



On the Statistical Confidence of the Ozone Recovery as Analyzed using Cohesive SBUV(/2) Ozone Data

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One of the current significant questions that exist with respect to the atmospheric total ozone is whether or not the atmosphere is on the path to “ozone recovery” due to the implementation of the Montreal Protocols and its amendments. While any simple plot of the monthly global average total ozone indicates a relative increase since about 1993, the actual answer to the above is made more complicated by the impact of the eruption of Mt. Pinatubo in 1991 which resulted in the ozone minimum in 1992-1993.

Within this presentation, we seek to answer this question by examining the SBUV(/2) data utilizing a statistical trend model that allows for a change in trend (either a flat-tening or a turnaround) beginning in about 1996 which is well after the Mt. Pinatubo eruption. The trend model includes effects for seasonal cycle, solar variability as well as possible dynamic influences of the Arctic Oscillation. Instead of assuming the recovery is fixed in 1996, we test the sensitivity of the inflection point over a 6 year period. We also examine the effect of the Mt. Pinatubo eruption by removing several lengths

of record following the eruption.