

## THE OCCURRENCE OF TROPICAL CYCLONES IN THAILAND AND THEIR IMPACT

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Thailand's participation in the programmes of both the ESCAP/WMO Typhoon Committee and the WMO/ESCAP Panel on Tropical Cyclones from their inception in, respectively, 1968 and 1973 is a clear recognition of its vulnerability to tropical cyclones. In a 30-year period (1951-1980) Thailand was affected by a total of 119 tropical cyclones, an average of 3.97 per annum. Although a large majority of these storms consist of typhoons that have weakened into tropical depressions after crossing Indochina, Thailand experiences a tropical cyclone of disastrous severity about once in six or seven years. On such occasions loss of life can be heavy and damage severe. Typhoons Harriet (1962), Gay (1989) and Linda (1997) are examples.

As in most tropical cyclone areas worldwide, population growth in coastal areas and large-scale industrial and tourist development is increasing the potential for casualties and damage. The sea areas of the Gulf of Thailand are witness to growing numbers of gas and oil exploration and exploitation projects, placing platforms, vessels and hundreds of workers at risk in these offshore areas.

The tracks of some recent tropical cyclones (such as Linda) with a more northerly component gives rise to greater susceptibility to storm surge in coastal areas at the head of the Gulf. It is generally assumed that a severe tropical cyclone making landfall has a highly destructive impact over a minimum linear dimension of 200 km; if the area subject to destructive winds or flooding extends inland for 50 km, a total of 10,000 square kilometres will be affected. The potential area of severe impact in Thailand thus covers not only increasingly vulnerable coastal areas but also inland areas including the Greater Bangkok region. The paper will examine both the meteorological aspects of frequency of occurrence and behaviour, and also the potential for catastrophic impact in humanitarian and economic terms.

**Key words:** occurrence, impact, tropical cyclones, Thailand