Satellite Community Experiences, + Requirements, and Future Needs

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PLANET'S MISSION

To image the whole world every day and make global change **visible**, **accessible**, and **actionable**.

Our Public Benefit Corporation (PBC) Purpose:

To accelerate humanity toward a more sustainable, secure, and prosperous world by illuminating environmental and social change.

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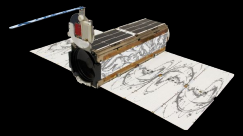
Planet's Agile Space Missions

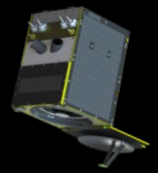
CURRENT CONSTELLATIONS



SuperDove

Always-on Monitoring

- ~180 satellites
- Up to 300 million km^2 / day
- 8-band
- Unique scanning



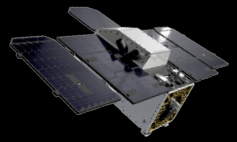
SkySat

High-Resolution Tasking

- ~20 satellites
- 50cm resolution
- RGB, NIR, and Pan bands
- Sub-daily tasking

PLANNED HIGH RESOLUTION UPGRADE

PLANNED FUTURE CONSTELLATIONS



Tanager

Hyperspectral Tasking

- 400 - 2500 nm
- ~400 5nm bands
- Technical demo planned to launch in 2024

Pelican

Very High Resolution Tasking

- Initial fleet of up to 30 satellites
- Up to 30cm resolution
- Pan + 6 RGB+NIR bands
- Up to 30 revisits/day

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Space Environment Considerations

Accurate forecasting impacts every aspect of our business including lifetime predictions, launch forecasting, maneuver timing, conjunction avoidance, and imaging feasibility

Higher rate of orbital degradation on vehicles can occur due to increasing solar environment

SuperDoves are non-propulsive and rely on differential drag to maneuver and phase

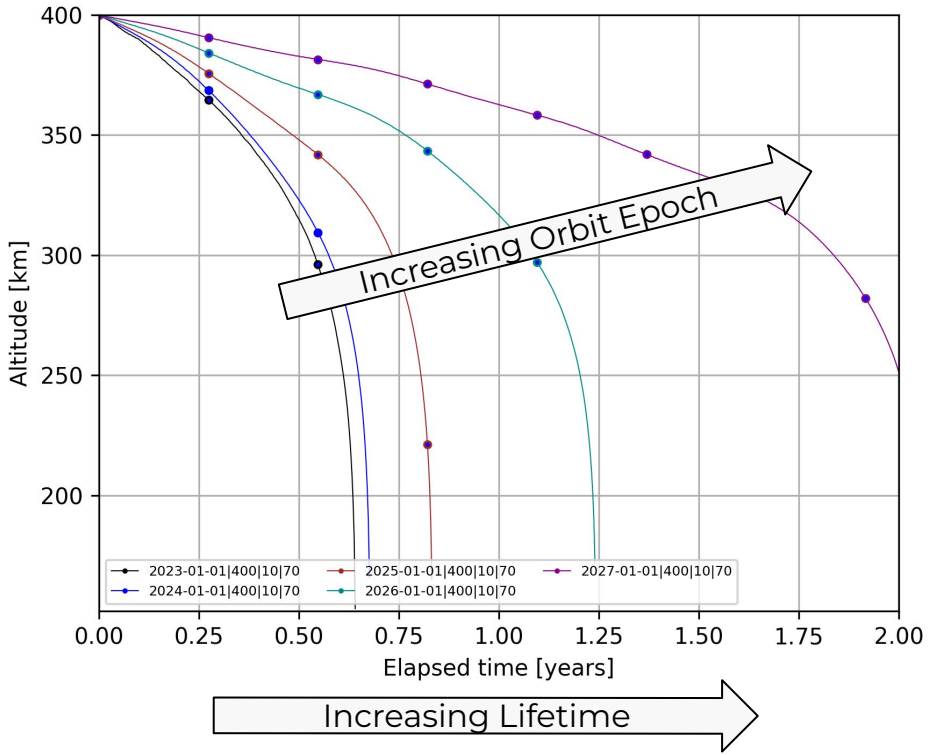
- Understanding atmospheric/solar predictions helps analysts and operators understand drag configurations and lifetime

