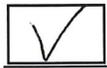
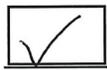




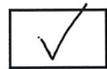
Student Fee Review Board Application Checklist



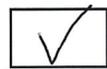
Cover Sheet



Executive Summary



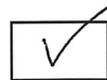
Application Questions



Budget Form A



Budget Form B (**one-time requests**)



Budget Form C (**non-SFRB funding**)

Please submit an electronic version of this application via email to SFRB@unm.edu and 13 hard copies of this application to the **GPSA Office**, Student Union Building suite 1021.

DEADLINE September 6, 2019, 5:00 PM.

***Late applications will not be accepted.**

**Student Fee Review Board
Funding Application for Fiscal Year
2020-2021**

Geography and Environmental Studies
Name of Unit

Yan Lin
Dean/Director

Assistant Professor / computing and Facilities Coordinator
Title

Bandelier Hall West Room 212
Campus Address

277-5041
Campus Phone

yanlin@unm.edu
E-mail Address

\$ 173,282
Total Amount Requested

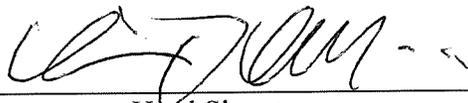
Alternate Email Address

One-Time Funding Recurring Requesting Increase

CERTIFICATION

I certify that the statements herein are true and complete to the best of my knowledge and accept the obligation to comply with the terms and conditions of the Student Fee Review Board. I understand that the SFRB is a **recommendation** body and that its funding allocations are subject to revision by the Budget Leadership Team before final approval.

Yan Lin
Submitted By (Print Name)


Department Head Signature

5 Sep 19.
Date

Please submit an electronic version of this application via email to SFRB@unm.edu and 13 hard copies of this application to the GPSA Office, Student Union Building suite 1021.

DEADLINE September 6, 2019, 5:00 PM.

***Late applications will not be accepted**



SFRB Funding Application Executive Summary

The Department of Geography and Environmental Studies (GES) is requesting funding to expand and augment the Spatial Computing Lab (SCL) facility in order to make it accessible to the broader UNM community. The expansion component requires infrastructure updates and hardware/software additions to increase the capacity and functionality of the SCL, which is currently funded with GES curriculum fees and is therefore limited to use by GES students. The augmentation component involves the addition of new technology – geospatial equipment, specialized software, and computing architecture for the collection and analysis of aerial imagery produced by unmanned aerial vehicles and sensors. As part of the augmentation, we propose adding two graduate assistants to facilitate training workshops that will support UNM students and faculty in mastering best practices for these new technologies.

GES is distinct from other units on the UNM campus in three key ways. First: although several departments now offer classes in GIS (Geographic Information Systems) software, ours is the only department that provides a broad curriculum in Geographic Information Science, which is focused on general principles of spatial data collection and analysis. Second: we are one of very few departments that are truly interdisciplinary, providing students with the opportunity to take classes in hard science, social science, and humanities within a single curriculum and routinely collaborating with departments across campus in research, curricula, and program development. Outside UNM, we also collaborate with myriad companies, non-profit groups, and federal and state agencies on research and curricular initiatives. Finally: GES offers a variety of specialized geospatial computing and field work resources that are available for use and checkout through the SCL, allowing students to undertake classwork and research using geospatial technologies that are not available anywhere else on campus. GES thus plays an extremely important role in promoting geospatial knowledge at UNM and to the general public. Given our track record of student support and cooperation across campus, GES has been asked by Arts & Sciences to help improve access to geospatial technologies across campus and to provide support for students and researchers in this rapidly-growing tech sector. GES seeks to make the SCL a UNM-wide resource complete with Unmanned Aircraft Systems (UAS) hardware and training.

While we have not historically received student fee funds and have the lowest operating budget in the college of Arts & Sciences, funds generated from curriculum fees instituted in 2014 enabled hiring of a Lab & IT Manager in summer 2015, whose primary task is to maximize student support through regular updates and maintenance of the SCL. The hiring of this full-time staff person has allowed us to vastly improve lab access, including nights and weekends; with these changes in place we saw student usage of our open lab hours grow by over 590% from the fall 2015 to the spring 2019 semester. Our lab manager has also enabled increased accessibility of all of our geospatial field equipment through no-cost checkout. SCL is now primed to expand and serve the broader UNM community pending availability of funds. Each of the past 5 years, we have sought funds for infrastructure updates from PPD, the Provost's office, VPR's office, SFRB, and outside sources, but have not yet received support. We have built and bootstrapped the SCL with curriculum fees, F&A returns, and by faculty sharing equipment they purchase through research grants.

The expansion of the SCL and addition of core geospatial field equipment and software is intended to establish the SCL as a facility that will enable the broader UNM community to enhance geospatial literacy and capacity. GES faculty and students are routinely approached by others from across campus (and beyond) with requests to help guide geospatial data acquisition strategies, equipment acquisitions, and training/capacity building. This funding application is, therefore, in direct response to this apparent and pressing need amongst the broader UNM community. Expansion of the SCL, its equipment offerings, and training capacity is motivated by a desire to foster best geospatial practices across UNM and out of a desire to efficiently use UNM's resources to make available core geospatial equipment and training that is increasingly required by students and researchers across our community.

Application Questions

1. Describe the history and mission of your unit, and how its services support the mission of the University. Please address each of the following bullet points in your answer.

a. What services does your unit specialize in that are not offered in a similar form elsewhere within the University?

b. How does your unit serve the University's commitment to diversity?

Geography first emerged as an academic subject at the University of New Mexico in 1917 and became a full-fledged department in 1961. In the four subsequent decades, the department was fairly small at UNM, contributing a variety of courses in cultural and environmental geography. In the last 15 years, however, the department has grown substantially, thanks to the worldwide explosion of digital mapping, GIS technology, and GPS-enabled devices. With geospatial skills now in high demand from employers around the world and in numerous different sectors, the Department of Geography & Environmental Studies (GES) has expanded both its faculty and its course offerings to provide UNM students a comprehensive education in Geographic Information Science, with a concentration on environmental applications.

The Department of Geography & Environmental Studies is now one of UNM's most vibrant academic departments. Our award-winning faculty teaches engaging classes to undergraduate and graduate students studying **GIScience, spatial analysis, legal geography, environmental policy and management, historical geography, and cartography, among other topics**. We engage both graduate and undergraduate students in high-impact research in the Southwest and throughout the world, with a particular focus on the American Southwest, the Americas, and the Atlantic World.

It is our mission to advance and disseminate "**spatial thinking**" to citizens of New Mexico and beyond. Our vision is to be regionally and nationally recognized for excellence in research and teaching in our two areas of concentration: **Environmental Studies and Geographic Information Science**. We uphold UNM diversity values through our hiring practices, through our offering of courses that support the diversity curriculum, and through our engagement in research that addresses complex issues in the Southwest and the Americas. We also uphold UNM values in sustainability through both department operations and through our curriculum, which intersects with the Sustainability Studies program on campus.

There are a number of ways that GES is **distinct** from other units on the UNM campus. First: although several departments now offer classes in GIS (Geographic Information Systems) software, ours is the only department that provides a **broad curriculum in Geographic Information Science**. Our courses are designed to teach students to become deep geospatial thinkers who can answer geospatial questions using a wide variety of platforms and technologies. This goes well beyond teaching students how to use a specific piece of software and prepares graduates for leadership positions after they graduate. Second: we are one of very few departments that are truly **interdisciplinary**, providing students with the opportunity to take classes in hard science, social science, and humanities within a single curriculum. We believe this commitment to interdisciplinarity is critical for students who will spend their careers in the 21st century world, where complex problems cannot be solved with single-discipline perspectives. Finally: GES offers a variety of **specialized geospatial computing and field work resources** that are available for use and checkout through our **Spatial Computing Lab**, allowing

students to undertake classes and research using geospatial technologies that are not available anywhere else on campus.

2. Briefly describe each program/project in your unit that is funded specifically by student fees. What are the outcomes, so far, of each program/project? What, if any, changes do you plan to make to these programs/projects?

We do not currently have any programs or projects funded specifically by student fees. We do, however, collect curriculum fees from our own undergraduate programs and use those fees to operate the **Spatial Computing Lab**. As discussed below, this facility is thus currently limited to GES students and is relatively **small**. It has 24 computers, a large-format plotter, projector, small server stack, and a variety of geographic field equipment available for student checkout. An allocation of student fees would allow us to **augment the facility size** (e.g., to increase the number of computers) to accommodate and encourage increasing usage by non-GES students, expand the types of equipment available for student checkout, provide relevant training for the equipment, and make the facility available for **broader access** to support the entire UNM campus.

3. Does your unit have an SFRB balance forward? If so, please justify this balance forward and describe how you will utilize it.

Our unit does not have an SFRB balance forward.

4. Describe any increase in SFRB funding you are requesting, and provide justification detailing how raising student fees will improve your unit's impact on the student population. If requesting increases for multiple programs/projects, which program/project is your top priority? If requesting an increase, please state any reserves in your unit's budget and provide justification for not using said reserves for the requested increase.

The Department of Geography and Environmental Studies (GES) plays an extremely important role in **promoting geospatial knowledge** at UNM and to the general public, which is critical in helping our university and communities prepare for the "Digital Earth" Century. At UNM, GES has been asked to help improve access to geospatial technologies across campus and to provide support for students and researchers in this rapidly-growing technological sector. To this end, the Department of Geography and Environmental Studies desires to **expand our Spatial Computing Lab (SCL) and establish an Unmanned Aircraft Systems (UAS) Training Lab**.

The expansion of the SCL will require the following operational items: desktop computers, software packages, desks, chairs, power outlets, ethernet ports, GPS units, GPS enabled tablets, and miscellaneous office supplies (Table 1). The lab currently provides 24 desktop computers with specialized software to be used in classes, training workshops, and independent student research. Only 24 computing workstations are accommodated, because power and networking outlets are limited to the perimeter of room. To expand the lab capacity, a one-time infrastructure upgrade is needed to install power and networking capacity in the center of room. Once this infrastructure is upgraded, an **additional 16 computers** could be installed. At the same time, we need to commit funds to a one-time upgrade of wiring throughout the SCL to allow for improved data storage and access for student use. Installation of CAT-6 wiring will enable better digital security and functionality for students who need to process massive spatial data sets with specialized software.

Table 1. One-time and Recurring Funding for the SPL and UAS Training Lab

Project	One-Time Funding	Recurring Funding	GES contribution
Spatial Computing Lab (SCL) Expansion	<ul style="list-style-type: none"> • Add power/networking to center of SCL • Upgrade to CAT-6 wiring • Tables/chairs for new workstations 	<ul style="list-style-type: none"> • Additional 16 computers to be replaced on a 3-year cycle • Software • GPS units • GPS enabled tablets 	<ul style="list-style-type: none"> • 24 Workstations w/geospatial Software • 1 Lab manager • 3 Lab aids
UAS Training Lab Establishment	<ul style="list-style-type: none"> • Quadcopters • Tethered helium balloon sets (balloons, camera mounts, tether, winch, and hand reel) • GoPro cameras • Canon SX260 HS cameras and infrared (IR) conversion 	<ul style="list-style-type: none"> • GA salaries • 10% time of Lab manager • Quadcopter Supplies (batteries, propellers) • Helium • Camera supplies (batteries, memory cards) 	<ul style="list-style-type: none"> • Heavy-lift drones • RTK GPS unit • Spectrometer • Color-IR airborne imaging system

Once expanded, the Spatial Computing Lab will offer free access to UNM students who are interested in geospatial technologies. Students will have access to powerful computers, specialized software, and field equipment suitable for collecting spatial data in digital formats. Equipment to be offered includes: GPS units to collect geospatial data, GPS-enabled tablets to enable development of geospatial applications, and GPS enabled cameras to support both quantitative and qualitative field work. We have already established equipment checkout protocols for our own Geography & Environmental Studies students, and we will develop these protocols to ensure that we can effectively offer **free access to geospatial field equipment for the broader UNM student** community. Funding for expanded hardware, software, and geospatial equipment in the Spatial Computing Lab is requested as recurring funding since we are planning to update the computers and associated items on a regular basis (~3 years) as the relevant technologies continue to evolve.

