

# Visualization Environment for Rich Data Interpretation (VERDI): Test Document

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VERDI creates various plots based on data files given by the user. In order to verify that it was working properly, the plots produced by VERDI were compared to those produced by PAVE. Several different files were chosen to give a broader range of test results. The results of those tests are in this document.

## Test Procedure

All of the following plots were created using the file and formulas listed in both PAVE and VERDI and then visually compared to one another. Tile plots, scatter plots, time series bar plots, time series plots, vector plots, vertical cross section plots, vector tile plots and contour plots were all tested and compared. A small sampling of those tests is included below.

## Test Results

All plots generated in both VERDI and PAVE were identical allowing for a very small degree of error.

## Conclusion

These tests show that the plots produced by VERDI match those of PAVE. These results show that VERDI is creating plots properly.

## Tile Plot

Data file: `agg.cctmJ3fx.b312.nh3c1.dep_wa.annual.2001base` Formula: `DRYOX_N`

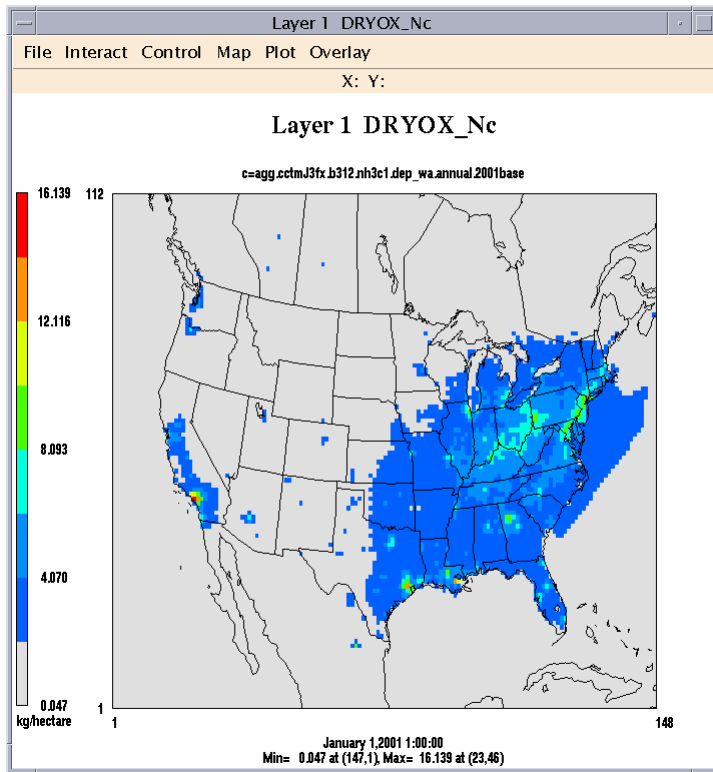


Figure 1 Tile Plot: PAVE

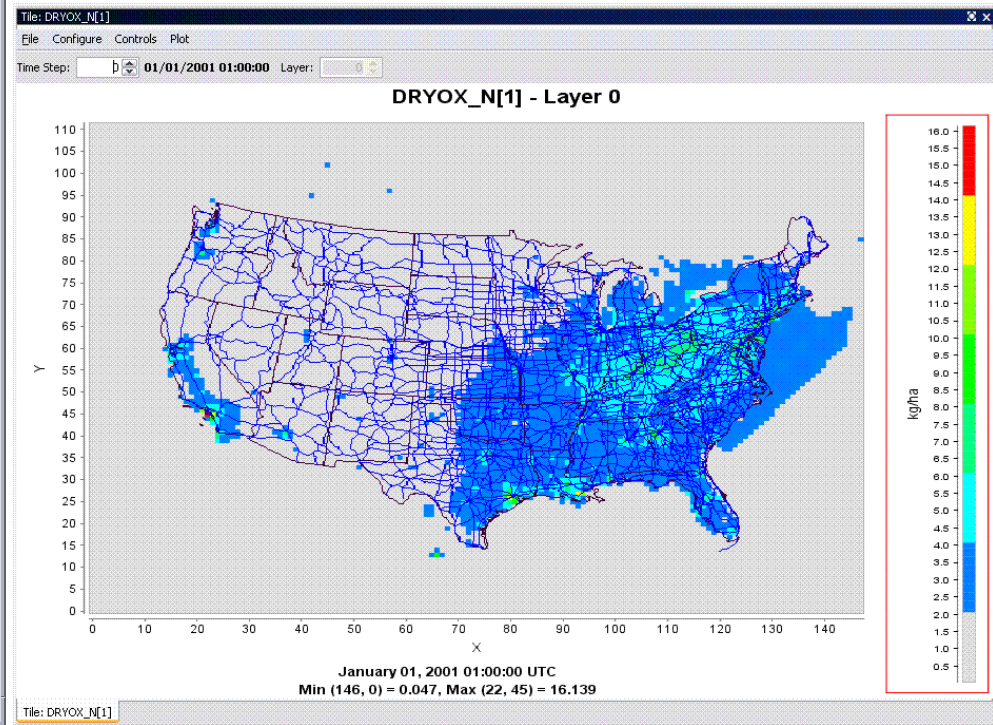


Figure 2 Tile Plot VERDI

## Scatter Plot

Data file: `agg.cctmJ3fx.b312.nh3c1.dep_wa.annual.2001base` Formula: `DRYOX_N`

