

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>

कडा मनसुनको संकेत

The Strong Monsoon Signal



02/2009

हङकङ वेधशाला (हङकङ ओब्जर्वेटरी) द्वारा प्रकाशित
सूचना सेवा विभाग (इन्फोरमेशन सर्विसेस डिपार्टमेंट) द्वारा डिजाईन

हङकङ विशेष प्रशासनिक क्षेत्र सरकार (हङकङ स्पेशल एडमिनिस्ट्रिटिव रिजन गवर्नमेंट)
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कडा मनसुनको संकेत

गर्मी वा हिउँद मनसुन सँगै आएको हावाहुरी अधिक मात्रामा चलिरहदा वा समुद्री सतह नजिक हडकडको जुनसुकै ठाउँमा 40 किलोमिटर प्रति घण्टा भन्दा बढी वेगमा हावाहुरी चल्ने अनुमानित भएमा कडा मनसुनको संकेत जारी हुन्छ । हिउँद मनसुन सामान्यतया उत्तर वा पूर्वतर्फबाट चल्दछ भने गर्मी मनसुन सामान्यतया दक्षिणपश्चिमतर्फबाट चल्दछ । धेरै खुल्ला ठाउँहरूमा, मनसुनको हावाहुरीको वेग प्रति घण्टा 70 किलोमिटरभन्दा बढी हुन सक्छ ।

मनसुनहरू

मनसुनहरू ठूला किसिमका हावा प्रणालीहरू हुन्, जुन विभिन्न मौसमहरूमा जमिनको तापक्रम र समुद्री तापक्रमको भिन्नताको कारणले गर्दा उत्पन्न हुन्छन् ।

हिउँद मौसममा, महाद्विपीय जमिन द्रुत गतिमा चिसो हुन्छ, परिणामस्वरूप मध्य एशियामा एकदम कम तापक्रम हुनजान्छ । चिसो वायु जम्मा हुने बित्तिकै, चाप बढ्छ र साइबेरियामा विशाल महाद्विपीय प्रतिचक्रवात आँधी विकसित हुन्छ, साथै तिब्बती पठारले दक्षिणपट्टि फैलिरहेको प्रतिचक्रवात आँधीको चिसो हावालाई रोक्दै अवरोध गर्दछ । समय समयमा, माथिल्लो वायुको गडबडीको प्रभावले, यस प्रतिचक्रवात आँधीको चिसो वायु चीन हुँदै दक्षिणतर्फ बहन्छ र चिसो वायुको बहाव फुटेर दक्षिण चीनको समुद्री तटीय क्षेत्रमा पुर्‍याउँदछ । मौसमको समय अनुसार, र संगसंगै विभिन्न मौसम प्रणालीहरूका प्रभावमा निर्भर गर्दै, यी प्रवाहहरू हडकडमा उत्तर, उत्तरपूर्व वा पूर्वतर्फबाट देखा पर्दछन् ।

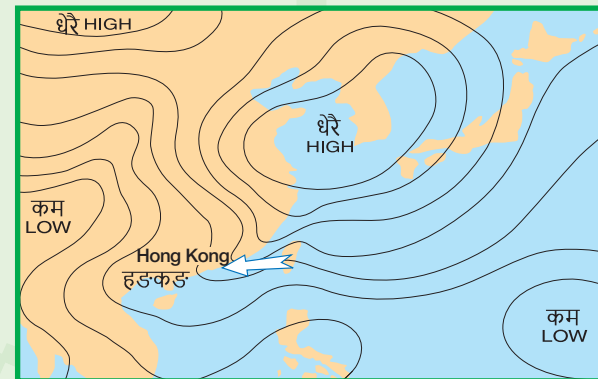
गर्मी याममा, तीव्र सौर्य विकिरणको तापले एशियाली टापुका भूमिको तापक्रम प्रचण्ड बनाउँछ । परिणामस्वरूप, बढी मात्रामा माथि रहेका वायु तातो हुन्छ, विस्तार भई माथि उठ्छ । यसले महाद्विपीयको मुख्य भू-भाग छेउमा अर्ध-स्थायी कम चापको क्षेत्र निर्माण गर्दछ । यस कम चापको क्षेत्रमा बगिरहेको भारतीय महासागर र दक्षिण चीन सागरबाट न्यानो र ओसिलो वायुले दक्षिण र दक्षिण पूर्वी एशियामा गर्मी मनसुनको रूपमा महसुस गराउँदछ ।

मनसुनसँग सम्बन्धित हावाहुरी प्रायः उष्णकटिबंधीय चक्रवात आँधीहरूले ल्याएको भन्दा बढी स्थिर हुन्छ र केही दिनसम्म रहन्छ । हिउँद मनसुनको तीव्र वृद्धिले गर्दा उत्तरपूर्वी हावाहुरीको भुमरी शक्ति दक्षिण चीनको तटीय पानीका छालहरूमा पुग्नु असाधारण होईन । यद्यपि, यी हावाहुरीको पूर्ण प्रभाव हडकडमा सधैं महसुस हुँदैन, विशेष गरी अत्यधिक निर्मित क्षेत्रहरूमा वा छेउछाउका इलाकाहरूमा जहाँ केही आश्रय प्रदान गर्दछ ।

