

## Appendix F

### The Palmer Drought Index

Palmer Index Rating	
-- 4.0 or less	Extreme Drought
-- 3.0 to – 3.9	Severe Drought
-- 2.0 to – 2.9	Moderate Drought
-- 1.9 to 0	Near Normal
0	Normal
+ 1.9 to 0	Near Normal
+ 2.0 to + 2.9	Unusual Moist
+ 3.0 to + 3.9	Very Moist
+ 4.0 and above	Extremely Moist

The Palmer index was developed by Wayne Palmer in the 1960s and uses temperature and rainfall information in a formula to determine dryness. It has become the semi-official drought index.

The Palmer Index is most effective in determining long term drought—a matter of several months—and is not as good with short-term forecasts (a matter of weeks). It uses a 0 as normal, and drought is shown in terms of minus numbers; for example, minus 2 is moderate drought, minus 3 is severe drought, and minus 4 is extreme drought.

The Palmer Index can also reflect excess rain using a corresponding level reflected by plus figures; i.e., 0 is normal, plus 2 is moderate rainfall, etc.

The advantage of the Palmer Index is that it is standardized to local climate, so it can be applied to any part of the country to demonstrate relative drought or rainfall conditions. The negative is that it is not as good for short term forecasts, and is not particularly useful in calculating supplies of water locked up in snow, so it works best east of the Continental Divide.

The Crop Moisture Index (CMI) is also a formula that was also developed by Wayne Palmer subsequent to his development of the Palmer Drought Index.

The CMI responds more rapidly than the Palmer Index and can change considerably from week to week, so it is more effective in calculating short-term abnormal dryness or wetness affecting agriculture.

CMI is designed to indicate normal conditions at the beginning and end of the growing season; it uses the same levels as the Palmer Drought Index.

It differs from the Palmer Index in that the formula places less weight on the data from previous weeks and more weight on the recent week.