Guidelines for Final Analysis
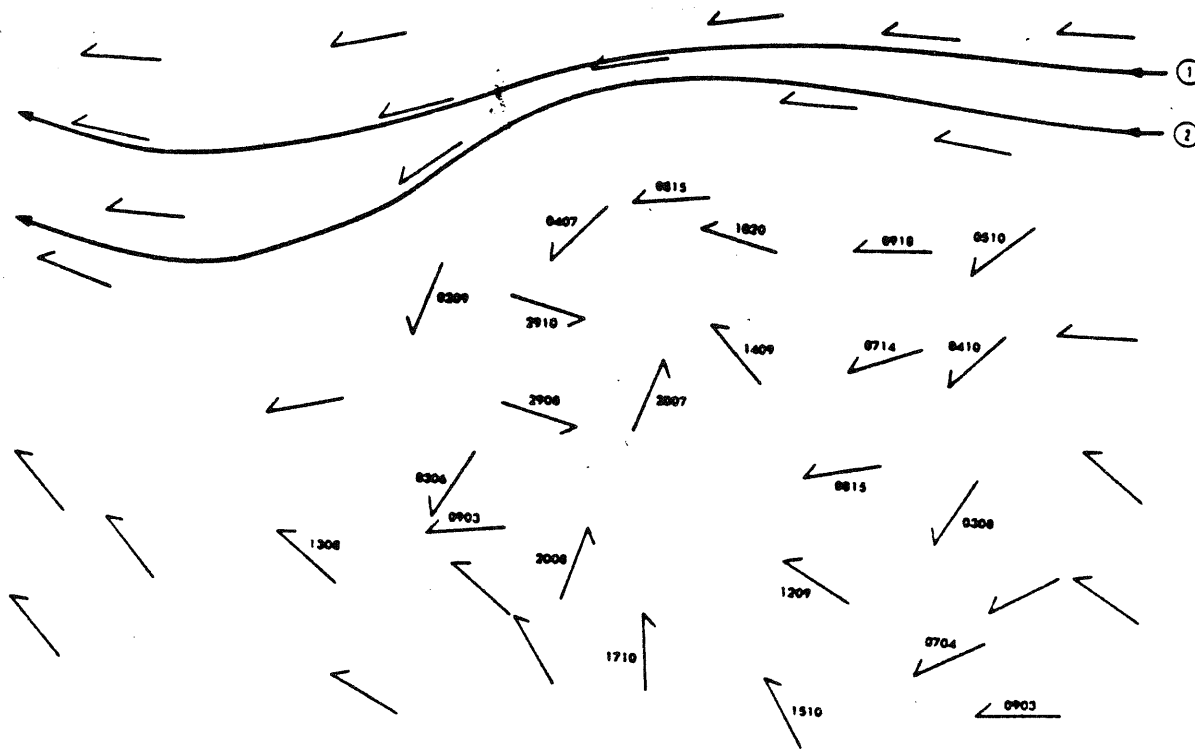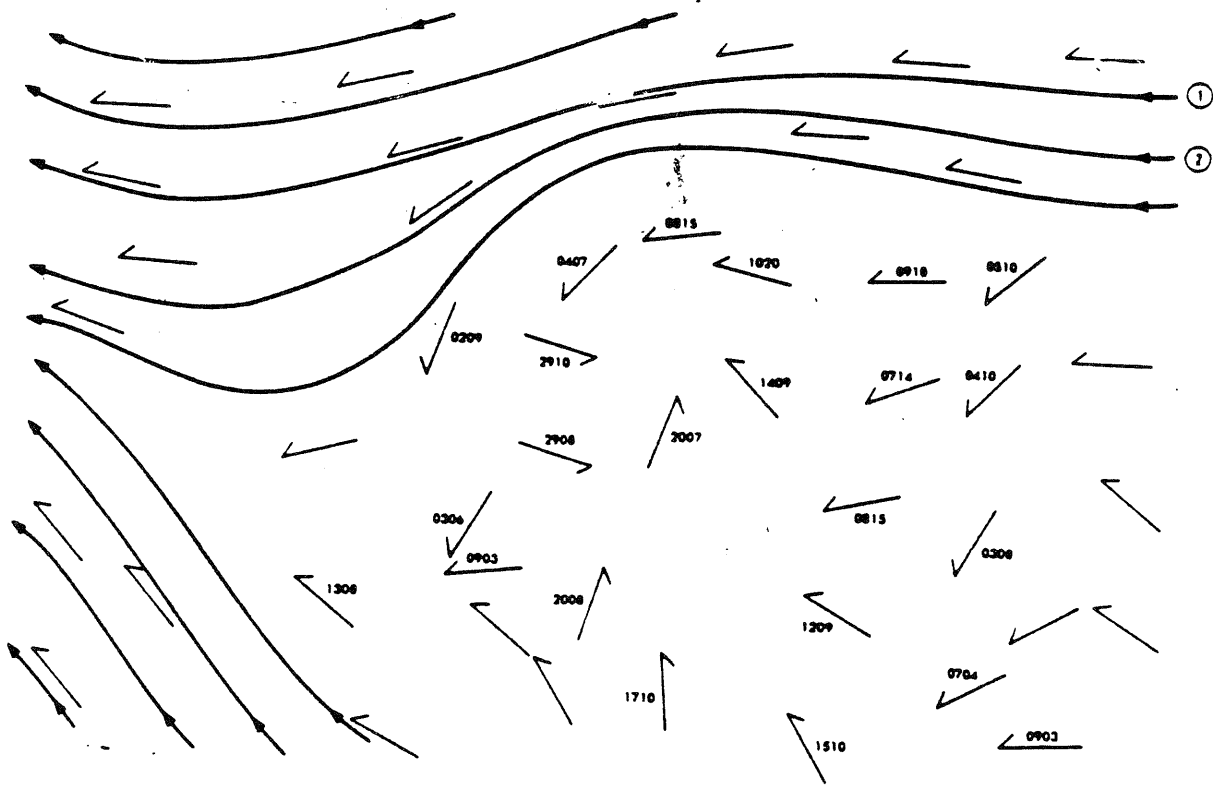
When starting a streamline analysis as with isobaric analysis, the analyst should look over the plotted reports for accuracy and circle any erroneous ones. Try to get a feel for the general wind flow before you commence the analysis. A general guide for analysis follows:


a.   Locate the dominant features of the map such as the sub-tropical ridge. In this case, streamlines (1) or (2) are drawn to illustrate the south portion of the subtropical ridge line.

b.   Once these areas have been located, begin by analyzing the major features in the ridge such as anticyclones and associated neutral points. In the illustration above, the data does not extend in to the ridge line far enough to determine if an anticyclonic circulation center exists.

c.   Analyze the large areas of undisturbed flow. Streamlines (1) and (2) represent an undisturbed flow. Therefore, after the first (straight) streamline has been drawn, additional streamlines (sufficient in number to depict a parallel pattern) should be drawn (example follows).

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Within the remaining portion of the field, we noticed a pronounced

variability in wind direction. The typical streamline pattern

and its relation to the wind speed should be considered at this

point. Remember, wind speed adjacent to singular points are

light. Sketching in a few rough isotachs (in pencil) as an aid

in visualizing the "speed" pattern is helpful during this phase

of the analysis. It is also at this point where continuity

(past history) from the previous analysis can be a primary aid in

areas where wind reports are sparse.

d. Next, we should look for tropical cyclones and associated neutral points. On the example below, we will interpolate wind speeds and find that there is evidence that two singular points are present. At point (A) the wind speed is <u>zero</u> (by interpolation) and the direction of the flow (counter-clockwise) is indicative of a tropical cyclone. At point (B) the wind speed is also <u>zero</u> (by interpolation) and the indicated direction of the wind implies the existence of an opposing flow (i.e., neutral point). Streamline <u>segments</u> have been drawn for the purpose of better illustrating the direction of the flow.
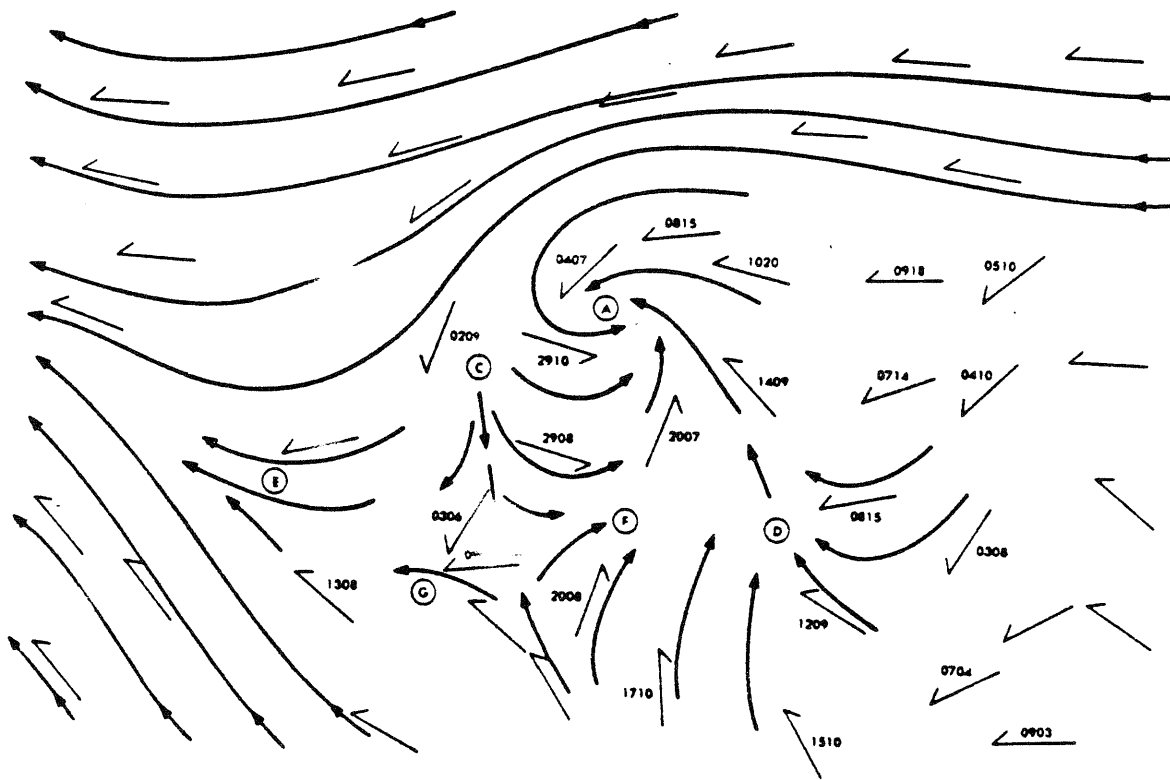
In addition to the two singular points at points (A) and (B), major divergence can be visualized from point (C) to point (B), and major convergence at points (D), (E), (F) and (G).

