

A strong correlation between Pacific weather conditions and the spread of fires months later in Arizona and New Mexico has been reported by two scientists. Thomas W. Swetnam (U/AZ) and Julio L. Betancourt of the USGS. R. Monastersky reports on their findings in Vol. 138 of **Science News** (p. 132). The Tucson-based scientists sifted through fire statistics back to 1905 for national forests in the Southwest and compared them with wintertime fluctuations in the Southern Oscillation – a record of air pressure over the central Pacific that can serve as an indicator for El Nino (ocean surface water warming in the central Pacific) and La Nina (when surface water in the central Pacific turns unusually cold for a year or more.)

The most extensive forest fires in the southwest have struck predominantly during La Nina; relatively minor southwestern fires have developed during El Nino periods.

While the correlation is not perfect, a chart superimposing the Southern Oscillation on a record of areas burned leaves little doubt as to a relationship – one that Swetnam says can prove useful for officials planning prescribed burns. “If we have a La Nina situation in winter months,” he asserts, “I would say caution is advisable.

In **Science News**, September 22, 1990, Richard Monastersky reports on two paleontologists – William A. DiMichele and Scott L. Wing – who are working in the recesses of the Smithsonian Museum of Natural History on ancient swamp research. How did life survive 315 million years ago in the face of climate changes (DiMichele's study area) and again at about 55 million years ago (Wing's study focus.)

The article describes their findings in some detail, and then comes up with what Monastersky calls "an unsettling message regarding the threat of a global warming." If the planet warms as many scientists predict, temperature and rainfall patterns could shift faster than ever before, placing unprecedented levels of stress on the environment. This is the crux of what the researchers think they have discerned in their "tales from the swamps" of the past.

"If biological communities have a certain threshold for climate change, as DiMichele and Wing suggest," writes Monastersky, "ecosystems such as the boreal forests might show no signs of weakness until stress crosses that threshold and the communities abruptly collapse."