

OBSERVATIONS OF A JET STREAM

by

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I was taking my family from our home in Hattiesburg, where I teach at the University of Southern Mississippi, to Shreveport, LA. We had just zipped onto Interstate 20 near Jackson, MS and I had braced myself for the long, straight westward leg to Shreveport. It was early afternoon on Friday, March 26, 1976.

The monotony was soon broken when I noticed the subtropical jet stream overhead. It was a ribbon-looking cloud embedded in a cloudless, blue sky (See Figures 1 and 2).

It had been several years since I had learned about jet streams in an NSF-AAAS Chautauqua course (2). And, as could be expected, I had searched the literature for more information on the topic - with some success. (See a list of sources in Appendix A.) What I found in each source more or less echoed what I already knew - except for visual aids which I copied for use in my own earth science courses. Some of the students did class projects to re-search the topic and share with us, enhancing my enthusiasm as well as my knowledge and visual aids.

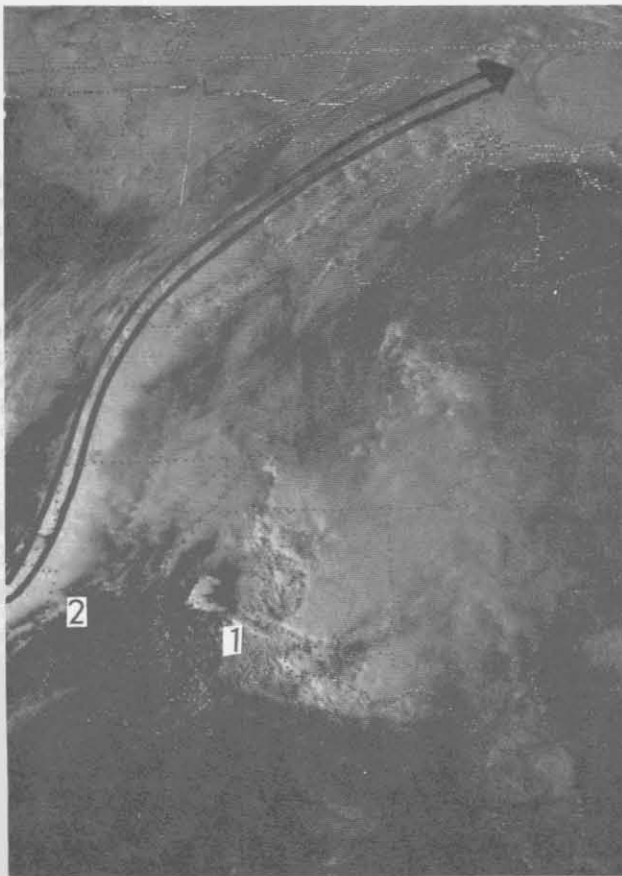


Figure 1. Visual DB5 satellite photo, 2130 GMT, 26 March 1976, showing banded clouds still lingering throughout central Louisiana. A line of thunderstorms associated with the jet stream (marked on the photo) is approaching Shreveport, LA. (Number 1 is Hattiesburg, MS and 2 is Shreveport, LA.)

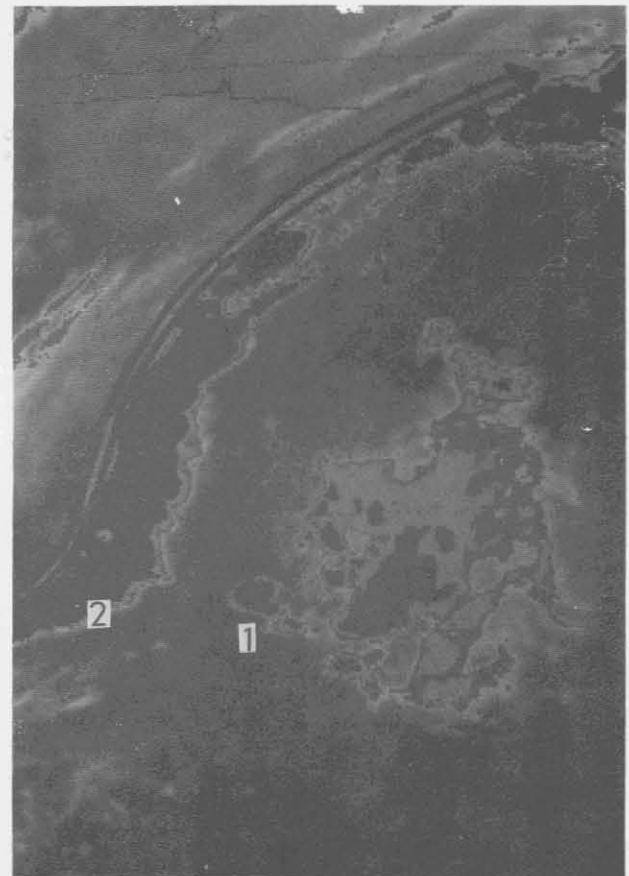


Figure 2. IR (Infrared) DB5 satellite photo, 2200 GMT, 26 March 1976, showing a line of enhanced thunderstorm tops associated with the jet stream (marked on the photo). It was the earlier developmental stages of this line that could be seen by the author as he approached Shreveport.

