



## COUNTY OF HUMBOLDT

AGENDA ITEM NO.

**C13**

For the meeting of: April 17, 2018

Date: March 8, 2018  
To: Board of Supervisors  
From: John H. Ford, Director Planning and Building Department  
Subject: Approve a supplemental budget for acquisition of high resolution satellite imagery for Humboldt County (Budget Unit 1100262) and authorize Board Chair to sign contract.

*4/5 Vote Required*

### RECOMMENDATION(S):

That the Board of Supervisors:

1. Approve supplemental budget for \$199,500 for Building Inspector Division (Budget Unit 1100262) for high resolution satellite imagery of the County for building, planning, and code enforcement analyses and inspection; and
2. Authorize the Board of Supervisors Chair to sign purchase contract, and Director of Planning and Building to sign amendments.

### SOURCE OF FUNDING:

Building Inspection Trust 3564.

Prepared by Bob Russell

CAO Approval

REVIEW:

Auditor

County Counsel

Human Resources

Other

TYPE OF ITEM:

☒ Consent  
☐ Departmental  
☐ Public Hearing  
☐ Other

PREVIOUS ACTION/REFERRAL:

Board Order No. \_\_\_\_\_

Meeting of: \_\_\_\_\_

BOARD OF SUPERVISORS, COUNTY OF HUMBOLDT  
Upon motion of Supervisor \_\_\_\_\_ Seconded by Supervisor \_\_\_\_\_

Ayes  
Nays  
Abstain  
Absent

**SEE ACTION SUMMARY**

and carried by those members present, the Board hereby approves the recommended action contained in this Board report.

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Kathy Hayes, Clerk of the Board

## DISCUSSION:

The department is asking the Board of Supervisors to approve a supplemental budget for \$199,500 for Building Inspector Division (Budget Unit 11,00262) for high resolution satellite imagery of the County for building, planning, and code enforcement analyses and inspection. In addition authority for the Board Chair to sign a purchase contract to with Planet Labs Inc., and authority for the Director of Planning and Building to sign amendments.

The Department has been looking for ways to become more efficient, and having access to regularly updated satellite imagery will provide significant time and cost savings. A provider of regularly updated imagery at least five times per year, at a high resolution (one meter or better) is desired and a Request for Proposals 18-02 was published to meet this need. The Department received four responses, and after cost/benefit analysis selected Planet Labs Inc. as the best value to meet this need. The four proposals received and their ranking are as follows:

<b>Business Name</b>	<b>Ranking</b>
Planet Labs Inc.	1
PrecisionHawk, Inc.	2
Earth-I Ltd	3
GeoNorth Information Systems, LLC	4

Most of the site visits for building, cannabis, current planning, and code enforcement are done by building inspectors and code enforcement investigators. Many of the site visits are in remote locations which limits the number of sites that can be visited in a day. Using imagery that is recent and at a high resolution, can enable staff to accomplish much of what a site visit provides without the travel time and cost. While this will not replace the need for all inspections, it will significantly reduce the number of on-site inspections required and the time spent on each site. These real savings will be applied to offset the imagery cost. It is estimated that onsite inspections could drop by a third, providing direct savings of \$135,000.

Currently the Department utilizes a combination of free and low-cost readily available images to access an eclectic mix of imagery types and temporal and spatial coverage. This results in inconsistent imagery types, resolution, formats and availability which impair analysis accuracy and speed. The most consistent imagery data set we have is from 2016 and does not sufficiently represent the current state of the land and structures in the county. This is particularly impactful to assessing the site conditions and progress of cannabis permit holders and applicants, as well as those in violation of cannabis, environmental, zoning and building codes.

Having a consistent set of high resolution images in the correct spectral bands, collected at the same time of day at a regular cadence throughout the year will provide significant gains in efficiency and effectiveness. For example, Code Enforcement Investigators will have a clear baseline of properties at the beginning, duration, and end of the cannabis cultivation season. This will enable both manual and computer based assessments to determine when unpermitted cultivation, grading and building has occurred. This will reduce the amount of time it takes to document the violations and prepare the appropriate noticing. Consistent imagery enables automation to significantly increase the volume of cases code enforcement can process each year.

Similarly, another benefit of consistent imagery showing the current and past conditions of specific sites will enable planners to better assess both required and unauthorized changes on properties with approved or pending cannabis cultivation permits. This is vital in determining compliance, assessing false starts, unpermitted expansions, water diversions, tree removal, grading or other environmental impacts. It can significantly reduce the number of site visits required throughout the life cycle of the permit process

resulting in time and cost savings to both the applicant and the Department. This imagery would also provide the foundation needed for subsequent computer scripting for change detection on these sites which could provide further efficiencies, in permit monitoring and inspections.

Although the RFP requested a multi-year offering, only the most expensive proposal offered more than a one year option. Two bidders were more than double the cost of the two lowest bids. The two lowest bids were within pennies of each other on cost per square kilometer of coverage. All were evaluated using other factors including quantity and performance of on-orbit sensors, cloud free data thresholds, communications reliability, resolution, data formats, infrastructure, post-processing requirements, data rights, as well as additional County infrastructure and personnel needs to operationalize the imagery once collected for the County.

Planet Labs Inc, was the second lowest cost bid and was selected because they offered significant operational and overall cost advantages at a much lower risk than other candidates. The fleet of on-orbit satellites offers proven performance and low risk compared to other vendors. One of the most significant advantages of this proposal is the imagery/data will be processed, formatted, stored and served up by the vendor through their cloud based Application Programming Interfaces (APIs) which can be readily used by the department staff. This will also allow us the flexibility to retrieve and serve up the imagery from the vendor at the convenience and discretion of staff, which also eliminates the need for expensive hardware and software needed to store the large imagery files. The Platform and APIs are built in open standards which affords us the ability to utilize in house or third party tools without risk or limitation of proprietary formats or metadata disruptions. An additional benefit is they are a California based company.

#### FINANCIAL IMPACT:

There will be no impact on the general fund. Imagery will initially be purchased out of Building Inspection trust, 3564, balance \$1,329,152. The term of the Contract will be one year, unless extended by mutual agreement. The trust will be reimbursed by application fees, or fines and penalties. Future year expenses will come from application fees and code enforcement fines and penalties.

This request meets your Board's Strategic Framework of Priorities for New Initiatives by providing the community appropriate levels of service and managing resources to ensure sustainability of services.

#### OTHER AGENCY INVOLVEMENT:

None

#### ALTERNATIVES TO STAFF RECOMMENDATIONS:

The Board could not authorize the Board Chair to sign an agreement with Planet Labs Inc. and ask the department to consider another firm, or not approve the supplemental budget. This is not recommended as access to imagery is needed for cost effective analysis, site preparation, and inspections necessary to operate the Department.

**ATTACHMENT A**  
**RECOMMENDED**  
**SUPPLEMENTAL BUDGET**

	<u>Fund</u>	<u>Unit</u>	<u>Acct #</u>	<u>Account Name</u>	<u>Adjustment</u>
Revenue	1100	262	707800	Trust Fund Transfer	\$199,500
Expenditures	1100	262	2118	Professional Services & Fees	\$199,500

**ATTACHMENT B**  
**DRAFT CONTRACT**

**HIGH RESOLUTION IMAGERY SERVICES AGREEMENT  
BY AND BETWEEN  
COUNTY OF HUMBOLDT  
AND  
PLANET LABS INC.  
FOR FISCAL YEARS 2017-2018**

This High Resolution Imagery Services Agreement (the "Agreement"), is entered into this 17 day of \_\_\_\_\_, April, 2018, (the "Effective Date") by and between the County of Humboldt, a political subdivision of the State of California, hereinafter referred to as "COUNTY," and Planet Labs Inc., a Delaware corporation, hereinafter referred to as "CONTRACTOR," and is made upon the following considerations:

WHEREAS, COUNTY, by and through its Department of Planning and Building, desires to retain a qualified firm to provide high resolution images with periodic and regular updates; and

WHEREAS, such work involves the performance of professional, expert and technical services including a demonstrated ability to provide satellite imagery; and

WHEREAS, COUNTY has a regular and ongoing need to review and verify cannabis cultivation and development in rural areas via satellite imagery; and

WHEREAS, COUNTY has no employees available to perform such services and is unable to hire employees for the performance thereof for the temporary period; and

WHEREAS, CONTRACTOR represents that is specially trained, skilled, experienced and qualified to provide satellite imagery.

NOW THEREFORE, the parties hereto mutually agree as follows:

1. GRANT OF LICENSE AND DESCRIPTION OF SERVICES:

- A. Grant of License. Subject to the terms and conditions of this Agreement, CONTRACTOR hereby grants to COUNTY a limited, nontransferable, nonexclusive, non-sublicensable, non-assignable, revocable license to allow its Authorized Users to access the Platform and the Content, as defined in the Order Schedule (collectively, the "Licensed Materials") for use solely as set forth in the Order Schedule attached hereto as Exhibit A and incorporated herein by this reference.
- B. Restrictions. COUNTY may not use the Licensed Materials for any purpose except as expressly set forth in this Agreement and the applicable Order Schedule. By way of example, and without limiting the generality of the preceding sentence, COUNTY will not: (a) alter, remove, or obscure any proprietary notices, watermarks or legends included or embedded in the Licensed Materials; (b) use the Licensed Materials in violation of applicable laws or regulations; (c) adapt, alter, publicly display, publicly perform, translate, create derivative works of, or otherwise modify the Licensed Materials except as expressly authorized under this Agreement and the Order Schedule; (d) sublicense, lease, rent, loan, transfer or distribute the Licensed Materials to any third party; (e) reverse engineer, decompile, disassemble or otherwise attempt to derive the source code for the Platform; or (f) allow third parties to access or use the Licensed Materials, including without limitation in any application service COUNTY environment, service bureau, or time-sharing arrangements.
- C. Reservation of Rights. Except for the license granted to COUNTY under Section 1(A) of this Agreement, CONTRACTOR retains all right, title and interest, including all intellectual property rights, in and to the Licensed Materials and all other CONTRACTOR intellectual property. All rights not expressly granted in this Agreement are hereby reserved by the respective Parties.
- E. Provision of Imagery Services. CONTRACTOR agrees to provide imagery at a regular cadence as described in and in accordance with Exhibit A, attached hereto and incorporated herein. In providing such services, CONTRACTOR agrees to reasonably cooperate with the Humboldt County Director of Planning & Building, or a designee thereof, hereinafter referred to as "Director."