e. Once the singular points have been located, the next step would be to draw special streamlines (asymptotes) in relation to singular points and areas of major convergence and divergence. On the following chart, asymptotes have been illustrated (shaded areas).
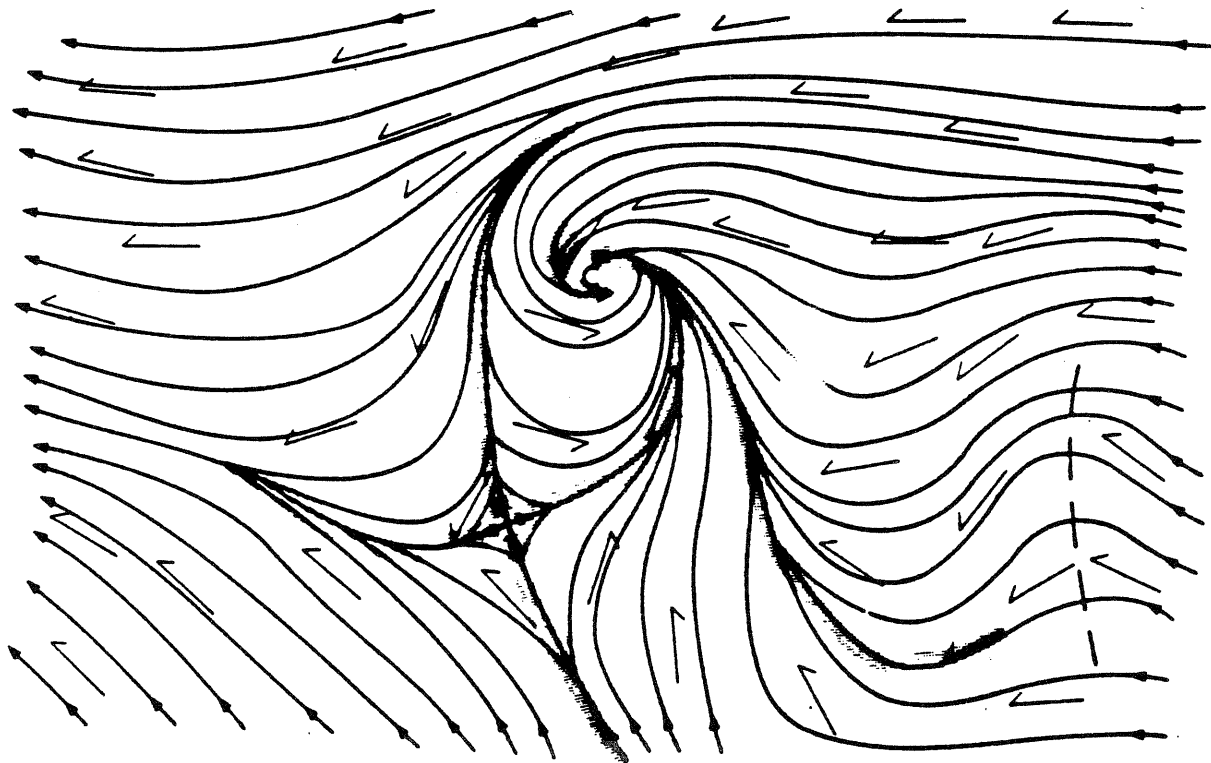
f. The third major feature to be located is a tropical wave. In the example on the previous page (lower right) oscillating streamlines have been drawn and a north-to-south dashed line (representing the wave axes) added in order to show the existing wave.

g. After all major features have been located and asymptotes drawn, the forecaster should then begin sketching additional streamlines (as shown on the previous page) until a smooth and continuous pattern of wind direction is established. Remember: Some interpolation is almost always required. Every wind arrow should be parallel to the streamline (some leeway is given when wind speeds are near zero). In addition, streamlines should never turn too abruptly. There should be a characteristic smoothness to the pattern.