The final step in our plans for expanding student access to geospatial technology at UNM involves the addition of an **Unmanned Aerial Systems (UAS) Training Lab** (Table 1). In recent years, UAS (commonly referred to as “drones”) have emerged as a vital platform for collecting geospatial data – a trend that is certain to continue and accelerate. The establishment of a UAS Training Lab will necessitate acquisition of the following items: quadcopter units, tethered helium balloon systems, digital cameras, helium, and aerial image processing software. The UAS Training Lab would also need to employ **two Graduate Assistants** who would work under the supervision of GES faculty to maintain field equipment and to provide regular workshops to UNM students on the collection and analysis of UAS image data, GPS data, and other geospatial tools. Additionally, **10% of the current lab manager’s time** will be contributed to maintain the UAS training Lab. Tethered helium balloon systems will serve as an alternative to autonomous UAS for students who do not have a Remote Pilot Certificate to fly

quadcopters, enabling students and faculty across campus to collect and leverage high-resolution aerial imagery with minimal training. UAS will be used for training through workshops and will be available for checkout by students and faculty who have attended those workshops and possess a remote pilot certificate from the Federal Aviation Administration (FAA). Funding for the establishment of the UAS Training Lab contains both one-time and recurring funding. Please see Budget Form B for more details.

5. What are your unit's current non-SFRB sources of funding (e.g. Instructional & General, state or federal grants, self-generated revenue), and if applicable, what additional funding sources are you seeking this fiscal year?

a. What increases or decreases from non-SFRB funding sources do you anticipate compared to your budget last year?

b. Please complete Budget Form C for non-SFRB income.

The Department of Geography & Environmental Studies has a fairly modest budget (totaling approximately \$1million). We rely on **I&G funding** allocated by the College of Arts & Sciences primarily to support salaries for our 12 permanent faculty, two visiting professors, most GA/TA lines, part-time instructors, and our Department Administrator. A small amount of the I&G allocation is used to finance department operations and faculty travel (~\$20K). We also rely on external funding through federal and state grants (approximately \$125,000 annually) to fund RA lines, research equipment, and costs to undertake specific research activities. Another significant source of revenue comes from a curriculum fee instituted in 2014. This \$50/class fee generates enough money annually (~\$65K) to update lab hardware, renew software licenses, and pay the salary for our lab manager and lab aids.

Finally, we rely on a variety of very small funding sources to supplement the department budget. We have two small endowments which produce annual dividends (approximately \$3,000) used for student scholarships and awards. We have recently begun targeting grant-funded research buyouts as a means of supplementing our annual budgets for student conference travel and department events (approximately \$3,000). We rely on recruitment funds from the Office of Graduate Studies (OGS) (approximately \$2,000) to support our ongoing efforts to attract top-quality candidates to our M.S. Geography program. As shown in Budget Form C, we do not expect any major changes in FY2020-2021 from this year's budget.

Additional revenue is requested from the SFRB to support an upgrade and expansion of our lab facilities and equipment (one-time expenses) and the addition of GAs and 10% of the lab manager's time to staff the augmented facility (recurring expenses). The expanded lab will also have higher costs for maintenance and periodic upgrades, which is also requested as recurring funding.

6. Describe student participation in your unit, and any plans to improve it, addressing each of the following bullet points.

a. How are students involved in the governance/decision-making of your unit?

We have two active student groups in GES, with plans to add a third. (1) **The Student Association of Geography and Environmental Studies (SAGES)** is a chartered student organization that is designed to connect students to available resources to ensure academic success and professional development. One essential function of the group is to engage in the

community by volunteering time at local events, such as the National Geographic Geography Bee, the Atrisco Vista Heritage High School STEM Fair, Earth Day tree planting, and campus-wide outreach events. Another core purpose of SAGES is to serve as a liaison between students and faculty by attending faculty meetings and identifying students who can serve on department committees when needed. In the last two years, student reps from SAGES have served on a faculty search committee and on curriculum review working groups, as well as collaborating with faculty on hosting guest speakers and undertaken significant planning for Geography Awareness Week and GIS Day events. SAGES has participated in the recent external departmental review, including providing feedback on the department's current state and trajectory to external reviewers. (2) GES also hosts a student chapter of the **American Society of Photogrammetry and Remote Sensing (ASPRS)** which has been active in hosting speakers, conferences, and training workshops for students both in GES and from the broader UNM community. This group serves a critical role in GES by focusing on professional training, certification, and networking. ASPRS already offers 4-6 workshops on student selected topics per year, led by experts identified in concert with the group's faculty advisor. ASPRS has offered workshops on topics critical to geospatial research and education, including programming, statistical analysis, survey grade GPS processes, spectrometer measurement, balloon photography, and aerial triangulation of airborne imagery. (3) Students in GES are now working to reactivate the UNM chapter of **Gamma Theta Upsilon**, an international honor society in Geography. This group will undertake a variety of academic and pre-professional activities to support student success at the undergraduate level.

b. How many students do you employ (including graduate assistants, interns, etc.)?

The Department of Geography and Environmental Studies currently employs 26 students in total:

- 2 undergraduate students exclusively assigned to staff the Spatial Computing Lab;
- 2 undergraduate students who staff the main office;
- 7 Teaching Assistants, who also provide limited support in the Spatial Computing Lab;
- 3 Graduate or Project Assistants, assigned to various research projects; and
- 4 graduate and undergraduate Research or Project Assistants in the GIScience for Environmental Management Lab.

This level of student support is remarkable for a **small unit with limited funding**, showing the extent to which GES values student involvement in its academic, research, and community support enterprises. It is even more remarkable considering that before 2014 we offered only 3 student positions on a consistent basis! As the department's academic, research, and community profiles have grown in recent years, we have steadily increased our commitment to student support, as shown in this trajectory:

- FY2014 (and prior): 3 TAs, and 0-2 RAs per year
- FY2015: 3 TAs, 2 GAs, 2 RAs
- FY2016: 5 TAs, 2 GAs, 2 work-study, and 7 RAs
- FY2017: 5 TAs, 2 GAs, 3 work-study, and 5 RAs
- FY2018: 11 TAs, 4 GAs, 5 work-study, and 6 RAs
- FY2019: 7 TAs, 4 GAs, 2 work-study, and 5 RAs
- FY2020: 7 TAs, 3 GAs, 2 work-study, and 4 RAs

We have experienced a decrease in the overall number of assistantships since FY2018, because of funding cuts. In the past two years, seven prospective graduate students declined offers of admission because we were unable to offer funding to them.

7. Describe specific improvements your unit has made in the last fiscal year to the visibility/accessibility of its services, and any plans to further improve visibility/accessibility.

Improvements made in the past fiscal year are part of an ongoing, multi-year effort to improve the visibility, accessibility, and overall quality of resources and services available to students. Using funds generated from curriculum fees first instituted in 2014, we were able to hire a Lab & IT Manager in summer 2015 whose primary task is to maximize student support through regular updates and maintenance of the Spatial Computing Lab. The hiring of this full-time staff person has allowed us to vastly improve lab access and host students with extended, consistent hours. In addition, we now boast well-maintained computing facilities that are up to date and running for users at all times the lab is open, and log-in protocols have been updated so they are consistent across campus for ease of use. We also added plotter access for GES students needing posters and large format demonstrative aids. Our workstation software is updated yearly – including in the last fiscal year – so students can stay current with advances in the field.

In the last fiscal year, we have enhanced our web presence to ensure that students have an easily accessible site where they can find hours of operation and announcements for upcoming events in our lab and information department resources and personnel in general. This is in conjunction with enhancing our presence on Twitter, Instagram, and Facebook. In the summer of 2018, the spatial computing lab underwent extensive renovations, including improvements in lighting, HVAC, and A/C. We also moved all of the computer workstations to the center which was occupied by tables and chairs only. The new arrangement includes open table space for students to use laptops. Furthermore, we have made an effort to increase the number of open lab hours each week and make this a priority when proposing the departmental schedule each semester.

In addition, we participate in GIS day in the Student Union Building to further promote our department to the entire student body as well as make our student base aware of our resources. With these changes in place we saw student usage of our open lab hours grow by over 590% from the fall 2015 semester to the spring 2019 semester. With our lab manager we also have enabled increased accessibility to all of our equipment for checkout, with a standard protocol for checkouts making borrowing geospatial technology for student projects as easy and straightforward as possible.

The SCL facility is now primed for further expansion by adding access for the broader UNM student community, dependent on our ability to undertake infrastructure updates and to add software, hardware, equipment, and technical personnel, as detailed above. We will work with the UNM webmaster to ensure our facilities have a voice on the university site in congruence with our department site. We will continue to expand open lab hours as much as possible for UNM students to use our specialized software for projects. With student usage growing quickly, additional computers will increase accessibility for as many students as possible, while the addition of new UAS and imaging equipment to our checkout roster will improve the range of resources available to students.

8. How does your unit collaborate with other campus units and/or off-campus entities?

GES collaborates with other campus and non-campus units in a variety of ways. In terms of curriculum, we include other departments' courses as electives within several of our own program curricula. Most notably, we worked with **Economics** to create a "3-2" program in which students can earn a B.A. in Economics and a M.S. in Geography in a total of only 5 years. We also include courses from the **Law School** and other main-campus departments in our Law, Environment, and Geography curricula (graduate certificate and undergraduate minor). Even for our regular Geography degrees (B.A., B.S., and M.S.), we regularly include cross-listed courses from departments like **Biology, Community and Regional Planning, and History**.

At the faculty level, we engage broadly across the UNM campus and throughout New Mexico. We currently have 16 affiliated faculty members, including 13 on campus and 3 from off-campus, that interact with GES from a number of different disciplinary and professional standpoints. These affiliated faculty members serve as research collaborators, occasional instructors, and committee members for both undergraduate and graduate students, helping GES ensure that its programs are both interdisciplinary and related to "real-world" geospatial and environmental applications.

Our faculty and students are currently involved in research proposals and/or projects with the following units: Anthropology, Biology, Civil Engineering, Communication & Journalism, Community & Regional Planning, the Earth Data Analysis Center, Economics, History, Latin American Studies, Health Science Center, Electrical and Computer Engineering, and Law. We also participate as board members in all of the following UNM entities: the Sustainability Studies program, the Water Resources program, the Spatial Humanities Working Group, the Global and National Security Studies program, the Resilience Institute, the Latin American and Iberian Institute, and the Utton Transboundary Resources Center. As of fall 2017, we are actively engaged in discussions with four UNM units – the Anderson School, the Community and Regional Planning program, the Department of History, the Department of Earth and Planetary Science, and College of Population Health – to explore opportunities for more formal collaborations that might improve student services and curricula.

Outside the walls of UNM, we interact with numerous professionals and groups in New Mexico and beyond. Our non-UNM affiliated faculty members represent the U.S. Geological Survey, the U.S. Fish & Wildlife Service, Sandia National Laboratories, and the National Park Service. Our advisory board additionally includes representatives from the National Hispanic Cultural Center, the City of Albuquerque, the U.S. Forest Service, and PNM. We value these affiliations deeply because they provide opportunities for students to interact and network with potential geospatial and environmental employers. Our faculty also serve as officers for a variety of professional organizations beyond UNM, including: The American Association of Geographers (AAG), the journal *Historical Geography*, the Rio Grande chapter and Rocky Mountain Region of the ASPRS, the Cartography and Geographic Information Society (CAGIS), the Autocarto Conference, and the Coalition of Geospatial Organizations.

Finally, it is important to note that GES's joint PhD program in Geography, to be delivered collaboratively across both the UNM and NMSU campuses, has been finally approved this year and will be launched in 2020. This program will leverage the strengths and facilities of both institutions to provide an outstanding doctoral program focused on integrative human-environment dynamics. Although we expect this program will generate some additional revenue for GES over time, **it is critical for us to undertake infrastructure updates and facility**

expansion in the Spatial Computing Lab in preparation for the launch of this new program.