2. TERM:

This Agreement shall begin on April 11, 2018 and shall remain in full force and effect until June 30, 2019, unless extended by mutual agreement of the parties.



3. TERMINATION:

- A. Breach of Contract. Either party may terminate this Agreement in the event that the other party materially fails to (i) comply with any material obligation herein; or (ii) violates any ordinance, regulation or other law applicable to its performance hereunder, and such default or violation continues un-remedied for a period of thirty (30) days following written notice thereof. CONTRACTOR may terminate this Agreement immediately, and without requirement for a Cure Period, upon notice to COUNTY if COUNTY (i) violates any of the restrictions set forth in Section 3.2 (Restrictions) or otherwise uses the Licensed Materials outside of rights granted under this Agreement or (ii) violates any of the terms set forth in Section 12.1 ("Compliance with Laws") below.
- B. Without Cause. Subject to Section 3(C), neither party may terminate this Agreement without cause
- C. Insufficient Funding. COUNTY's obligations under this Agreement are contingent upon the availability of local, state and/or federal funds. In the event such funding is reduced or eliminated, COUNTY shall, at its sole discretion, determine whether this Agreement shall be terminated. COUNTY shall provide CONTRACTOR thirty (30) days advance written notice of its intent to terminate this Agreement due to insufficient funding.
- D. Compensation Upon Termination. In the event this Agreement is terminated pursuant to Section C, CONTRACTOR shall be entitled to compensation for unpaid license and/or service fees incurred pursuant to the terms and conditions of this Agreement through and including the effective date of such termination. However, this provision shall not limit or reduce any damages owed to either party due to a breach of this Agreement by the other party.
- E. Effect of Termination. Upon termination of this Agreement, CONTRACTOR shall cease providing any and all services hereunder and promptly return all copies of COUNTY data in CONTRACTOR's possession within thirty (30) days of such termination. In addition, (i) COUNTY's access to the Licensed Materials shall cease, and COUNTY shall pay any outstanding amounts owed to CONTRACTOR hereunder; (ii) if the Termination is as a result of an uncured material breach by COUNTY, the license(s) granted hereunder shall immediately terminate, and COUNTY shall immediately cease all use of the Licensed Materials and destroy all copies of the Content in COUNTY's possession, custody, or control and (if destroyed) an officer or COUNTY shall promptly certify to CONTRACTOR the completion of such destruction. Notwithstanding the foregoing, provided the termination is pursuant to expiration of the Term and not pursuant to any other reasons, and provided further that COUNTY is not in default of any payment or other obligation under this Agreement and is otherwise in compliance with all terms hereof, COUNTY may continue to hold and use the Content accessed prior to termination subject to the license rights, conditions, and restrictions provided herein and in the applicable Order Schedule unless otherwise notified in writing by CONTRACTOR, and which license rights, conditions, and restrictions shall survive such expiration as if still in full force and effect. Termination of this Agreement by a Party will be without prejudice to any other right or remedy of such Party under this Agreement or under law.

4. COMPENSATION:

Maximum Amount Payable. The maximum amount payable by COUNTY for the licenses and services provided, and costs and expenses incurred, pursuant to the terms and conditions of this Agreement is One Hundred Ninety Nine Thousand Five Hundred Dollars (\$199,500). CONTRACTOR agrees to provide all imagery and perform all services required by this Agreement for an amount not to exceed such maximum dollar amount.

5. PAYMENT:

CONTRACTOR shall submit to COUNTY annual invoices at the beginning of each annual service period, which itemize all of the licenses and services provided, and costs and expenses incurred, pursuant to the terms and conditions of this Agreement. Invoices shall be in a format approved by, and shall include backup documentation as specified by the Director and the Humboldt County Auditor-Controller. Payment for the licenses and services provided, and costs and expenses incurred, pursuant to the terms and conditions of this Agreement will be made within thirty (30) days after the receipt of approved invoices. All invoices submitted by CONTRACTOR shall be sent to COUNTY at the following address:

COUNTY: Humboldt County Planning and Building  
Attention: Robert Russell, Deputy Director  
3015 H Street  
Eureka, California 95501

Any Fees not paid when due will be subject to interest, from the date the Fees were due to the date the payment was made, at the lower of one percent (1%) per month compounded monthly or the maximum interest rate allowed by law. COUNTY will pay for all costs (including reasonable attorneys' fees) incurred by or on behalf of CONTRACTOR to collect any past-due Fees under this Agreement. COUNTY will pay all Fees under this Agreement by wire transfer to the following account:

Bank Name: SIL VLY BK SJ  
Bank Address: 3003 Tasman Drive, Santa Clara, CA 95054  
Beneficiary: Planet Labs Inc.  
Account No: 3300839672  
SWIFT CODE: SVBKUS6S  
ABA: 121140399

6. NOTICES:

Any and all notices required to be given pursuant to the terms of this Agreement shall be in writing and either served personally or sent by certified mail, return receipt requested, to the respective addresses set forth below. Notice shall be effective upon actual receipt or refusal as shown on the receipt obtained pursuant to the foregoing.

COUNTY: County Administrative Office – Management & Budget Team  
Attention: Robert Russell, Deputy Director  
3015 H Street  
Eureka, CA 95501

CONTRACTOR: Planet Labs, Inc.  
Attention: General Counsel  
346 9<sup>th</sup> Street  
San Francisco, CA 94103

7. REPORTS:

CONTRACTOR agrees to provide COUNTY with any and all reports that may be required by local, state and/or federal agencies for compliance with this Agreement. Reports, if any, shall be submitted no later than fifteen (15) days after the end of each calendar quarter using the format required by the State of California as appropriate.

8. RECORD RETENTION AND INSPECTION:

- A. Maintenance and Preservation of Records. CONTRACTOR agrees to timely prepare accurate and complete financial, performance and payroll records, documents and other evidence relating to the licenses and services provided pursuant to the terms and conditions of this Agreement, and to maintain and preserve said records for at least three (3) years from the date of final payment hereunder, except that if any litigation, claim, negotiation, audit or other action is pending, the records shall be retained until completion and resolution of all issues arising therefrom. Such records shall be original entry books with a general ledger itemizing all debits and credits for the licenses and services provided pursuant to the terms and conditions of this Agreement.
- B. Inspection of Records. Pursuant to California Government Code Section 8546.7, all records, documents, conditions and activities of CONTRACTOR, and its subcontractors, related to the licenses and services provided pursuant to the terms and conditions of this Agreement, shall be subject to the examination and audit of the California State Auditor and any other duly authorized agents of the State of California for a period of three (3) years after the date of final payment hereunder. CONTRACTOR hereby agrees to make all such records available during normal business hours to inspection, audit and reproduction by COUNTY and any other duly authorized local, state and/or federal agencies. CONTRACTOR further agrees to allow interviews of any of its employees who might reasonably have information related to such records by COUNTY and any other duly authorized local, state and/or federal agencies. All examinations and audits conducted hereunder shall be strictly confined to those matters connected with the performance of this Agreement, including, without limitation, the costs of administering this Agreement.
- C. Audit Costs. In the event of an audit exception or exceptions related to the licenses and/or services provided pursuant to the terms and conditions of this Agreement, the party responsible for not meeting the requirements set forth herein shall be responsible for the deficiency and for the cost of the audit up to a maximum fee of \$10,000. If the allowable expenditures cannot be determined because CONTRACTOR's documentation is nonexistent or inadequate, according to generally accepted accounting practices, the questionable cost shall be disallowed by COUNTY.



9. MONITORING:

CONTRACTOR agrees that COUNTY has the right to monitor all activities related to the accounting under this Agreement, including, without limitation, the right to review and monitor CONTRACTOR's financial records, programs or procedures, at any time, as well as the overall operation of CONTRACTOR's accounting programs, in order to ensure compliance with the terms and conditions of this Agreement. CONTRACTOR will reasonably cooperate with a corrective action plan, if deficiencies in CONTRACTOR's accounting records, programs or procedures are identified by COUNTY. However, COUNTY is not responsible, and will not be held accountable, for overseeing or evaluating the adequacy of CONTRACTOR's performance hereunder.

