

大氣臭氧層與天氣關係之探討

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Abstract

The total amount of the atmospheric ozone was observed since 1970. According to the analysis, we can find that a seasonal variation with maximum in midsummer and minimum in early winter. Some explanation for this difference are given in this paper.

In this century, we hardly can't say that the CFCs is the origin of the industry. But this man-made organic chlorinator compounds (CFCs) undergo photochemical reactions in the atmosphere resulting in the release of chlorine. This reaction has been identified as the major cycle for the ozone removal in the ozone hole. We will patiate the theories and facts about atmospheric ozone and its relationship to weather, it will be discussed in different process in this paper too.

命乃屬有益。故可知少量之臭氧，對人體之影響甚大。

三、分佈現象：

總臭氧的季節和緯度變化，如圖1，最高濃度在北極區，最低濃度在南極區。冬季在極區，夏季在赤道區。

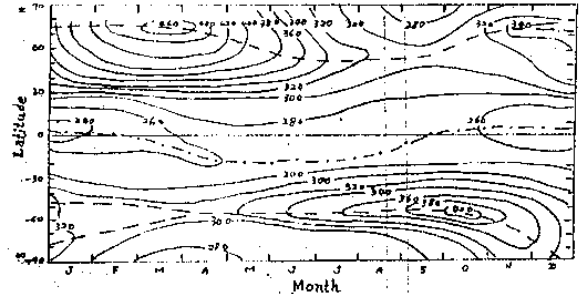


圖 1. 月平均總臭氧之時間與緯度關係圖
Fig. 1. Long-term average of the total amount of ozone (m-atm cm) as a function of latitude and season from ground-based data (1950-1980). The dashed lines show the maximum O₃ amount, and the dashed-dot line shows the minimum O₃ amount.

一、前言：

中氣上，微氣大星間，自全球省。在分其作之。臭氣之測量，目前尚無標準。其測量之方法，目前尚無標準。其測量之方法，目前尚無標準。

總臭氧的長期變化，與10~100HPA間之流切之收UV，並以10HPa為界。其變化之原因，目前尚無標準。

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$$\frac{\partial F}{\partial t} = -\left(\bar{v} \frac{\partial F}{\partial y} + \frac{\partial}{\partial y} K_{yy} \frac{\partial F}{\partial y}\right) - \left(\bar{w} \frac{\partial F}{\partial z} - \frac{\partial}{\partial z} K_{zz} \frac{\partial F}{\partial z}\right) + \frac{\bar{P}}{M} - \bar{I} F \dots (1)$$

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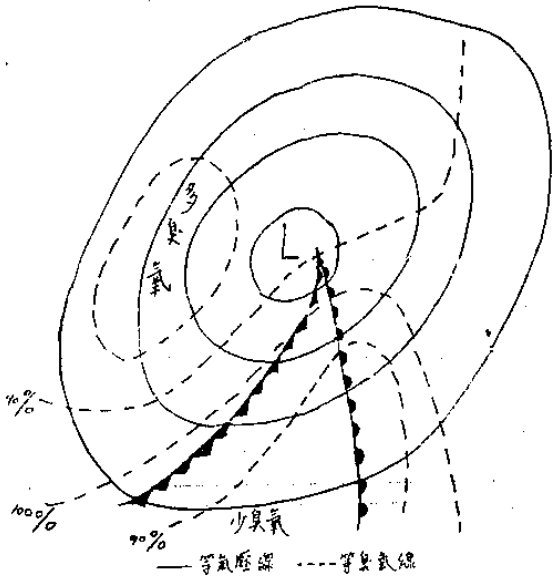


图 3: 臭氧與新生低氣壓
Fig. 3: Distribution of ozone in a depression with warm sector — Isobar — — Ozone

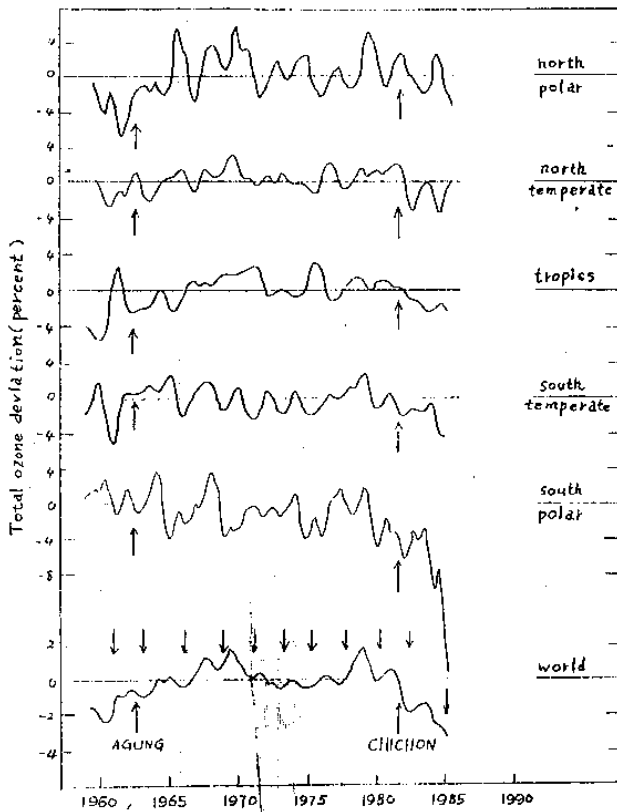


Fig 4. The time variation of total ozone deviation from the long-term mean since 1960 to 1985, of North polar, North Temperate, Tropics, South Temperate, South Polar and World.

图 4. 1960~1985年間，北極區(60°~90°N)，北半球中緯度地帶(30°~60°N)，赤道(30°N~30°S)，南半球中緯度地帶(30°~60°S)，南極區(60°S~90°S)與全球，總臭氧偏離長期平均的百分比變化圖。(Angell, 1987)

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