9. What methods have been used in evaluating your unit’s impact on the student population (e.g. surveys, focus groups, interviews), and how effective have those methods been? Please provide any data collected if it pertains to the application.

Since summer 2015, when we first opened the SCL for student use outside of class hours, we have been carefully tracking lab use, including nights and weekends. Our tracking shows that lab use has increased exponentially in the last three years, leading us to project that the existing 24 computers will not be sufficient to support the growth in lab use, particularly as we move to broaden access to the wider UNM community.

In fall 2016, we developed a survey to evaluate students’ interest in specific geospatial software and hardware. The anonymous survey was deployed among 74 students in the Fall 2016 and survey results provided a clear indication of students’ interests (over 70% of students) in having access to geospatial equipment (e.g. GPS enabled cameras, GPS units, and GPS enabled tablets), particularly for UAS and UAS workshops.

More recently, we conducted an anonymous campus-wide survey in Fall 2017 to evaluate students’ need for the expansion and upgrades of the Spatial Computing Lab as well as their interest in specific types of geospatial field equipment. A total of 273 students from 55 different majors participated in the survey.

In the 2017 questionnaire, we asked students whether they currently use the spatial computing lab outside of class times. There were 73 students who used the lab outside of class times and 200 students who didn’t use it outside of class times. In the questionnaire, we listed a list of possible hardware (additional powerful workstations, dual monitors, new plotter, new projector and monitor, printer), software (ArcGIS Pro, ERDAS Imagine, IDRISI, and Agisoft Photogrammetry software), and equipment (UAS, GPS units, GPS enabled cameras, GPS enabled tablets) upgrades and asked students to check which ones would make them more likely to use the lab or which ones they would like to have access to. Among all surveyed students, top lab upgrades (with over half of students who chose “yes”) students would like to see include: UAS (71%), GPS enabled cameras (70%), printer (66%), GPS enabled tablets (65%), GPS units (59%), additional powerful workstations (59%), dual monitors (58%), ultra-wide monitors (56%), ArcGIS Pro (55%), and a new projector & monitor (51%) (Figure 1).

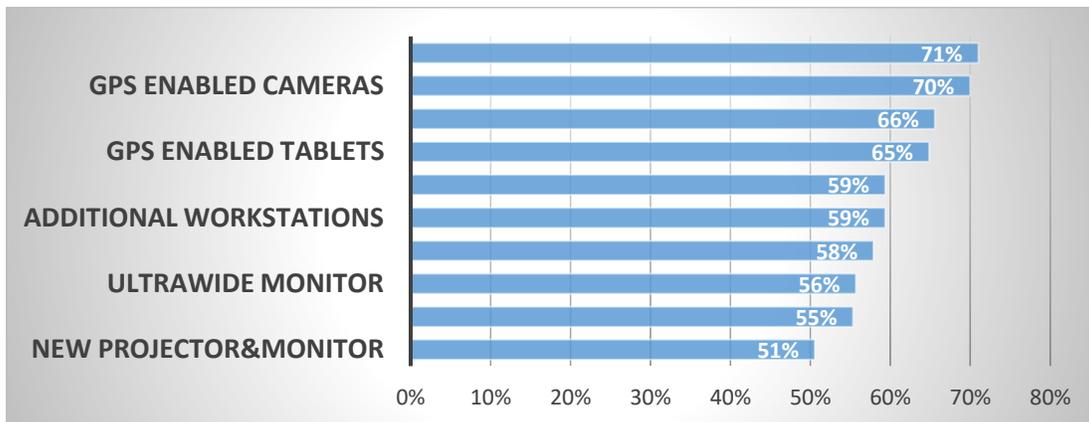


Figure 1. List of most-wanted lab upgrades by students

Additionally, survey results also show that 68% of the surveyed students would attend free workshops focused on the use of UAS for imaging. A total of 56% of the surveyed students indicated that either they or their professors have a use for UAS imaging equipment or software in research.

Other common upgrades listed by students include: adding another lab/bigger lab, improving PC performance, up-to-date equipment, better chairs (e.g. rolling chairs), better cooling system, more open lab hours, Matlab, AutoCAD, Geomedia, Pix 4D, and so on. In the last question of the survey where students put their additional comments, students expressed their strongest needs and interests in certain things. Several students put: **“We want drones!”**, **“UAS is dope!!”**, **“Bigger lab”**, **“More workstations!!”**, **“Move computers to middle”**, **“Dual monitors!!!!”**.

Figure 2 presents the top desirable lab items among students who didn’t use the lab outside of class times. Results suggested that UAS, printer, GPS enabled cameras, free UAS workshops, GPS enabled tablets, dual monitors, additional powerful workstations, and GPS units are top lab expansion/upgrade items that would make students more likely to use the lab. This further revealed the campus-wide needs in geospatial technology and equipment.

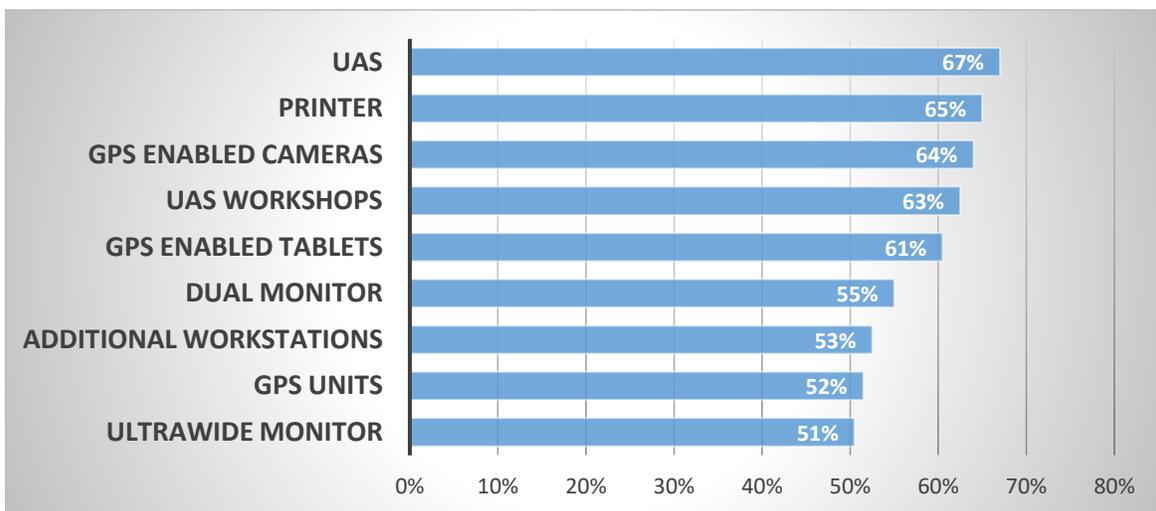


Figure 2. Top desirable lab upgrades among students who don't currently use the lab outside of class times

Compared to the 2016 survey with 74 students from 9 different majors, the survey from 2017 reached out to a broader UNM community, with 273 students from 55 different majors across campus included. Our survey sample is representative, which covers over half of the undergraduate programs (55 out of 94), including Geography, Business, Environmental Science, EPS, Political Science, Anthropology, Journalism & Mass Communication, Psychology, Criminology, International Studies, Architecture, Economics, Education, Environmental Planning & Design, Accounting, Biology, Communication, Finance, Chemical Engineering, and Civil Engineering, to name a few. Survey population from 2016 were mainly current SCL users, while in 2017, 200 out of 273 surveyed students didn’t use the lab outside of class times, which represents the campus-wide community that could benefit from proposed improvements.

Results from both surveys suggest that expansion and updates of the SCL, other geospatial field equipment, and UAS training capacity is motivated by a desire to foster best geospatial practices across UNM. Therefore, this funding application is in direct response to the apparent and pressing need amongst the broader UNM community. If awarded, our lab expansion and upgrades will have a direct benefit to the broader UNM community. We will continue this survey and will have survey questionnaires posted online to collect more data from across the UNM campus.

10. If your unit received specific recommendations from last year's SFRB, what are your unit's current plans to address these recommendations?

Last year our unit did not receive funding from SFRB and did not receive specific feedback on our proposal.

11. Provide any other information or a narrative that will assist the SFRB in making its decision to fund your unit.

Geography and Environmental Studies is an **interdisciplinary** unit that trains students to find the tools – both physical and analytical – required to answer complex questions of societal importance. As described above in Question #8, GES students, faculty, and staff collaborate closely with students and faculty from across campus on research, education, and program development. We are able to do this so readily because geospatial tools and thinking are required by and directly benefit virtually all disciplines and departments. As the center of geospatial research and education at UNM, GES bears a responsibility not only to our own students, but also to the larger UNM community, to make available the training and tools required for UNM students to compete in a world that increasingly relies on geospatial tools and information for decision making, research, and business development.

The expansion of the SCL and addition of core geospatial field equipment and software is intended to establish the SCL as a facility that will **enable the broader UNM community to enhance geospatial literacy and capacity** amongst students and faculty. GES faculty and students are routinely approached by others from across campus (and beyond) with requests to help guide geospatial data acquisition strategies, equipment acquisitions, and training/capacity building. This funding application is, therefore, in direct response to the apparent and pressing need amongst the broader UNM community. Expansion of the SCL, its equipment offerings, and training capacity on UAS is motivated by a desire to foster best geospatial practices across UNM and out of a desire to efficiently use UNM's resources to make available core geospatial equipment and training that is increasingly required by students and researchers in our community. Jobs related to Geographic Information Scientists or Technologists continue to grow (by 29% by 2024 according to U.S. Bureau of Labor Statistics). Based on the Economic Impact of Unmanned Aircraft Systems Integration in the United States report, more than 103,000 jobs in UAS will be created through 2025 in the United States. In the state of New Mexico, it is projected that at least 3,000 jobs will be created in UAS. Therefore, the expansion of the SCL and addition of UAS related equipment, software, and training workshops will better prepare graduates to become successful and advance their careers with geospatial skill necessary in the workplace.

Form A

SFRB Funding Request Form

STUDENT FEE REVIEW BOARD
FISCAL YEAR 2020-2021

DEPARTMENT Geography and Environmental Studies
VICE PRESIDENT James Paul Holloway
INDEX # 870067

	A	B	C	D	E	F
DESCRIPTION	ORGANIZATION OPERATING BUDGET 2018 -2019	TOTAL BUDGET 2019 - 2020	SFRB BUDGET 2019 - 2020	TOTAL BUDGET 2020 - 2021	SFRB BUDGET REQUESTED 2020- 2021	SFRB FUNDING INCREASE/DECREASE REQUEST 2020 - 2021
						-
1 Faculty salaries	957,197	1,060,348		1,070,952		
2 Staff salaries	75,748.00	78,801		79,589	4,273	4,273
3 SUBTOTAL NON-STUDENT SALARIES (Line 1+2)	\$ 1,032,945.00	\$ 1,139,149.00	\$ -	\$ 1,150,540.49	\$ 4,272.59	\$ 4,272.59
4 Student (student employment & workstudy)	5,050.00	5,050		5,050		
5 GA, TA, RA - Pay and Benefits	70,509.00	72,624		73,351	\$45,200.00	\$45,200.00
6 Fringe Benefits on Staff & Faculty salaries	16,421.50	16,914		17,083	2,353	2,353
7 TOTAL COMPENSATION (Lines 3 - 6)	\$ 1,124,925.50	\$ 1,180,619.17	\$ -	\$ 1,246,024.29	\$ 51,825.38	\$ 51,825.38
						-
GENERAL EXPENSES						
8 Spatial Computing Lab: Maintenance Expenses	15,425	8,784		10,000	\$22,957.71	\$22,958
9 General Department Operations	15,062	10,158		10,158		
10 Student Travel	2,000	2,800		2,800		
11 Faculty Travel	5,500	4,500		4,500		
12						
13						
14						
15						
16						
17						
18						
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21						
22						
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24						
25						
26						
27						
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29						
30						-
						-
32 TOTAL GENERAL EXPENSES (Line 8 - 30)	\$ 37,986.68	\$ 26,242.00	\$ -	\$ 27,458.00	\$ 22,957.71	\$ 22,957.71
						-
34 GRAND TOTAL EXPENSES (Line 7+32)	\$ 1,162,912.18	\$ 1,206,861.17	\$ -	\$ 1,273,482.29	\$ 74,783.09	\$ 74,783.09