10. CONFIDENTIAL INFORMATION:

- A. Use and Disclosure of Proprietary Information. In the performance of this Agreement, each party may receive information of the other party that is not generally known to the public, including, but not limited to, trade secrets, know-how, inventions, technical designs, techniques, algorithms, programs, documentation and data which may be designated as being confidential, or which under the circumstances surrounding disclosure, ought to be treated as confidential (collectively, "Proprietary Information"). Each party shall use and disclose only the minimum amount of Proprietary Information necessary to accomplish the intended purpose of this Agreement. Each party further agrees to protect all Proprietary Information in accordance with any and all applicable local, state and federal laws, regulations, policies, procedures and standards.
- B. Use and Disclosure of Personally Identifiable Information. In the performance of this Agreement, CONTRACTOR has no requirement to receive personally identifiable information that is confidential under local, state or federal law and COUNTY agrees that it shall not provide any such information. To the extent COUNTY desires to share any such information with CONTRACTOR, COUNTY shall first provide written notice thereof to CONTRACTOR requesting CONTRACTOR's consent to receive such information. To the extent CONTRACTOR consents to receive such information in writing, then CONTRACTOR hereby agrees to protect all personally identifiable information in conformance with any and all applicable local, state and federal laws, regulations, policies, procedures and standards, including, but not limited to: California Welfare and Institutions Code Sections 827, 5328, 10850 and 14100.2; California Health and Safety Code Sections 1280.15 and 1280.18; the California Information Practices Act of 1977; the California Confidentiality of Medical Information Act ("CMIA"); the United States Health Information Technology for Economic and Clinical Health Act ("HITECH Act"); the United States Health Insurance Portability and Accountability Act of 1996 ("HIPAA") and any current and future implementing regulations promulgated thereunder, including, without limitation, the Federal Privacy Regulations contained in Title 45 of the Code of Federal Regulations ("C.F.R.") Parts 160 and 164, the Federal Security Standards contained in 45 C.F.R. Parts 160, 162 and 164 and the Federal Standards for Electronic Transactions contained in 45 C.F.R. Parts 160 and 162, all as may be amended from time to time.
- C. Continuing Compliance with Confidentiality Laws. The parties acknowledge that local, state and federal laws, regulations and standards pertaining to confidentiality, electronic data security and privacy are rapidly evolving and that amendment of this Agreement may be required to ensure compliance with such developments. Each party agrees to promptly enter into negotiations concerning an amendment to this Agreement embodying written assurances consistent with the standards and requirements of HIPAA, the HITECH Act, the CMIA and any other applicable local, state and federal laws, regulations or standards.

11. NON-DISCRIMINATION COMPLIANCE:

- A. Professional Services and Employment. In connection with the execution of this Agreement, CONTRACTOR, and its subcontractors, shall not unlawfully discriminate in the provision of professional services or against any employee or applicant for employment because of race, religion or religious creed, color, age (over forty (40) years of age), sex (including gender identity and expression, pregnancy, childbirth and related medical conditions), sexual orientation (including heterosexuality, homosexuality and bisexuality), national origin, ancestry, marital status, medical condition (including cancer and genetic characteristics), mental or physical disability (including HIV status and AIDS), political affiliation, military service, denial of family care leave or any other classifications protected by local, state or federal laws or regulations. Nothing herein shall be construed to require the employment of unqualified persons.
- B. Compliance with Anti-Discrimination Laws. CONTRACTOR further assures that it, and its subcontractors, will abide by the applicable provisions of: Title VI and Title VII of the Civil Rights Act of 1964; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975; the Food Stamp Act of 1977; Title II of the Americans with Disabilities Act of 1990; the California Fair Employment and Housing Act; California Civil Code

Sections 51, et seq.; California Government Code Sections 4450, et seq.; California Welfare and Institutions Code Section 10000; Division 21 of the California Department of Social Services Manual of Policies and Procedures; United States Executive Order 11246, as amended and supplemented by United States Executive Order 11375 and 41 C.F.R. Part 60; and any other applicable local, state and/or federal laws and regulations, all as may be amended from time to time. The applicable regulations of the California Fair Employment and Housing Commission implementing California Government Code Section 12990, set forth in Chapter 5, Division 4 of Title 2 of the California Code of Regulations are incorporated into this Agreement by reference and made a part hereof as if set forth in full.

12. NUCLEAR FREE HUMBOLDT COUNTY ORDINANCE COMPLIANCE:

CONTRACTOR certifies by its signature below that it is not a Nuclear Weapons Contractor, in that CONTRACTOR is not knowingly or intentionally engaged in the research, development, production or testing of nuclear warheads, nuclear weapons systems or nuclear weapons components, as defined by the Nuclear Free Humboldt County Ordinance. CONTRACTOR agrees to notify COUNTY immediately if it becomes a Nuclear Weapons Contractor as defined above. COUNTY may immediately terminate this Agreement if it determines that the foregoing certification is false or if CONTRACTOR subsequently becomes a Nuclear Weapons Contractor.

13. DRUG-FREE WORKPLACE CERTIFICATION:

By executing this Agreement, CONTRACTOR certifies that it will comply with the requirements of the Drug-Free Workplace Act of 1990 (California Government Code Sections 8350, et seq.) and will provide a drug-free workplace by doing all of the following:

- A. Drug-Free Policy Statement. Publish, as required by California Government Code Section 8355(a)(1), a Drug-Free Policy Statement which notifies employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited, and specifies the actions to be taken against employees for violations.
- B. Drug-Free Awareness Program. Establish, as required by California Government Code Section 8355(a)(2), a Drug-Free Awareness Program which informs employees about the following:
  - 1. The dangers of drug abuse in the workplace;
  - 2. CONTRACTOR's policy of maintaining a drug-free workplace;
  - 3. Any available counseling, rehabilitation and employee assistance programs; and
  - 4. Penalties that may be imposed upon employees for drug abuse violations.
- C. Drug-Free Employment Agreement. Ensure, as required by California Government Code Section 8355(a)(3), that every employee who provides services pursuant to the terms and conditions of this Agreement will:
  - 1. Receive a copy of CONTRACTOR's Drug-Free Policy Statement; and
  - 2. Agree to abide by CONTRACTOR's Drug-Free Policy as a condition of employment.
- D. Effect of Noncompliance. Failure to comply with the above-referenced requirements may result in suspension of payments under this Agreement and/or termination thereof, and CONTRACTOR may be ineligible for award of future contracts if COUNTY determines that the foregoing certification is false or if CONTRACTOR violates the certification by failing to carry out the above-referenced requirements.

14. INDEMNIFICATION AND LIMITATION OF LIABILITY:

- A. Hold Harmless, Defense and Indemnification by CONTRACTOR. CONTRACTOR shall hold harmless, defend and indemnify COUNTY and its agents, officers, officials, employees and volunteers from and against any and all claims, demands, losses, damages, liabilities, expenses and costs of any kind or nature, including, without limitation, attorney's fees and other costs of litigation, arising out of, or in connection with, CONTRACTOR's gross negligence or willful misconduct, but solely to the extent attributed thereto, except such loss or damage which was caused by the sole negligence or willful misconduct of COUNTY. CONTRACTOR, at its own expense, shall defend and indemnify County against claims that the Licensed Materials and Content furnished under this Agreement infringes a United States trademark or a copyright protected under United States law, provided County (i) gives CONTRACTOR prompt written notice of such claims, (ii) grants CONTRACTOR the sole and exclusive authority

to defend or settle the claims, and (iii) provides all reasonable assistance to CONTRACTOR in defending or settling the claims. This section states the entire liability of CONTRACTOR and County's sole and exclusive remedies for trademark, copyright and any other alleged or actual intellectual property infringement.

- B. Hold Harmless, Defense and Indemnification By COUNTY. COUNTY agrees to indemnify, defend and hold harmless CONTRACTOR, its officers, directors, Affiliates, employees, and contractors (the "CONTRACTOR Indemnitees") from and against any and all costs, damages, liabilities, fines, penalties and expenses (including, but not limited to, reasonable attorneys' fees) (collectively, "Costs") arising out of or in connection with any claim, suit, action, or proceeding (a "Claim") brought by any third party against any CONTRACTOR Indemnitee(s) to the extent that such Claim arises out of or results from: (i) COUNTY's use of the Licensed Materials in violation of the terms and conditions of this Agreement; (ii) COUNTY's violation of applicable state, local, national or other applicable laws or regulations; or (iii) infringement of any third party rights resulting from Client's use of the Content including but not limited to combination of the Content with third party content.
- C. C. Effect of Insurance. Acceptance of the insurance required by this Agreement shall not relieve CONTRACTOR from liability under this provision. This provision shall apply to all claims for damages related to CONTRACTOR's performance hereunder regardless of whether any insurance is applicable or not. The insurance policy limits set forth herein shall not act as a limitation upon the amount of indemnification or defense to be provided hereunder.
- D. EXCEPT FOR LIABILITY ARISING BASED ON A BREACH OF SECTION 1(B) (RESTRICTIONS), CLAIMS REQUIRED TO BE INDEMNIFIED UNDER SECTION 14 (INDEMNIFICATION), OR LIABILITY ARISING BASED ON BREACH OF SECTION 17 (COMPLIANCE WITH LAWS): (A), IN NO EVENT WILL EITHER PARTY BE LIABLE UNDER ANY THEORY OF LIABILITY (WHETHER IN CONTRACT, TORT, NEGLIGENCE, STATUTE OR OTHERWISE) FOR CONSEQUENTIAL, SPECIAL, EXEMPLARY, PUNITIVE OR OTHER INDIRECT DAMAGES OF ANY KIND (INCLUDING BUT NOT LIMITED TO LOST PROFITS OR SUBSTITUTION OF SERVICES), REGARDLESS OF THE FORM OF ACTION, EVEN IF THE CLAIM WAS REASONABLY FORESEEABLE OR IF THE OTHER PARTY WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES; AND (B) IN NO EVENT WILL THE AGGREGATE LIABILITY OF EITHER PARTY UNDER ANY AND ALL CLAIMS ARISING OUT OF THIS AGREEMENT (OTHER THAN FOR CLAIMS FOR PAYMENT OF AMOUNTS DUE) EXCEED THE FEES PAID OR PAYABLE BY COUNTY TO CONTRACTOR UNDER THE APPLICABLE ORDER SCHEDULE IN THE TWELVE (12) MONTH PERIOD IMMEDIATELY PRECEDING THE DATE UPON WHICH THE CLAIM FIRST AROSE. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THESE LIMITATIONS MAY NOT APPLY. THE FOREGOING PROVISIONS SHALL BE ENFORCEABLE TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW.