Stationkeeping considerations for SkySats

- Understanding what altitude to maintain to maximize lifetime
- Maneuvers planned up to 24 hours in advance

Historical data informs future looking projections

- As we progress in this solar cycle, we are constantly adjusting our baseline assumptions and informing lessons learned for future systems
- Record keeping is extremely important



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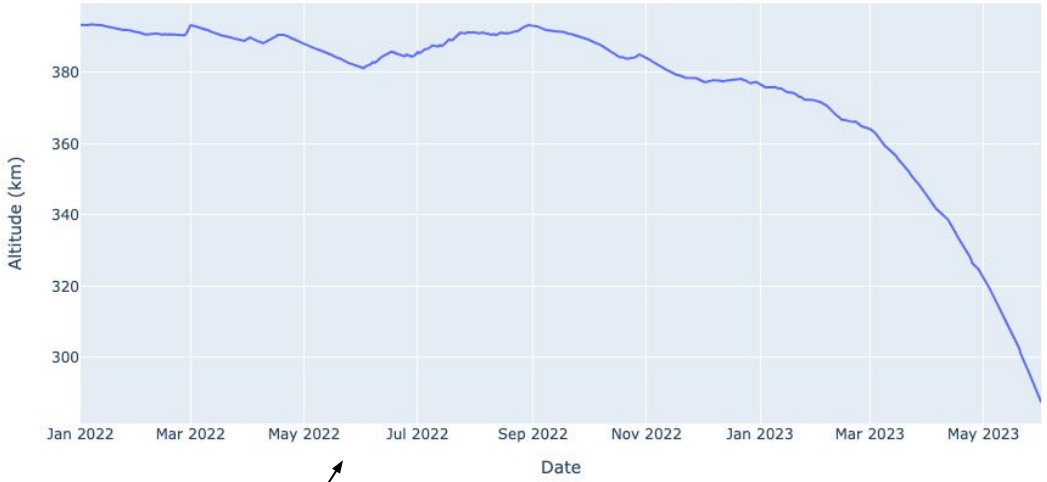
SkySat Case Study

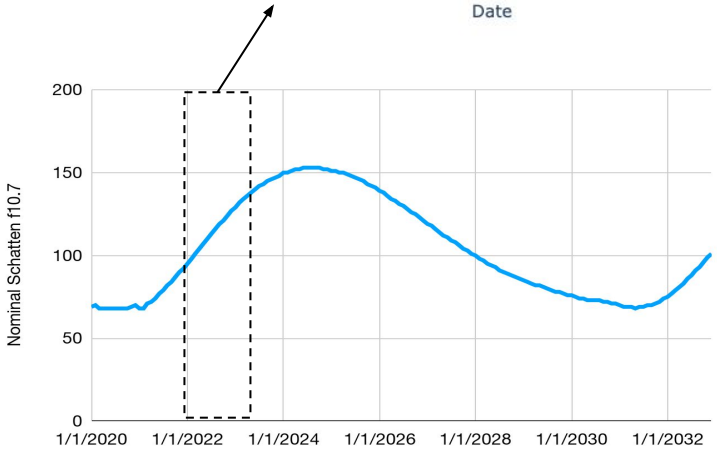
In order to get ahead of the increasing solar cycle, Planet raised the altitudes of the SkySat fleet

- Two of the SkySat vehicles did not have sufficient fuel to change altitude and have/will deorbit sooner than expected due to increased solar activity and atmospheric drag

With solar flux predictions continuing to increase well into 2024, we are continuing to monitor conditions so we can effectively manage fleet maintenance

Mean Altitude of SkySat-20





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Thank you!

THANK YOU!

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