

# The Shoreline Observer



Newsletter for the

## Shoreline Amateur Astronomical Association

**March 1996**

President - Phil Sherman

Vice President - Pete Burkey

Secretary/Treasurer/Editor - Mike Henry

### **March Meeting**

The March meeting of SAAA will be held on Thursday March 21st at 7:00 PM in the West Ottawa Middle School Planetarium.

- ◆ Business Meeting.
- ◆ Sandy will give a tour of the March night sky.
- ◆ Peter Chan will be speaking on Meteorology and Astronomy.
- ◆ Pete will be bringing refreshments.
- ◆ Everyone will have fun.

### **Treasurers Report**

As of March 12, 1996: \$283.13

### **Speaker at Hope**

On March 26th at 7:00 PM, Rocky Kolb from NASA/Fermilab Astrophysics Center & Dept. of Astronomy and Astrophysics, will be speaking at Hope College in VanderWerf Hall room 102 (ask Mike for directions).

The lecture is titled "First Moments of the Universe". In the lecture Dr. Kolb will review the most recent cosmological observations, such as the nature of the background radiation believed to be a remnant of the Big Bang, and the discovery of the largest structures in the Universe. He will describe how potential discoveries could unlock the secrets of the origin of matter and galaxies.

I know I'll be there. Will you?

### **Star Party News**

On March 23rd or April 20th, we will be having our "All New" annual Caldwell-Messier Marathon. This is an all night event where we try to find all the M objects. the "All New" part is that this year we will also be looking for "C" objects at the same time. More info to come.

We have also tentatively planned to have a sun observing party at the mall for Astronomy Day. This would be on April 20th or 27th. Please consider donating time for this public event.

## The Planets

Venus continues its spectacular show this month and next reaching greatest eastern elongation of  $46^\circ$  on March 31. Can you spot Venus in the daytime? Try to observe the planet along with the sun and moon on Friday, March 22 (see March Sky Calendar). Also note the close gathering of Venus and the Pleiades on April 2nd and 3rd.

Mercury becomes visible again in April reaching greatest eastern elongation ( $20^\circ$ ) on April 22nd. Look in the WNW at dusk (see April Sky Calendar).

The pre-dawn sky has several objects of interest through April. Saturn becomes visible late in the month, emerging from behind the sun to join brilliant Jupiter and faint Neptune and Uranus. Look in the SSE for these objects along with comet Hale-Bopp.

Our moon puts on a pretty good show this spring, also. After passing close to Venus and the Pleiades in late March, it will pass through the Earth's shadow for a total lunar eclipse on April 3rd and proceed to a close gathering with the Hyades on April 20th.

So grab your Sky Calendar and let the observing begin! Don't forget the Messier Marathon either March 22 or 23 depending on the weather. More information will be forthcoming at the March meeting.

P. Burkey

## Peter Chan at SAAA

Peter Chan of the Grand Rapids-U S Weather Service will be at the next meeting speaking to us about Astronomy and Meteorology. He will also be showing us excellent weather sites on the Web.

Peter has spoken at SAAA other times and was very interesting and informative.

We will also be having dinner with Peter at Jose' Babushkas at 5:00 PM on Thursday. This is a great time to sit and talk with him on a more personal note.

## Mike Search's for a Comet

Last Friday @ 2:45am, I had an idea, "If the sky is clear, I'll go look for the comet". It was clear, so I headed south for dark skies. The following is what happened.

3:15am Arrived at site just south of airport.

3:18am Everything setup. Begin looking for Libra using sky chart.

3:27am Give up trying to use the blasted finder chart, and accidentally look up in the sky.

3:28am I notice this "fuzzy" thing in the sky.

