

## Weather; its Role in Communications Intelligence

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*Secret*

*An introductory discussion of the collection, transmission, and use for intelligence purposes, of meteorological information.*

### INTRODUCTION

From the floods and famines of Biblical times to the "dust bowls" of the 1930's, history has found man helpless before the elements. His economics and his politics step obediently aside, and a fortiori his military campaigns are crumbled into pieces. Lacking the aerological units that accompany modern expeditions, the Spanish Armada was completely destroyed by a great storm and Napoleon's army crawled back in fragments from the icy rigors of a Russian winter. There has surely never been a better case for the application of the maxim, "If you can't lick 'em you should join 'em"; and it comes as something of a surprise that it was only with the advent of World War II that armies and navies began to make full use of the resources and techniques available, in an effort to predict the weather and have their battle plans coincide with it. Few if any major invasions or landings undertaken during that struggle failed to take account of the expected weather, and it is agreed that this precaution was a vital factor in their success. Not only was good weather exploited offensively; in at least one brilliant instance, bad weather was used offensively. The breakout of the Germans at the Ardennes Bulge in December of 1944 was timed to coincide with extremely poor flying weather, occasioned by dense fog and low clouds, which prevented us for a considerable period of time from giving air support to our forces or from strafing theirs. Thus, it can be seen that information on weather is a very valuable commodity in wartime, and one which must be treated as a secret weapon if it is to be used to advantage.

Because of its perishability, this secret weapon must be supplied to our own forces on a rapid and timely basis and precautions must be taken to deny it to the enemy. Accordingly, one of the first steps taken by belligerents when mobilizing for hostilities is to impose strict security measures on all types of weather information. This is accomplished by the encryption of all weather transmissions, alteration and consolidation of weather broadcasts (usually by the military), suspension of weather reports and forecasts given out by commercial media,

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format, and as such they surmount the language barrier and may truly be termed the "language of weather." In addition to these, however, many countries design their own weather codes for internal usage.



The following message illustrates a type of weather code used extensively by all nations in the exchange of meteorological data, and capable of being readily decoded by weather personnel anywhere:

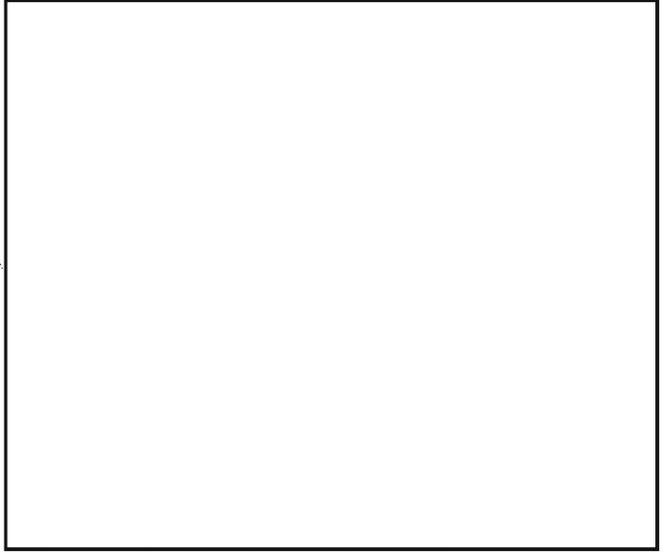
02518 27612 82203 96819 03110 893XX 08815

By interpreting the above seven groups a trained weather man in any part of the world could readily determine the following weather elements:

- 0 Null or filler
- 25 25th day of month
- 18 1800 hours, Moscow
- 27612 Weather indicative for Moscow
- 8 Sky completely overcast
- 22 Surface wind from southwest
- 03 Wind speed: 3 meters per second
- 96 Horizontal visibility, four kilometers
- 81 Present weather: rain showers
- 9 Past Weather: thunderstorm
- 031 Atmospheric Pressure: 1008.1 millibars
- 10 Air temperature: 10 degrees Celsius (50° Fahrenheit)
- 8 Amount of low cloud is ten-tenths
- 9 Type of cloud is Cumulonimbus
- 3 Height of base is between 200 and 300 meters
- XX No middle or high clouds visible
- 08 Temperature of dew point is 8 degrees Celsius
- 8 Pressure is falling steadily
- 15 Pressure has dropped 1.5 millibars in last 3 hours.

