

# **Cycles of Change: Part II**

## **The Ventura River: before and after the big storm**

In the three weeks following Christmas, the South Coast was hit with a series of major winter storms delivering impressive amounts of rainfall in two distinct pulses: the first from December 26, 2004 through January 4, 2005 and, after a few days of sunshine, the second from January 7-11, 2005. In Ojai, 10.4 inches were recorded during the first phase, and slightly more, 12.6 inches, in the second. A total of 28.8 inches have fallen since the beginning of the rainy season; pretty significant when compared to the annual average of 20.9 inches. As storms coming out of the Pacific are uplifted over our mountains even larger amounts of rain are wrung out of them: San Marcos Pass received 18.2 and 24.6 inches, respectively, and amounts even greater than this were recorded in the Ventura River watershed at Old Man Mountain.

However, amounts this high are not unusual. Annual rainfall in our area is extremely variable and very few years get the “average”; most years are drier, and a relatively few really big years heavily influence the record: as little as 4 and as much as 48 inches have fallen in downtown Santa Barbara over the past 138 years; in Ojai, the annual extremes since 1949 have been 8 and 49 inches.

A very big storm, the January 2005 kind of storm, not only causes local flooding and misery but changes the whole ecology of the river. It's a “clock cleaning event.” Over the years we've watched trees and plants grow and advance until they covered the river bottom and confined river flow into narrower and narrower channels – a process that's been going on since 1998, when the last big storm occurred during that strong El Niño year. Now the clock has been reset; massive amounts of vegetation have been washed out to sea and the river is, once again, free and clear. Sediment has been flushed and a rocky channel remains. The photos that follow show the before and after; or since the most recent photo is shown on top, the after and before. The photos document changes on the lower river, the most recent were taken in February and the earlier ones this past August or October.

What's next? Call it the “Year of the Algae.” The plants are gone, the river is open; there will be plenty of sunlight and nutrients – get ready for the green stuff.



**VR01, Main Street Bridge: looking downstream**

Feb. 2, 2005 (upper), Oct. 2, 2004 (lower)





**VR01, Main Street Bridge: looking upstream**

Feb. 2, 2005 (upper), Oct. 2, 2004 (lower)





**VR01, Main Street Bridge: sampling location**

Feb. 2, 2005 (upper), Oct. 2, 2004 (lower)





**VR03, Shell Bridge: looking upstream**

Feb. 2, 2005 (upper), Oct. 2, 2004 (lower)





**VR03, Shell Bridge: looking downstream**

Feb. 2, 2005 (upper), Oct. 2, 2004 (lower)





**VR06, Foster Park: looking downstream**

Feb. 2, 2005 (upper), Aug. 7, 2004 (lower)





**VR06, Foster Park: looking upstream**

Feb. 2, 2005 (upper), Aug. 7, 2004 (lower)