The WEP is a dimensionless number, calculated as follows:

$$\text{WEP} = \frac{\text{Emissions x Residence Time}}{\text{Distance from source to Class I Area}}$$

Because Emissions are already embedded in the WEP, any further quantitative discussion of Emissions is essentially unnecessary.

For each pollutant, the WEP represents the probability or liklihood that emissions from a particular source location might reach the Class I area. There are several caveats noted on the TSS page that are relevant to the WEP:

*"This method does not produce highly accurate results because, unlike the air quality model and associated PSAT analysis, it does **<u>not account for chemistry and removal processes</u>**…."*

*"Residence time over an area is indicative of general flow patterns, but **<u>does not necessarily imply the area contributed significantly</u>** to haze at a given receptor. Therefore, users are cautioned to view the WEP as one piece of a larger, more comprehensive weight of evidence analysis…."*

"<u>The WEP is not a rigorous, stand-alone analysis</u>, but a simple, straightforward use of existing data. As such, there are several caveats to keep in mind when using WEP results as part of a comprehensive weight of evidence analysis:

- *This analysis does not take into account any emissions chemistry.*

- *While actual emissions may vary considerably throughout the year, this analysis pairs up annual emissions data with 20% worst/best extinction days residence times – this is likely most problematic for carbon and dust emissions, which can be highly episodic.*

- ***<u>Coarse particle and some fine particle dust emissions tend not to be transported long distances due to their large mass.</u>***

- *The WEP results are unitless numbers, normalized to the largest-valued grid cell. Effective use of these results requires an understanding of actual emissions values and their relative contribution to haze at a given Class I area."*
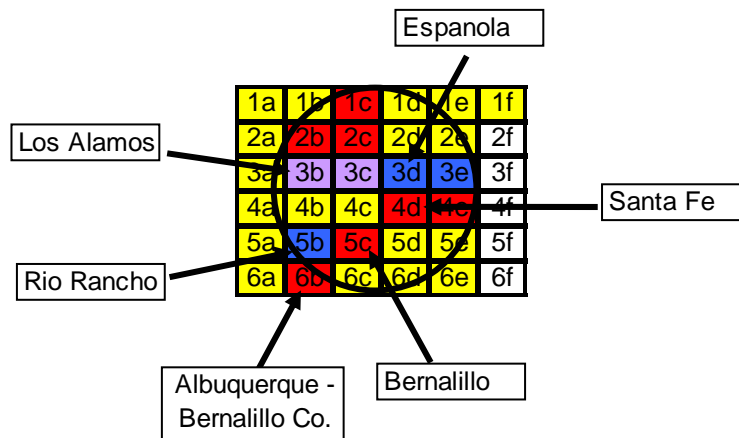
At the top of the legend it says: "<u>Normalized WEP (%)</u>." The final line says: "<u>Data scaled by a maximum WEP value of 13%.</u>"

"Normalized" means that all actual WEP values were divided by the maximum value of 13. This is done because actual WEP values are very small and it is easier to portray differences by expanding the scale and focusing the range of interest. With that understanding, this shows the original calculated WEP values.

	Normalized WEP %	Original WEP (%)
☐ (white)	< 1	< .13
☐ (yellow)	1 - 10	0.13 - 1.3
☐ (red)	10 - 30	1.3 - 3.9
☐ (purple)	30 - 50	3.9 - 6.5
☐ (blue)	> 50	> 6.5

When describing potential impact, we have used one of three words:

Original (non-normalized) WEP Value	<u>Term</u>
< 5%	Improbable
5% - 50%	Possible
> 50%	Probable

Something that happens less than 5% of the time is very unlikely to occur. Something that happens more than 50% of the time more likely to occur than not. In between is a range of increasing probability.

Note that the TSS' own caveats say that the WEP is probably overstated.