In addition to reading and understanding the weather codes, it is equally important to know the source, and hence the location, of the

weather being recorded. Obviously a weather report has little if any value when the area or region from which it originates cannot be determined. As in the case of weather codes, most countries in the exchange of weather data subscribe to a universal system of identifying weather stations by means of a five-digit number preceding the report. However, on internal weather networks of some countries unique methods are employed.



During wartime the nature and character of meteorological information presents special problems with respect to security. The perishability of the data is such that rapid handling and dissemination are required. This factor will often affect the degree of security of the cipher system. The advantages to be gained by the speed of delivery to one's own forces may sometimes outweigh any advantage to be gained by continued denial to the adversary; it would thus be more expedient to employ either a simple cipher or, in some situations, to transmit the weather in the clear. Other disadvantages encountered in the encipherment of weather traffic are the vast bulk of information involved and the stereotyped nature of the message forms. Methods of encipherment are then, of necessity, so many and varied that the discussion of them is best left for a separate paper dealing exclusively with this aspect.



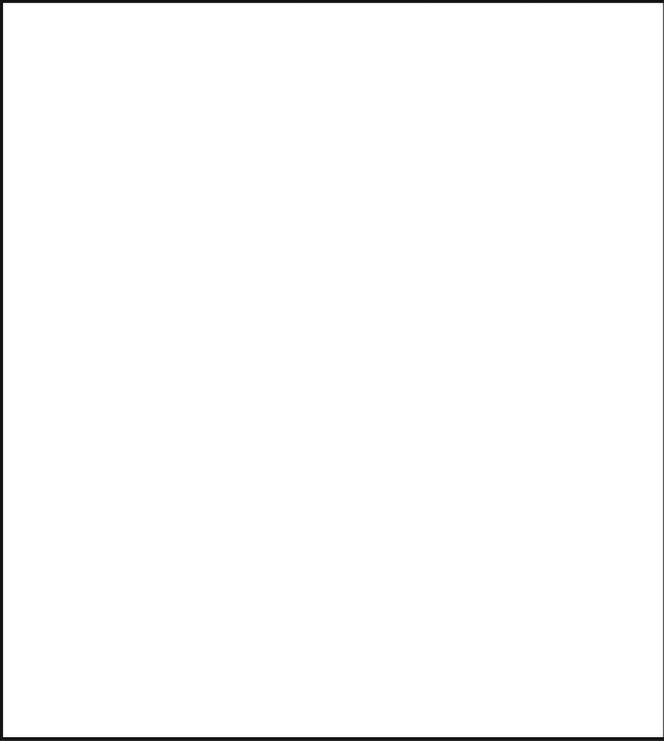
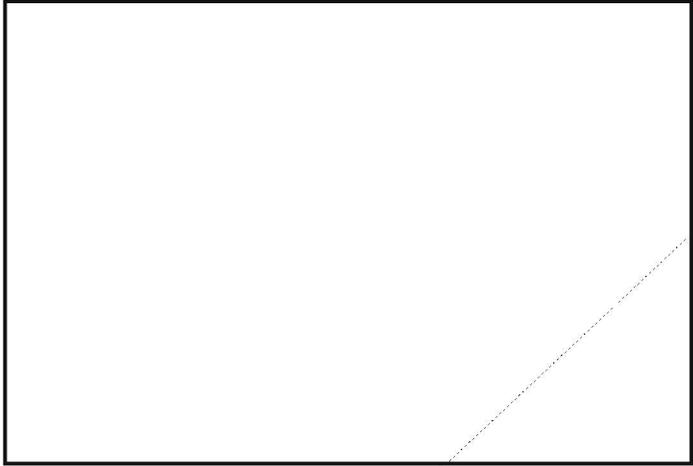
INTELLIGENCE FROM WEATHER REPORTING

Intelligence information inherent in a country's weather communications takes many forms and covers a wide variety of items, ranging



Some of the more obvious and common items from the above will be discussed.

a [redacted] -As stated previously in this article, weather reports are of little or no value unless the source of such reports can be quickly determined. This requirement necessitates the inclusion in the report of a means of rapid identification. [redacted]



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