SNG BURST HEIGHT RECORDS

Wong Shwei Lin

METEOROLOGICAL SERVICE SINGAPORE

SNG Setup

System:

Radiosonde – Vaisala RS41-SG (main); Graw DFM09 (backup)

Balloon – Totex TX1000 & TX1500

Ozonesonde – ECC SPC-6A

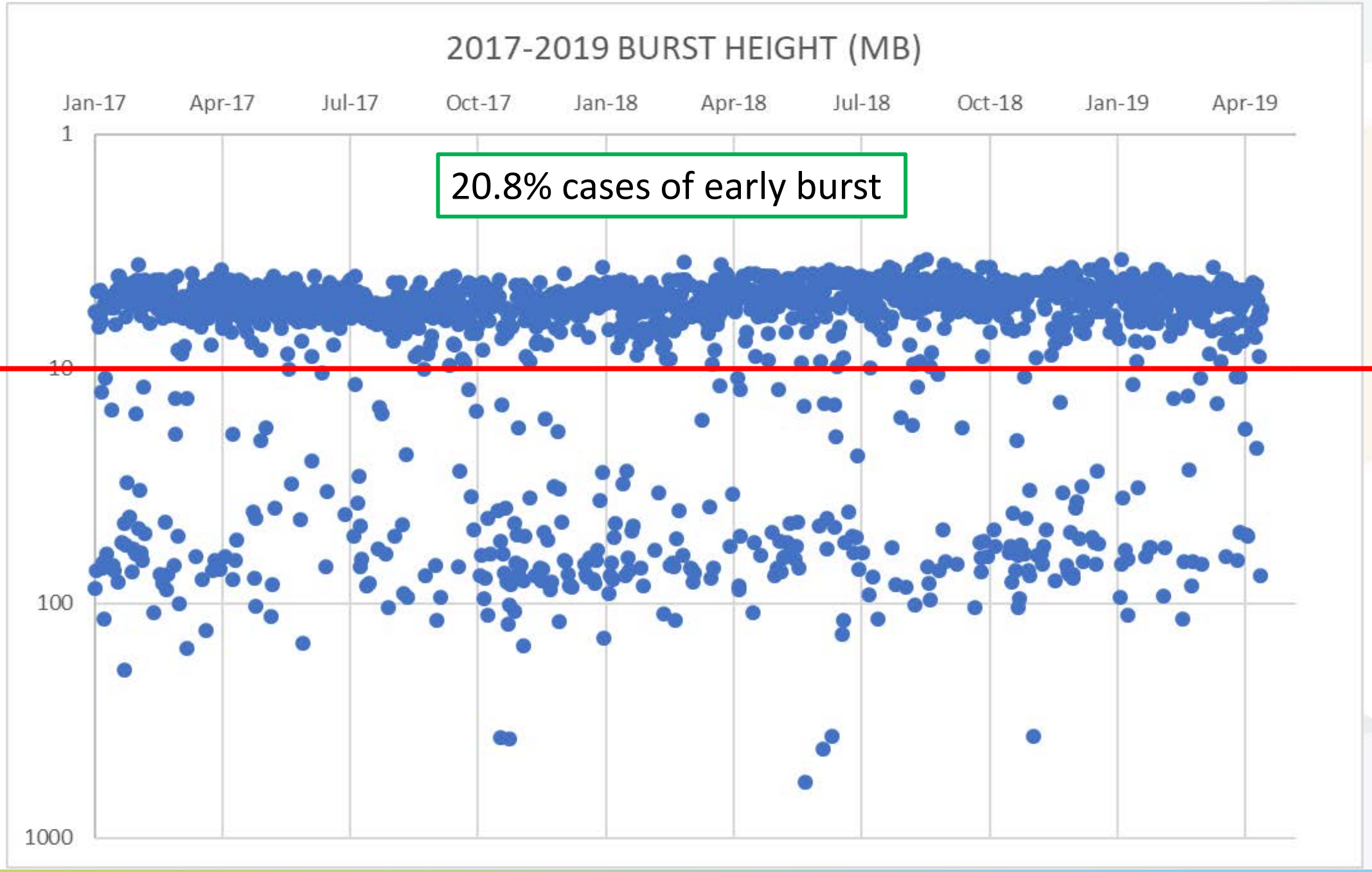
GNSS – Trimble Alloy receiver, Zephyr 3 antenna

