulous time in La Paz in the days leading up to the "main event." On Wednesday night, 6 of us drove up to the centerline position off the highway (the other two arrived the following morning, but we didn't find each other). As the next morning progressed, we all watched with excitement as the partial phases proceeded . As the final minutes prior to totality approached, we all noticed some of the rather bizarre effects associated with eclipse .. the lighting was similar to what is experienced on a cloudy day, though the only clouds visible were several miles to the east, over the mountains...the temperature started dropping rapidly from about 90F to around 70F. Shadow bands were easily visible on the ground and the moon's shadow was racing at us from the west. In the final seconds prior to totality, all was hushed, except for the whispered comments from our group and the clicking of camera shutters. Then at 11:47 am...TOTALITY!!!!!

There is no way to possibly convey over the computer the full visual and emotional impact of totality...it is simply something that everyone should experience for themselves. I was lying on my sleeping bag, camcorder taping the entire incident, while staring up at this black hole in space surrounded by a ring of fire. The corona was quite extended and bright, and there was a visible prominence occurring in the NW quadrant of the Sun, which became more pronounced as the moon moved further east. It was quite easy to see the planets Venus, Jupiter and Mercury, though Mars was slightly more difficult. I didn't take much opportunity to look at he stars because I was busy taping the event, however, one of our group was quite thrilled to finally see the star Canopus for the first time in his life (and to see it in July as well!). The eclipse lasted a total of 5min 47.1 seconds at our position (we know this because my video is being used to measure the solar diameter, and an accurate measure of the length of totality was needed, so we time it). Most of our group were surprised that it ended so soon, they had though that it only lasted about 2 or 3 minutes (I guess time really does fly when you're having fun!). However, all good things must eventually come to an end, a soon the Sun peeked out of the western limb of the Moon, and our time in the umbra was at an end.

We were all very happy that we made the trip and I am looking forward to the next opportunity to experience totality (perhaps in '99?)

The View From Cabo San Lucas
- John Gleason

First Contact - One Margarita

05:00 hours - Eclipse Day! I had been roused from a deep sleep by the muffled sounds of footsteps and conversation outside my hotel room. People were obviously on the move. Out to the centerline I suspected. Wide awake now, I drew the curtains of my room back to a spectacular crimson and yellow dawn above the desert and the Sea of Cortez. Clouds obscured about 30% of the sky to the east.

The morning air was already in the high 80's but the lack of any humidity made it all very pleasant. The clouds were a more important concern. As I sat and watched the beautiful Sunrise for 30 minutes, they continued to build to about 40% sky coverage. This was not a welcome sight at all, as there was no alternative plan for evacuating our position here at the Hotel Finisterra.

Myself and 5 other friends, Tom, Alice, Rick, Susie, and Ron had ultimately ended up here after nearly 24 months of planning and frustration. The last 4 months had been a real teaser, as Mexicana Airlines virtually waited until the last moment to confirm our reservations and accept full payment for our tickets. Remarkably, things worked out very well with an absolutely flawless flight into the country and arrival at the hotel. All those worries about big crowds and possibly finding someone else in our rooms was totally (no pun intended) bogus.

In Cabo San Lucas, we would get about 5 1/2 minutes of totality. The length of totality was a point of argument for Ron and myself on the flight down. He argued 5 minutes , I said 6. When I originally booked our rooms some 24 months ago, I gave little thought to the proximity of the centerline. Now with the building clouds, I was wondering if we would see anything at all.

The Hotel Finisterra is situated a little more than a mile from the very tip of Baja California. Sitting on a rocky ridge crest some 200 feet above sea level, it afforded a grand view of the Pacific, Cabo San Lucas Bay, the Sea of Cortez and the village of Cabo San Lucas. Clouds or not, this truly was paradise in a land of contrasting desert and ocean.