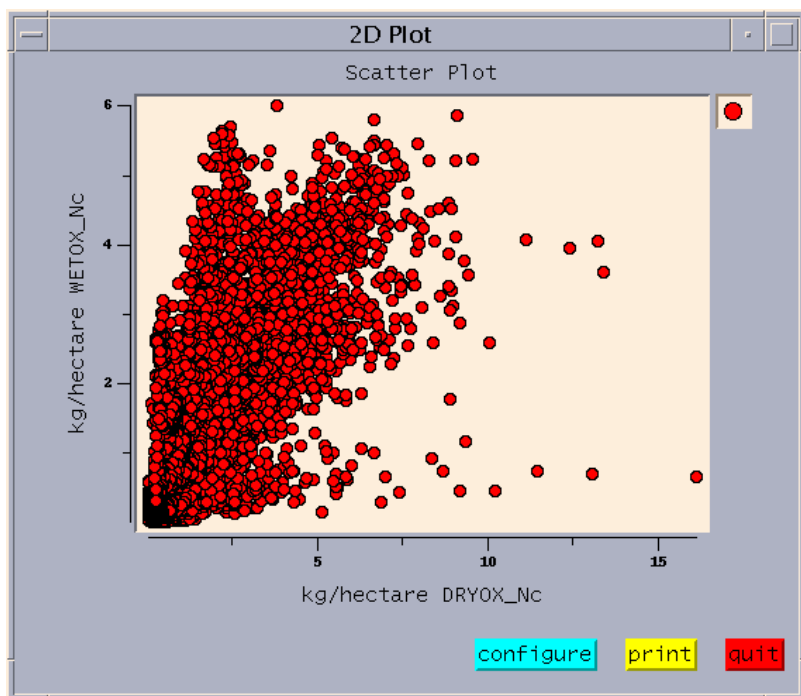


Figure 3 Scatter Plot: PAVE

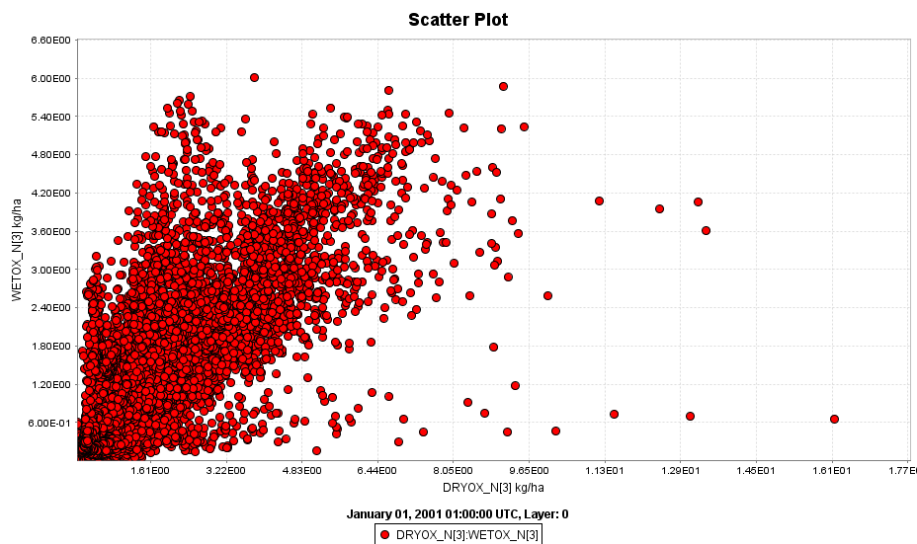


Figure 4 Scatter Plot: VERDI



## Time Series Plot

Data File: Ozone.ncf Formula: O3b\_

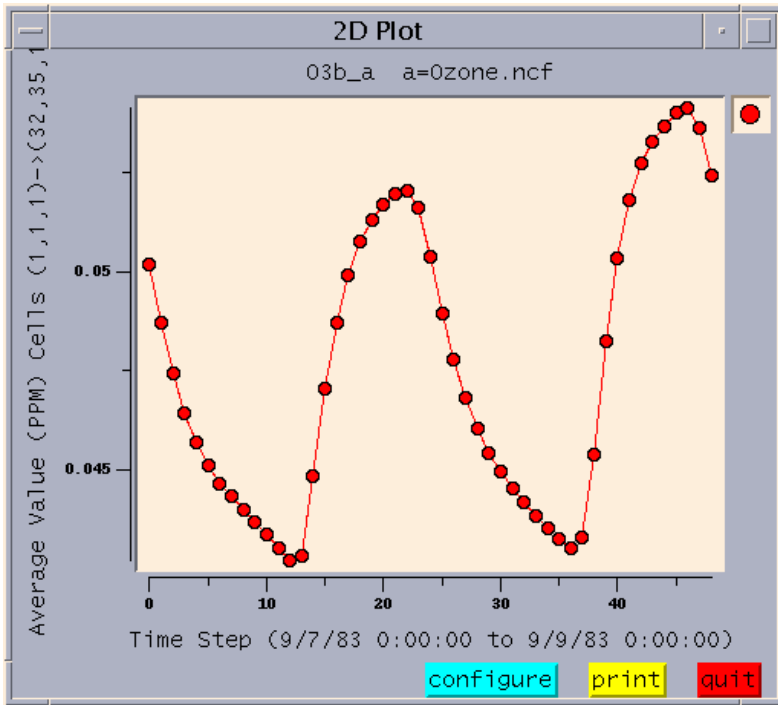


Figure 7 Time Series Plot: PAVE

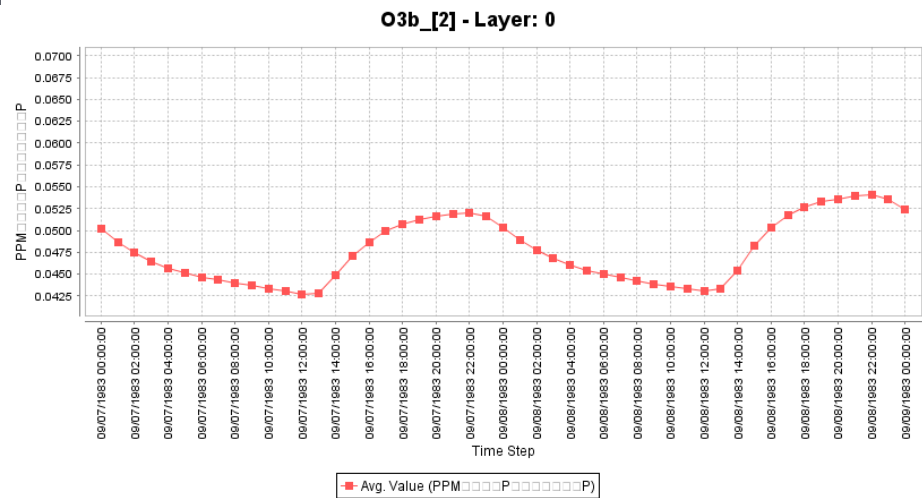


Figure 8 Time Series Plot: VERDI

## Vector Plot

Data File: RADM\_CONC Formulas:

$$\text{HNO3}[1]+\text{HO}[1]+\text{HO2}[1]+\text{N2O5}[1]+\text{NH3}[1]+\text{O3}[1]+\text{OP}[1]+\text{ORA}[1]+\text{PAA}[1]$$
$$\times \text{HNO3}[1]-\text{HO}[1]-\text{HO2}[1]-\text{N2O5}[1]-\text{NH3}[1]-\text{O3}[1]-\text{OP}[1]-\text{ORA}[1]-\text{PAA}[1]$$

