ENSO and Avalanche Fatalities: Is There a Correlation?

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Preliminary statistical evidence suggests that some correlation may exist between ENSO (El Niño Southern Oscillation) events and annual North American avalanche fatalities. While this potential correlation seems to extend to both El Niño and La Niña events and may operate on both regional and national levels, the degree of correlation may also be influenced by the strength of the event. Although the dataset is rather sparse and few definitive conclusions can be reached (especially when the potentially complicating effects of global warming are considered), it appears that both the event and the magnitude of the event influence the “character of the winter”—or how the winter evolves. As might be expected the winter’s character directly relates to snowpack structure, the extent and frequency of important weak layer development and the ensuing load on such weak layers—all of which are common contributing factors to avalanche accidents. Some possible correlations between ENSO, snowpack structure and avalanche accidents are presented in terms of snowpack, weather and other factors.