

The Strong Monsoon Signal

The Strong Monsoon Signal is issued when winds associated with the summer or winter monsoon are blowing in excess of or are expected to exceed 40 kilometres per hour near sea level anywhere in Hong Kong. Winter monsoon normally blows from the north or from the east while summer monsoon typically blows from the southwest. In very exposed places, monsoon winds may exceed 70 kilometres per hour.

Monsoons

Monsoons are large-scale wind systems caused by differences in the temperatures of land and sea over the seasons.

In winter, the continental land mass cools off rapidly, resulting in very low temperatures over central Asia. As cold air accumulates, pressure rises and a huge continental anticyclone develops over Siberia with the Tibetan Plateau forming an effective barrier blocking the southward spread of cold air from the anticyclone. From time to time, under the influence of upper air disturbances, cold air from this anticyclone plunges southward through China and brings outbursts of cold air to the south China coastal areas. Depending on the time of the season, and the juxtaposition of various weather systems, these surges will arrive in Hong Kong as northerlies, northeasterlies or easterlies.

In summer, intense solar heating leads to scorching temperatures over the Asian land masses. As a result, the overlying air heats up, expands and rises upwards. This leads to the formation of a semi-permanent low pressure area near the heart of the continent. Warm and moist air from the Indian Ocean and the South China Sea flowing into this low pressure area is experienced as the summer monsoon over south and southeast Asia.

Winds associated with the monsoons are generally more persistent than those brought by tropical cyclones and may last for days. In intense surges of the winter monsoon, northeasterlies of up to gale force are not uncommon over the south China coastal waters. However, the full impact of these winds is not always felt in Hong Kong, particularly in heavily built-up areas or where nearby terrain provides some sheltering.

Occasionally, in winter, tropical cyclones traversing the South China Sea pass to the south of Hong Kong just when a monsoon is affecting the coastal areas of south China. Winds in Hong Kong are greatly enhanced due to the very large pressure difference between the continental anticyclone and the centre of the tropical cyclone.

Points to note

1. When the Strong Monsoon Signal is in force, the announcement is always accompanied by an indication of the direction from which winds are expected to blow. It is important to take note of this wind direction and you should be aware that local topography, or, the presence of buildings nearby sometimes modifies the airflow substantially, making it exceptionally gusty in very localised areas.
2. If you are not well sheltered from the monsoon, precautions should be taken against strong gusty winds. Flower pots and other objects likely to be blown away should be taken indoors. Engineers, architects and contractors should ensure that all scaffoldings, hoardings and temporary structures are secured.
3. If necessary, owners of small craft should make arrangements for the safety of their boats and make sure that all deck fittings are firmly fastened.
4. Those engaging in water sports or operations at sea should take special care against high winds and rough sea conditions. Rough seas and swells may affect the coast. You should beware of the risk and stay away from the shoreline for safety sake.
5. Drivers using highways and flyovers should be particularly alert to strong gusts.
6. You should take note of the latest weather information and related announcements broadcast on radio and TV and given in the Observatory's Internet websites viz.

<http://www.weather.gov.hk>

<http://www.hko.gov.hk>

強烈季候風信號

The Strong Monsoon Signal



02/2009

強烈季候風信號

發出強烈季候風信號，表示在本港境內任何一處接近海平面的地方，冬季或夏季季候風之平均風速現已或將會超過每小時40公里。冬季季候風一般從北面或東面吹來，而夏季季候風則主要是西南風。在十分空曠的地方，季候風的風速可能超過每小時70公里。

季候風

隨著季節演變，陸地和海洋出現溫度差距，因而形成的大尺度風系統，就是季候風。

在冬天，亞洲大陸迅速冷卻，導致其中部十分寒冷。當冷空氣集結，氣壓上升，一股巨大的大陸性反氣旋便在西伯利亞形成。青藏高原則構成一個有效的天然屏障，阻礙這股反氣旋內的冷空氣向南伸展。有時，在高空擾動氣流影響下，冷空氣會南下橫過中國。這些冬季季候風寒潮，最後為華南沿岸帶來一陣陣的冷空氣。在冬季不同時間，隨著各天氣系統的配合，寒潮可從北面、東北面或東面抵達香港。

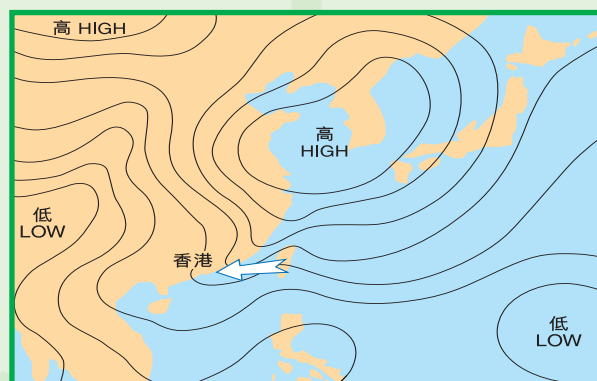
在夏天，亞洲大陸受到太陽的強烈照射，地面溫度升高，其上的空氣受熱，於是膨脹和上升，一個長期維持的低壓區便在亞洲中部形成。當溫暖潮濕的空氣從印度洋及南海吹向這個低壓區時，亞洲南部及東南部便受到夏季季候風的影響。