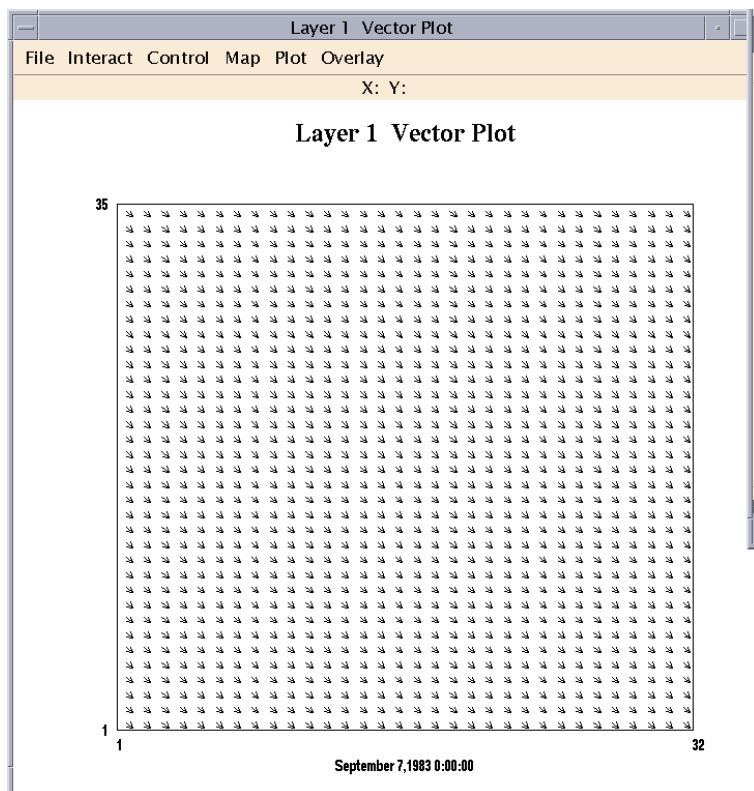


Figure 9 Vector Plot: PAVE

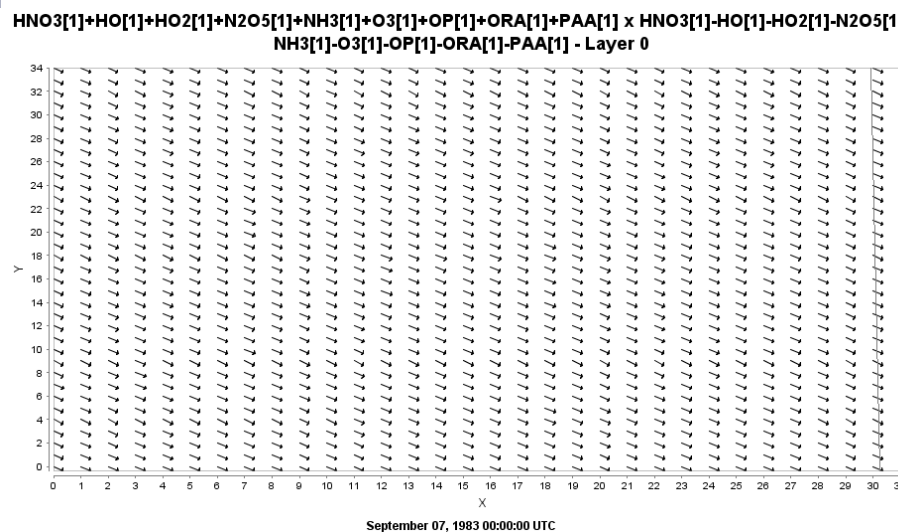


Figure 10 Vector Plot: VERDI



**Contour Plot**  
**Data File: