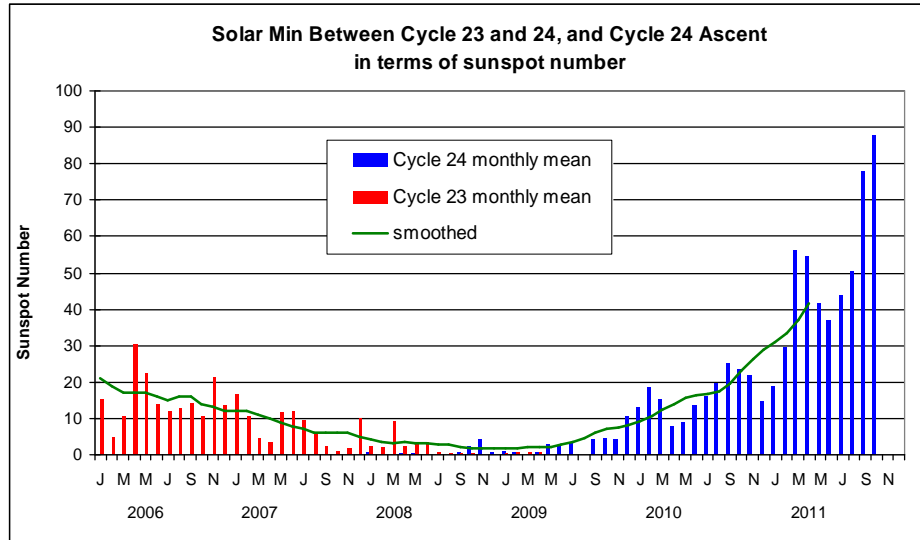


## DXing and Contesting at the End of 2011

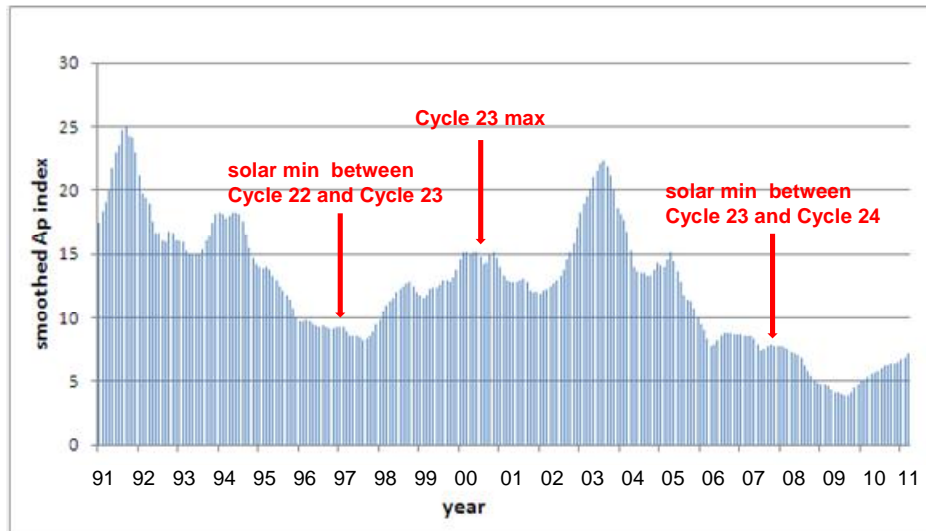
Carl Luetzelschwab K9LA

If you participated in the CQ World Wide Phone DX Contest at the end of October, you obviously noted that the higher bands were in great shape. The cause of these good conditions is the fact that Cycle 24 continues its ascent. The following figure shows the status of Cycle 24 in terms of the monthly mean sunspot number (vertical bars, with red being sunspots from Cycle 23 and blue being sunspots from Cycle 24) and the smoothed sunspot number (green line).



Normally 15-Meters will give us consistent worldwide  $F_2$  openings when the smoothed sunspot number is above about 25, and 10-Meters will do the same when the smoothed sunspot number is above about 50. The data says we're already past a smoothed sunspot number of 25, and extrapolating the green line to October 2011 says we've passed 50, too.

Another issue working in our favor now is that the geomagnetic field is still fairly quiet – which means the ionosphere is relatively stable. The following figure shows the smoothed Ap index (the daily planetary A index) from 1991.



Note that the smoothed Ap index maximizes during the descent phase of a solar cycle, and it is quietest for several years after solar minimum – where we are now. In fact, we've never seen it quieter.

As for where Cycle 24 is headed, both the Space Weather Prediction Center and the Marshall Space Flight Center predict a maximum smoothed sunspot number around 90 in early 2013. This lower-than-average prediction has its roots in our last solar minimum – historically a long and quiet solar minimum generally results in a below average cycle.