### No. 766

NON-LOCAL STORM SIGNAL CODE, SUITABLE UNIVERSALLY VISUAL AND TELEGRAPHIC STORM WARNINGS, ALSO FOR THE "GENERAL INFERENCE" FOLLOWING SYNOPTIC WEATHER MESSAGES.

Recommended for use in the Far East at a Conference of Directors of Far Eastern Weather Services, held at Hong Kong in the year 1930.

Adopted at Hong Kong from 1931, March 1.

The Code is an adaptation of the China Seas Storm Signal Code which has been in use in China since 1918.

The following ten symbols are used:—

indicating the figures

2 3 4 5 6 7 8 9 0

(2) The signals are hoisted at the yard-arms and at the mast head of a Storm Signal Mast and have the following significance:-

 $Typhoon\ and\ depression\ Signals:$ 

- (a) 4 symbols at one yard-arm showing the position of the centre.
- (b) 3 symbols at the other yard-arm, showing the direction of motion or, alternatively, certain conditions; also the accuracy with which the centre has been located, and the intensity. (Tables 1, 2 and 3).
- (c) 1 symbol at the mast head showing the time at which the centre was in the position indicated (Table 4).

# Gale Signals:—

- (d) 1 symbol at one yard-arm showing the region threatened (Table 5).
- (e) 2 symbols at the other yard-arm showing the general direction from which the gale is blowing, in points: 08 = East, 16 = South,  $24 = \text{West}, \ 32 = \text{North}.$
- (f) 1 symbol at the mast head showing the time at which the gale was as stated.
- (3) The two upper symbols of group (a) indicate by their corresponding numbers the latitude, and the two lower symbols the longitude, of the centre of a circle (of a radius specified by the lowest symbol of group (b)) within which the centre of the typhoon or depression lies. The symbols for longitude give the tens and units only; thus 32 indicates longitude 132°
- (4) The two upper symbols of group (b) indicate the direction in which the typhoon etc., is travelling (Table No. 1) or alternatively, certain conditions (Table 2).
- (5) The third and lowest symbol of the group (b) indicates the radius of the circle whose centre is shown by the latitude and longitude, together with the degree of intensity or, alternatively, one of four conditions which can sometimes be given in addition to the direction of motion (Table 1) and in preference to the radius and intensity signal.
- (6) The only velocity signals given are "stationary or very slow", which is an alternative to the direction of motion, and "exceptionally high rate of travel" which may be given in addition to direction of motion.

In this connection the following table, extracted from the China Seas Storm Signal Code will be useful:—

		Rat	e of travel of t	yphoor	ns in the F	ar Eas	t (Knots).	
North).		Before	e recurving.	After recurving.				
Latitude (North).	Ordinary limits.	Mean.	Exceptional Velocity as signalled.	Maximum recorded.	Ordinary limits.	Mean.	Exceptional Velocity as signalled.	Maximum recorded.
5 to 15	5 to 12	9	11 or above	22				_
15 ,, 20	5 ,, 14	10	$12\frac{1}{2}$ ,,	24	5 to 17	10	13 or above	22
20 ,, 25	7 ,, 16	11	13 ,,	19	14,,23	17	21 ,,	30
25 ,, 30	7 ,, 13	11	13 ,,	15	11 ,, 23	18	23 ,,	47
30 ,, 35				10	11 ,, 36	20	25 ,,	42
35 ,, 40		<del></del>		16	12 ,, 36	21	26 ,,	50
40 ,, 45		 		—	17 ,, 36	21	26 ,,	48
45 ,, 50			According to the		12 ,, 36	21	26 ,,	52
50 ,, 55					12,,37	21	26 ,,	49

- (7) Caution.—The position indicated by the latitude and longitude signals does not purport to be the position of the centre of the typhoon, but merely the centre of a circle of specified radius within which the centre of the typhoon is believed to lie.
- (8) In the China Seas Code the Time Signal (Table 4) indicates the time at which the warning was issued. In the present code it shows the time at which the typhoon or depression was in the position indicated. The table has been expanded as observations are now available from certain stations at 11h and 17h. Symbol No. 9 provides for occasions when the centre has been located from observations at other than routine hours.
- (9) The code can also be used for the "general inference" following a synoptic message.

Thus:—An anticyclone, central in latitude 36° N. and longitude 110° E. is strengthening and moving eastward, and the depression appears to be stationary in latitude 22° N. and longitude 104° E., but the position is only approximate,

would be:—
3610367
2204790.

The "general inference" may, if necessary, be followed by a few words en clair.

TABLE 1:—DIRECTION SIGNALS.

Two upper symbols of hoist.

		Code F	igures.	
Direction of motion.	Typhoon.	(a) Typhoon or Depression.	Depression.	Anticyclone.
NNE	$0 \\ 2$	6 2	0	3 3
NE	$0\\4$	6 4	$egin{pmatrix} 0 \ 1 \end{bmatrix}$	3 4
ENE	$\frac{0}{6}$	6	0 3	3 5
E	0 8	6	0 5	3 6
ESE	$\frac{1}{0}$	7 0	0 7	3 7
SE	$\frac{1}{2}$	7 2	0 9	3 8
SSE	$\frac{1}{4}$	7 4	1 1	3 9
s	$\frac{1}{6}$	7 6	$\frac{1}{3}$	4 0
ssw	$\frac{1}{8}$	7 8	$\frac{1}{5}$	4 1
sw	<b>2</b> 0	8 0	$\frac{1}{7}$	$\frac{4}{2}$
wsw	$rac{2}{2}$	$\begin{bmatrix} 8\\2 \end{bmatrix}$	$rac{1}{9}$	4 3
W	$rac{2}{4}$	8 4	$\frac{2}{1}$	4
WNW	$\frac{2}{6}$	8 6	$\frac{2}{3}$	<u>.</u> 5
NW	2 8	8 8	$rac{2}{5}$	$rac{4}{6}$
NNW	$\frac{3}{0}$	9	$\frac{2}{7}$	$\frac{4}{7}$
N	3 2	$egin{array}{c} 9 \ 2 \end{array}$	$\frac{2}{9}$	<b>4</b> 8
Unknown	5 3	9 3	3 1	$\frac{4}{9}$
-	2	3	4	5

