GUIDELINES FOR SCALAR ANALYSIS

1. Pick an appropriate interval for the isopleths (e.g., 4 mb). Values of the isolines should be a multiple of this interval.

2. Meteorological fields are continuous. Therefore,

   Isolines don't stop or start in the middle of the field
   Isolines don't have breaks (except for labels)
   Isolines don't branch or merge together
   Isolines don't intersect each other

   Therefore, isolines are either closed, or they extend from one edge of the field to the other

3. Wavelengths shorter than twice the average data spacing should be heavily smoothed during the analysis.

4. You should maintain consistent gradients (line spacing) unless there is a reason not to (e.g., conceptual models).

5. Stop your isolines shortly after the data stop (e.g., at the coastlines).

6. For closed centers, maintain the gradient until you reach the center of the feature.

7. Assume each datum is correct unless you can prove it to be wrong based on your knowledge.

8. Satisfy conceptual models of the atmosphere (e.g., the structure of fronts, the geostrophic wind equation, stacking etc.), AND satisfy continuity (timing) if it is available. Remember, don't just draw lines--use your knowledge of the atmosphere to analyze.

9. Produce a professional looking product. It does not have to be a work of art, but it should be neat, giving a good impression. Erase errors completely and label neatly.

10. Most isolines should be labeled unless it becomes too crowded. For centers, place an H, L, W, C, X, or N at the center, and interpolate the central value, writing it neatly under the letter. Labels should be placed horizontally.

11. Proceed in this order: Survey the data, Begin in the easy areas--work outward, Sketch <u>lightly</u>--erase considerably, Compare to other analyses, Finalize the lines, Label as appropriate.