08:30 hours - By breakfast the cloud build was nearly 50%. Quietly we conversed about the cloud cover and where to set up our instruments. Two of us had fluorite refractors. 80mm and 90mm telescopes that had both visually proven that their expense was worth it. My coveted Questar had already fallen victim to the infamous magic crystal. Six months of photographic planning was about to be tested with the small refractor. A problem I faced was how to deal with the tremendous range of brightness that is found in the solar corona. Evidently the inner corona is 1000 times brighter than the outer. No film is capable of handling this kind of dynamic range. Obviously there would be some serious darkroom challenges later, especially when trying to create a print that includes inner and outer coronal details.

A 1973 Sky & Telescope article by George East described a special technique using a fabricated occulting disk. The opaque disk would be a calculated size and placed at a calculated distance ahead of the film plane. The overall effect is to create a blur circle that would cover an area from the center of the image, out to about 2 solar radii. This would allow the photographer

to retain the innermost details of the corona, along with the outermost details in exposures as long as 4 seconds. So I made a simple disk .56" in diameter out of one of my business cards and taped it to the face of a 1A filter. This was then placed in the draw tube of the refractor approximately 3.8" ahead of the film plane. So here I was, 5 hours before the eclipse, still wondering if my "high-tech" occulting disk was too large. Were all my images going to show a big brown doughnut around the eclipsed Sun? All of my calculations and tests on the sky the week earlier indicated that there would be no problem. So how do you take such a risk on the eclipse of the millennium? You drink another cup of coffee and hope for the best.

10:00 hours - Breakfast was over and the clouds are clearing rapidly. 80% of the sky is already clear and we are elated. Rick and Susie decide to spend the next hour in the pool. Tom and Alice are heading off to our selected observing spot in the rocks overlooking the roof the Whale Watchers Bar. Earlier we had decided that the rooftop locations would not be stable. Already there was a procession of about 100 people moving equipment, chairs and tables into position on the roof . Our little camera tripods were already at their limit, we needed stable, solid ground. From our chosen location we were provided with a grand view of the northern, eastern and southern horizons. The west was partially obscured by a pyramid shaped mountain of jagged rocks and boulders. Already a dozen or so people were climbing up to its peak for a 360 degree view of the event.

10:15 hours. Ron and I run into Doug Berger. In 1986, while we were in New Zealand for Halley's Comet we had crossed paths with Doug on the north island. By some remarkable coincidence we had chosen to be at the same locaton again for another special celestial event.

Second Contact - Two Margaritas

10:20 hours. Ron and I find ourselves on a vast white sand beach, 200 feet below our hotel. There were a remarkable number of people on the mile long beach today, maybe a dozen? But here and there were a few other crazed photographers who had set up their cameras and telescopes under the Sun. Take a little wind, sand, 90 degree temperatures, add a plastic bag over your black camera, and you have the perfect recipe for Ektachrome flambae! Ron and I both advised one man about the dangers of baking film in his camera. Unfortunately, his response was a proclamation of his extensive eclipse experiences. We were just trying to help. Wishing him good luck, we continued down the beach toward "land's end". A quick backward glance caught the man pulling his camera back under the shade of his palm cabana.

Another photographer was set up just 50 feet from the breaking surf. He seemed to notice the puzzlement in our faces as we approached. "I'm here just to watch the eclipse." he stated, as his tripod slowly sank into the sand. "The photography is not a priority." We laughed and moved on. The condo complex and hotel at the end of the beach was buzzing with activity. A big 35mm movie camera was setting on a Meade DS-16 mount. A forest of other small telescopes (mostly C90's), cameras on tripods, and video equipment was ringed around the pool patios. There were about 100 people here.

"What's all the commotion? Why are all the telescopes and cameras here?" I asked a rather unsuspecting man who was deeply engrossed with his equipment. "You're kidding, aren't you?" he wasn't sure. " Where have you guys been? Did some whale just spit you out on the beach?" We moved on through the array of equipment and started heading back to the Finisterra , pausing briefly to catch the first bite out of the Sun through a C8. 10:24 and the Moon was now beginning its eastward movement across the Sun's disk.

