

Weather Phenomenon Time and Space Scales

The atmosphere is one interconnected system. For convenience of study, scientists subdivide the atmospheric circulation and weather patterns into categories based on their size and duration. In general, the smaller, local-scale weather events have the shortest life expectancy, while the global-scale patterns can persist for weeks or months. In this study, you will begin with the largest scales and work to the smallest scale patterns. As you are reading, keep track of these time and space scales using the chart below.

Scale	Time Scale	Distance Scale	Examples
Macroscale Planetary	Weeks or longer	1000- 40,000 km <i>Global</i>	
Synoptic	Days to weeks	100 -5000 km <i>Continental or Oceanic</i>	
Mesoscale Regional	Minutes to hours	1-100 km <i>City to county</i>	
Microscale Local	Seconds to minutes	< 1km <i>Schoolyard or park</i>	