After I found the "fuzzy" thing, I still didn't think it was the comet because it was way to big and bright. After all, it was as large as my pinkie at arms length. I was sure that it must be the Beehive cluster or the Andromeda Galaxy (I'm not as up on where everything is in the sky as I'd like to be). By this point it was time to use the binocs (10x35). When, what to my wondering eyes should appear, but a great shiny comet, I grinned ear to ear. I was very surprised that all I had to do was look up to find Hyakutake and not use finder charts and 3 page reports on how to find the comet.

Next it was time to use my little telescope (90mm). I spent at least 20 minutes trying to get the comet in sight, and learned a valuable lesson at the same time. Never leave home without your finderscope and smaller eyepieces. Anyways, the view with the scope was good but very washed out because of high power eyepieces. However, I could see that the nucleus of the comet was very bright as opposed to the coma. I did not notice a tail.

By 4:15am I was cold and tired, so I drove back home, stepped out of the car and looked up. And there was the comet right in my own front yard. Lesson 2 learned, look in your own yard before you go off to the middle of nowhere.

All in all, it was well worth the effort. If you haven't seen Hyakutake yet, make it a point to. Don't be the only one at the meeting who hasn't (then you'll feel foolish).

## Comet Hyakutake (C/1996 B2) Viewing Guide

COMET HYAKUTAKE, currently brightening daily, should become the brightest comet since Comet West in 1976. It should far outshine Comet Halley of 1985-86. Sky & Telescope magazine predicts that unless it fades very unexpectedly, Comet Hyakutake should be visible to the naked eye every clear, dark night from late March through late April for people throughout the world's north temperate latitudes.

The comet, also known to astronomers as C/1996 B2, was discovered on January 30th by Japanese amateur astronomer Yuji Hyakutake in Kagoshima. He has been systematically hunting for comets with giant 25 x 150 binoculars. A month earlier, on December 25th, he discovered a much fainter comet, C/1995 Y1, which also bears the name Comet Hyakutake. (Hyakutake is pronounced "hyah-koo-tah-kay").

His newest find soon proved to be heading in the general direction of Earth. In late March it will fly just 9.5 million miles past us (over the North Pole), which is quite close as solar-system distances go. This is part of why it will appear unusually bright. The comet will then head toward the Sun, dimming somewhat for a couple of weeks as it leaves the Earth behind but then rebrightening from mid- to late April as it swings near the Sun's intense heat and light.

Nobody should miss the chance to see this astronomical marvel! The information here will enable you to find and view the comet for yourself -- even if you have no skywatching experience.

Remember that a comet does not shoot across the sky like a meteor. It will remain visible for weeks on end, usually for many hours each clear night. It will appear as a little glowing cloud with a slightly brighter core and perhaps a dim tail.

The first thing to do is find a dark viewing site. To see the comet well -- or perhaps at all -- you'll need to get away from glary outdoor lights and give your eyes time to adapt to the dark. And unless the comet performs very well, you may also need to get out from under the milky glow of light pollution that fills the night sky over cities and suburbs and washes out the view of most of the universe.

On the other hand, there's no predicting exactly how bright the comet will become. The only way to tell whether you can see it through the light pollution over your home is to go out and try!

**MARCH 1-18.** Still distant but heading our way, Comet Hyakutake is visible with binoculars in the constellation Libra, gradually creeping northward from night to night.

Libra is a very dim constellation that's at its highest around 3 or 4 a.m., fairly low in the southern sky. Successful comet catchers during this period will be people who know the constellations and use binoculars. The comet will be a small, unimpressive, fuzzy ball in binoculars, slowly brightening from about magnitude 6 to magnitude 4.

Moonlight will pose some interference through the morning of March 12th, then will diminish and disappear by the morning of the 16th. The comet is near the 3rd-magnitude star Alpha Librae on the mornings of March 11th through 15th.

**MARCH 19-20.** Brightening and accelerating its northward pace in a sky now free of moonlight, Comet Hyakutake crosses the eastern edge of the constellation Virgo near Serpens. It's high in the southeastern sky as early as 1 a.m. Again, the comet is still for those who know the constellations and use binoculars.