Back at the Finisterra we paused briefly with a group of hotel guests to view tiny images of the crescent Sun on the ground under the shade of the trees. The leaves of the trees acted as pinhole cameras. The projected images of the Sun on the ground yielded hundreds of eclipse images. The Sun already had a 40% bite out of it. With a little more than an hour remaining before totality, we found Tom already making his record of the partial phases. People were scurrying about, taking turns looking through telescopes and making adjustments to cameras.

11:00 hours - By now the landscape was showing clear signs of dimming. The harbor below had changed color from a blue green to a dark blue. The temperature was noticeably lower, the desert landscape was a little duller.

11:15 hours - The sky is virtually cloudless, with the exception of some high cirrus to the southwest, 20 miles distant.

11:20 hours - Ron and I finally decide its high time to get our act together and retrieve our equipment from our rooms. Next to Tom I found a great spot just to the front of the hotels satellite dish. Rick and Susie had returned from their dip in the pool, and Alice was taking pictures of us setting up our equipment for historical record. Someone on the bar rooftop had spread out a white sheet with hopes to see the illusive shadow bands. We were also informed that someone had stepped on, and had fallen through one the rooftop skylights. Minor injuries only. The young woman got stuck about waste high.

11:30 hours - An amazing old Frenchman by the name of Fredrick appears from nowhere and tells us that we could not have picked a more perfect place to view the eclipse. Our geographical position here on the tip of the north american continent, high above the Pacific on this ridge makes it all very special. Because we were off the centerline we would no doubt witness a longer diamond ring and more dramatic edge effects. Fredrick tell us that this is his forth eclipse and begins describing the events leading to totality. "It will be the most memorable event of your lives." he remarks in a very excited tone. He brings no telescope, no camera, and amazingly he finds a perfectly carved-out natural chair in the rock behind us. "Watch how quickly the sky dims just before totality." he tells us. "Then... daka, daka, daka the darkness will close in around us." Old Fre-

drick's body motions and verbal descriptions have really heightened the excitement.

Third Contact - Three Margaritas

11:40 hours - The landscape suddenly dims, as if God had decided to make a slight correction to the celestial brightness control. I would have expected a linear, gradual dimming around us. This was an unexpected event, much like a cloud passing in front of the Sun. By now the Sun was 80 to 90% eclipsed, with the crescent closing rapidly. Behind me, the great mountain of rocks is set against a deep blue-gray western sky. All around us the contrast level is very low. Ron and I are moving around trying to catch a glimpse of the moon shadow racing our way from the west. It's noticeably cooler ,75 degrees? A lite breeze has picked up a little and I am concerned about it shaking the telescope. The crowd around us is getting very excited at this point. Voices are louder now, people are poised by their cameras, some are watching the horizons around us.

To the southwest, the distant clouds are a faint orange color. "Shadow Bands!" someone cries. We rush over to look at the sheet spread out on the rooftop. Alternating dark and light bands about 6-inches apart are moving rapidly across the white colored rooftop. They are most curious, and tend to come in fast moving groups and clumps . Someone spots Venus! Its brilliant white light is set against light blue sky to the southeast. It was probably visible for quite a while already. I've never quite seen Venus like this before. The orientation in the sky is peculiar.

11:45 hours - The shadow bands continue their dance across our feet. Again the light around us suddenly dims. Some people are fooled into thinking that we are entering the diamond ring. A quick glance into the telescope reveals a quickly shrinking Sun, 98% eclipsed. Behind us, to the west, the sky is almost visibly darkening. I do not resist the temptation to look at the Sun directly. For a fraction of a second I am treated to an alien scene that I will never forget as long as I live. Nearly 99% eclipsed, the Sun is now only a fraction of it usual size and brightness . What I see is a blinding blue-white arc directly overhead set in an unearthly slate blue colored sky. Perhaps this is what the Sun might look like from the neighborhood of Pluto. I was stunned. Never have I seen such beauty. I quickly glanced back to the telescope and slowly pushed up the solar filter to the end of the dew cap. "This is it Tom" I yelled ,"Don't forget to remove your Sun filter!" I reached up and pulled of the mylar filter entirely. "John, it's too soon", Tom replies. But the filter was off and the view through the camera had me transfixed.