15. INSURANCE REQUIREMENTS:

This Agreement shall not be executed by COUNTY, and CONTRACTOR is not entitled to any rights hereunder, unless certificates of insurance, or other proof that the following provisions have been complied with, are filed with the Clerk of the Humboldt County Board of Supervisors.

- A. General Insurance Requirements. Without limiting CONTRACTOR's indemnification obligations provided for herein, CONTRACTOR shall, and shall require that all subcontractors hereunder, take out and maintain, throughout the entire period of this Agreement, and any extended term thereof, the following policies of insurance, placed with insurers authorized to do business in the State of California with a current A.M. Bests rating of no less than A: VII or its equivalent against personal injury, death and property damage which may arise from, or in connection with, the activities of CONTRACTOR and its agents, officers, directors, employees, licensees, invitees, assignees or subcontractors:
1. Comprehensive or Commercial General Liability Insurance at least as broad as Insurance Services Office Commercial General Liability Coverage (occurrence form CG 0001), in an amount of Two Million Dollars (\$2,000,000.00) per occurrence for any one (1) incident, including, but not limited to, personal injury, death and property damage. If a general aggregate limit is used, such limit shall apply separately hereto or shall be twice the required occurrence limit.
  2. Automobile/Motor Liability Insurance with a limit of liability not less than One Million Dollars (\$1,000,000.00) combined single limit coverage. Such insurance shall include coverage of all owned, hired and non-owned vehicles. Said coverage shall be at least as broad as Insurance Service Offices Form Code 8 and 9 (hired and non-owned autos).

3. Workers' Compensation Insurance, as required by the Labor Code of the State of California, with statutory limits, and Employers Liability Insurance with a limit of no less than One Million Dollars (\$1,000,000.00) per accident for bodily injury or disease. Said policy shall contain, or be endorsed to contain, a waiver of subrogation against COUNTY and its agents, officers, officials, employees and volunteers.
  4. Professional Liability Insurance – Error and Omission Coverage including coverage in an amount no less than Two Million Dollars (\$2,000,000.00) for each claim (Two Million Dollars (\$2,000,000.00) general aggregate). Said insurance shall be maintained for the statutory period during which CONTRACTOR may be exposed to liability. CONTRACTOR shall require that such coverage be incorporated into its professional services agreements with any other entities.
- B. Special Insurance Requirements. Said policies shall, unless otherwise specified herein, be endorsed with the following provisions:
1. The above-referenced policies shall not be canceled, non-renewed or materially reduced in coverage without thirty (30) days prior written notice being provided to COUNTY by Planet in accordance with the notice provisions set forth herein. It is further understood that CONTRACTOR shall not terminate such coverage until COUNTY receives adequate proof that equal or better insurance has been secured.
  2. The Comprehensive or Commercial General Liability Policy shall provide that COUNTY, and its agents, officers, officials, employees and volunteers, are covered as additional insured for liability arising out of the operations performed by, or on behalf of, CONTRACTOR. The coverage shall contain no special limitations on the scope of protection afforded to COUNTY or its agents, officers, officials, employees and volunteers. Said policy shall also contain a provision stating that such coverage:
    - a. Includes contractual liability.
    - b. Is the primary insurance with regard to COUNTY.
    - c. Does not contain a pro-rata, excess only and/or escape clause.
    - d. Contains a cross liability, severability of interest or separation of insureds clause.
  3. The inclusion of more than one (1) insured shall not operate to impair the rights of one (1) insured against another insured, and the coverage afforded shall apply as though separate policies had been issued to each insured, but the inclusion of more than one (1) insured shall not operate to increase the limits of the insurer's liability.
  4. For claims related to this Agreement, CONTRACTOR's General Liability insurance is the primary coverage to COUNTY, and any insurance or self-insurance programs maintained thereby are excess to CONTRACTOR's insurance and will not be used to contribute therewith.
  5. Any failure to comply with the provisions of this Agreement, including, without limitation, the breach of any and all applicable warranties, shall not affect the coverage provided to COUNTY or its agents, officers, officials, employees and volunteers.
  6. CONTRACTOR shall furnish COUNTY with certificates and original endorsements effecting the required coverage prior to execution of this Agreement. The endorsements shall be on forms approved by the Humboldt County Risk Manager or County Counsel.
- C. Insurance Notices. Any and all insurance notices required to be given pursuant to the terms of this Agreement shall be sent to the addresses set forth below in accordance with the notice provisions described herein.

COUNTY: County of Humboldt  
Attention: Risk Management  
825 Fifth Street, Room 131  
Eureka, California 95501

CONTRACTOR: Planet Labs, Inc.  
Attention: General Counsel  
346 9<sup>th</sup> Street  
San Francisco, CA 94103

16. RELATIONSHIP OF PARTIES:

It is understood that this Agreement is by and between two (2) independent entities and is not intended to, and shall not be construed to, create the relationship of agent, servant, employee, partnership, joint venture or any other similar association. Both parties further agree that CONTRACTOR shall not be entitled to any benefits to which COUNTY employees are entitled, including, but not limited to, overtime, retirement benefits, leave benefits or workers' compensation. CONTRACTOR shall be solely responsible for the acts or omissions of its agents, officers, employees, assignees and subcontractors.

17. COMPLIANCE WITH APPLICABLE LAWS AND LICENSURE REQUIREMENTS:

Each party agrees to comply with any and all local, state and federal laws, regulations, policies and procedures applicable to its performance pursuant to the terms and conditions of this Agreement. Each party further agrees to comply with any and all applicable local, state and federal licensure and certification requirements.

18. PROVISIONS REQUIRED BY LAW:

This Agreement is subject to any additional local, state and federal restrictions, limitations, or conditions that may affect the provisions, terms or funding of this Agreement. This Agreement shall be read and enforced as though all legally required provisions are included herein, and if for any reason any such provision is not included, or is not correctly stated, the parties agree to amend the pertinent section to make such insertion or correction.

19. REFERENCE TO LAWS AND RULES:

In the event any law, regulation or standard referred to in this Agreement is amended during the term hereof, the parties agree to comply with the amended provision as of the effective date thereof.

20. PROTOCOLS:

Both parties recognize that the inclusion of additional protocols may be required to make this Agreement specific. All such protocols must be negotiated, determined and agreed in writing by the COUNTY and CONTRACTOR.

21. NON-LIABILITY OF COUNTY OFFICIALS AND EMPLOYEES:

No official or employee of COUNTY shall be personally liable for any default or liability under this Agreement.

22. SEVERABILITY:

If any provision of this Agreement, or any portion thereof, is found by any court of competent jurisdiction to be unenforceable or invalid for any reason, such provision shall be severable and shall not in any way impair the enforceability of any other provision of this Agreement.

23. ASSIGNMENT:

Neither party shall delegate its duties nor assign its rights hereunder, either in whole or in part, without the other party's prior written consent. This Agreement may be assigned by CONTRACTOR to an affiliate thereof, whether currently an affiliate or hereafter an affiliate by reason of merger, acquisition, consolidation or other change of control, without the prior written consent of COUNTY. Any assignment by either party in violation of this provision shall be void, and shall be cause for immediate termination of this Agreement. This provision shall not be applicable to service agreements or other arrangements usually or customarily entered into by either party to obtain supplies, technical support or professional services.

24. AGREEMENT SHALL BIND SUCCESSORS:

All provisions of this Agreement shall be fully binding upon, and inure to the benefit of, the parties and to each of their heirs, executors, administrators, successors and permitted assigns.

25. WAIVER OF DEFAULT:

The waiver by either party of any breach or violation of any requirement of this Agreement shall not be deemed to be a waiver of any such breach in the future, or of the breach of any other requirement of this Agreement. In no event shall any

payment by COUNTY constitute a waiver of any breach of this Agreement or any default which may then exist on the part of CONTRACTOR. Nor shall such payment impair or prejudice any remedy available to COUNTY with respect to any breach or default. COUNTY shall have the right to demand repayment of, and CONTRACTOR shall promptly refund, any funds disbursed to CONTRACTOR which COUNTY determines were not expended in accordance with the terms of this Agreement.

26. AMENDMENT:

This Agreement may be amended at any time during the term of this Agreement upon the mutual consent of both parties. No addition to, or alteration of, the terms of this Agreement shall be valid unless made in writing and signed by the parties hereto.

27. STANDARD OF PRACTICE:

CONTRACTOR warrants that it has the degree of learning and skill ordinarily possessed by reputable professionals practicing in similar localities in the same profession and under similar circumstances. CONTRACTOR's duty is to exercise such care, skill and diligence as professionals engaged in the same profession ordinarily exercise under like circumstances.

28. JURISDICTION AND VENUE:

This Agreement shall be construed in accordance with the laws of the State of California. Any dispute arising hereunder, or relating hereto, shall be litigated in the State of California and venue shall lie in the County of Humboldt unless transferred by court order pursuant to California Code of Civil Procedure Sections 394 or 395.

