**Template for NASA Keck Science Program**

Include a short title and the semester in the header.

Do NOT include your name.

*[The first 2 pages of this template contain general information and instructions; please remove them before submitting your proposal]*

The NASA Keck proposal review uses a Dual Anonymous Proposal Review (DAPR) process. We have prepared [Proposer Guidelines](https://nexsci.caltech.edu/missions/KeckSolicitation/DAPR_proposer.shtml) to assist with the preparation of your anonymous proposal. **Use of this template is required.**

In addition to this anonymously written Science Program, each proposal must also include a non-anonymized Expertise and Access (E&A) document prepared using this template available in [Word](https://nexsci.caltech.edu/missions/KeckSolicitation/EA_template.docx) or [Latex](https://nexsci.caltech.edu/missions/KeckSolicitation/EA_template.tex). Further information on both the E&A document and the Science Program document can be found in the [Call for Proposals](https://nexsci.caltech.edu/missions/KeckSolicitation/gen-info.shtml).

Note: for semester 2024A, this template includes modified page limits (in red below) for the submission of a [Key Strategic Mission Support (KSMS)](https://nexsci.caltech.edu/missions/KeckSolicitation/gen-info.shtml#IIa) proposal. Likewise, Section 5 is to be included *only* if you are submitting a KSMS proposal.

Email us at keckcfp@ipac.caltech.edu with any questions.

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| **\*\* SCIENCE PROGRAM PAGE LIMITS \*\*** |
| 1. Science Case
 | up to 2 pages *OR up to 5 pages for KSMS proposals* |
| 1. Mission Support Justification
 | up to ½ page *OR* up to 1 page for KSMS proposals |
| 1. Instrument Request
 | up to 1 page *OR* up to 3 pages for KSMS proposals |
| 1. Figures and Tables
 | up to 1 page |
| 1. Data Reduction and Release Plan
 | Up to 1 page, KSMS proposals only |
| 1. References
 | up to 1 page |
| **Total for Science Plan** | **Up to 5½** **pages *OR* up to 12 pages for KSMS proposals** |
| 1. Target list
 | No limit |
| * The NExScI cover sheet is generated via the submission website and includes fields for a title, PI and co-I names, abstract, NASA strategic relevance, and the Keck Observatory Archive data check. These should not be repeated in the proposal text.
* The WMKO cover sheet is generated through the [WMKO Observer Login Page](https://www2.keck.hawaii.edu/inst/PILogin/login.php). The WMKO proposal number should indicate the correct semester and start with an “N”, indicating NASA as the allocating institution. You must upload a PDF of this cover sheet when you submit your proposal.

The NExScI and WMKO coversheets do not count against the above page limits.  |

* This template is intended to outline the Science Program for a typical NASA Keck proposal. Section heading titles can make the proposal easier to read but are not required. Multiple sections can be put onto the same page, however shortening one section does not mean you can increase the page limit of another.
* Proposals must use 12-point font with 1-inch margins on all sides. Do not change the default font in this template since other fonts have different character spacing that can affect readability.
* Once your proposal is complete, use the [online submission portal](https://catcopy.ipac.caltech.edu/nasakeck/proposal.php) to submit the following PDF documents:
	+ [Anonymized Science Program](https://nexsci.caltech.edu/missions/KeckSolicitation/gen-info.shtml#Ibi)
	+ [Non-anonymized Expertise and Access document](https://nexsci.caltech.edu/missions/KeckSolicitation/gen-info.shtml#Ibii)
	+ WMKO coversheet
* Following submission, you will receive a confirmation email with both the anonymized Science Program and the non-anonymized E&A document attached as PDFs. If you do not receive this confirmation email, please contact us at keckcfp@ipac.caltech.edu

**1 Science Case (up to 2 pages OR up to 5 pages for KSMS proposals)**

Remember that all text in this template must conform to [DAPR](https://nexsci.caltech.edu/missions/KeckSolicitation/DAPR_proposer.shtml). Do not include an abstract or title here since these are captured in the coversheet upon proposal submission.

Specific points that should be addressed in the Science Case are detailed in the [Call for Proposals](http://nexsci.caltech.edu/missions/KeckSolicitation/gen-info.shtml#Ibi). This section should demonstrate how the proposed science fits into [NASA’s strategic use of Keck time](http://nexsci.caltech.edu/missions/KeckSolicitation/gen-info.shtml#Ia).

**2 Mission Support Justification (up to ½ page OR up to 1 page for KSMS proposals)**

If you are submitting your proposal as a Mission Support proposal or as a KSMS proposal, use this section to demonstrate that the proposed observations provide critical and timely support for confirmed and operating NASA space missions. Note that KSMS projects may support past, present, and/or future NASA-led missions or missions with significant NASA partnerships. In this case, "critical" refers to NASA Keck data meeting one or more of the criteria described in [Section IIb of the Call for Proposals](https://nexsci.caltech.edu/missions/KeckSolicitation/gen-info.shtml#IIb) and Section IIa for the KSMS criteria.

Letters from either the supported project or NASA HQ are no longer required for Mission Support or KSMS proposals.

# 3 Instrument Request/Technical Justification (up to 1 page OR up to 3 pages for KSMS proposals)

This section should contain details of your planned observations, descriptions of scheduling constraints, and data analysis plans. Specific points that should be addressed in this section are described in the [Call for Proposals](http://nexsci.caltech.edu/missions/KeckSolicitation/gen-info.shtml#Ibi) and include which portion of the night you are requesting if requesting partial nights.

KSMS proposals should include clear information on the number of nights requested for each of the semesters covered in the up to 2-year KSMS period. This should be summarized in tabular format:

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| --- |
| REQUEST SUMMARY (FOR KSMS PROPOSALS ONLY) |
| Observing Semester | # of nights requested | Instrument(s) |
| 2024A |  |  |
| 2024B |  |  |
| 2025A |  |  |
| 2025B |  |  |
| Total Request |  |  |

# 4 Figures, Tables (up to 1 page OR up to 3 pages for KSMS proposals)

Figures and tables can be embedded within the narrative text or presented separately, but must not total more than one page of space. Captions may be in 10-point font.

# 5 Data Reduction and Release Plan for KSMS proposals only (up to 1 page)

Please see the Call for Proposals for full details on the [Data Reduction and Data Release plan](http://nexsci.caltech.edu/missions/KeckSolicitation/gen-info.shtml#IIa.ii) which is required for KSMS proposals.

# 6 References (up to 1 page)

References may be in 10-point font and should be formatted using the author’s last name and year of the cited publication, e.g. (Smith, 2015) (Smith & Smith, 2015) or (Smith et al., 2015).

Do not include references and links to papers in preparation or submitted that are stored on personal web pages. References to submitted papers on public archives (e.g., arXiv) are acceptable.

Note: The E&A document has a section for references that are specific to the E&A document and those should not be included in this anonymized Science Plan.

# 7 Target List (no page limit)

All proposals must include a complete, well-justified and, if appropriate, prioritized [target list](https://nexsci.caltech.edu/missions/KeckSolicitation/gen-info.shtml#Ibi) with sufficient information (magnitudes, coordinates) to determine scheduling within the semester, including which part of the night is requested if asking for less than full nights. *Proposals without such lists will be rejected.*

In the case of Targets of Opportunity or sources drawn from on-going surveys or very large samples of sources (e.g. from deep extragalactic fields), a description of the potential targets must be provided in sufficient detail for the Telescope Allocation Committee (TAC) to make a thorough review.