Form B

SFRB One-Time Funding Request Form

Use this form ONLY if you are requesting **ONE-TIME** funding

DEPARTMENT Geography and Environmental Studies
 VICE PRESIDENT James Paul Holloway
 INDEX # 860067

STUDENT FEE REVIEW BOARD
 FISCAL YEAR 2020-2021

Budget for SFRB Funding **ONE-TIME** Request

	I		J
DESCRIPTION	2019-2020 One-Time Request	2019-2020 One-Time Allocation	2020-2021 One-Time Request
1 15 Canon PowerShot SX260 HS Digital Camera w/GPS	\$7,027.05	0	\$7,027.05
2 5 IR Canon PowerShot SX260 HS Digital Came	\$3,842.35	0	\$3,842.35
3 20 32GB Class 10 SDHC Memory Cards	\$237.80	0	\$237.80
4 40 seats of Agisoft Photogrammetry Software	\$7,820.00	0	\$7,820.00
5 8 3DR Solo Quadcopters w/ SX260 mount	\$9,496.60	0	\$9,496.60
6 8 Solo Smart Batteries	\$1,199.60	0	\$1,199.60
7 8 GoPro Hero 4's	\$2,972.00	0	\$2,972.00
8 6 Skyshot (2 cubic meters capacity) Helikites	\$9,575.92	0	\$9,575.92
9 2 Desert Star (5 cubic meters capacity) Helikites	\$14,103.40	0	\$14,103.40
10 16 Dell Precisions Workstations T5810	\$23,350.72	0	\$23,350.72
11 6 Apple 9.7" iPad Pro 128GB	\$4,374.00	0	\$4,374.00
12 6 Samsung TabPro S12" 128G	\$4,499.00	0	\$4,499.00
13 Electrical wiring installation for 15 workstations	\$5,000.00	0	\$5,000.00
14 Ethernet Ports for 15 workstations	\$5,000.00	0	\$5,000.00
15			
16			
17 TOTAL One-Time funding (Line 1 thru Line 6)	\$98,498		\$ 98,498

*The narrative response to question #4 must reflect this information

Form C

External Funding Sources

This form is used ONLY if you have **EXTERNAL FUNDING SOURCES**

DEPARTMENT Geography & Environmental Studies
 VICE PRESIDENT James Paul Holloway
 INDEX(es) # 860069

STUDENT FEE REVIEW BOARD
FISCAL YEAR 2020-2021

FUNDING SOURCE	2019-2020 BUDGET	2020-2021 FORECASTED BUDGET	Funding Increase Request for 2020-2021
1 Student Fee Review Board (SFRB)			
2 UNM Instruction & General	1,203,307	1,239,406	36,099
3 Private Donations	3,100	3,100	-
4 Fundraising/Foundation/Development	-	-	-
5 State Funding	-	-	-
6 Federal Funding	-	-	-
7 Grants (including federal and private)	120,034	132,000	11,966
8 Self-Generated Revenue	70,900	70,900	
9			-
10 If Other(s), please list below:			-
11 Course buyouts (minus cost of replacement instructors)	3,300	3,300	-
12 OGS recruiting funds	2,100	2,100	-
13			-
14			-
15			-
16			-
17			-
18			-
19			-
20			
21			
22			
23			
24			
25			-
26			-
27			-
28			
29			-
30			-
TOTAL OPERATING INCOME/REVENUE	\$ 1,402,741.00	\$ 1,450,806.21	\$ 48,065.21

*The narrative response to question #5 must reflect this information

Appendix Quotes for Requested Equipment

Quotes for UAS Equipment

Item Description	Unit Price	Quantity	Total Cost
Ultrahigh Purity Helium	\$132.50	6	\$765
Canon PowerShot SX260 HS Digital Camera	\$455.48	20	\$9,109.60
BM Premium Pack of 2 Batteries	\$12.99	20	\$259.80
Canon PowerShot SX260 HS IR Conversion	\$300	5	\$1,500
SanDisk Ultra 32GB Class 10 SDHC Memory Card	\$11.89	20	\$237.80
Agisoft PhotoScan Professional Software	\$195.5	40	\$7,820
3DR Solo Drone with 3-Axis Gimbal and Backpack	\$1,149.95	8	\$9,199.60
Solo Smart Batteries	\$149.95	8	\$1,199.60
GoPro HERO 4 Silver	\$349	8	\$2,972
Canon PowerShot SX260 HS Mount for 3DR Solo	\$37	8	\$296
Skyshot (2 cubic meters capacity) Helikite	\$1,234.82	6	\$7,408.92
Desert Star (5 cubic meters capacity) Helikite	\$4,697.70	2	\$9,395.40
Damped Pendulum Camera Mount for Desert Star	\$200	2	\$400
Damped Pendulum Camera Mount for Skyshot	\$127	6	\$762
400 m 300 kg Tether for Desert Star Helikite	\$267	2	\$534
400 m 200 kg Tether for Skyshot Helikite	\$214	6	\$1284
12 Volt Winch Set for Helikite	\$1887	2	\$3774
Hand Reel for Helikite	\$67	6	\$402

Quotes for Computer Equipment

Item Description	Unit Price	Quantity	Total Cost
Dell Precisions Workstations T5810	\$1,279.73	16	\$20,475.68
Dell 24" Monitors	\$179.69	16	\$2,875.04
Apple 9.7" iPad Pro	\$579	6	\$3,474
Samsung TabPro S12" 128G	\$749	6	\$4,499
Power	\$5,000	1	\$5,000
Data	\$5,000	1	\$5,000

Note: Some of the items in the above tables were combined in the Budget B form to group them into logical and functional items. The list above maps to the quotes in the appendix.

Chemical & Research Laboratory Supplier

(<http://crls.unm.edu>)

UNM (<http://www.unm.edu>) / Home ([../index.html](http://crls.unm.edu/index.html)) / Inventory ([index.html](http://crls.unm.edu/inventory/index.html))

Inventory of Chemicals & Supplies

Order Forms

Inventory Order
Form
([CRLSInventoryOrderForm.xls](#))
Non-stock Order
Form
([CRLSNonStockOrderForm.xls](#))

Full Inventory

Gas Cylinders

**Inorganic
Chemicals**

**Organic
Chemicals**

**Other
Chemicals**

Supplies

Address

University of New
Mexico
Clark Hall 146
MSC03 2060
Albuquerque, NM
87131



CRLS

University Services



Search available inventory by entering any part of the name in the search box, or click on the product categories from the left menu.

Specialized quotes are available upon request for non-stock items. If you can't find what your are looking for, email crls@unm.edu (<mailto:crls@unm.edu>). (<mailto:crls@unm.edu>)

Show entries

Search:

Location	Description	Size	Unit	Vendor	Catalog	Price
+12894	HELIUM, UHP	250	CF	ARGYLE	HELIUM	\$132.50
+AEC-10541	HELIUM	250	CF	ARGYLE	HELIUM	\$120.00
+K-074234	HELIUM, SIZE E	50	CF	ARGYLE	HELIUM	\$102.60
+T-608826	HELIUM, 292 CF	250	CF	ARGYLE	HELIUM	\$132.50

Location	Description	Size	Unit	Vendor	Catalog	Price
----------	-------------	------	------	--------	---------	-------

Showing 1 to 4 of 4 entries (filtered from 2,228 total entries)

Previous Next

Ph:
(505)277-5109
Fax:
(505)277-8707
Email:
crls@unm.edu
(mailto:crls@unm.edu)

(<http://www.unm.edu>)

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New Mexico's Flagship University



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(<https://twitter.com/unm>)



(<http://uofnm.tumblr.com>)



(<http://www.youtube.com/user/unmlive>)

more at social.unm.edu (<http://social.unm.edu>)

Accessibility (<http://www.unm.edu/accessibility.html>) Legal (<http://www.unm.edu/legal.html>)

Contact UNM (<http://www.unm.edu/contactunm.html>)

New Mexico Higher Education Dashboard (<http://nmhedss2.state.nm.us/Dashboard/index.aspx?ID=21>)



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Feedback on this page? [Tell us what you think](#)

Canon PowerShot SX260 HS 12.1 MP CMOS Digital Camera with 20x Image Stabilized Zoom 25mm Wide-Angle Lens and 1080p Full-HD Video (Black) (OLD MODEL)

by Canon



1,467 customer reviews [Share](#)

Color: **Black**



Lowest offer for each

Package Type: **Standard Packaging**

Standard Packaging

Lowest offer for each

Refine by [Clear all](#)

Shipping

-
- Free shipping

Condition

- New
- Used
 - Like New
 - Very Good
 - Good
 - Acceptable
 - Refurbished

Price + ...	Condition (Learn more)	Delivery	Seller Information	Buying Options
\$449.99 + \$5.49 shipping + \$0.00 estimated tax	New Brand new in box. Restocking fee 15% for returns	<ul style="list-style-type: none"> Arrives between Sept. 16 - Oct. 3. Want it delivered Wednesday, September 21? Choose Expedited Shipping at checkout. Shipping rates and return policy. 	Gadgets_Games_Goodies 97% positive over the past 12 months. (1,604 total ratings)	Add to cart or Sign in to turn on 1-Click ordering.
\$449.99 + \$5.49 shipping + \$0.00 estimated tax	New Brand new in factory sealed box, I do not ship to AK/HI/VI/PR/PO/APO Box	<ul style="list-style-type: none"> Arrives between Sept. 16 - Oct. 3. Want it delivered Wednesday, September 21? Choose Expedited Shipping at checkout. Shipping rates and return policy. 	good_stuff_ny 85% positive over the past 12 months. (1,384 total ratings)	Add to cart or Sign in to turn on 1-Click ordering.
\$469.00 + \$0.00 estimated tax	New brand new	FULFILLMENT BY AMAZON <ul style="list-style-type: none"> Free Two-Day Shipping: Get it Tuesday, September 13. Order within 20hr 57min for these delivery dates. 	bestcamer a 100% positive over the past 12 months. (58 total ratings)	Add to cart or Turn on 1-Click to use your Amazon Prime benefits.

Saved for later (10)

- [Shipping rates](#) and [return policy](#).

\$469.00 **New**

+ \$0.00
estimated tax

FULFILLMENT BY
AMAZON

- Free Two-Day Shipping: Get it Tuesday, September 13 (order within **20hr 57min**)
- [Shipping rates](#) and [return policy](#).

Great Caesar's Ghost!

99% positive over the past 12 months. (347 total ratings)

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or
[Turn on 1-Click](#) to use your Amazon Prime benefits.

1 Cart

Cart Subtotal: **\$14.50**

[Proceed to checkout](#)

\$469.00 **New**

& **FREE Shipping**
+ \$0.00
estimated tax

- **Arrives between** September 16-23.
- Want it delivered Tuesday, September 20? Choose **Standard Shipping** at checkout.
- [Shipping rates](#) and [return policy](#).

Blue Sky Co.

100% positive over the past 12 months. (738 total ratings)

Add to cart
or
[Sign in](#) to turn on 1-Click ordering.

\$499.99 **New**

& **FREE Shipping**
+ \$0.00
estimated tax

- **Arrives between** September 15-20.
- Want it delivered Wednesday, September 14? Choose **Two-Day Shipping** at checkout.
- [Shipping rates](#) and [return policy](#).

Green's Camera World

99% positive over the past 12 months. (3,311 total ratings)

Add to cart
or
[Sign in](#) to turn on 1-Click ordering.