29. ADVERTISING AND MEDIA RELEASE:

All informational material related to this Agreement shall receive approval from COUNTY prior to being used as advertising or released to the media, including, but not limited to, television, radio, newspapers and internet. CONTRACTOR shall inform COUNTY of all requests for interviews by the media related to this Agreement before such interviews take place; and COUNTY shall be entitled to have a representative present at such interviews. All notices required by this provision shall be given to the Director of Planning and Building.

30. SUBCONTRACTS:

Any and all subcontracts shall be subject to all applicable terms and conditions of this Agreement, including, without limitation, the licensing, certification and confidentiality requirements set forth herein. CONTRACTOR shall remain legally responsible for the performance of all terms and conditions of this Agreement, including work performed by third parties under subcontracts, whether approved by COUNTY or not.

31. ATTORNEYS' FEES:

If either party shall commence any legal action or proceeding, including an action for declaratory relief, against the other by reason of the alleged failure of the other to perform or keep any provision of this Agreement to be performed or kept, the party prevailing in said action or proceeding shall be entitled to recover court costs and reasonable attorneys' fees, including the reasonable value of services rendered by the Humboldt County Counsel's Office, to be fixed by the court, and such recovery shall include court costs and attorneys' fees on appeal, if applicable. As used herein, "prevailing party" means the party who dismisses an action or proceeding in exchange for payment of substantially all sums allegedly due, performance of provisions allegedly breached, or other considerations substantially equal to the relief sought by said party, as well as the party in whose favor final judgment is rendered.

32. SURVIVAL:

The duties and obligations of the parties set forth in Section 3(D) – Compensation Upon Termination, Section 8 – Record Retention and Inspection, Section 10 – Confidential Information and Section 14 – Indemnification shall survive the expiration or termination of this Agreement.

33. ADDITIONAL TERMS AND CONDITIONS:

This Agreement and the associated EXHIBIT A represents the entire agreement between the Parties and supersedes any and all prior understanding, agreements, or representations by or among the Parties, written or oral, related to the subject



matter as set forth herein and in the applicable EXHIBIT A. In the event of any conflict in the terms or conditions set forth in this Agreement and the EXHIBIT A the terms and conditions set forth in the EXHIBIT A shall have priority.

34. INTERPRETATION:

This Agreement, as well as its individual provisions, shall be deemed to have been prepared equally by both of the parties hereto, and shall not be construed or interpreted more favorably for one (1) party on the basis that the other party prepared it.

35. INDEPENDENT CONSTRUCTION:

The titles of the sections, subsections and paragraphs set forth in this Agreement are inserted for convenience of reference only, and shall be disregarded in construing or interpreting any of the provisions of this Agreement.

36. FORCE MAJEURE:

Neither party hereto shall be liable or responsible for delays or failures in performance resulting from events beyond the reasonable control of such party and without fault or negligence of such party. Such events shall include, without limitation, acts of God, strikes, lockouts, riots, acts of war, epidemics, acts of government, fire, power failures, nuclear accidents, earthquakes, unusually severe weather, acts of terrorism or other disasters, whether or not similar to the foregoing.

37. ENTIRE AGREEMENT:

This Agreement contains all of the terms and conditions agreed upon by the parties hereto and no other agreements, oral or otherwise, regarding the subject matter of this Agreement shall be deemed to exist or to bind either of the parties hereto. In addition, this Agreement shall supersede in their entirety any and all prior agreements, promises, representations, understandings and negotiations of the parties, whether oral or written, concerning the same subject matter. Any and all acts which may have already been consummated pursuant to the terms and conditions of this Agreement are hereby ratified.

38. COUNTERPART EXECUTION:

This Agreement may be executed in one (1) or more counterparts, each of which shall be deemed to be an original and all of which, when taken together, shall be deemed to be one (1) and the same agreement. A signed copy of this Agreement transmitted by email or by other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this Agreement for all purposes.

39. REPRESENTATION AND WARRANTY:

Each person executing this Agreement represents and warrants that he or she is duly authorized and has legal authority to execute and deliver this Agreement. Each party represents and warrants to the other that the execution and delivery of this Agreement and the performance of such party's obligations hereunder have been duly authorized.

Disclaimer of Warranties. EXCEPT AS EXPRESSLY PROVIDED IN THIS SECTION 39 (REPRESENTATION AND WARRANTY), ALL CONTENT AND SERVICES ARE PROVIDED "AS IS" WITHOUT ANY WARRANTY OF ANY KIND, AND CONTRACTOR EXPRESSLY DISCLAIMS ALL WARRANTIES WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR USE, TITLE, NON-INFRINGEMENT, ACCURACY, UNINTERRUPTED OR ERROR-FREE PERFORMANCE, OR SECURITY. COUNTY ACKNOWLEDGES THAT IT HAS NOT RELIED ON ANY REPRESENTATIONS OR WARRANTIES OTHER THAN THE EXPRESS REPRESENTATIONS AND WARRANTIES SET FORTH IN THIS AGREEMENT.

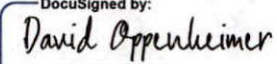
[Signatures on Following page]

IN WITNESS WHEREOF, the parties have entered into this Agreement as of the first date written above.

TWO SIGNATURES ARE REQUIRED FOR CORPORATIONS:

- (1) CHAIRPERSON OF THE BOARD, PRESIDENT, OR VICE PRESIDENT; AND
- (2) SECRETARY, ASSISTANT SECRETARY, CHIEF FINANCIAL OFFICER OR TREASURER.

**PLANET LABS INC.:**


By:   
25ECA43559CE481  
Name: David Oppenheimer  
Title: cfo

Date: 13 April 2018

By:   
7F6B90B4E09A431...  
Name: Andrew wild  
Title: CRO

Date: 13 April 2018

**COUNTY OF HUMBOLDT:**

By:   
Ryan Sundberg  
Chair, Humboldt County Board of Supervisors

Date: 4/17/18

**INSURANCE AND INDEMNIFICATION REQUIREMENTS APPROVED:**

By:   
Risk Management

Date: 4-13-18

**LIST OF EXHIBITS:**

Exhibit A – Order Schedule

**EXHIBIT A**  
**ORDER SCHEDULE**  
Planet Labs Inc.

**EXHIBIT A**
**ORDER SCHEDULE**  
**PL-017832**

This Order Schedule is made a part of and pursuant to the terms of the HIGH RESOLUTION IMAGERY SUPPORT SERVICES AGREEMENT between the parties listed below. All capitalized terms used in this Order Schedule but not otherwise defined herein shall have the meanings given such terms in the Agreement and, unless otherwise specified, references to "Sections" refer to Sections of the Agreement. The terms of this Order Schedule shall control and govern over any inconsistent or conflicting terms of the Agreement.

**1. PARTIES**

COUNTY	CONTRACTOR ENTITY
Entity Name: Humboldt County Planning and Building	Entity Name: Planet Labs Inc
Address: 3015 H St, Eureka, 95503	Address: 346 9th Street San Francisco, CA 94103
Country: United States	Country: United States

**2. CONTENT AND SCOPE OF USE**

CATEGORY	DESCRIPTION
<b>Offering</b>	Imagery
<b>Content Source</b>	SkySat
<b>Total Area of Interest</b>	7,000 km <sup>2</sup>
<b>No. of individual AOIs</b>	1 AOIs
<b>Cadence</b>	Biweekly
<b>Content Territory</b>	Humboldt County
<b>Term</b> Order Schedule Effective Date Order Schedule End Date	8 Months 4/30/2018 1/1/2019
<b>Collection Period</b>	March 2018 to November 2018
<b>Download Quota or Total Area to be Delivered</b>	7,000 km <sup>2</sup> per Cadence period
<b>User Group</b>	Single Government Entity
<b>No. of Authorized Users</b>	25 Authorized Users



<b>Usage Rights</b>	Internal Use Rights
<b>Fees and Payment Terms</b>	List Price: USD 199,500.00 Total Price: USD 199,500.00  Payment Terms: Invoice Date: 04/09/18 Invoice Amount: USD 199,500.00  The prices quoted herein will remain valid for a period of 30 days. Fees are due net thirty (30) days from date of invoice, and in accordance with the terms of the Agreement.

### 3. DEFINITIONS AND SUPPLEMENTAL TERMS

In addition to those definitions and terms outlined in the Agreement, the following shall also apply to this Order Schedule.

#### DEFINITIONS:

“Authorized User” means an employee of COUNTY who has been authorized by COUNTY to access the Platform and use the Content solely in connection with the licensed usage permitted hereunder and up to total number of Authorized Users listed herein above.

“Content” means data generated from satellite imagery made available to COUNTY pursuant to the terms of this Agreement and as set forth in detail in an applicable Order Schedule. “Content” does not include Third Party Content.

“Content Territory” means the geographic location of Content that may be accessed by COUNTY.

“Derivative Product” means any derivative product or information developed by the COUNTY from the Content, which does not contain any Imagery Data and is irreversibly uncoupled from the source Imagery Data, but which may contain Permitted Imagery.

“Platform” means the application programming interface and graphical user interface that is made available to COUNTY hereunder, which enables COUNTY to access Content, and which Platform consists of tools and services designed for searching, viewing, and downloading Content and Third Party Content.

“Third Party Content” means the content of certain third parties which CONTRACTOR may make available to COUNTY.

#### CONTENT SOURCE:

“SkySat” means the Earth imagery collected by the constellation of SkySat satellites.