This will explain the surprise and excitement at seeing my first jet stream. And, as any academic minded head of family might have done, I turned to the mesmerized crew and pointed it out. Guess my excitement showed (you never want to do that). All I got was a "ho-hum" and a "yah - watzta jet stream?" Later, a "sorry I asked." (In all fairness, my family supports me in my many and diverse projects - guess I have too many and they are too diverse...which might explain why so many of the scientists of old remained unmarried.)

I could hardly keep my eyes off of it. There were the stress marks merging into two and sometimes three ribbons of fleece as far as I could see. As we were reaching Shreveport, some 30 miles out, distant clouds took the shape of finger-like thunderheads, lining up at the nose of a front (See Figure 3). The jet stream's clouds vanished abruptly into these frontal clouds.

The jet stream overhead - and we're driving into a front. It soon occurred to me that somebody in this neck of the woods will catch hell!

Needless to say, I pointed this event out to unreceptive overtones from a tired and weary audience. However, the weariness that had overcome us all from the long trip and this passive feedback did not dull my new-found enthusiasm and the excitement for anticipating these results!

The results were dramatic. Newspapers throughout at least seven southern states would for the next three days headline the events and the aftermath of tornadoes which I believe were the handiwork of this front and jet stream conjunction. Severe weather broke out during March 26th through the 30th in Sarcoxie, Missouri; Spiro, Oklahoma; Drew, Poplarville, Leakesville and Canton, Mississippi; and Birmingham, Alabama - just to name a few.

These events have been on my mind all of these years. I have collected over thirty slides to include as a slide talk in my earth science course. This wasn't the last time I saw a jet stream. My students and I have noticed it on a number of occasions since then.

Some TV weathercasters show the jet stream location as a daily part of their weather presentation, including the NBC morning news program, Today. Anyone around will always hear my "I-told-you-so" comments when Willard Scott points out the jet stream and its possible effects. I am convinced that the location of jet streams should become a routine part of all weather reporting.

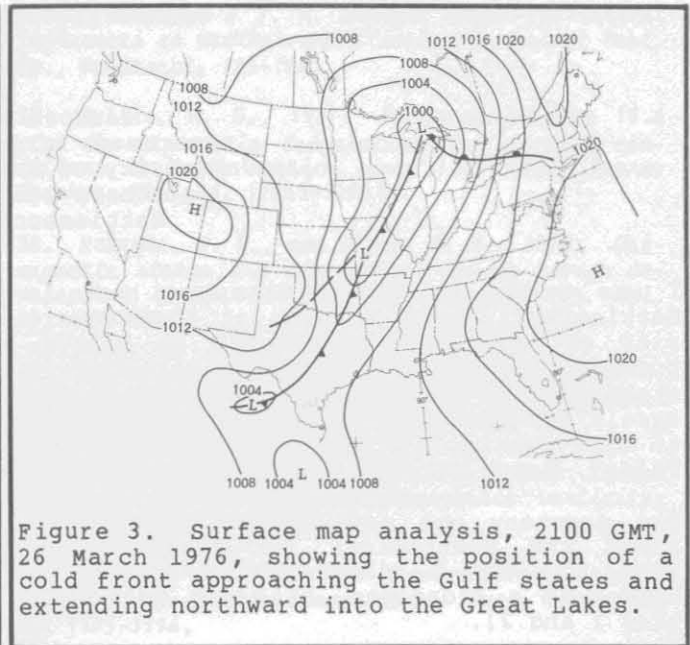


Figure 3. Surface map analysis, 2100 GMT, 26 March 1976, showing the position of a cold front approaching the Gulf states and extending northward into the Great Lakes.

FOOTNOTES

1. Dr. Sonnier earned his Ed.D. at the University of Northern Colorado. His abiding interest in earth and environmental sciences has led to a wide diversity of publication topics, including his book, "Holistic Education; Teaching of Science in the Effective Domain."
2. Shaefer, Vincent J. and Volker A. Mohnen. Atmospheric Sciences: NSF Chautauqua-Type Short Course for College Teachers, Clark College, Atlanta, Georgia, 1975-76.

APPENDIX A

Following are some interesting references I found about the jet stream phenomena:

1. Anon., "Jet Stream Knocks on the Earth's Crust," Science News 103:55; January 27, 1973.
2. Anon., "Jet Stream Pattern Outlined by SMS-1," Aviation Week and Space Technology 102:52-53; March 3, 1975.
3. Anon., "The Jet Stream," UNESCO Courier 26:50-51; August, 1973.
4. Reiter, Elmar R., 1967: Jet Streams: How Do They Affect Our Weather? (Doubleday and Company, Inc., New York), 189 pp.
5. Reiter, Elmar R., "Rapid Rivers of Air," Natural History 84:46-51; March, 1975.
6. Wood, Richard A. "Jet Stream--Sonic Boom Phenomenon, Tucson, Arizona, April 1975," Weather-wise 28:152-155; August, 1975.