The last bright arc of photosphere was rapidly closing, the corona was already visible on the western side of the black disk that was the Moon. Instinctively I fired off my first image - 1/125. Too slow I gasp! In a fraction of a second, the shutter speed wheel brought up 1/500th and two frames were taken 5 seconds apart to the press of the electronic shutter release and to the whir of the motor winder. Suddenly, we were in a deep blue twilight.

11:50 hours - I fell back from the view finder to behold the primeval vista above me. A great black hole greeted my eyes. Around it, extending out 4 solar radii was the most magnificent arrangement of coronal streamers. Two streamers forked out to the east, while one great feathery streamer extended to the west. The silvery, opalescent, pearl color of the corona has never been photographed with any accuracy . Great wisps of material could be seen extending from the Sun's north and south poles. Two fantastic fountains of hydrogen were visible to the naked eye in the most lovely red neon laser light imaginable. These prominences were bright! Reluctantly, I returned to the view through the camera. Fortunately, the viewfinder in the new Nikon 8008s is a bright one. I could see that the northern most prominence was a wonderful feathered affair, detached from the limb of the Sun. The corona was a fine tapestry of strands and filaments extending beyond the limits of the viewfinder. Never would we have suspected the corona to have extended out so far. Cheers and screams echoed around me. I felt as if I could even hear crys of elation from Cabo below.

With diligence I proceeded with my photographic run that had been so painstakingly rehearsed the week before. Meticulously I center the image of the great black hole, change the shutter speeds, and fire off three shots in succession. Three images of each exposure setting would hopefully beat Murphy's game of scratching the best image. As the motor drive whirled away, I took a precious few seconds to glance visually at the view above. Things ran smoothly until I reached the set of 1 second exposures and caught myself increasing the shutter speeds rather than decreasing . Lost, I began another series of half second exposures, one second, two second, and finally four seconds. But the camera came to a complete halt and only buzzed when I depressed the shutter release. I was out of film! Frame 38 was flashing in the light of the liquid crystal display. A major decision point was at hand. Do I abort here, or attempt to attach my back up camera body and get the four second exposures? Did the occulting disk work? What if they're all ruined? I leaned back and took another glance at the Sun. Three horn blasts came up from Cabo heralding mid-eclipse. I glanced around and caught the shaded image of Tom and Ron at their equipment. Behind them was the warm glow of Sunset colors in a ring around my entire visual horizon. Jupiter and Venus shown brightly in the deep blue sky. Old Fredrick was pointing out stars to people, although I wasted no time on what I really came for.

I remember grabbing my binoculars for a direct view of the corona. The prominences were spectacular. They were simply bizzar neon lights, in twisted and turned shapes. There was also an alarming impression of movment in the corona. Not a changing pattern, but rather a sheen of light across the eastern side. The great black hole in the sky, seemingly sucking our atmosphere into it, taunted me back to the telescope. About 60 seconds had passed, I was transfixed on the image. "Well Schmidt!, Go for it!" I rapidly pulled the Nikon body off the telescope and removed the occulting disk. Quick-

ly my old Olympus camera body went on. Through the right angle viewfinder the focus appeared perfect. No time to make adjustments now. Eight expsoures were fired. Gone was the luxury of the motorized film advance. Susie's watch was alarming. This couldn't be mid-eclipse? We must be nearing the end. I forced myself away from the camera to burn a long lasting final impression of the corona into the old memory bank. 10 seconds, 15 seconds , then slowly a brilliant starburst appeared into a dazzling arc of white light. I could hear camera shutters clicking away. I made no attempt to even touch mine. The diamond ring of third contact is also something that has never been accurately captured on film. Instantaneously we were bathed in the light of old sol. The solar filter was quickly replaced and I glanced over at Tom who was now standing, dripping wet in sweat. "WOW!" he exclaimed. I stood in silence for the longest time, gazing out toward the east where the sky was rapidly brightening as the great shadow moved off toward the Mexico mainland. A great feeling of satisfaction, euphoria, well being, or whatever you want to call it, settled very deeply into my sole. "Look at the big lizard" someone said. Where Fredrick had been reclining, Godzila's cousin had ventured into the returning Sunlight. Perhaps fooled by the second Sunrise.