與熱帶氣旋比較，季候風一般較為持久，往往會延續多天。在較強的冬季季候風寒潮影響下，華南沿岸海域常會出現烈風程度的東北風。但香港境內不一定會受到這些烈風的影響，尤其是在大廈林立的市區或在受到地形遮擋的地方。

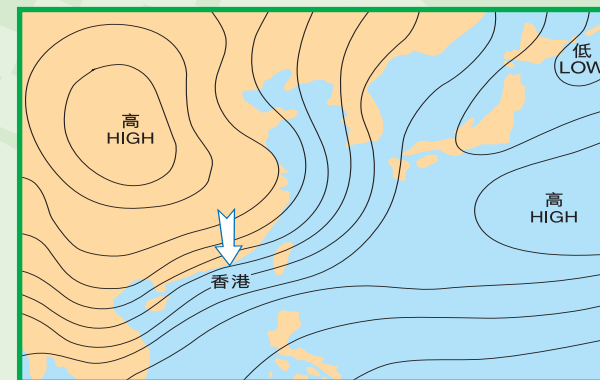
在冬季季候風影響著華南沿岸的時候，間中會有熱帶氣旋橫過南海，並於香港以南掠過。這時候，大陸性反氣旋和熱帶氣旋間的巨大氣壓差距，會導致香港的風力更為增強。

注意事項

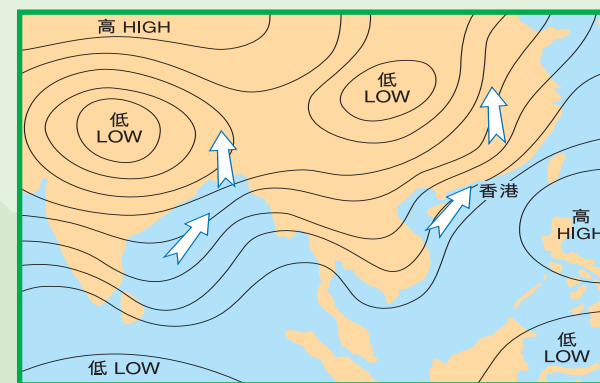
1. 強烈季候風信號生效時，市民應該留意天氣報告所述的風向。此外，應注意到由於氣流可能會受到附近建築物或地形的影響，局部地區的風力會特別疾勁。
2. 如果你在當風地方，可能會受到季候風的正面吹襲，請採取預防措施，以防強勁陣風帶來的破壞。花盆及可能被風吹倒的物件應搬入室內。工程師、建築師和承建商應將棚架、木板和臨時性建築物綁緊。
3. 小艇艇戶應採取預防措施，以確保小艇安全，並檢查甲板上的物件是否綁緊。
4. 參加水上運動或進行海上工作人士請特別小心，以防大風及大浪帶來的危險。靠近岸邊的海面亦可能會有大浪及暗湧，市民切勿掉以輕心，應遠離岸邊，以策安全。
5. 所有在公路及高架天橋上駕車的人士，請特別提防強勁陣風的吹襲。
6. 市民應該留意電台、電視台及天文台網頁所提供之天氣報告，以獲取最新的天氣消息。
網址為 <http://www.weather.gov.hk>
<http://www.hko.gov.hk>



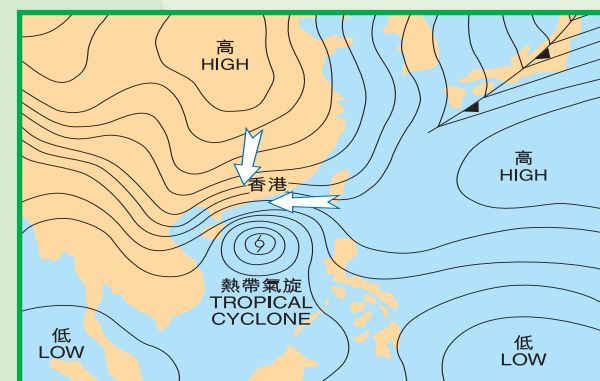
偏東冬季季候風
Easterly surge of winter monsoon



偏北冬季季候風
Northerly surge of winter monsoon



夏季的西南季候風
Southwesterly monsoon in Summer



熱帶氣旋使季候風增強
Enhancement of winter monsoon by a tropical cyclone

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