

## Synoptic Meteorology

*Synoptic meteorology* is concerned with the description, analysis, and forecasting of large-scale atmospheric motions. It is rooted in empirical approaches to weather analysis and forecasting which were developed around the turn of the twentieth century, following the establishment of the first station networks that provided simultaneous (that is, synoptic) weather data over large areas.

The word “**synoptic**” is a adjective from Greek “**synoptikos**” which was first used in 1763. The meaning of “synoptic” are:

- 1 : affording a general view of a whole,
- 2 : manifesting or characterized by comprehensiveness or breadth of view,
- 3 : presenting or taking the same or common view; specifically often capitalized : of or relating to the first three Gospels of the New Testament,
- 4 : relating to or displaying conditions (as of the atmosphere or weather) as they exist **simultaneously** over a broad area.

Throughout middle and high latitudes, day to day weather changes are closely linked to the passage of transient synoptic-scale disturbances in the tropospheric wind field. Through the systematic display and analysis of **synoptic** (that is, simultaneous) surface and upper air observations, such disturbances can be identified and tracked through the course of their life histories. The famous polar frontal theory serves as an important conceptual model to analyze the weather maps.

The Prefixes “**syn**”, “**sym**”, “**sys**”, and “**syl**” stand for [with, together].

system,

synthesis (the composition or combination of parts or elements so as to form a whole),

synchronize (time together),

sympathy( together, with + path (feeling) + y (a noun)) 同情

symphony(together + phone (sound) + y (a noun)) 交響樂

[tele-phone; tele-vision; what does “tele” mean? What is

teleconnection?]  
syllable