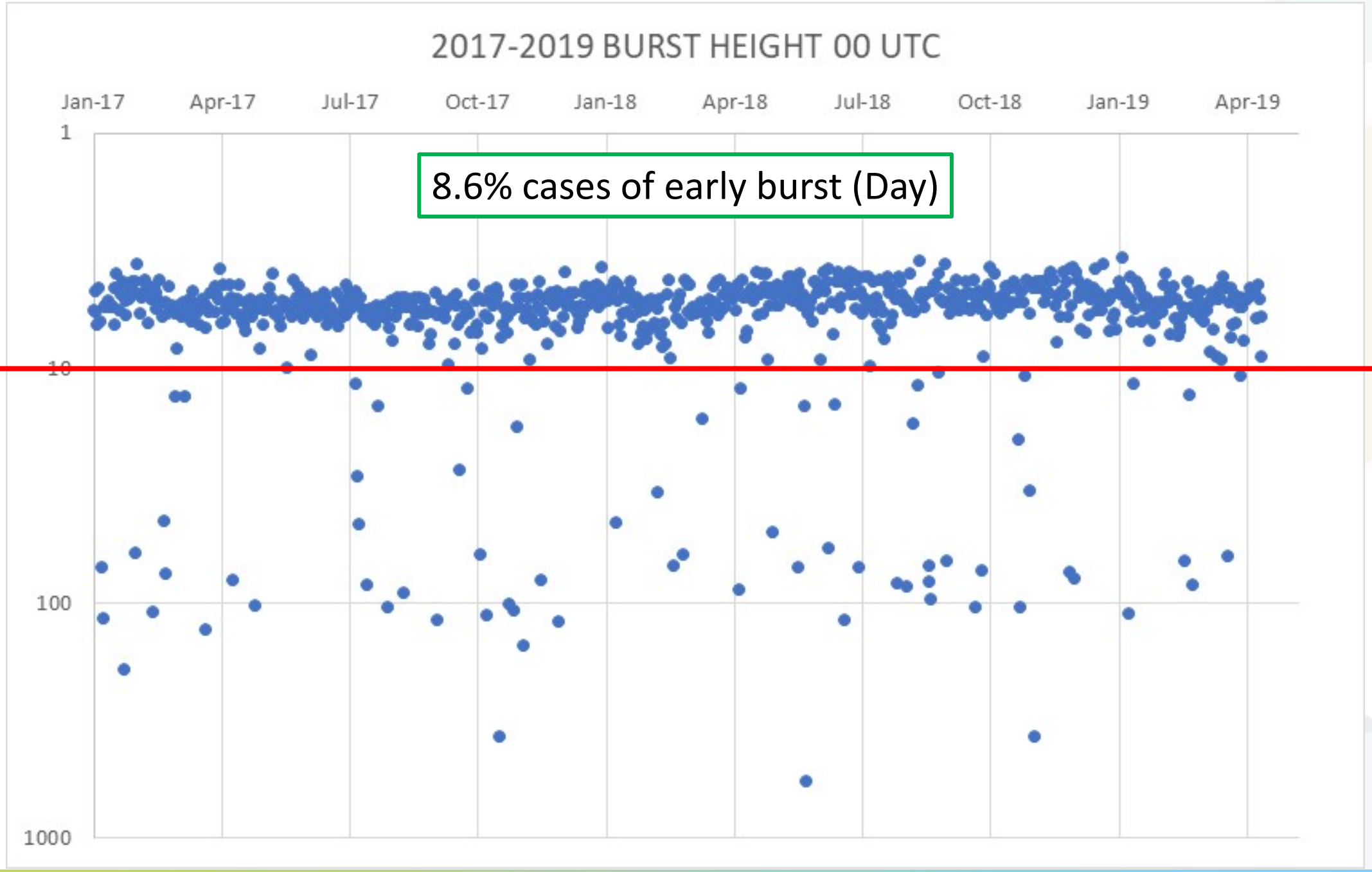
Scheduling:

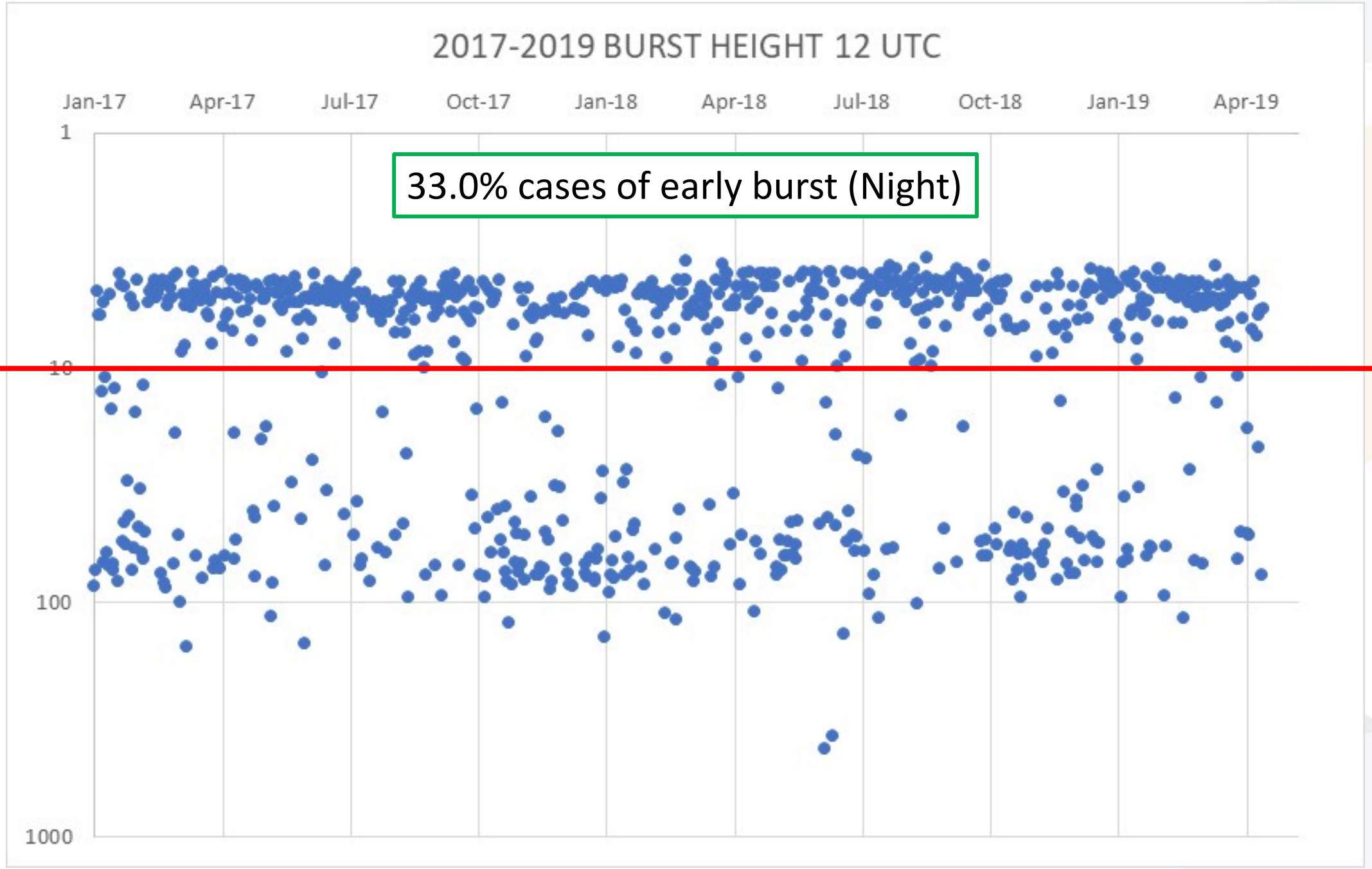
Twice daily radiosonde releases

Monthly ozonesonde releases

Hourly GNSS with meteo-files transmission (1Hz obs)


2017-2019 BURST HEIGHT (MB)
Jan-17
Apr-17
Jul-17
Oct-17
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
1
10
100
1000
20.8% cases of early burst


2017-2019 BURST HEIGHT 00 UTC
Jan-17
Apr-17
Jul-17
Oct-17
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
1
10
100
1000
8.6% cases of early burst (Day)


2017-2019 BURST HEIGHT 12 UTC
Jan-17
Apr-17
Jul-17
Oct-17
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
1
10
100
1000
33.0% cases of early burst (Night)

Quick look at data

Day BE cases: **8.6%**

Night BE cases: **33.0%**

Mean 100hPA temperatures for BE cases: **-80.6ºC**

Mean 100hPA temperatures for the rest: **-80.1ºC**

*Low clouds are observed (≥ 2 Oktas):

Day BE cases: 13.3%

Night BE cases: 41.1%

*Smaller datasets (314)

Way Ahead

- Launch dual layer balloons during presence of significant low cloud cover
- Scientific evidence of efficacies of dual-layer balloons?
- Examine possible effects of IPWV over Singapore on premature bursts
- Suggestions?

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