**MARCH 21.** Newcomers to skywatching have their first easy chance to find the comet tonight and tomorrow. On Thursday night, March 21st, go out around 11 p.m. local time. Face east, look high, and spot the brightest star in this part the sky. The star is Arcturus; you can't miss it.

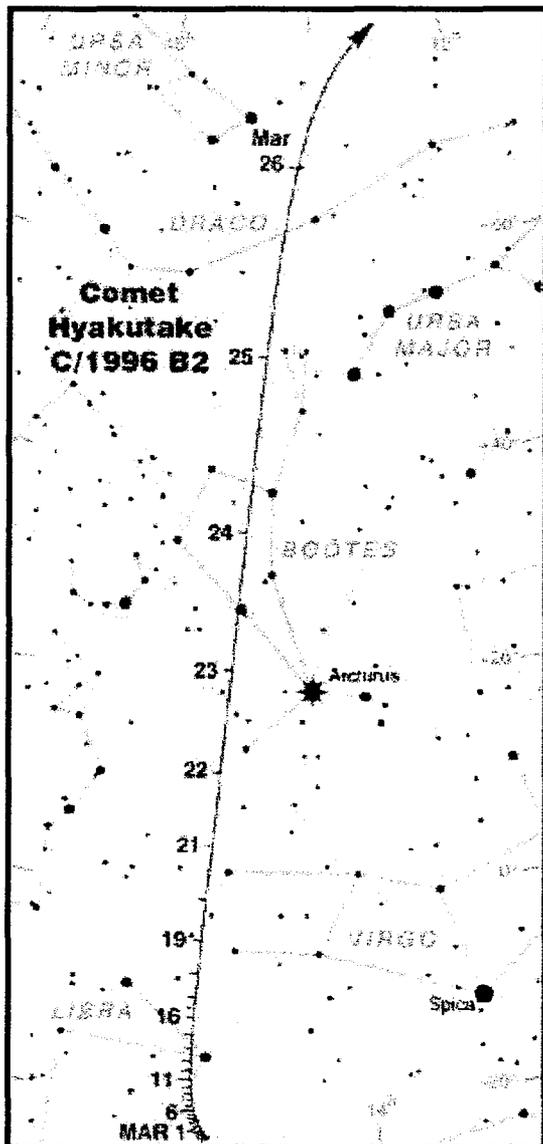
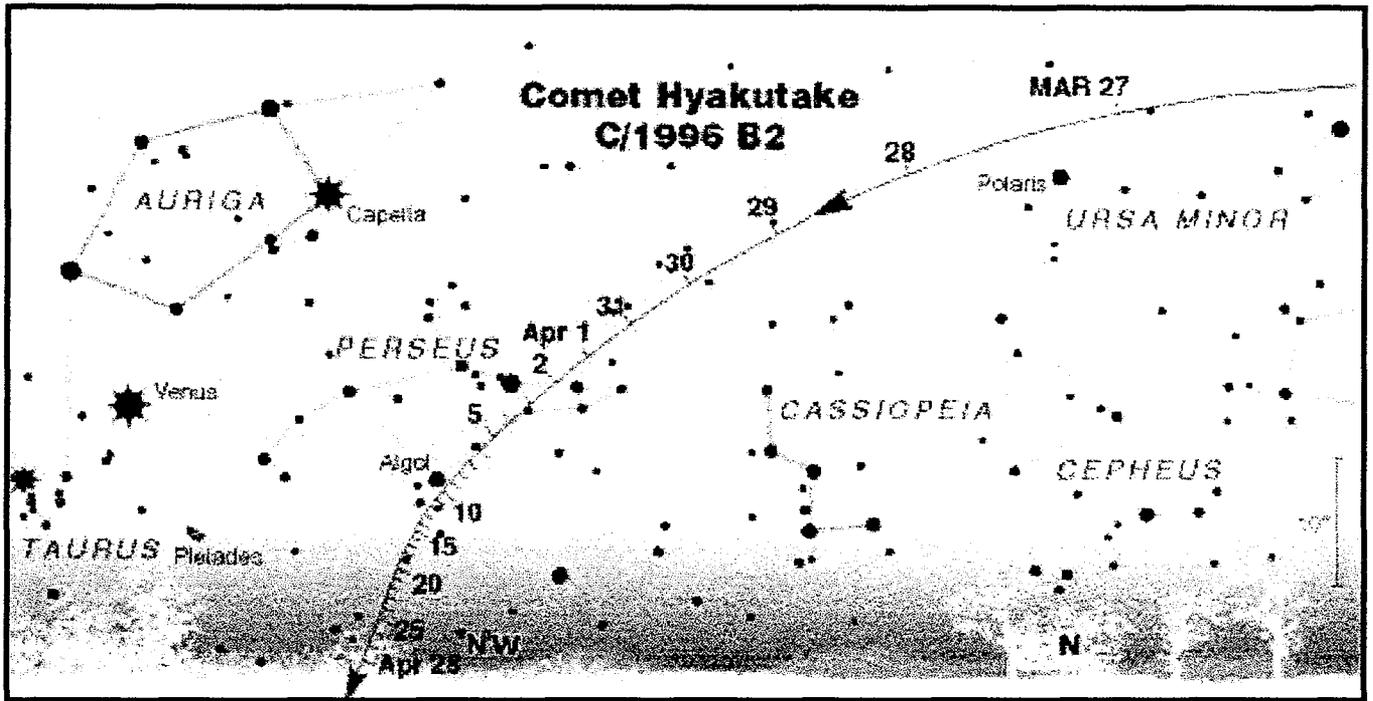
Hold your fist out at arm's length in front of you. Sighting past it, look one fist-width below Arcturus. That's the location of the comet's head. If it has any tail, the tail will extend to the right. Bring binoculars for a better view!