RADM\_CONC Contour Formula: O3**

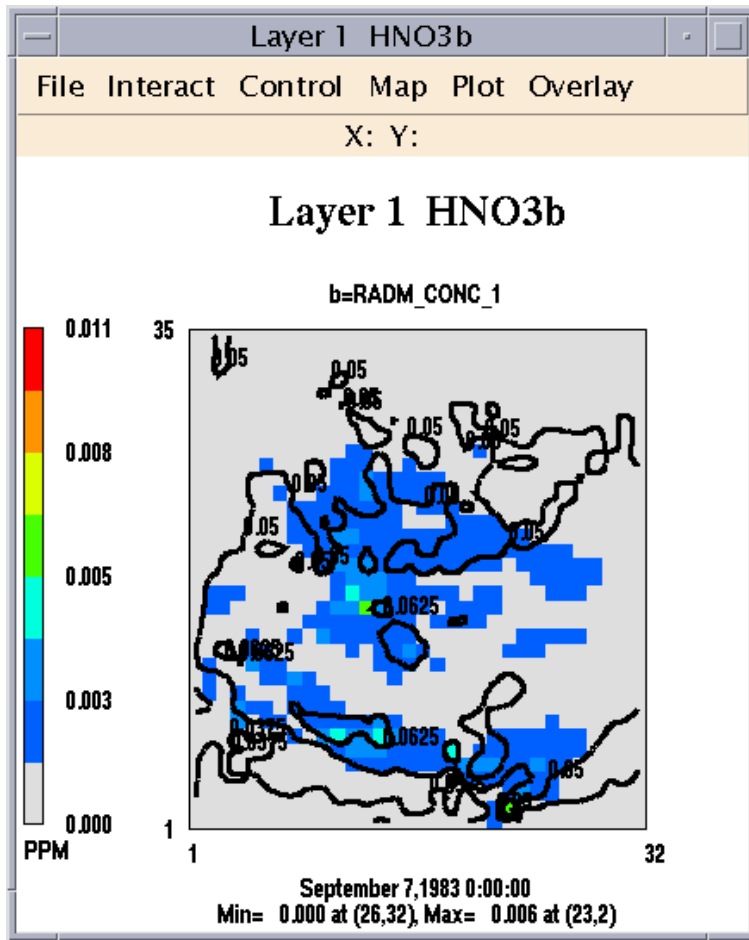


Figure 13 Contour Plot: PAVE

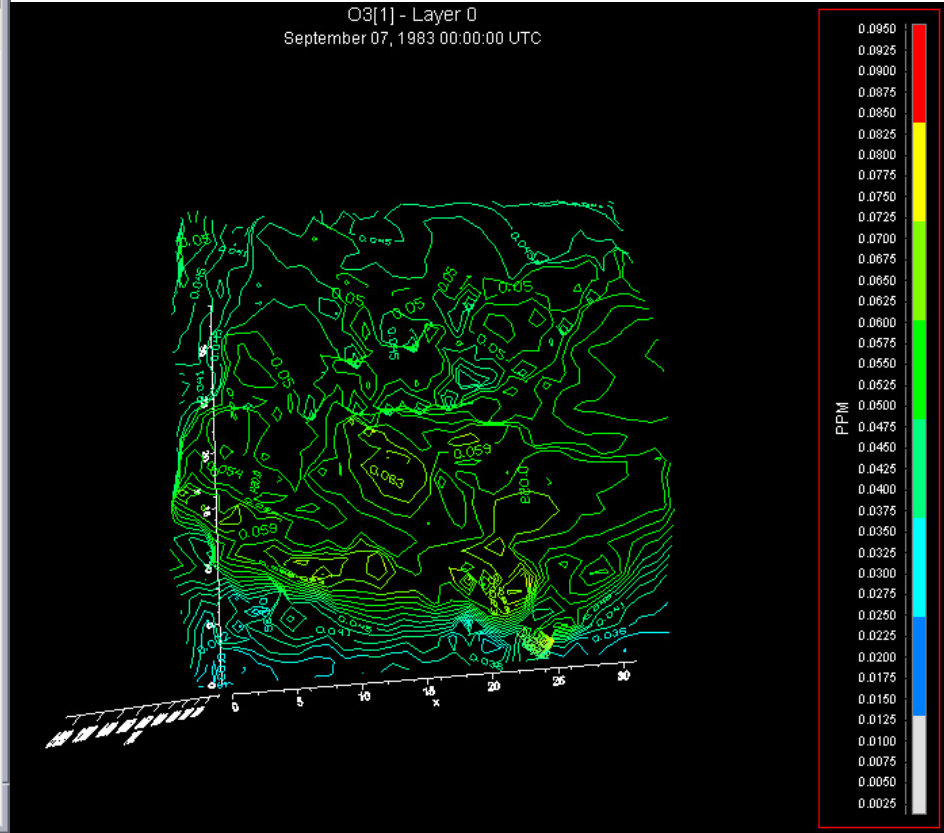


Figure 14 Contour Plot: VERDI