Everyone was taking and jabbering about the prominences and the extent of the corona. No previous visual description, no single photograph had prepared us for what we had just witnessed. The color and visual brilliance of the Sun's prominences is like nothing seen in any H-alpha filter. The delicate hues and silvery color of the corona have yet to be imaged accurately by any manmade device.

Our totality lasted just over 5 minutes and 30 seconds. It seemed like only 2 minutes. However the spectacular events leading up to and including totality really made it about a 15 minute event of the most wonderful and awe inspiring proportions. All agreed, a total eclipse of the Sun should be seen at least once in everyone's lifetime.

That night in Cabo we celebrated. Ordering 4 Margaritas at the Rio Bar, we received 12! The rest of the evening was lost in some sort of time warp.

Fourth contact - Four Margaritas TOTALED!

The negatives are back from the lab. The occulting disk worked! No brown doughnut covering the inner corona, but rather a lovely corona with fine brush-like streamers extending out of the film frame. The negatives show a wealth of information from the edge of the moon, including the prominences, all the way out to an unpresidented 6 solar radii. The 4 second exposures with the occulting disk removed, managed to image the face of the moon illuminated by earthlight. But despite the successful photography, they are only a ghost of what we really saw. Next eclipse, I have decided that paper and pencil will replace my film and camera.

It is true that the experience of a total solar eclipse changes you. Every day the events of totality are played back in my mind. I suppose that the experience can be likened to child birth... your own!

Eclipse Edge Report - Puerto Vallarta

- Brad Templeton

Our expedition went to the edge of the path (about 3 miles in) to a small town called Sayulita, just north of Puerto Vallarta. In spite of worries about serious clouds on the days prior to the eclipse, we had clear skies for totality, though some thunderheads threatened, and then retreated as the Sun's radiation decreased.

The villagers in this small town were afraid of the eclipse, and would not serve our expedition (300 people) drinks during it, though some did come out and watch. Some watched on TV.

We went to the edge to see extended edge effects (with the southern limbs of the Sun and moon almost tangential, edge effects took place in slow motion, and we would see more chromosphere, prominences and corona, if it had been the expected small tight solar-max corona) The price we paid was getting only 90 seconds of pure totality vs. the 5-7 minutes most observers near the center got.

We did get those edge effects, though I didn't see a lot of beads myself, since I used naked eye and filters for the enc of the partial phases, and binos for the total and cusp phases. At the edge, the limb of the visible Sun is so thin that the risk of eye damage around totality is less than at the center.

The main difference I observed was a stunning diamond ring, which lasted several seconds - perhaps 5 or more, on each side. We also got a red rim of chromosphere around the southern limb for all of totality, and clear views of 3 prominences.

The corona, as noted, was not at all as expected. It was huge, bright, and finely structured with streamers reaching well over a solar diameter.

We also got good shadow bands at our location, though attempts to videotape them were not successful.

I watched on the beach where it was cooler, and we could see the approaching shadow on the clouds.

What can I say to describe this amazing experience? No description I read, no photo I have ever see, matched what I actually saw. You can't photograph an eclipse and show what the eye sees. There's too much detail at too many differing levels of light for a photograph to work with conventional technology. (New CCD technologies might work some day to get a better picture.)

No description does it justice. I have read much hype about how an eclipse is the most amazing thing you'll ever see. An eclipse is one of the few things in the world that lives up to the hype. In the words of Arnold, "I'll be back."

Sad to see was the number of people who missed it due to Mexican government paranoia. So many in the path took the advice to watch it "through the safety of TV."

So many people in Puerto Vallarta (a few miles outside the pat) told me that they saw the eclipse. "Yea, the Sun be-

came a crescent like the moon and it got dark and everything." How sad that people could go there for a week's vacation and not make the short trek north to see this awesome display.