**MARCH 22.** Find Arcturus again as described for March 21st. The comet is now about a fist-width to Arcturus's left. It may be noticeably larger than last night.

**MARCH 23.** Now you can start from Arcturus in the eastern sky as early as 10 or even 9 p.m. local time. Look for Comet Hyakutake about two fist widths to its left. The comet is about equidistant from Arcturus and the end star in the handle of the Big Dipper, which is higher in the northeast.

The view should get somewhat better later in the evening, when the comet, Arcturus, and the Big Dipper all move higher into a less light-polluted part of the sky.

**MARCH 24.** Tonight the comet is closest to Earth, looking as large as it will get. After twilight has completely faded out, find the Big Dipper standing on its handle partway up the northeastern sky. The comet is less than a fist-width to the left or lower left of the Big



Dipper's bottom star, the star at the end of the Dipper's handle.

Again, the Dipper and comet rise higher into better visibility later in the evening. By midnight they're nearly overhead when you face northeast, with the comet appearing below the end segment of the Dipper's handle. The waxing crescent Moon sets around then too.

Astronomers express some concern that despite being near and big around this date, the comet may prove hard to see -- exactly because it will appear big. Its light will be spread out over a relatively wide area, making it especially vulnerable to the ill effects of light pollution. In a dark sky, the comet's head -- the brightest part -- may be nearly as big as your little fingernail held at arm's length. Through light pollution, you may be able to see only the brightest inner part of the head, which will be smaller. The tail will be the largest but dimmest part.

The best optical instrument for viewing the comet on any night will be a pair of binoculars. The bigger the binoculars' front lenses the better. A telescope provides a narrow-field view that will show only a part of the comet at once. If you try a telescope, be sure to use its lowest magnification.

**MARCH 25.** The comet is visible all night in the north. After dark, examine the sky about two fist-widths left of the Big Dipper's handle. (This point is near the bowl of the much fainter Little Dipper.)