#### USAGE RIGHTS:

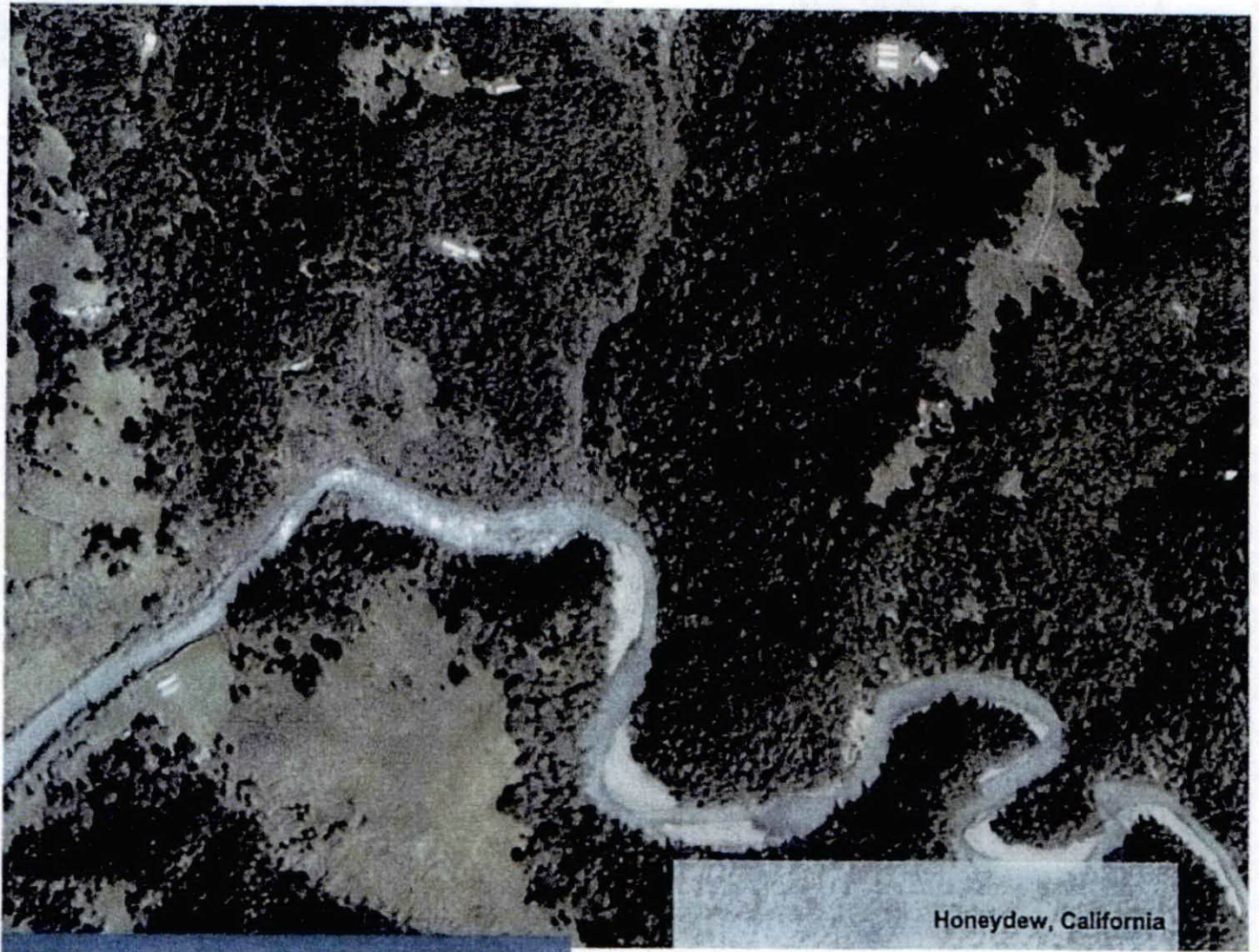
“Internal Use Rights” means the right to (i) use, access, and view the Content through the Platform; (ii) to reproduce, store, display, and print the Content; and (iii) create Derivative Products and Value-Added Products of the Content; all for COUNTY’s own internal business purposes and in accordance with the terms of the Agreement.

#### USER GROUPS:

“Single Government Entity” means a single local or regional government agency.

**EXHIBIT A**  
**SCOPE OF SERVICES**  
Planet Labs, Inc.  
For Fiscal Years 2017-2018





Honeydew, California

## Humboldt County Hi-Res Monitoring

Planet | 27 February 2018

Planet Labs Inc. (Planet)



Point of Contact:  
Lee Smith Director, Commercial Sales  
lee@planet.com | 346 9th Street  
San Francisco, CA 94103

**Mr. Bob Russell**

Deputy Director Planning and Building Department  
Humboldt County, California  
825 5th St.  
Eureka, CA 95501

**February 22, 2018**

Mr. Russell,

Please find attached Planet's proposal for High Resolution SkySat Imagery. The intention of this proposal is to demonstrate how Planet's SkySat Monitoring program will benefit Humboldt County in the following ways:

- Humboldt County will be able to select one or more targets to be tasked at regular intervals by our fleet of sub-meter imaging SkySats
- Humboldt County will be guaranteed a requested collection cadence for each of their sites; up to four images of the customer's site weekly.
- Humboldt County experts will have immediate access to this spatially accurate, high resolution orthorectified data, available as Panchromatic, Multispectral, and Pansharpened products.

Planet's goal is to improve customer accessibility to sub-meter satellite imagery through its growing fleet of SkySats. The SkySat constellation is the largest collective fleet of sub-meter imaging satellites in the world. With the SkySat Monitoring program, Planet will help Humboldt County lead the industry with first of its kind high resolution datasets utilizing consistent high quality imagery around the globe, with flexibility to refresh cities or areas of interest on a sub-weekly, weekly, or monthly basis.

This proposal offers detailed information on Planet's High Resolution products and targeted subscriptions. The cost for this offering is \$199,500 for the 10 month bi-monthly monitoring period.

The proposal shall remain valid until September 30, 2018. Planet hopes that this proposal will meet the expectations of Humboldt County for supporting its sub-meter imagery needs.

Sincerely,



Lee Smith  
Director, Commercial Sales

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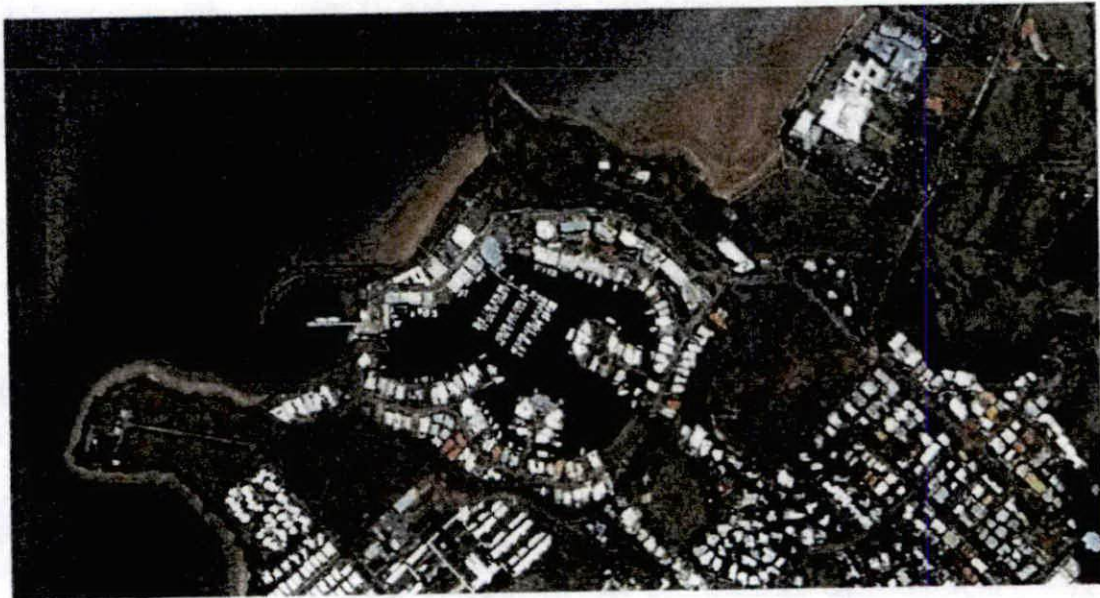
# Introduction

## Summary

In response to RFP 18-02, from Humboldt County, Planning and Building Department, Planet has outlined the following in the proposal below. Planet will provide sub-meter, cloud free imagery collected 5 times a year from the months of March - November. Imagery will be delivered in an industry standard format and can be available for upload into Humboldt's Geospatial Information System. The spectral bands provided by Skysat imagery include RGB and NIR, which are sufficient for analysis in regard to ongoing land use, existing structures, vegetation/ground coverage and other surface features.

## Background

The focus of the SkySat Tasking and Monitoring Programs is to consistently fulfill Humboldt County's areas of interest in intervals necessary to meet their coverage needs. Planet will image all sites once within image quality thresholds, or recurring at a variety of difference cadences.



*Figure 2: A sample of the high resolution, sub-meter imagery collected by the SkySat constellation*

Combining the latest computing technologies with a deep archive of imagery, Planet can provide a consistent high quality product at a frequent cadence.

## SkySat Constellation

Planet currently has 13 SkySats in orbit, 11 of which are from the C-Class originally developed and launched in 2016. The C-Class bus parameters and imaging capacity limits are presented in Appendix III: Satellite Reference.

