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When toxic, microscopic dust particles escape from the proposed Copper World mine in the northern Santa Rita Mountains, in which direction will they blow?

The short answer is this: during the main part of a typical workday, Tucson's winds generally blow from the mountains toward Corona de Tucson and Vail. Late in the evening, winds generally blow toward Green Valley and Sahuarita.

These winds will push toxic dust particles toward homes and public schools such as Copper Ridge Elementary (1 ¼ miles from Copper World property) and Corona Foothills Middle School (3 miles from Copper World's property). And as Tucsonans know, wind can gust with great force in almost any direction when monsoons roll in from the south or east.

Important note about this information: Collecting data on wind direction is fairly easy on websites like the Weather Underground's, "Tucson AZ Weather History." An analysis of this readily-available data for 2022, 2023 and 2024, collected twice every morning (6 and 9 am), at noon, and twice every evening (6 pm and 9 pm) reveals that early in the morning the wind in the Tucson is often from a northerly direction, and around noon it turns around and often comes in from the south. In the early evening wind often comes from the south or east, and late in the evening from the east.

Source: Weather Underground, "Tucson AZ Weather History" on Tucson, AZ Weather History | Weather Underground (wunderground.com), Accessed July, 2024, Copyright TWC Product and Technology LLC.