\$549.95 **New**

+ \$0.00
estimated tax

BRAND NEW, NEVER USED, FAST SHIPMENT

FULFILLMENT BY
AMAZON

- Free Two-Day Shipping: Get it Tuesday, September 13 (order within **1hr 57min**)
- [Shipping rates](#) and [return policy](#).

BYDEALS

100% positive over the past 12 months. (529 total ratings)

Add to cart
or
[Turn on 1-Click](#) to use your Amazon Prime benefits.

\$799.00 **New**

+ \$5.04 shipping
+ \$0.00
estimated tax

- **Arrives between** September 22-30.
- Ships from NY, United States.
- [Shipping rates](#) and [return policy](#).

Riverside Heie

100% positive over the past 12 months. (13,875 total ratings)

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PolarPro Red Filter Standard Housing Scuba Accessory for GoPro Hero4 and Hero3+

326
\$29.98



(2 Pack) Vivitar NB-6L / NB-6LH Batteries for Select Canon PowerShot Cameras

831
\$13.99



Wasabi Power Battery (2-Pack) and Dual Charger for GoPro HERO4 and GoPro...

2,199
\$23.49



GoPro Smart Remote

886
\$79.99



Zookki Essential Accessories Bundle Kit for GoPro Hero 4 3+ 3 2 1 Black Silver and...

401
\$19.99



AmazonBasics Head Strap Camera Mount for GoPro

756
\$7.49



MCOCEAN 42-in-1 Go Pro 4 Accessories Kit for Sports Camera

23
\$25.99

1 Cart

Cart Subtotal: \$14.50

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Ship Orders
Internationally

Home Services
Handpicked Pros
Happiness Guarantee

Amazon Inspire
Free Digital Educational
Resources

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Video Distributio
Made Easy

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Prestige Beauty
Delivered

Book Depository
Books With Free
Delivery Worldwide

Casa.com
Kitchen, Storage
& Everything Home

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Thousands of
Digital Comics

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Soap.com
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Home Essentials

Wag.com
Everything
For Your Pet

Warehouse Deals
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Deals and
Shenanigans

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Cart Subtotal: **\$14.50**

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All BM Premium Pack of 2 Batteries sx260



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Hello, Su Your Account Prime Lists

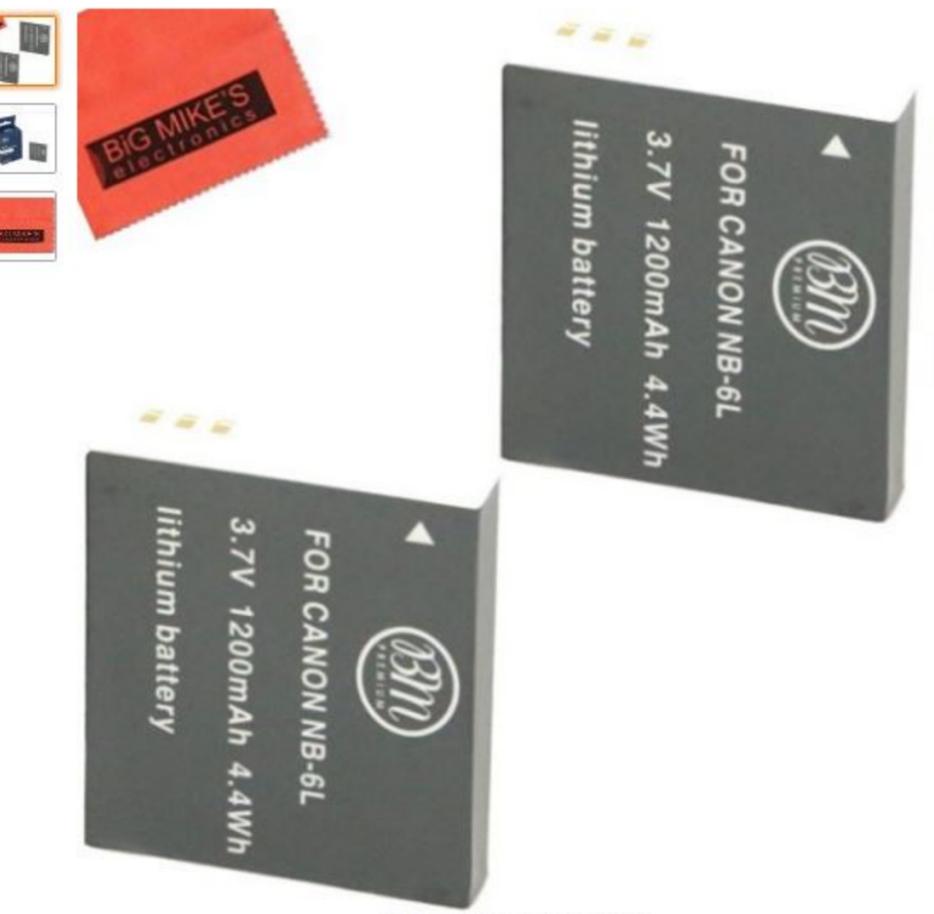


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Roll over image to zoom in

BM Premium Pack Of 2 NB6L, NB-6L, NB-6LH Batteries For Canon PowerShot S120, SX170 IS, SX260 HS, SX280 HS, SX500 IS, SX510 HS, SX520 HS, SX530 HS, SX540 HS, SX600 HS, SX610 HS, SX700 HS, SX710 HS, ELPH 500 HS, D10, D20, D30 Digital Camera

by BM Premium 5 stars 733 customer reviews | 32 answered questions

Price: \$12.99 Prime

In Stock.

Want it Sunday, Sept. 11? Order within 4 hrs 45 mins and choose Two-Day Shipping at checkout. Details Sold by Big Mike's Electronics and Fulfilled by Amazon. Gift-wrap available.

Size: 2 Batteries

Table with 2 columns and 2 rows showing different battery pack options and their prices.

- NB6L NB-6L Li-ion Rechargeable Battery for Canon PowerShot Digital Camera
• Energy Storage Capacity: 1200 mAh Voltage: 3.7 volts
• 100% Memory Free Super Long Time Recording
• This product has a 1 year Limited warranty.
• Includes Qty 2 NB6L 1200mah Batteries + Micro Fiber Cleaning Cloth

3 new from \$9.99

Report incorrect product information.



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Ship to: Su Zhang- Albuquerque - 87109

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\$16.41 Prime Add to Cart

Sold by: Amazon.com

3 new from \$9.99

Have one to sell? Sell on Amazon

Phottix The New Odin II for Sony. Now anything goes. Includes image of the device.

Phottix Odin II TTL Wireless Flash Trigger for Sony - Transmitter Only... 5 stars 11 \$209.95 Prime

Ad feedback

Frequently Bought Together

Total price: \$23.56

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Canon SX260

This is a historical page from the old MaxMax.com website. Please use the current site at www.MaxMax.com.

IR Camera Flashes	Sony Alpha A55	GoPro MotorSport HE	Canon G15	Canon G1X
Canon SX50IS	Canon S95	Canon 1000D (XS)	Canon ELPH 110	Canon SX260
Canon 600D (T3i)	Canon 650D (T4i)	Canon 700D	Canon 60D	Canon 6D
Canon 7D	Canon 5D MKII	Canon 5D MKIII	Nikon D3200	Nikon D5100
Nikon D7100	Nikon D90	Nikon D300s	Nikon D600	Nikon D800
Nikon D3x	Lumix LX7	Olympus E620	Casio EX-FH25	Olympus Pen E-P2
Pentax K-5	Lumix GX1	Lumix GF3		
Order				

Canon PowerShot SX260 12.1 MegaPixel Digital Camera

Models:

XNiteCanonSX260

UV+Visible+IR

XNiteCanonSX260

IR- Only

XNiteCanonSX260NDVI

3-Band Vegetation Stress Remote Sensing Camera



We can convert your Canon PowerShot SX260 for \$175 for UV+IR+Visible or \$275.00 for IR-Only + return S&H (\$20 UPS ground insured domestic USA). Turn around is usually 1 or 2 days from receipt.

For the UV+Visible+IR model, we add a 37mm filter ring to the front nose of the camera so that you can attach filters. Please be aware that you should be gentle when adding or removing filters because the stock lens nose cap to which the filter ring is added is not especially strong. If the cap comes off, you can snap it back in place by turning the camera on, placing the nose cap at 11:00, and giving a gentle twist to 12:00 to lock the cap in place.

With the [optional firmware](#), you can increase this camera's capabilities adding things like RAW and interval shutter control.

[37mm Filters are available here.](#)

[For information on the NDVI vegetation stress camera, please click here.](#)

General

- Packaged Quantity** 1
- Digital camera - Compact **Product Type**
- Enclosure Color** Black
- Resolution** 12.1 megapixels
- Optical Sensor Type** BSI-CMOS
- Total Pixels** 12,800,000 pixels
- 12,100,000 pixels **Effective Sensor Resolution**
- 1/2.3" **Optical Sensor Size**
- 20 x **Optical Zoom**
- Digital Zoom** 4 x
- Image Processor** DIGIC 5
- Image Stabilizer** Optical
- Auto Focus** TTL contrast detection
- AE/AF Control** Subject-tracking AF
- Face Detection** Wink Self-timer, Smile Shutter, Face ID, Face Detection Self-timer, Face Detection AF/AE/FE/WB
- Digital Video Format** MOV, iFrame, H.264
- Image Recording Format** JPEG
- Max Video Resolution** 1920 x 1080
- AV Interfaces** HDMI, Composite video/audio

Exposure & White Balance

- Light Sensitivity** ISO 3200, ISO 1600, ISO 800, ISO 100, ISO 200, ISO 400, ISO auto
- Exposure Metering** Evaluative, Center-weighted, Spot
- Exposure Modes** Program, Automatic, Shutter-priority,

- Manual,
- Aperture-priority
-  **Shooting Programs** Handheld night shot,
Snow,
Underwater,
Discreet,
Stitch assist,
Smooth skin,
Smart shutter,
Low light,
Fireworks,
Movie digest,
Hi-speed burst HQ,
Portrait mode
-  **Special Effects** Miniature,
Vivid Blue,
Vivid Green,
Vivid Red,
Super Vivid,
Posterization,
Toy camera,
Vivid,
Fisheye,
Soft Focus,
Black & White,
Sepia,
Neutral,
Darker Skin Tone,
Lighter Skin Tone,
Monochrome,
Color Accent,
Color Swap,
Custom Effect
-  **White Balance** Automatic,
Presets,
Custom
-  **White Balance Presets** Daylight,
Tungsten light,
Underwater,
Fluorescent,
Cloudy,
Fluorescent light (daylight)
-  **Max Shutter Speed** 1/3200 sec
-  **Min Shutter Speed** 15 sec
-  **Exposure Compensation** ±2 EV range, in 1/3 EV steps

Lens System

-  **Type** 20 x x Zoom lens - 4.5 mm - 90 mm - F/3.5-6.8
-  **Focal Length Equivalent to 35mm Camera** 25 - 500 mm
-  **Focus Adjustment** Manual,
Automatic
-  **Min Focus Range** 2 in
-  **Macro Focus Range** 2 in - 19.7 in
-  **Zoom Adjustment** Motorized drive
-  **Lens Construction** 10 groups / 12 elements
-  **Features** UA lens,
Aspherical lens,
Built-in lens shield

Camera Flash

-  **Camera Flash** Pop-up flash

- Flash Modes** Fill-in mode,
Slow synchro,
Auto mode,
Flash OFF mode,
Red-eye reduction
-  **Features** Flash +/- compensation,
AF illuminator
-  **Effective Flash Range** 1.6 ft - 11.5 ft (Wide lens),
3.3 ft - 6.6 ft (Tele lens)

Additional Features

-  **Continuous Shooting Speed** 2.4 frames per second,
0.8 frames per second,
0.9 frames per second,
10.3 frames per second for 10 frames
-  **Self Timer Delay** 2 sec,
10 sec
-  **Additional Features** Digital image rotation,
HS System,
Display brightness control,
In-camera red-eye removal,
Smart Flash Exposure,
Resizing an image,
Cropping an image,
I-Contrast (Intelligent Contrast Correction) system,
Exif Print support,
AF lock,
DPOF support,
Built-in GPS,
RGB primary color filter,
Safety zoom,
Digital tele-converter,
FE lock,
Smart AUTO,
AE lock,
Histogram display,
Camera orientation detection,
PictBridge support,
1080p Full HD movie recording,
USB 2.0 compatibility,
Direct print