All SkySats are capable of collecting imagery in the Blue, Green, Red, Near Infrared, and Panchromatic spectral bands. The nadir-point ground sample distance at 500 km altitude is .72m resolution, resampled to 1m for all non-derivative multispectral products per NOAA regulations.

With the full constellation in orbit, Planet is capable of sub-daily monitoring of any point on earth, with satellite coverage once in the morning (~09:30) and once in the afternoon (~13:30).

SkySat Sensor Specifications	
Product Attribute	Description
Image Configurations	Multispectral Sensor (Blue, Green, Red, NIR)
	Panchromatic Sensor
Product Framing	SkySat Satellites have three cameras per satellite, which capture overlapping strips. Each of these strips contain overlapping scenes. One scene is approximately 2560 x 1080 pixels.
Sensor Type	CMOS Frame Camera with panchromatic and multispectral halves
Spectral Bands	Blue: 450 - 515nm Green: 515 - 595nm Red: 605 - 695nm NIR: 740 - 900nm Pan: 450 - 900nm

Table 1 SkySat Sensor Specifications

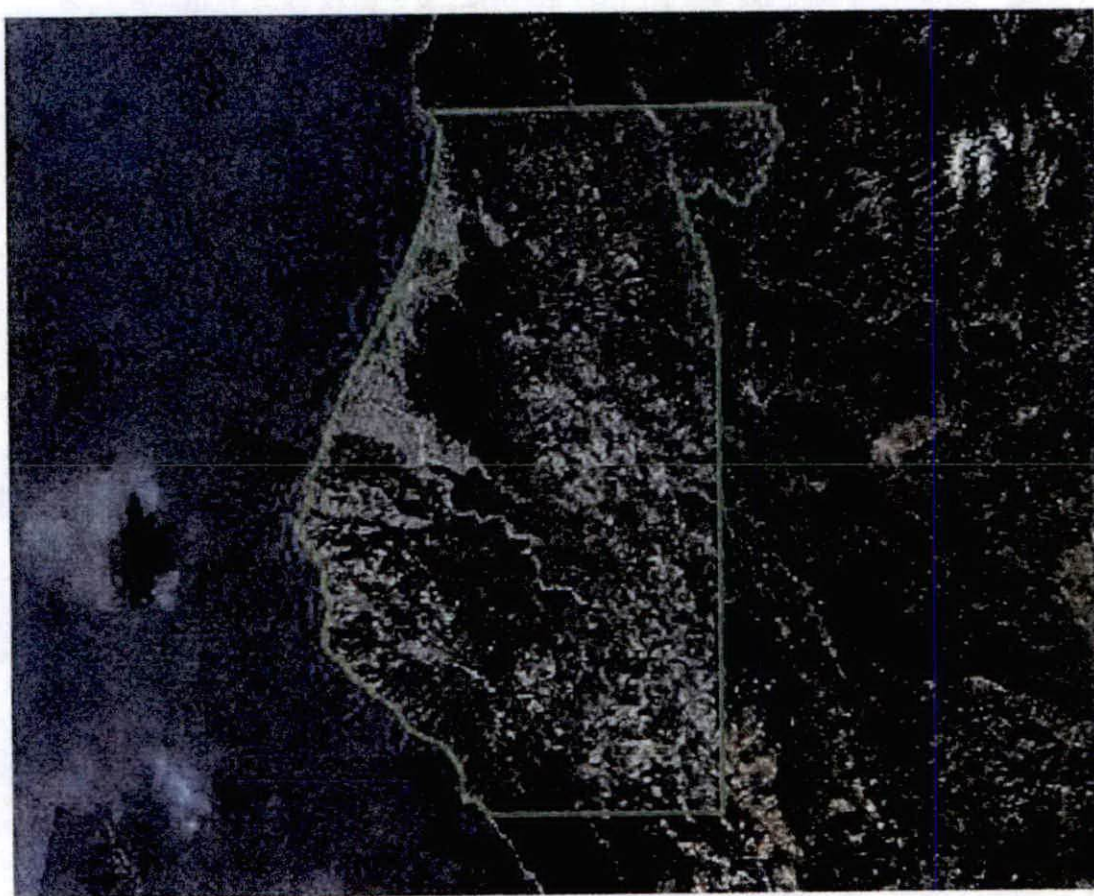
## SkySat Offerings

Planet offers multiple Tasking and Monitoring programs, each focusing on a different coverage or revisit requirement to address all of Humboldt County's product needs. **For this program, the SkySats will collect Humboldt County's 7,000 sqkm AOI once every 2 months between March and November 2018.**



Monitoring	Program Length	AOI size	Discounted Price Per sqkm
5x yearly	9 months (March - November)	7,000 sqkm	\$5.7/ sqkm

Total Price: \$199,500



*Figure 3: Humboldt County's 7,000 sqkm area of interest*



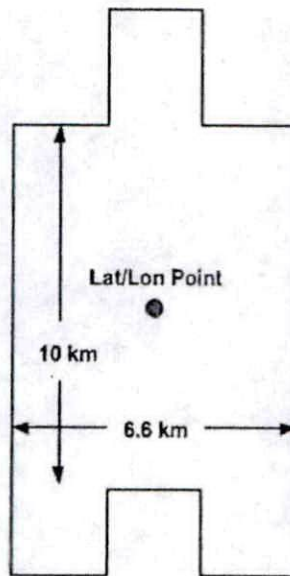
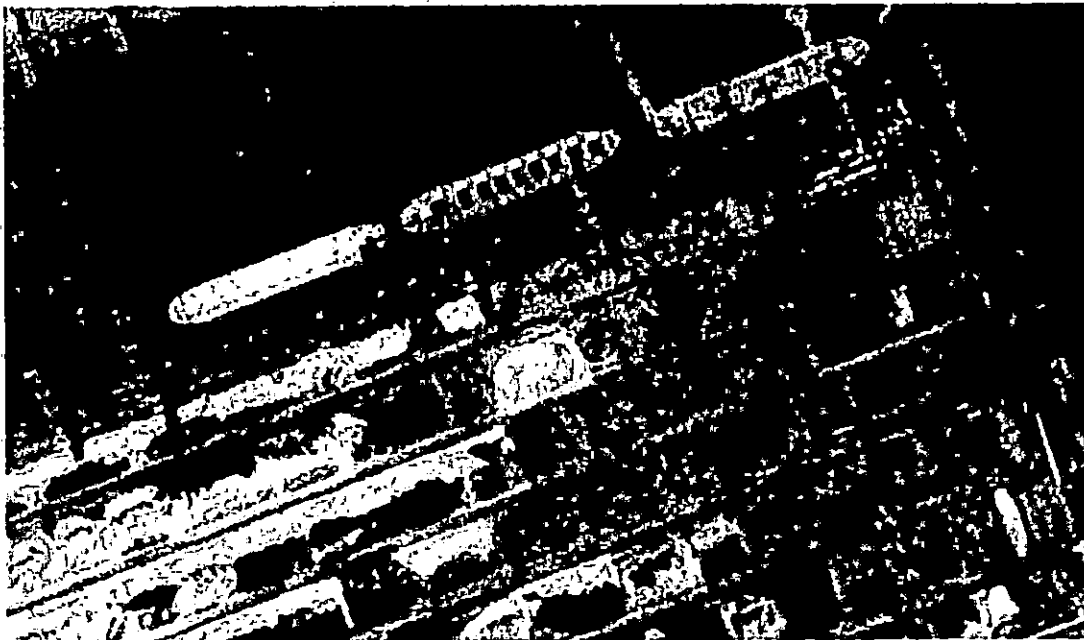


Figure 4: A single 'site', or a standard SkySat image deliverable

## Imagery

SkySat image quality varies by satellite altitude, with ground sample distance ranging from .72 to 1 meter. All SkySat orthorectified images are resampled to 0.8m (\*while adhering to all regional NOAA constraints). All pansharpened products are delivered at 0.8m resolution.

SkySat camera models were optimized to ensure very high dynamic range and limited pixel blurring, to allow high precision analysis of sub-meter objects on the ground, through which we enable Humboldt County to measure and monitor a variety of economic and social indicators.



*Figure 5: A sample image of dry bulk piles in Rotterdam Netherlands collected by SkySat-3*

All SkySat cameras come equipped with 5 spectral bands - Panchromatic, Blue, Green, Red, and Near-Infrared (NIR). Having NIR on-board enables Humboldt County to develop various indices using SkySat imagery, for example the NDVI to help quantify crop health.