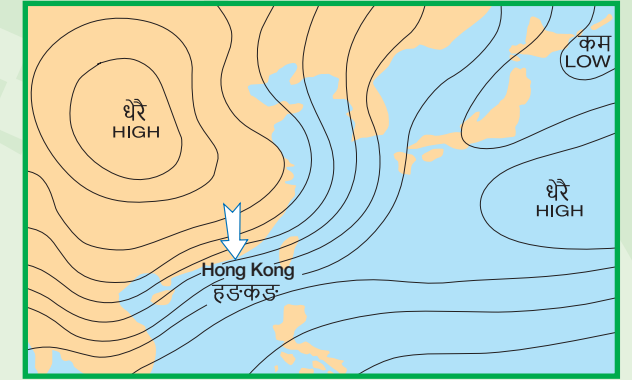
कहिलेकाही, हिउँद मौसममा, जब मनसुनले दक्षिण चीनको समुद्री तटलाई असर गरिरहेको हुन्छ तब उष्णकटिबंधीय चक्रवात आँधीहरू दक्षिण चीन समुद्री पार गरि हडकडको दक्षिणी भू-भागतर्फ लाग्छन् । महाद्विपीय प्रतिचक्रवात आँधी र उष्णकटिबंधीय चक्रवातको केन्द्रीय भू-भाग बीचमा धेरै ठूलो चापको भिन्नता भएकोले हडकडमा हावाहुरी धेरै बढ्ने गर्दछ ।

ध्यान दिनुपर्ने बुँदाहरू

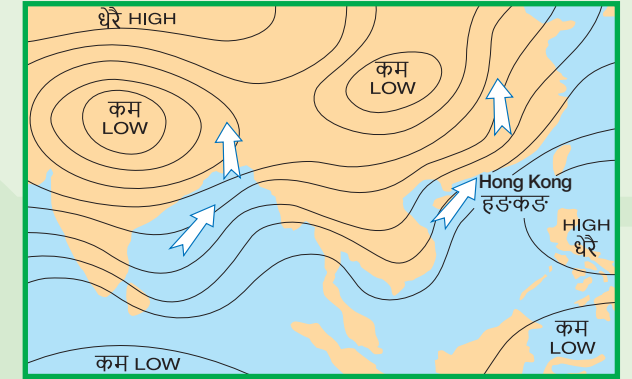
- जब कडा मनसुनको संकेत लागू हुन्छ, सूचनासँगै सधैं दिशाको संकेत हुन्छ जहाँबाट हावा बहने अनुमान गरिन्छ । यस हावाको दिशा लाई ध्यान दिन जरूरी छ र तपाईं सचेत हुनुपर्दछ कि स्थानीय स्थलाकृति, वा नजिकैका भवनहरूको उपस्थितिले कहिलेकाही हावाको बहावलाई प्रशस्त रूपमा परिमार्जन गर्दछ, यसले एकदम स्थानीयकृत क्षेत्रहरूमा असाधारण हावामा तीव्रता बढाउँदछ ।
- यदि तपाईंले मनसुनमा राम्ररी आश्रय लिनु भएको छैन भने कडा तीव्र हावाहुरीको विरुद्ध सावधानी अपनाउनु पर्दछ । गमला र अन्य उड्ने संभावना भएको वस्तुहरू घरभित्र राख्नुपर्छ । ईन्जिनियरहरू, आर्किटेक्टहरू र ठेकेदारहरूले सबै स्काफोल्डिङ्स, होर्डिङहरू र अस्थायी संरचनाहरू सुरक्षित रहेको सुनिश्चित गर्नुपर्छ ।
- यदि आवश्यक छ भने,सानो शिल्पकलाका मालिकहरूले आफ्ना डुंगाको सुरक्षाको लागि व्यवस्था गर्नुपर्दछ र सबै डेक फिटिङहरू मजबूत तरिकाले बाधिएको निश्चित गर्नुपर्दछ ।
- पानीको खेलकुदमा वा समुद्री व्यवस्थामा संलग्न व्यक्तिहरूले उच्च हावाहुरी र उग्र समुद्री परिस्थितिहरूको विरुद्ध विशेष ध्यान राख्नुपर्छ । ठूलो समुद्री र भारी क्रोधित समुद्री छालहरूले तटलाई असर गर्न सक्छ । तपाईं जोखिमबाट सुरक्षित रहन सावधान हुनुपर्दछ र समुद्री किनारबाट टाढा रहनुपर्छ ।
- राजमार्गहरू र आकाशमार्गहरू प्रयोग गर्ने सवारी चालकहरू विशेष रूपमा बलियो हावाहुरी प्रति सतर्क हुनुपर्दछ ।
- तपाईंले हालैको मौसम जानकारी र सम्बन्धित रेडियो र टिभीमा प्रसारण गरिने सूचनाहरू र वेधशालाको इन्टरनेट वेबसाइटहरूमा दिइएको जानकारीलाई ध्यान दिनुपर्दछ ।
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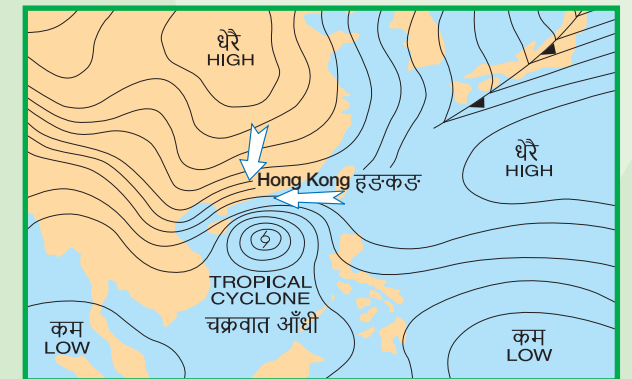
हिउँद मनसुनको पूर्वी तरंग
Easterly surge of winter monsoon



हिउँद मनसुनको उत्तरी तरंग
Northerly surge of winter monsoon



गर्मीमा दक्षिणपश्चिम मनसुन
Southwesterly monsoon in Summer



एक चक्रवात आँधीबाट हिउँद मनसुनको विकास
Enhancement of winter monsoon by a tropical cyclone

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