Optimización de la búsqueda de parámetros atmosféricos en modelos de transferencia radiativa

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Modelos de transferencia radiativa

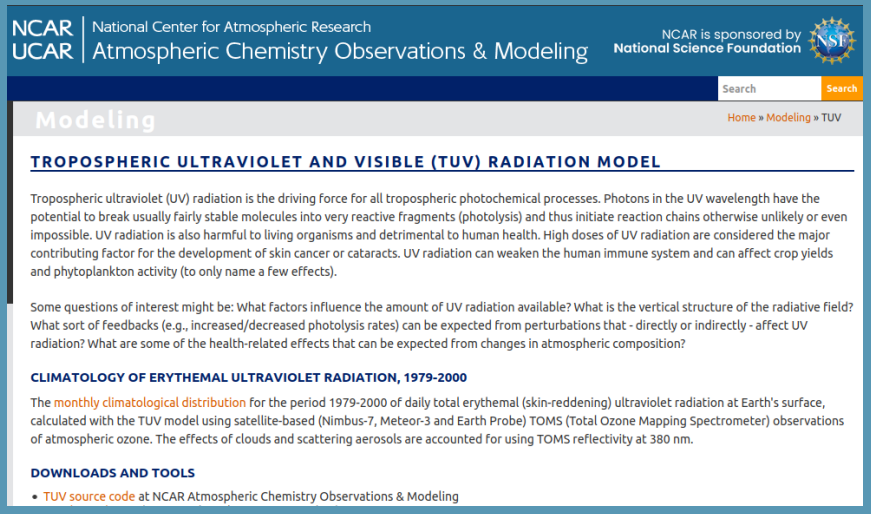


Figure 1: Tropospheric Ultraviolet and Visible (TUV) radiation model. [1]

Figure 2: Simple Model of the Atmospheric Radiative Transfer of Sunshine. [2]

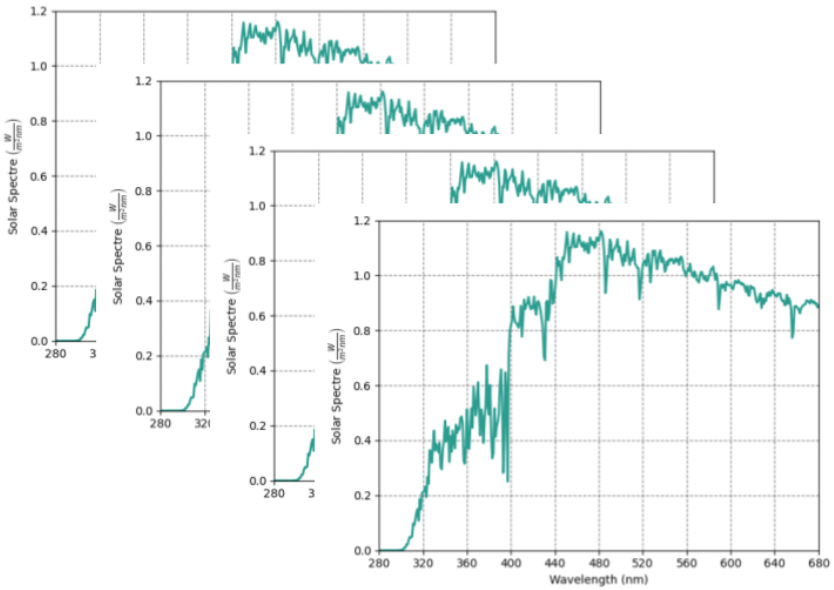
¿Qué hacen estos modelos?

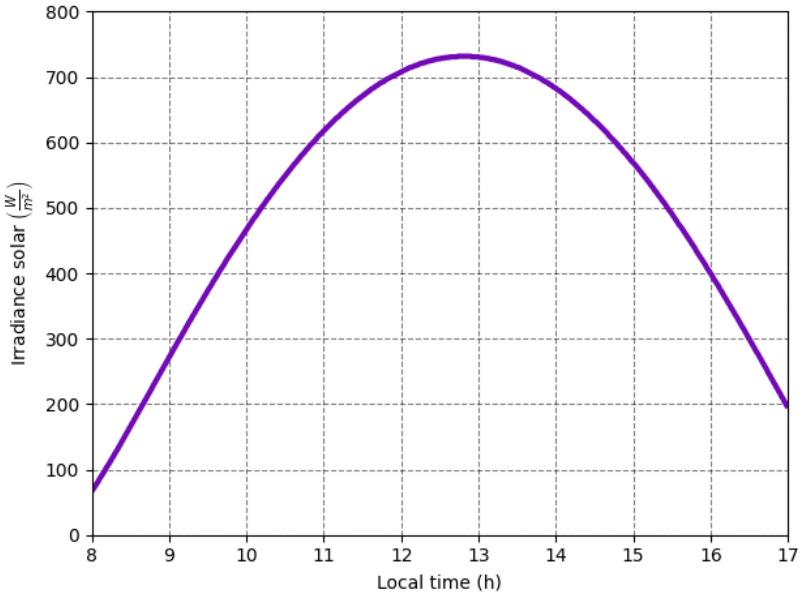
$$\frac{dE}{dAdt} = I_\nu(\hat{k}, \vec{r}, t)\vec{k}\cdot\vec{n}d\Omega d\nu \text{[3]}$$

$$I(t) = \int_{\lambda_0}^{\lambda_i} E(\lambda, t) d\lambda \qquad (1)$$

```
# Calculo de la irradiancia solar a partir de los resultados del
modelo SMARTS
size = np.size(irradiance)
integral = irradiance[0]
for i in range(1, size):
    integral += irradiance[i]*(wavelength[i]-wavelength[i-1])
```

Figure 3: Implementación de la ecuación 1.