The view will improve late in the evening as the Moon, nearly first quarter, gets

low near setting. By midnight the Big Dipper is nearly overhead in the north, and the comet appears about two fist-widths directly below its center.

**MARCH 26.** Tonight the comet is near the rather dim North Star, Polaris, which is about halfway up the sky due north. To find Polaris in the evening, locate the Big Dipper very high in the northeast to north, almost overhead. Follow the line formed by the two front stars of the Big Dipper's bowl -- called the "Pointers" -- about three fist-widths toward the lower left. (If you're looking later at night, they point straight down instead.) Moonlight will interfere with the view to some extent until the first-quarter Moon sets around 1 or 2 a.m. local time.

**MARCH 27.** Early evening is when Comet Hyakutake is highest from this date on -- but moonlight is an increasing problem from now until April 5th.

Tonight, if you go out soon after the end of twilight, look about one fist-width (or maybe slightly more) to the left of Polaris in the north. (Find Polaris from the Big Dipper as described above.) The Moon sets around 2 a.m. tonight, leaving a darker sky. If you look at that time or later, the comet is about 1-1/2 fist-widths below Polaris.

**MARCH 28-29.** After twilight ends, look west for dazzlingly bright Venus, the "Evening Star." To Venus's upper right by about two fist-widths at arm's length, spot the bright star Capella. It's not nearly as bright as Venus but brighter than any other star in the area. Venus and Capella will be your landmarks for finding Comet Hyakutake for the next month.

On the evenings of March 28th and 29th, find the point halfway between Capella and Polaris. Look for the comet a little below that point. It is fading now as it flies Sunward away from Earth.

**MARCH 30-31.** Locate Capella and Polaris soon after nightfall as described above. Find the point a third of the way from Capella to Polaris, and look about one fist-width at arm's length below that point.

**APRIL 1-4.** Although the comet is shrinking and fading, its head and general outline may start becoming more sharply defined, a process that should continue through late April. A comet's tail always points in the direction away from the Sun; currently the Sun is below the west-northwestern horizon at nightfall. This means the tail will extend upward, leaning a little to the right, for the rest of the month.

In early April, look about two fist-widths to the lower right of Capella and almost three

fist-widths to the right or upper right of Venus (which, incidentally, is next to the Pleiades star cluster; take a look with your binoculars). The modestly bright star near the comet these nights is Alpha Persei, also known as Mirfak.

In early evening on April 3rd, skywatchers in the northeasternmost United States and Canada get a brief respite from moonlight -- because the full Moon goes into an eclipse! The Moon will be totally eclipsed from 6:26 to 7:53 p.m. Eastern Standard Time (which will be during twilight for points farther south and west).

**APRIL 5-12.** The sky is now completely free of moonlight shortly after darkness falls. You'll find the comet two fist-widths to the right of Venus, possibly just a little lower depending on the date and your location. The moderately bright (2nd-magnitude) star near the comet's head from April 7th to 11th is Algol, or Beta Persei. During this period the comet should be at its minimum brightness for April.

**APRIL 13-28.** Scan low in the northwest every clear evening right around the end of twilight. In mid-April the comet is to the lower right of brilliant Venus by about two fist-widths, and in late April by three fist-widths.

During this time the comet should brighten again, and the tail may lengthen even as the head becomes more compact. The comet's head will get a little lower to the horizon each day. By late April it will be so low that you'll need a good, open view of the northwestern horizon. You'll also have to look a little before twilight fades away completely. Bring the binoculars!

**APRIL 29 and later.** The comet swings closest to the Sun (21 million miles) on May 1st, but by then it has become hidden in the Sun's glare. After its solar flyby ("perihelion"), the comet swings rapidly south; it never comes back into view for observers at mid-northern latitudes. Rapidly fading, it becomes an object for Southern Hemisphere astronomers in mid- and late May. By summer it will have faded to telescope-only visibility.