Viewfinder

-  **Viewfinder Type** None

Display

-  **Type** 3 in LCD display
-  **Display Features** Built-in

Microphone

-  **Microphone Operation Mode** Stereo
-  **Microphone Features** Wind noise reduction

Connections

-  **Connector Type** 1 x Hi-Speed USB,
1 x Composite video/audio output,

1 x HDMI output

Software

- ☐ **Software** Canon ZoomBrowser EX,
Canon PhotoStitch,
Drivers & Utilities,
Canon ImageBrowser

System Requirements for PC Connection

- ☐ **Operating System Support** Apple Mac OS X 10.5 - 10.6,
MS Windows XP SP3,
MS Windows Vista SP1,
MS Windows 7,
MS Windows Vista SP2
- ☐ **Peripheral Devices** USB port,
CD-ROM drive

Miscellaneous

- ☐ **Microsoft Certifications** Compatible with Windows 7
- ☐ **Included Accessories** Battery charger,
USB cable,
Wrist strap,
Audio / video cable
- ☐ **Body Material** Metal

Battery

- ☐ **Supported Battery** Canon NB-6L
- ☐ **Supported Battery** 1 x Li-ion rechargeable battery (Included)
- ☐ **Battery Life Details** Photo shooting,
Playback - 5 hour(s)

Memory / Storage

- ☐ **Memory Card Slot** SD card
- ☐ **Supported Memory Cards** SDHC Memory Card,
SD Memory Card,
SDXC Memory Card
- ☐ **Image Storage** Fine,
Super-fine JPEG 4000 x 3000,
JPEG 4000 x 2248,
JPEG 4000 x 2664,
JPEG 2816 x 1584,
JPEG 2816 x 2112,
JPEG 2816 x 1880,
JPEG 1920 x 1080,
JPEG 1600 x 1200,
JPEG 1600 x 1064,
JPEG 640 x 480,
JPEG 640 x 360,
JPEG 640 x 424,
JPEG 2992 x 2992,
JPEG 2112 x 2112,
JPEG 1200 x 1200,
JPEG 480 x 480
- ☐ **Video Capture** H.264 - 1920 x 1080,
H.264 - 1280 x 720,
H.264 - 640 x 480,

H.264 - 640 x 480,
H.264 - 320 x 240,
iFrame - 1280 x 720

Manufacturer Warranty

 **Service & Support** 1 year limited warranty

Dimensions & Weight

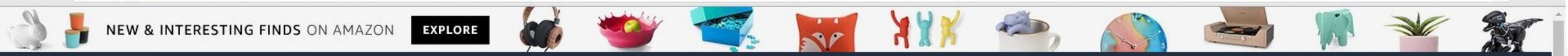
 **Width** 4.2 in
 **Depth** 1.3 in
 **Height** 2.4 in
 [7.3 oz](#)**Weight**

Environmental Parameters

 **Min Operating Temperature** 32 °F
 **Max Operating Temperature** 104 °F



Send mail to webmaster@maxmax.com with questions or comments about this web site.
Last modified: June 18, 2015



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Back to search results for "SanDisk Ultra 32GB Class 10 SDHC Memory Card"

You purchased this item on April 18, 2016. Size: 32GB | View this order



Roll over image to zoom in

SanDisk Ultra 32GB Class 10 SDHC UHS-I Memory Card Up to 80MB, Grey/Black (SDSDUNC-032G-GN6IN)

by SanDisk 5 stars 1,711 customer reviews | 199 answered questions

Price: \$11.89 Prime

Note: Available at a lower price from other sellers, potentially without free Prime shipping.

In Stock.

Want it tomorrow, Sept. 10? Order within 11 mins and choose Saturday Delivery at checkout. Details Ships from and sold by Amazon.com in easy-to-open packaging. Gift-wrap available.

Size: 32GB

Table with 4 columns: 16GB (\$8.95), 32GB (\$11.89), 64GB (\$21.75), 128GB (\$42.49). All prices include Prime shipping.

- Great choice for compact to mid-range point and shoot cameras
Twice as fast to take better pictures and Full HD video
Exceptional video recording performance with Class 10 rating for Full HD video (1080p)
Quick transfer speeds up to 80MB/s
Waterproof, temperature-proof, X-ray proof, magnet-proof, shockproof
10-year limited warranty

32 new from \$6.85 1 used from \$10.70

Report incorrect product information.

This item's packaging will indicate what is inside. To cover it, select Ship in Amazon box on the checkout page.

Share [Email] [Facebook] [Twitter] [Pinterest]

Buy new: \$11.89

Qty: 1

- Include 1-year Photo and Data Recovery Plan for \$1.99
Include 2-year Photo and Data Recovery Plan for \$2.99

Add to Cart

Turn on 1-Click ordering for this browser.

Ship to: Su Zhang- Albuquerque - 87109

Buy used: \$10.70

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Other Sellers on Amazon

\$6.85 + \$4.99 shipping Sold by: CalvinNHobbs

\$12.15 Prime Sold by: Digital Media Source

\$12.15 Prime

Cart icon with '1' item, Cart Subtotal: \$14.50, Proceed to checkout button



\$14.50

Frequently Bought Together



Total price: \$149.05

Add all three to Cart

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AgiSoft Product Line Price List

1 September 2016

Agisoft PhotoScan Professional Edition

SKU	Manufacturer	Product	Unit Price, USD
PSP000EDU01	AgiSoft LLC	Agisoft PhotoScan Professional, Educational license, Single	\$549.00
PSP000EDU03	AgiSoft LLC	Agisoft PhotoScan Professional, Educational license, 3 licenses pack	\$1482.00
PSP000EDU05	AgiSoft LLC	Agisoft PhotoScan Professional, Educational license, 5 licenses pack	\$2086.00
PSP000EDU10	AgiSoft LLC	Agisoft PhotoScan Professional, Educational license, 10 licenses pack	\$2885.00
PSP000EDU20	AgiSoft LLC	Agisoft PhotoScan Professional, Educational license, 20 licenses pack	\$3910.00

Agisoft PhotoScan Standard Edition

SKU	Manufacturer	Product	RRP, USD
PSS000EDU01	AgiSoft LLC	Agisoft PhotoScan Standard, Educational license, Single	\$59.00
PSS000EDU03	AgiSoft LLC	Agisoft PhotoScan Standard, Educational license, 3 licenses pack	\$159.00
PSS000EDU05	AgiSoft LLC	Agisoft PhotoScan Standard, Educational license, 5 licenses pack	\$225.00
PSS000EDU10	AgiSoft LLC	Agisoft PhotoScan Standard, Educational license, 10 licenses pack	\$310.00
PSS000EDU20	AgiSoft LLC	Agisoft PhotoScan Standard, Educational license, 20 licenses pack	\$420.00

Note 1: The prices are valid until 30 September 2016

Note 2: Inter-package license quantity is priced with a corresponding discount. To check the price for the order contact our sales department sales@agisoft.com.



Solo w/ Pre-Installed Gimbal in 3DR Backpack

Get it all with this bundle, which includes a Solo with the Solo Gimbal preinstalled, along with a Solo battery and 8 propellers, all shipped in a 3DR custom backpack. It's the smartest, easiest and most affordable way to get everything you need in one complete package.

Currently ships within 5 to 10 business days.

**GoPro not included*

\$1,149.95

Add To Cart





Solo Smart Battery

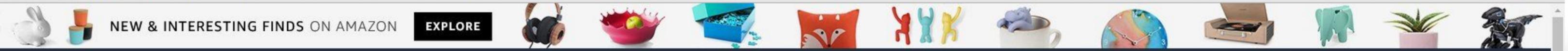
Extra rechargeable lithium polymer smart battery for the 3DR Solo; charger not included.

\$149.95

Add To Cart

OVERVIEW

Export Control Classification Number: EAR99



Camera & Photo GoPro HERO 4 Silver



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GoPro HERO4 Silver

by GoPro 4.5 stars 1,942 customer reviews | 805 answered questions #1 Best Seller in Camcorders

Price: \$349.00 FREE Shipping for Prime members once available

Usually ships within 1 to 2 months.

Ships from and sold by Amazon.com. Gift-wrap available.

Style: Camera Only

- Built-in touch display for easy camera control, shot-framing and playback
Professional 1080p60 and 720p120 video with 12MP photos at up to 30 frames per second
Built-in Wi-Fi and Bluetooth support the GoPro App, Smart Remote and more
Improved camera control and built-in video trimming lets you create and save short video clips right on your camera
ProtuneTM with SuperViewTM delivers cinema-quality capture and advanced manual control for photos and video with the world's most immersive wide-angle field of view

6 new from \$349.00 43 used from \$305.38 5 refurbished from \$314.99

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Special Shipping Information: Due to federal and international regulations, this product can only be shipped within the continental United States.

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Share icons

Buy new: \$349.00

Qty: 1

- Include 4-Year Drops & Spills Protection for \$42.99
Include 3-Year Drops & Spills Protection for \$35.99

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Ship to: Su Zhang - Albuquerque - 87109

Buy used: \$305.38

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Other Sellers on Amazon

\$399.00 + Free Shipping Sold by: Focus Camera Add to Cart

\$399.95 + Free Shipping Sold by: Campmor Add to Cart

\$399.99 + Free Shipping Sold by: Unique Photo, Inc. Add to Cart

54 used & new from \$305.38



\$14.50

Frequently Bought Together



Total price: \$398.45

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Categories

3DR Iris & X8 UAV (13)

3DR Solo UAV (19)

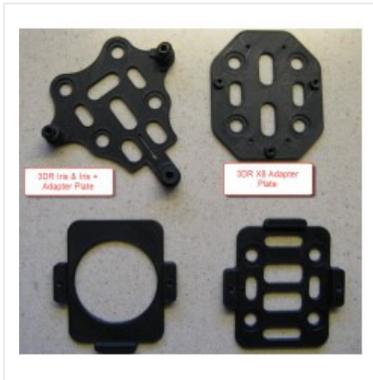
DJI UAVs (2)

Camera Adapters (12)

Custom 3D Printing (0)

[Home](#) » [Canon S100, S110, S120, SX260, ELPH 110IS, 130IS, 180, 320HS & 330HS Fixed Mapping 3DP Mount & Adapter for 3DR Iris, Solo & X8.](#) (Please Select Platform From Options PullDown)

Canon S100, S110, S120, SX260, ELPH 110IS, 130IS, 180, 320HS & 330HS Fixed Mapping 3DP Mount & Adapter for 3DR Iris, Solo & X8, (Please Select Platform From Options PullDown)



Brand: IMP Concepts
Product Code: 3DRCanonSxxxxMount
Availability: 17

Price: \$37.00

Available Options

* Platform Adapter Option:

— Please Select —

* Camera Option:

— Please Select —

* Camera Retainer Option:

- Velcro Retainer (+\$3.00)
- Screw Retainer

* Rubber Dampening Balls:

— Please Select —



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★★★★★ 3 reviews | [Write a review](#)