Solar Spectre $(\frac{W}{m^2 nm})$
Wavelength (nm)


Irradiance solar $(\frac{W}{m^2})$
Local time (h)

Mediciones in situ

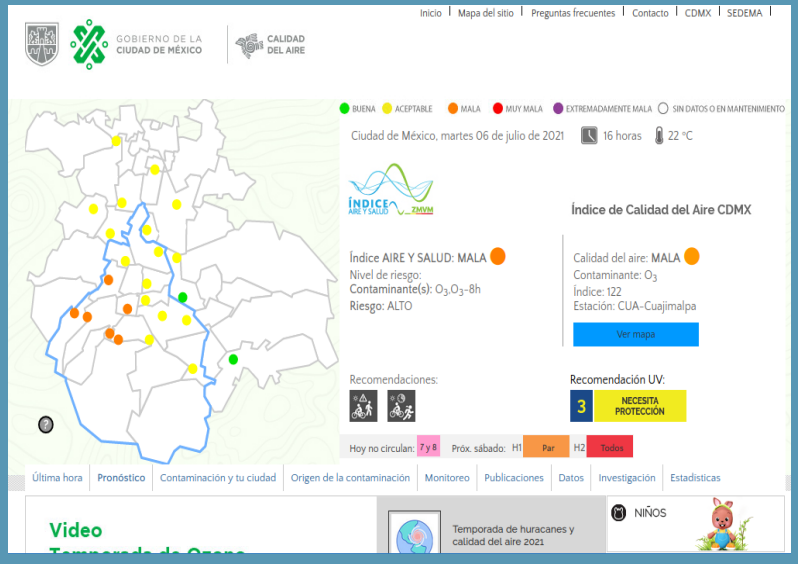


Figure 4: Página web de la SEDEMA. [4]

Figure 5: Página web del SIMA. [5]

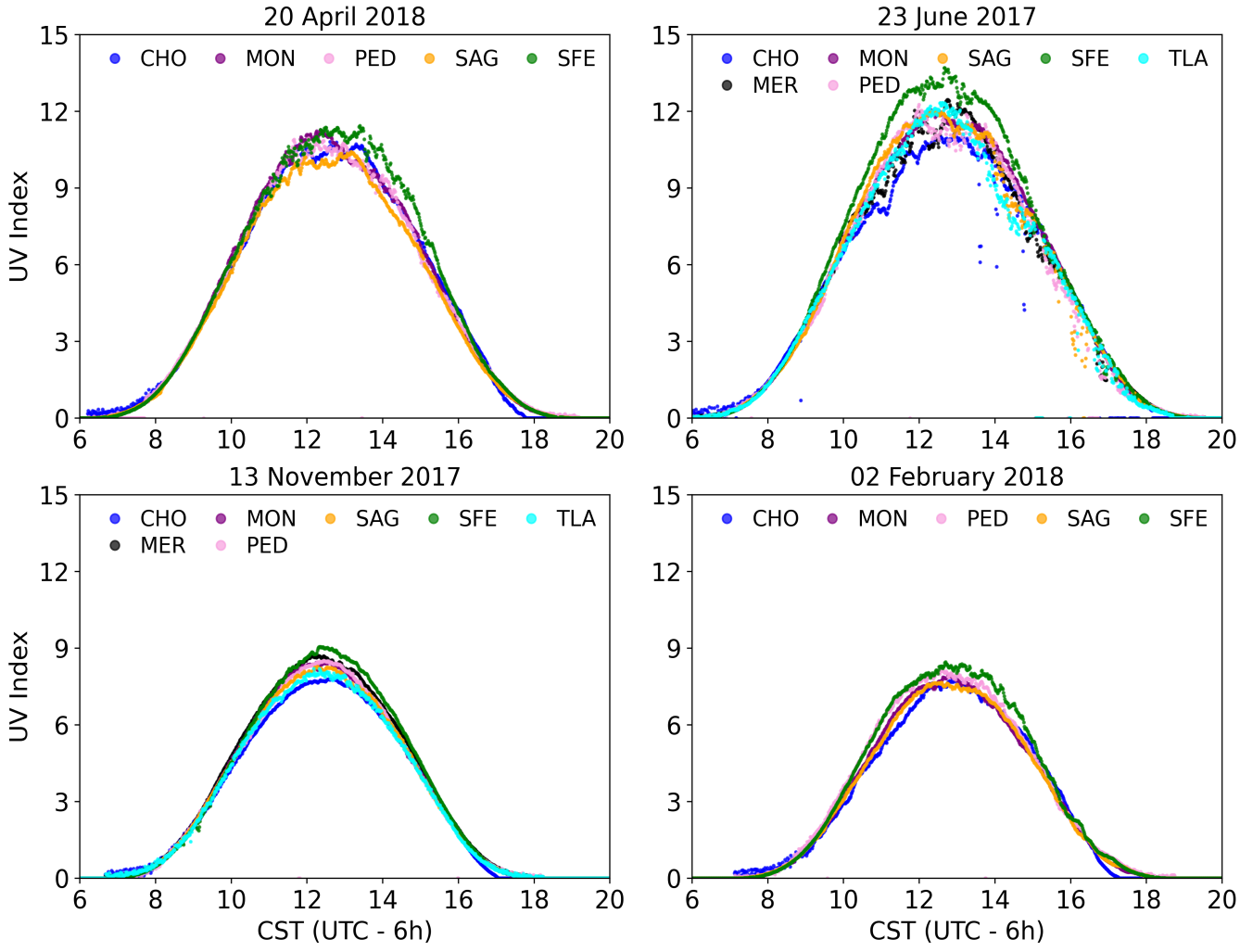


Figure 6: Mediciones de indice UV en la Ciudad de México. [4]


THANK YOU

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