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**Supplementary Material 3:** Scatter plots of ash cloud heights obtained via the six different methods plotted against each other, to complement the scatter plots shown in the manuscript in Figure 6.

Gráfico, Gráfico de dispersión

Descripción generada automáticamente

**C**

**B**

**A**

**Figure S3-1.** Comparison of ash column heights estimated from the observed ash cloud dispersal direction combined with GDAS atmospheric data and heights retrieved from: [A] direction GFS and webcam; [B] brightness temperature with GFS and GDAS atmospheric data; as well as [C] heights obtained from W-VAAC advisories and VOLCAT products.

Gráfico, Gráfico de dispersión

Descripción generada automáticamente

**C**

**B**

**A**

**Figure S3-2.** Comparison of ash column heights estimated from the observed ash cloud dispersal direction combined with GFS atmospheric data and heights retrieved from: [A] direction GDAS and webcam; [B] brightness temperature with GFS and GDAS atmospheric data; as well as [C] heights obtained from W-VAAC advisories and VOLCAT products.

Gráfico, Gráfico de dispersión

Descripción generada automáticamente

**C**

**B**

**A**

**Figure S3-3.** Comparison of ash column heights estimated from the ash cloud brightness temperature combined with GDAS atmospheric data and heights retrieved from: [A] direction with GFS and GDAS data; [B] brightness temperature GFS and webcam images; as well as [C] heights obtained from W-VAAC advisories and VOLCAT products.

Gráfico, Gráfico de dispersión

Descripción generada automáticamente

**C**

**B**

**A**

**Figure S3-4.** Comparison of ash column heights estimated from the ash cloud brightness temperature combined with GFS atmospheric data and heights retrieved from: [A] direction with GFS and GDAS data; [B] brightness temperature GDAS and webcam images; as well as [C] heights obtained from W-VAAC advisories and VOLCAT products.

Gráfico, Gráfico de dispersión

Descripción generada automáticamente

**C**

**B**

**A**

**Figure S3-5.** Comparison of ash column heights retrieved from VOLCAT products and heights estimated from: [A] direction with GFS and GDAS data; [B] brightness temperature with GFS and GDAS data; as well as [C] heights obtained from W-VAAC advisories and webcam images.

Gráfico, Gráfico de dispersión

Descripción generada automáticamente

**C**

**B**

**A**

**Figure S3-6.** Comparison of ash column heights retrieved from W-VAAC advisories and heights estimated from: [A] direction with GFS and GDAS data; [B] brightness temperature with GFS and GDAS data; as well as [C] heights obtained from webcam images and VOLCAT products.