Figure 2: A sample image of Lanzhou China with an NRG composite to highlight plant life

All SkySat imagery collected for Humboldt County will be available through the Planet API. SkySat products will be produced as either Basic scenes, Orthorectified scenes, or video products available in the configurations below:

#### Basic Scene Product Specifications

Basic Scene	
Parameter	Values
Ground sample distance	Panchromatic: 0.8m Multispectral: 1.0m
Pixel Resolution	N/A
Spectral Bands	Blue: 450 - 515nm Green: 515 - 595nm Red: 605 - 695nm NIR: 740 - 900nm Pan: 450 - 900nm



Image Configurations (Bands)	Analytic DN Image: B, G, R, N Panchromatic DN Image: Pan
Bit depth	16-bit
Geometric precision	< 50m RMSE
File structure	Image File – GeoTIFF format Metadata File – JSON format Rational Polynomial Coefficients – Text File UDM File – GeoTIFF format
Radiometric conversion	None (DN)
Revisit time	Nadir: 28 days per spacecraft; sub-weekly per constellation Off-Nadir: Daily per spacecraft; sub-daily per constellation

#### Ortho Scene Product Specifications

Ortho Scene	
Parameter	Values
Ground sample distance	Panchromatic: 0.8m Multispectral: 1.0m
Pixel Resolution	Analytic DN: 1.0m Panchromatic DN, Visual, Pansharpened Multispectral: 0.8m*
Spectral Bands	Blue: 450 - 515nm Green: 515 - 595nm Red: 605 - 695nm NIR: 740 - 900nm Pan: 450 - 900nm
Image Configurations (Bands)	Analytic DN Image: B, G, R, N Panchromatic DN Image: Pan Visual Image: Pansharpened R,G,B Pansharpened Multispectral Image: Pansharpened B, G, R, N
Bit depth	Analytic DN: 16-bit Unsigned Integer Panchromatic DN: 16-bit Unsigned Integer Pansharpened Multispectral: 16-bit Unsigned Integer

	Visual: 8-bit Unsigned Integer
Geometric precision	< 10m RMSE
File structure	Image File – GeoTIFF format Metadata File – JSON format Rational Polynomial Coefficients – Text File UDM File – GeoTIFF format
Radiometric conversion	None (DN)
Revisit time	Nadir: 28 days per spacecraft; sub-weekly per constellation Off-Nadir: Daily per spacecraft; sub-daily per constellation
Capture to delivery	~36 hours; delivery through the Planet API

## About Planet

Planet is a geospatial enterprise that designs, builds, and operates the world's most capable constellation of Earth-imaging satellites in history. Planet was founded to use space to help life on Earth, and to encourage a revolution in inclusive planetary stewardship. To do this, Planet images the entire Earth every day and makes global change visible, accessible, and actionable. Planet's approach is revolutionizing the way geospatial imagery is processed and accessed by making terabytes of fresh imagery available to customers every day via web-based APIs and a GUI.

Planet operates three complementary fleets of satellites: the PlanetScope (PS) constellation of nano satellites that continuously image the entire surface of the Earth, every day, at 3-5 meter/pixel resolution; the RapidEye (RE) constellation that can be tasked to selectively image areas of the Earth at 5m/px, and the SkySat Earth-imaging satellites that can selectively image at up to 80cm/pixel.

## Planet Description

Planet has launched more than 200 satellites to space and currently operates 5 RapidEye satellites, 201 Dove satellites, and 13 SkySat satellites—the largest constellation ever deployed.

Planet downlinks >300 million km<sup>2</sup> of imagery daily (the current operational constellation capacity). This is enabled by a highly automated and scalable mission control and operations, as well as by the largest network of ground stations operated by any imaging company. Planet's core offering, however, is accessing both the information gathered from space and the tools necessary to gain valuable insights that allow users to make data-driven, real-time decisions.

This imagery is automatically processed via Planet's data pipeline and Platform, and made available to users visual or analytic purposes. Users can download this data over the web via graphical user interface and application programming interface in three formats: basic (unrectified) imagery, orthorectified, color balanced imagery intended for on-the-spot visual analysis; or orthorectified, calibrated imagery intended for analytic purposes. Additionally, Planet frequently produces large area basemaps from imagery collected via an automated process.

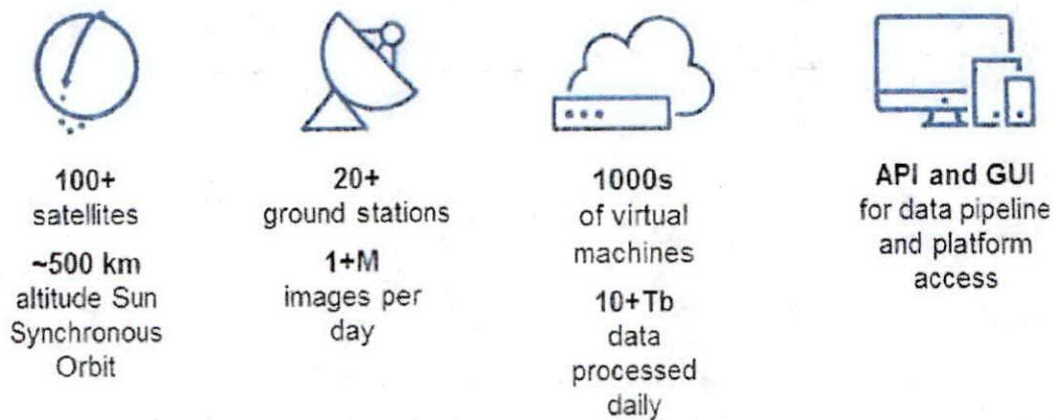


Figure 2. Planet's End to End System

Planet's "always on" approach to satellite remote sensing translates to a proactive ability to collect events as they happen; consistent imagery collections for analytics and change detection; and, the ability to "cross-cue" or "tip-and-cue" with a variety of different high-resolution (or other) sensors for more detailed investigations in areas that might have gone unnoticed under traditional tasking operations.





Figure 3. Graphical depiction of Planet's operational constellation as of November 2017

# The Planet Platform

The Planet Platform is the most advanced cloud-based imagery platform available. It is designed to be uncommonly fast, intuitive, and highly scalable, serving imagery from Planet's satellites and other providers. This web-enabled environment that allows users to find, use and share the unique content. Features of the Planet Platform are described in the table below:

Planet Platform Features	
Features	Description
Image & Storage Processing Environment	<ul style="list-style-type: none"> <li>All imagery is stored in Google Cloud, with primary copies kept for operational uses and back-up copies of all base imagery kept in a separate project for recovery purposes.</li> <li>The processing pipeline is built for massive scale, running thousands of virtual machines</li> </ul>
Multi-Provider Platform	<ul style="list-style-type: none"> <li>Serving PlanetScope, RapidEye, SkySat, Landsat8 and Sentinel imagery products</li> </ul>
Availability and Access	<ul style="list-style-type: none"> <li>Available globally, where internet is present</li> </ul>
Planet Explorer (GUI): Visualization	<ul style="list-style-type: none"> <li>Allows users to view full resolution imagery content on the internet, without download.</li> <li>Users can review metadata details about each imagery product</li> <li>Planet's Image Catalog is backed by a powerful ElasticSearch cluster that is constantly updated with the latest imagery</li> </ul>
Planet Explorer (GUI): Notifications	<ul style="list-style-type: none"> <li>Provides email alerts to notify users when there is new imagery that matches saved searches</li> </ul>
Planet Explorer (GUI): Tools	<ul style="list-style-type: none"> <li>Imagery Compare Tool: allows users to compare sets of Planet imagery from different dates.</li> <li>Access to prototype products as available</li> </ul>
Planet Application Programming Interface (API)	<ul style="list-style-type: none"> <li>Programmatic interface designed for machines to replicate functions accessible through the Planet Explorer GUI (including search, filtering and download).</li> <li>Provision of Planet Software Development Kit (SDK)</li> </ul>

Table 1: The Planet Platform Features.

Currently the Planet Platform includes PlanetScope, RapidEye, Landsat8, SkySat, and Sentinel-2 data, which serve as web tiles for in-browser apps and integration with desktop tools. This data is then ingested into our automated data pipeline for image processing. This pipeline is designed to ingest hundreds of terabytes of imagery per day, and all images go through Radiometric & Flat Field Correction, Ortho & geo rectification, and Visual Color curve.

The Planet Platform is built on open standards allowing ingest of many commercial data providers and providing an optimal processing ecosystem for algorithms and analytics developed by third parties (APIs are all RESTful and JSON-based). Because it is cloud-based, it



is architected to support massive amounts of data and user load. An overview of how the Planet Platform enables immediate access to data is shown in the figure below:

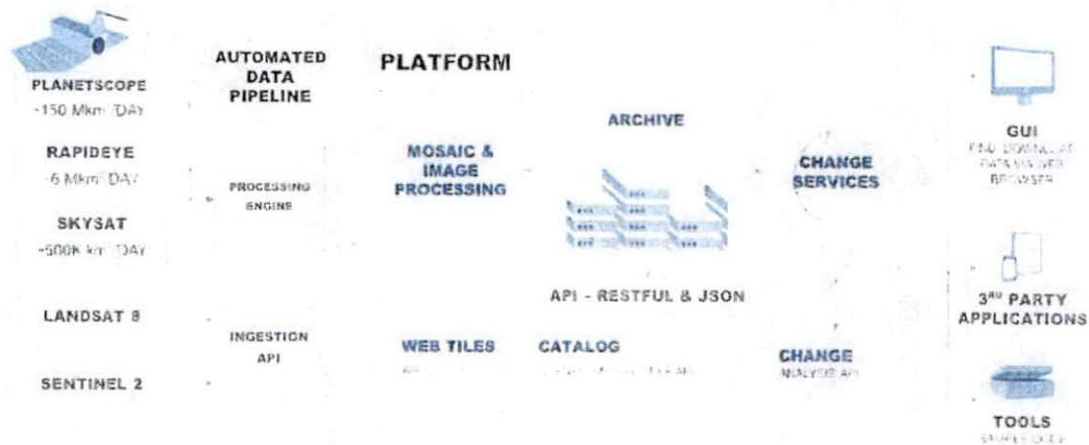


Figure 4: The Planet Platform.

Visual and Analytic data products can be delivered in seconds if cached, and approximately one minute if not cached by Planet's scalable jobs system. This allows users to easily access these products via the Planet GUI, 3rd Party Applications, and tools, every day. Details of these products are provided in the following section.