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Description	Reviews (3)
<p>3DR Iris, Iris, 3DR Solo + & 3DR X8 Fixed Mapping Camera Adapter and Camera Caddy. Fits Canon Cameras S110 / S100 / S120 / SX260 / ELPH 110IS, 130IS, 180, 320HS & 330HS. The plates are designed for either 8mm or 9mm dampening balls. Zennuse Part 42 or Part 15 White or Grey Dampeners are recommended.</p>	
<p>Now optionally available in Quick Velcro Versions (Please select from Options List) These Camera Adapters use "One Wrap" Style Hook & Loop strips (1/2" or 3/4") (Not Included) to clamp the cameras in place. Please See photos for clarification.</p>	
<p>There are 4 Drone mounts that are available. Use Platform Option Pulldown Menu to select your desired platform.</p>	
<p>1) 3DR X8 (Should also fit Y6) Adapter Plate which is merely a substitute for the Carbon Fiber Plate that is already available for the X8, but with integrated Gimbal Dampeners (Dampening Balls and M3 x 12 - 14mm screws are NOT Included)</p>	
<p>2) 3DR Iris & Iris + Adapter Plate, using our standard sturdy 3 Post Iris Mounting System</p>	
<p>3) 3DR Solo Accessory Bay Adapter Plate, This plates uses 4 x 2mm x 12mm or 14mm Screws (Not Included) to attach to the Solo's Accessory Bay which is located MidShips. It CANNOT be Used when the 3DR gimbal is also installed.</p>	
<p>4) 3DR Solo Gimbal Bay Adapter Plate, This plates uses 3 x 3mm x 10mm Screws (Not Included) to attach to the Solo's Gimbal Bay which is located Forward</p>	
<p>The unit is designed for Generic Dampeners that are available from a variety of sources. We decided on this because dampeners come in various different dampening hardness and you can choose which ones work best for your application.</p>	
<p>We are not providing dampeners, but recommend any 8mm or 9mm dampening balls. The hole size is designed for 8mm but can easily be adapter to 9mm if needed to suit most 9mm generic dampeners available today.</p>	
<p>We are recommending 8mm or 9mm Dampening balls such as; "Zennuse H3-3D Replacement Rubber Dampeners Original Part 42" (White or Grey Only). They come in different hardness ratings, and can be tuned for your individual requirements. We currently ONLY recommend using the harder Grey, or White Dampeners marked Types: 30* & A40*. White for the lighter camera options. When the adapter is pointing forward even harder dampeners may be needed such as the Black 100g, Yellow 200g & Red 300g available from HobbyKing.</p>	
<p>This is a "Tension" style dampening system so the dampening balls need to be a very snug fit as the camera hangs on them. Protectors can also be installed through the dapening balls if needed for extra insurance.</p>	
<p>Weight of all 3 3DP parts are about 36g.</p>	
<p>Screws and Dampers shown in the photos are for clarification only to be used as an Installation Guide. Also shown for clarification is a Canon S110 Camera.</p>	
<p><u>Please Select From Pull Down List which Camera & Adapter you require for your application. ONE Adapter will be shipped with each order.</u></p>	
<p><u>Optional:</u></p>	
<p>Iris & Iris + Adapter: 3 x M4 x 25mm Machine Screws (Please select from drop down Menu) Solo Accessory Bay Adapter: 4 x M2 x 12-14mm Machine Screws (Please select from drop down Menu) Dampener Balls (x 4) There are 3 choices, all have been found to work well with most cameras and platforms (Please select from drop down Menu)</p>	
<ul style="list-style-type: none"> • Medium Hardness 30* (White) • Medium/Firm Hardness A40* (Grey) • Firm (Black) 	
<p><u>Other Requirements (Not Included):</u></p>	
<p>Camera Retaining Screws: 2 x M3 x 30mm Machine Screws and nuts. These are not provided as camera thicknesses vary (Small Zip Ties Can Also Be used if Desired) Solo Gimbal Bay Adapter: 3 x M3 x 10mm Machine Screws (Uses Stock Screws) 3DR X8 Adapter: 3 x M3 x 12 - 16mm Machine Screws</p>	
<p>All Velcro Camara Adapters require 2 x "One Wrap" Hook & Loop Strips, one for each side. These are not provided, as various lengths can be used depending on the user's personal preferences. This is available very inexpensively at most craft or hobby stores.</p>	
<p>4 x Dampening Balls that fit 8mm or 9mm hole sizes to accomodate a wide range of commercially available dampeners.</p>	
<p><u>These camera and adapters are too large to be used on the 3DR Solo when the stock Solo 3DR Gimbal is also installed. The stock Solo 3DR gimbal will need to be removed first.</u></p>	
<p>If you experience Magnetic Interference, install the Camera AFTER an acceptable GPS lock has been achieved.</p>	

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Su Zhang

From: Allsopp Helikites <info@helikites.com>
Sent: Wednesday, September 07, 2016 6:54 AM
To: Su Zhang
Subject: RE: Quotes

Dear Su,

Please let me give you the quote first of all in this informal email as you might want to make some amendments.

per unit Total

5 x 2 m3 Skyshot Helikites	@ £920	£4,600
5 x Damped Pendulum Mount for 2 m3	@ £ 95	£ 475
2 x 5 m3 Desert Star Helikite	@£3,500	£7,000
2 x Damped Pendulum Mount for 5 m3	@ £150	£ 300
5 x 12 V Electric Winch incl. 4 Spike Ground Anchors, 1 Claw Anchor, 1 Turnaround Block	@1,365	£6,825
2 x 12 V Electric Winch incl. 4 Spike Ground Anchors, 2 Claw Anchors, 1 Turnaround Block	@1,415	£2,830
5 x 400 m of 200 kg Dyneema line	@£ 160	£ 800
2 x 400 m of 300 kg Dyneema line	@£ 200	£ 400
5 x Wooden Handreel	@£ 50	£ 250
Subtotal		£23,480

Optional:

5 x Big Bag for Inflation/Storage 2m3	@£ 95	£ 475
2 x Big Bag for 5m3	@£ 135	£ 270

these Big Bag prices are for the economic version, they are also available in a higher spec where they are fully sealed and dustproofed with heavy duty material for endurance. Please see here for photos

<http://www.easyaerialphotography.com/big-bag>

I have only included 5 Handreels because the 5 m3 would be very difficult to wind down manually in any wind. Running it through a turnaround block will ease that considerably though. Also the full 400 m of line won't quite fit on the reel. But if you want 7 Handreels we will happily send those out. Just let me know.

I have calculated 400 m of line which will give you a total flying height of about 300 m (the Helikite flies at an angle of 45 degrees).

The 5 m3 Desert Star will need slightly stronger line, hence the 300 kg line.

For the winches I have included the complete groundsystem to secure the winch down with groundanchors and set up a user friendly release system with a turnaround block. There will be instructions which show the setup.

The shipping cost will be £1,620 cif airfreight (the winches are 350 kg all together)

Please let me know how you want to proceed and I will send you a formal quote/proforma invoice.

The current lead time is about 4 - 6 weeks from receipt of payment.

Looking forward to your reply.

Best regards

Doris

DIRECTOR

ALLSOPP HELIKITES LTD

www.helikites.com

info@helikites.com

TEL: +44 (0)1425 654967

On 2016-09-06 23:50, Su Zhang wrote:

> Dear Doris,

>

> Thanks for your quick reply. We are going to purchase two Desert Star
> (5 cubic meters) and five Skyshot (2 cubic meters).

>

> For each of the model of Helikite, we need a DAMPED PENDULUM CAMERA
> MOUNT, a TETHER, a 12 VOLT WINCH, and HAND REELS. The camera we are
> going to fly Canon SX260 HS and it weighs about half pounds. In
> addition, we are going to fly 1000 feet at the maximum. Thanks!

>

> Best,

> Su

>

> -----Original Message-----

> From: Allsopp Helikites [<mailto:info@helikites.com>]

> Sent: Tuesday, September 06, 2016 3:46 PM

> To: Su Zhang

> Subject: Re: Quotes

>

> Dear Su,

>

> It is good to hear that your university has decided to buy Helikites
> for your research.

> Could you share with me which models of Helikite you are thinking of,
> and how high you want to fly. I just want to make sure the line
> strength is correct for the Helikite size. Also how heavy is your
> camera (I presume it is a camera you are going to lift?)

>

> Looking forward to putting the quote together for you.

>

> With best regards

>

> Doris Allsopp

>
> ---
> DIRECTOR
>
> ALLSOPP HELIKITES LTD
> www.helikites.com
> info@helikites.com
> TEL: +44 (0)1425 654967
>
> On 2016-09-06 22:20, Su Zhang wrote:
>> To whom it may concern,
>>
>> My name is Su Zhang and I am from the department of Geography and
>> Environmental Studies at the University of New Mexico, New Mexico,
>> USA. Our department is going to provide aerial imaging classes to
>> students and we have decided to use your company's products for this.
>> I can find the price information for the Skyshot and Desert Star but
>> I cannot find the price information for the DAMPED PENDULUM CAMERA
>> MOUNT, 200 KG TETHER, AND 12 VOLT WINCH, AND HAND REELS. We need to
>> buy _12_ of each of the aforementioned items. Please provide the
>> quotes for the these items by tomorrow (September 7m, 2016) so that I
>> can provide this information to our purchasing department. Thank you
>> very much and I am looking forward to hearing from you.
>>
>> Best Regards,
>>
>> Su Zhang



Quote 1021558792169.1

UNIV OF NEW MEXICO

Salesperson	Quote Details	Billing Details
Salesperson Name David Thomas	Quote Date 09/02/2016	Company Name UNIV OF NEW MEXICO
Salesperson Email David_B_Thomas@Dell.com	Quote Validity 10/02/2016	Customer Number 144307516
Salesperson Phone 18004563355	Solution ID -	Phone Number 1 (505) 2776888
Salesperson Extension 5139633		Address PO BOX 4548 ALBUQUERQUE NM 87196-4548 US

Price Summary

Description	Quantity	Unit Price	Subtotal Price
Precisions Workstations T5810	40	\$1,279.73	\$51,189.20
Dell 24 Monitor - P2417H	40	\$179.69	\$7,187.60
		Subtotal	\$58,376.80
		Tax	\$0.00
		Shipping and Handling	\$0.00
		Environmental Fee	\$0.00
		Total	\$58,376.80

Note: All tax quoted above is an estimate; final taxes will be listed on the invoice.

Dear Customer,

Your quote is detailed below; please review the quote for product and information accuracy. If you find errors or desire changes, please contact me as soon as possible.

Regards,
David Thomas

Order this quote easily online through your [Premier page](#), or if you do not have Premier, using [Quote to Order](#)

Product Details by Shipment

Description	Quantity	Unit Price	Subtotal Price
Precisions Workstations T5810	40	\$1,279.73	\$51,189.20

Estimated Delivery Date: 09/14/2016
Contract Code: 40ACD
Customer Agreement No: UNM 429

210-ACQM	Dell Precision Tower 5810 XCTO Base	40	-	-
338-BKDW	Intel Xeon Processor E5-1630 v4 (4C, 3.7GHz, 4.0GHz Turbo, 2400MHz, 10MB, 140W)	40	-	-
412-AADM	Heatsink for single CPU T5810	40	-	-
619-AIKN	Windows 7 Pro English, French, Spanish 64bit (Includes Windows 10 Pro License)	40	-	-
658-BCSB	Microsoft (R)Office 30 Day Trial	40	-	-
421-9982	Thank you for buying Dell	40	-	-
422-0008	Dell Data Protection System Tools Digital Delivery/DT	40	-	-
422-0052	SW,MY-DELL,CRRS	40	-	-
444-BBBG	BIOS match checked back to factory	40	-	-
444-BBBS	BIOS binary check enabled and verified	40	-	-
640-BBDH	Adobe Reader 11	40	-	-
640-BBES	Dell Precision Optimizer	40	-	-
640-BBEW	Dell Data Protection Protected Workspace	40	-	-
640-BBHR	Visit www.dell.com/encryption	40	-	-
640-BBHS	Not Selected in this Configuration	40	-	-
658-BBIH	Dell Applications for Windows 7	40	-	-
490-BBWW	512MB NVIDIA Quadro NVS 310 (2DP) (2DP-DVI adapter)	40	-	-
387-BBBE	No Energy Star	40	-	-
321-BCEK	Dell Precision Tower 5810 425W TPM Chassis, BW	40	-	-
370-ACQK	16GB (4x4GB) 2400MHz DDR4 RDIMM ECC	40	-	-
634-BENZ	No DDP ESS Software	40	-	-
954-3465	No DDPE Encryption Software	40	-	-
403-BBGV	Integrated Intel AHCI chipset SATA controller (6 x 6.0Gb/s) - SW RAID 0/1/5/10	40	-	-
449-BBEF	C1 SATA 3.5 Inch, 1-2 Hard Drives	40	-	-