The table serves for typhoons, depressions and anticyclones: also for the doubtful case: typhoon or depression.

The figures in the last two columns will not be displayed on the storm signal masts. They are for the "general inference" following a synoptic message. The display of the figures in column 3 is optional.

<sup>(</sup>a) The word "typhoon" has been retained as it is in general use throughout the Far East. The word "cyclone" is in this case preferable.

#### TABLE 2:—CONDITION SIGNALS.

(Alternative to Table 1).

Two upper symbols of hoist.

Ту	phoon.	Der	pression.	Ant	icyclone.
Code figures.	Condition.	Code figures.	Condition.	Code figures.	Condition.
5 1	Forming.	7 3	Forming.	8 7	Forming.
$\frac{5}{2}$	Two centres.	7 5	Filling up.	8 9	Dissipating.
5 4	Stationary or very slow.	7 7	Filled up.	$egin{pmatrix} 9 \ 1 \end{bmatrix}$	Dissipated.
5 . 5	Curving N	7 9	Stationary or very slow.	$egin{array}{c} 9 \ 4 \end{array}$	Spreading N
5 6	,, NE	8 1		9 5	,, E
5 7	,, E	8 3	V-shaped depression.	9	,, S
5 9	,, SE	8 5	No remarks.	9 <b>7</b>	Northern portion has moved eastward, leav-
6 1	,, s				ing a separate anticyclone over China.
6 3	,, SW			$egin{array}{cccccccccccccccccccccccccccccccccccc$	Stationary or very slow.
6 5	,, W			$\begin{bmatrix} \cdot & & & & \\ & & 9 & & \\ & & & 9 & & \end{bmatrix}$	No remarks.
$rac{6}{7}$	, NW				
6	Filling up or curving. N				
7	,, NE				
5 8	Filling up.				
$_{0}^{6}$	Filled up.				
Column	2	3	4	5	6

The figures in columns 3 and 5 will not be displayed on the storm signal masts. They are for the "general inference" following a synoptic message.

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### TABLE 3:—RADIUS AND INTENSITY SIGNALS.

The lowest of three Symbol	he lowest	f three Syn	$\it bols.$
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(a)	A typhoon	or a depression.	An	ticyclone.
Code figures.	Radius of position circle.	Intensity etc.	Radius of position circle.	Condition.
1	120′	Unknown.	150′	Feeble.
2	120′	Severe.	150′	Moderate.
3	60′	Unknown.	150′	Strong.
4	60′	Severe.	120'	Feeble.
5		Deepened.	120′	Moderate.
6	30′	Unknown.	120′	Strong.
7	30′	Severe.	<del></del>	Strengthening.
8		Exceptionally high rate of travel.		A vague area of high pressure.
9		Continental depres-		
0		sion (b).  Position of centre uncertain.	_	Position of centre uncertain.

The word "typhoon" has been retained as it is in general use throughout the Far East. Used in conjunction with the "intensity" signal the word "cyclone" would be preferable.

<sup>(</sup>a) The figures in Table 1 will indicate whether the figures in this column refer to a typhoon, a depression, an anticyclone or the doubtful case of "typhoon or depression".

<sup>(</sup>b) As there is no column for "continental depression" in Table 1, when this signal is sent the direction of motion will be given by means of the figures in column 2 of Table 1, so as to maintain the practice of former years.

# TABLE 4:—TIME SIGNALS.

# Single Symbol at Masthead.

Day.		То	day.			Yeste	erday.		
Code figures.	1	2	3	4	5	6	7	8	9
Time of 120th meridian, E.	б а.т.	11 a.m.	2 p.m.	5 p.m.	6 a.m.	11 a.m.	2 p.m.	5 p.m.	Position deduced from supplementary information received since last warning.

# TABLE 5:—GALE SIGNALS.

One Symbol at yard-arm showing the locality of the gale.

	Code figures.							District.	
1	•••	•••	•••	•••	•••	•••		•••	Annam Coast.
2		•••	•••		• • •	•••	•••	•••	Gulf of Tonkin.
3		•••	•••	•••	•••	•••	• • •	•••	Formosa Channel.
4		•••						• • •	Formosa to Yangtze.
5						•••		•••	Yangtze to Shangtung Promontory
fj	•••	•••	• • • •	•••		•••	•••	•••	Gulf of Pechili and Yalu Gulf.
7	•••		•••	•••		•••	•••	•••	Sea of Japan.
3		•••	•••	•••	•••	•••	•••	•••	North of Hokkaido.
9	•••	•••	•••				•••	• • •	East Coast of Japan.
)		•••	•••	•••	•••			•••	South of Kiushiu.