From Mazatlan
- Mark Muhlestein

Mexico was great. My wife and two friends and myself were in Mazatlan for 9 days, including (of course) the 11th to see the eclipse. We had somewhat mixed luck with the weather, in that every day (except two) was bright and relatively cloudless. Unfortunately, one of the cloudy days was the day of the eclipse.

During the morning the partial phases occurred mostly in clear sky, but as the Sun was obscured, a column of dense clouds moved in over Mazatlan. We were on the beach, trying to find a place where the clouds were thinner, but the clouds were moving and basically we decided that it was a crap shoot, so we just stayed put to watch totality come. From time to time, the cloud thinned, and we were able to see the ever-shrinking crescent, which just about matched out ever-shrinking hopes of a clear view.

We tried to see the shadow coming in over the ocean from the northwest, but it was difficult to tell much, other than that it seemed somewhat darker in that direction. As totality approached, the light faded more and more, until only a somewhat bright area in the clouds was visible.

The onset of totality was very distinct. Within a few seconds the sky directly overhead changed from dusk-like to night. Then, amazingly, the clouds moved a bit and the eclipsed Sun, surrounded by a very bright corona, was clearly visible behind high, thin clouds. There were a few hundred people on the beach with us, and everybody started shouting and clapping. I was so taken by the view that I almost forgot to get out the binoculars to look at it. The view through the binoculars was truly awe-inspiring. I thought I could see a solar prominence, though not clearly, but just the sight of the corona surrounding that perfectly black disk will never be forgotten. Like many others, I can only say that the feeling of totality can really only be experienced by being there.

Totality lasted almost 6 minutes in Mazatlan, even though we were almost 100 miles from the center line. We had time to look around, watch the sea birds acting confused, etc. One of the most beautiful and interesting sights was the 360 degree Sunset that was all around us where the partially eclipsed Sun was lighting the cloud tops many miles away.

All things must pass, and just before totality ended, the clouds covered the Sun again, and it started brightening rapidly. The clouds gave us a few more glimpses of the increasing crescent as the eclipse ended, but then it really got nasty, with thunder, lightening, and light rain.

But we had seen it! I spoke to several people, just a mile or so up the beach, who "didn't see a dam thing." I also spoke to a guy who was with a group of amateur astronomers who had managed to contact a local Mexican meteorologist the night before the eclipse. They headed south about 2 hours and saw the whole thing under clear skys. This is a good point to remember for the next time!

Tepoztlan, mainland Mexico
- Joanna Pan

I went to Tepoztlan, a small town 82 km south of Mexico City. As a matter of fact, the whole central mainland area was considered to have 20% - 30% chance of clear sky. I did not have another choice because all favorable places were booked.

On the big day, morning was cloudy and foggy as usual. The eclipse was supposed to start at 11:54 with totality beginning at 1:21. We (three altogether) were depressed and decided to pack and try our luck somewhere else. Guess what? The clouds started to clear after breakfast and we could see the Sun (with filter of course) We set up our cameras and camcorder on the flat top roof of the hotel and waited patiently and excitingly for the event. There was some patches of high cloud, but none of them got into the way of the Sun. We saw the whole eclipse (partial + totality + partial) unobscured! The four planets were clearly shown. Many have already described in details the beauty of the eclipse. I don't need to repeat it again. What I would like to tell here is the reaction of the fellow Mexicans. We were the only eclipse chasers, surrounded by a group of local people. We brought enough welder glass and homemade mylar filter to lend to them. My husband also made pinhole projection to show to the kids. When totality began, the townsfolk fired firecrackers and everybody clapped. A baby cried during totality, but we were having one of our best moments in our lifetime.

One funny thing to tell: we did not know Spanish and the Mexicans did not know English. We communicated well through sign language.

Sun Grazing Comet Observed During Eclipse

A Sun grazing comet was observed by Richard Watson at Cabo San Lucas and Marty Roberts at San Jose del Cabo during totality.

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