780-BBCJ	Non RAID	40	-	-
400-AIJM	1TB 3.5inch Serial ATA (7,200 Rpm) Hard Drive,FPWS	40	-	-
401-AA DF	No Additional Hard Drive	40	-	-
401-AA DF	No Additional Hard Drive	40	-	-
401-AA DF	No Additional Hard Drive	40	-	-
411-XXX Y	Boot drive or boot volume is less than 2TB	40	-	-
525-0057	Kace K1000 Express	40	-	-
429-AA PG	16X DVD+/-RW Drive	40	-	-
429-AA BU	PowerDVD Software not included	40	-	-
510-BBB W	Sound Card Not Included	40	-	-
520-AA DM	Internal Speaker	40	-	-
385-BBB L	No Media Card Reader	40	-	-
555-BBJ O	No Additional Network Card Selected (Integrated NIC included)	40	-	-
817-BBBC	Not Selected in this Configuration	40	-	-
386-BBB E	No Dell Tera2 Remote Access host card for the Wyse P25 Zero Client	40	-	-
631-AA ID	No Out-of-Band Systems Management	40	-	-
650-AA AJ	No Anti-Virus Software	40	-	-
580-AA DJ	Dell KB216 Wired Multi-Media Keyboard English Black	40	-	-
570-AA CW	Dell MS111 USB Optical Mouse	40	-	-
461-AA BV	No Accessories	40	-	-
520-AA BF	No External Speaker	40	-	-
620-AA YW	Windows 10 Pro OS Recovery 64bit - DVD	40	-	-
658-BC UV	Dell Developed Recovery Environment	40	-	-
430-XX YU	Resource DVD not Included	40	-	-
340-AA CB	Tech Sheet for Dell Optiplex T5810	40	-	-
470-AA KG	US 125V Power Cord	40	-	-
461-AA AB	Chassis Intrusion Switch	40	-	-
817-BBB B	No FGA	40	-	-
328-BBB E	Shipping Material for System	40	-	-
340-AA EYP	SHIP,PWS,LNK,NO,NO,AMF	40	-	-
389-BFF O	MOD,LBL,REG,T5810,DAO	40	-	-
389-BF JR	Regulatory Label	40	-	-
389-BD CE	No UPC Label	40	-	-
389-BB RO	Intel Xeon Label	40	-	-
329-BB JL	TPM Enabled	40	-	-
332-1286	US Order	40	-	-
340-AA GIK	Safety/Environment and Regulatory Guide (English/French/Dutch)	40	-	-
575-BB CH	No Stand included	40	-	-
997-7163	Dell Limited Hardware Warranty Plus Service	40	-	-
997-7165	Onsite/In-Home Service After Remote Diagnosis, 3 Years	40	-	-
987-1539	Custom Operations PM Support	40	-	-

Description	Quantity	Unit Price	Subtotal Price
Dell 24 Monitor - P2417H	40	\$179.69	\$7,187.60

Estimated Delivery Date: 09/12/2016
Contract Code: 40ACD
Customer Agreement No: UNM 429

210-AIIM	Dell 24 Monitor- P2417H	40	-	-
806-2755	Premium Panel Warranty Advanced Exchange 3 Years	40	-	-
806-2763	Dell Limited Hardware Warranty	40	-	-

Important Notes

Terms of Sale

This quote is valid for 30 days unless otherwise stated. Unless you have a separate written agreement that specifically applies to this order, your order will be subject to and governed by the following agreements, each of which are incorporated herein by reference and available in hard copy from Dell at your request:

If this purchase is for your internal use only: Dell's Commercial Terms of Sale (www.dell.com/CTS), which incorporate Dell's U.S Return Policy(www.dell.com/returnpolicy) and Warranty (www.dell.com/warrantyterms).

If this purchase is intended for resale: Dell's Reseller Terms of Sale (www.dell.com/resellerterms).

If this purchase includes services: in addition to the foregoing applicable terms, Dell's service contracts and related service terms (www.dell.com/servicecontracts/global).

If this purchase includes software: in addition to the foregoing applicable terms, your use of the software is subject to the license terms accompanying the software, and in the absence of such terms, then use of the Dell-branded application software is subject to the Dell End User License Agreement - A Version. (www.dell.com/AEULA) and use of the Dell-branded system software is subject to the Dell End User License Agreement - S Version (www.dell.com/SEULA) (the "End User License Agreements").

You acknowledge having read and agree to be bound by the foregoing applicable terms in their entirety. Any terms and conditions set forth in your purchase order or any other correspondence that are in addition to, inconsistent or in conflict with, the foregoing applicable online terms will be of no force or effect unless specifically agreed to in a writing signed by Dell that expressly references such terms.

Additional Terms for Public Customers

If you are a department, agency, division, or office of any district, state, county or municipal government within the United States ("Public Customer"), the following terms ("Public Customer Terms") apply in addition to the foregoing terms:

A. If any portion of the foregoing terms and conditions (or any terms referenced therein) is prohibited by law, such portion shall not apply to you. Notwithstanding anything to the contrary, the End User License Agreements shall take precedence in all conflicts relevant to your use of any software.

B. By placing your order, you confirm that (1) you are a contracting officer or other authorized representative of Public Customer with authority to bind the Public Customer to these terms and conditions, and (2) you have read and agree to be bound by these terms and conditions.

Pricing, Taxes, and Additional Information

All product, pricing, and other information is valid for U.S. customers and U.S. addresses only, and is based on the latest information available and may be subject to change. Dell reserves the right to cancel quotes and orders arising from pricing or other errors. Please indicate any tax-exempt status on your PO, and fax your exemption certificate, including your Customer Number, to the Dell Tax Department at 800-433-9023. Please ensure that your tax-exemption certificate reflects the correct Dell entity name: **Dell Marketing L.P.** Note: All tax quoted above is an estimate; final taxes will be listed on the invoice. If you have any questions regarding tax please send an e-mail to Tax_Department@dell.com.

For certain products shipped to end-users in California, a State Environmental Fee will be applied to your invoice. Dell encourages customers to dispose of electronic equipment properly.

Your Cart

Update

Send Proposal

[Create Template](#)

Add Part

Item Picture	Description	Quantity	Total Quantity	Unit Price	Total Price	
	9.7-inch iPad Pro Wi-Fi 32GB - Silver MLMP2LL/A Estimated Shipping: 3-5 business days Engraving Add	<input type="text" value="6"/>	6	579.00 USD	3,474.00 USD	Remove
	<input type="checkbox"/> I want to include this AppleCare product. (Check this box and click "Update" to have contract pricing reflected in the cart.) Applicable terms and conditions can be viewed by clicking the following product link: 2-Year AppleCare+ for iPad S4745LL/A					
	<input type="checkbox"/> I want to include this AppleCare product. (Check this box and click "Update" to have contract pricing reflected in the cart.) Applicable terms and conditions can be viewed by clicking the following product link: 3-Year AppleCare+ for iPad S5193LL/A					

Take a screenshot

Subtotal	3,474.00 USD
Estimated Tax	0.00 USD
Total	3,474.00 USD



Your Order Details

ITEM	QTY	PRICE
 Samsung Galaxy TabPro S 12" 128GB (Wi-Fi), Black	- 6 + X REMOVE	\$4,499.94 \$899.99
Price includes \$150 limited time instant savings		
Product will ship in 1 - 3 business days		
+ Protect your purchase with an Extended Service Plan		

Select Shipping Method



Express

1 business day

Once shipped, order should arrive in 1 business day.



Standard

Free for orders over \$50

Once shipped, order should arrive in 1-3 business days.



Expedited

2 business days

Once shipped, order should arrive in 2 business days.

Take a screenshot

Su Zhang

From: Sean Thomas O'Neill
Sent: Wednesday, September 07, 2016 10:26 AM
To: Su Zhang
Subject: FW: Concerning Request 282438

Hey dude, here is the Data ballpark figure. They are going to try and get us something more specific by Friday, but not sure if it will happen...

Sean T. O'Neill

From: Help.UNM [<mailto:help@unm.edu>]
Sent: Wednesday, September 07, 2016 10:10 AM
To: Sean Thomas O'Neill <ronbeel@unm.edu>
Subject: Concerning Request 282438

Good Morning Sean,

You can put a ROM dollar amount of \$10,000 dollars. Other than the cabling, I believe that all the existing switch ports are full and a new switch will have to be purchased to accommodate the added 20 needed ports. You should have the estimate in a few days or so.

Thanks,

Ric

{CMI: CMI438760}

Su Zhang

From: Sean Thomas O'Neill
Sent: Thursday, September 08, 2016 2:53 PM
To: Su Zhang
Subject: RE: Geography quote for power

Su we're likely getting one more quote today for data/electric...stay tuned...

Sean T. O'Neill

From: Angel Becerra
Sent: Thursday, September 08, 2016 2:51 PM
To: Sean Thomas O'Neill <ronbeel@unm.edu>
Cc: Su Zhang <suzhang@unm.edu>
Subject: RE: Geography quote for power

Sean,
After the second walk around with our electricians, we estimate the project to around \$5,000.

This price includes:

- 2 – Electricians for 3 days, 8 hours a day (~\$3,000). **Note: you will need drawings and permits to complete this work.**
- Conduit and conductors from the Electrical panel in rm 108 to rm 106 (~50').
- 3 - "Power Poles" to get conductors from the ceiling to the tables neatly.
- Power drops to all 6 tables with 1 – 20amp circuit per table.

Dropping the power from overhead is the easiest and least expensive way to get power to those tables. If you decided to trench the power to the tables that will add a lot to the cost of the project, but it would look cleaner.

Let me know if you have any questions or concerns, and we can help if and when you proceed with this project.

Thank you,
Angel B.

From: Sean Thomas O'Neill
Sent: Tuesday, September 06, 2016 4:39 PM
To: Angel Becerra <angelbecerra@unm.edu>
Subject: RE: Geography quote for power

They are; currently we have 24, so an additional 16 stations. (the 40 would replace all the machines)

Sean T. O'Neill

From: Angel Becerra
Sent: Tuesday, September 06, 2016 4:38 PM
To: Sean Thomas O'Neill <ronbeel@unm.edu>
Subject: RE: Geography quote for power

Ok this helps. Are all 40 of these going in that room?

From: Sean Thomas O'Neill
Sent: Tuesday, September 06, 2016 4:35 PM
To: Angel Becerra <angelbecerra@unm.edu>
Subject: RE: Geography quote for power

Here's a quote for the boxes. Dell Precision 5810's with standard workstation power supplies.

Sean T. O'Neill

From: Angel Becerra
Sent: Tuesday, September 06, 2016 4:30 PM
To: Sean Thomas O'Neill <ronbeel@unm.edu>
Cc: Su Zhang <suzhang@unm.edu>
Subject: RE: Geography quote for power

Do these machines have a name and are they online? What are they called?

From: Sean Thomas O'Neill
Sent: Tuesday, September 06, 2016 4:27 PM
To: Angel Becerra <angelbecerra@unm.edu>
Cc: Su Zhang <suzhang@unm.edu>
Subject: RE: Geography quote for power

I don't have specifics on energy draw; but a ballpark would be 100W at the high end and likely around 1amp per machine...High numbers...

Is that enough to go on?

Sean T. O'Neill

From: Angel Becerra
Sent: Tuesday, September 06, 2016 4:17 PM
To: Sean Thomas O'Neill <ronbeel@unm.edu>
Cc: Su Zhang <suzhang@unm.edu>
Subject: RE: Geography quote for power

Sean,
Do you have spec sheets of the equipment you need power for that show wattage and amperage?

Thanks,
Angel B.

From: Sean Thomas O'Neill
Sent: Tuesday, September 06, 2016 4:02 PM
To: Angel Becerra <angelbecerra@unm.edu>
Cc: Su Zhang <suzhang@unm.edu>
Subject: Geography quote for power

Reference # 71248