

Management Response to the Report of the LSST-DESC Early Science Task Force

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The LSST-DESC Early Science Task Force (Camille Avestruz, Pat Burchat, Tim Eifler, Eric Gawiser (chair), Leanne Guy, Katrin Heitmann, Hiranya Peiris, Niko Šarčević, Dan Scolnic, and Rance Solomon) released [a report](#) with recommendations to LSST DESC Management, Leadership and the Collaboration Council. We have collated some responses to the report from DESC Management. As a reminder, Early Science as defined by the Rubin Observatory encompasses Data Previews (1 and 2) and Data Release 1 (6 months of survey data).

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ESTF Recommendations, Management Responses and Resulting Actions

1. Key paper numbers

ESTF Recommendation

We recommend planning for at most 2-3 Key Papers during Early Science to ensure that collaboration resources are focused on a manageable number of high-impact publications and to leave room for a wide range of Standard Papers.

Management Response

We agree with the ESTF that DESC should limit the number of large (Key) papers on Early Science results (not including data release/catalog papers) to make sure we continue to prioritize the full cosmology analyses possible with the first year of data (DR2). Some standard papers (and DESC notes) should be encouraged within working groups, particularly as they support the preparation for DR2 analysis.

Resulting Action

DESC Leadership is developing a plan for determining the Key papers, how to support Standard papers and reports (see the additional recommendations below).

2. Divisions between Key and Standard papers

ESTF Recommendation

We recommend that the DESC Publication Policy be amended to create a mechanism by which a paper that was originally planned to be a Standard Paper can be elevated to a Key Paper. The mechanism should require the agreement of the original primary authors of the paper since the reclassification as a Key Paper implies alphabetical ordering of authors.

Management Response

The DESC Publication Policy states: “No paper previously designated as a Standard Paper may be re-labeled as a Key paper later in the publication process without the agreement of all primary authors.” While it may be the case that it emerges that some Standard papers develop into the kind of main (new cosmology) DESC result that require adjustment to a Key Paper, we need to develop this mechanism carefully to ensure buy-in from the primary authors/project leads, transparency to all DESC members, and a plan for supporting the primary authors to have additional Standard papers that supplement and reflect their contribution to the Key papers.

Resulting Action

DESC Management will set up discussions with the Pub Board and Collaboration Council to draft the mechanism/procedure for changing Standard Papers into Key Papers.

3. Identifying Key and Standard papers

ESTF Recommendation

We recommend that, for the planned Key Papers, members of the DESC Leadership team identify projects leading to Standard Papers that have potentially overlapping scope with the Key Paper and ensure that each project is defined to be complementary to the Key Paper.

Management Response

Developing a plan *collaboratively* with working group co-convenors and topical team leads (and through them with all of DESC) is central to our plan for DESC Early Science. Our first draft is [here](#).

Resulting Action

Several sessions at the February 2025 DESC collaboration meeting, supplemented by Leadership telecons are helping shape a plan for the scope of Key and Standard papers within the Working groups. This planning phase will conclude by end of April 2025. In addition, DESC Leadership will draft guidelines for how to identify Standard papers that will feed into Key papers, designating paper essential for Key papers and how to define possible timelines for release of such papers.

4. Tiered publication approach

ESTF Recommendation

We recommend that there be a tiered approach to DESC papers based on the Rubin Data Previews, including the following options:

- A. We expect that most papers based on Early Science datasets that include DESC co-authors (whether or not they are DESC-Commissioners) will follow the usual publication procedure for DESC papers.*
- B. Authors of DESC papers that need an expedited review (due to competition from outside DESC) should request it .*
- C. Authors of papers that might be considered DESC papers who wish to request an exception to being a DESC paper (due to minimal overlap with DESC WG efforts and DESC products) should do so using the standard Publication Board exception process.*
- D. Papers that include DESC-Commissioners but are purely a product of the Rubin Commissioning effort – e.g., characterizing the performance of the observatory – are not expected to be DESC papers. However, notifying any relevant DESC WGs and/or the Publication Board when such a paper is nearing submission is recommended to avoid misunderstandings.*

Management Response

We agree that timely review will be crucial in the early science, where we will be testing not only the data but some of our processes. We have identified some proposed actions to support/enhance our review process and will iterate on these with the collaboration and DESC Leadership.

Resulting Action

- We suggest a modification to PubDb to add an early science/'rush response' flag and/or a mechanism to identify reviewers who are specifically charged with rapid review.
- We suggest maintaining a list of planned papers with DESC-Commissioners to distinguish between those that contain DESC-related products or science and pure

Rubin Observatory papers. On the Rubin Obs side, a page has been created for Project team members to voluntarily share their plans for publications that would not fall under the Rubin Publication Policy to facilitate coordination.

- We suggest regular updates to the collaboration from all project leads regarding papers in advance of paper review and encouraging those who are asked to review to do so in a timely manner.

5. Publication Board workload

ESTF Recommendation

We recommend finding ways to spread the workload across the Publication Board so that the Publication Manager does not bear alone the expected increase in requests for exceptions related to Data Previews from commissioning.

Management Response

The Publication Board has already initiated changes in its structure with associated changes to the publication policy. These changes will help streamline internal review and take some of the workload for review off of working group conveners. DESC Management and the Publication Board Manager have started a document with proposed changes to share with the collaboration council for ratification.

Resulting Action

We will work with the newly reorganized Publication Board to ensure that they have a balanced workload and investigate ways to support the work of the Publication Board with DESC Operations resources.

6. Co-authorship with those in the Commissioning Team

ESTF Recommendation

We recommend that DESC-Commissioners offer co-authorship to key contributors to DESC pipelines used in work described in Rubin commissioning papers, even if they are not formally DESC papers.

Management Response

We agree that defining a set of planned papers from Early Science data (DESC papers and non-DESC papers that DESC-commissioners will contribute to) will increase transparency between DESC and Rubin. We will propose to Rubin the formation of such a list, following already proposed guidelines given in SITCOMTN-076.

Resulting Action

DESC Management will provide Rubin with a list of who were the key contributors to the DESC pipelines, and encourage Rubin to invite the contributors to the relevant pipelines to be co-authors on papers that use those pipelines? Similarly, we will share our list of proposed DESC papers on early science with the Rubin Project as part of a broader conversation re: communication.

7. Encouraging early career scientist contributions

ESTF Recommendation

We recommend that DESC Leadership increase awareness by ECS of opportunities to contribute to and co-author Early Science papers, including any Key Papers.

Management Response

We agree that we need to encourage participation in early science and pipeline development for DR2 leading to Standard Papers and DESC notes from DESC ECS.

Resulting Action

DESC Management will work with DESC Leadership to plan a Town Hall with a focus on how to engage ECS in early science and commissioning. We will work with Leadership to actively advertise early science plans and to solicit participation within the working groups.

8. Highlighting early career scientist efforts

ESTF Recommendation

We recommend that when an ECS volunteers or is asked to play a leading role on a Key Paper during Early Science, they be provided with support along with externally visible credit for their contribution – for example, assigning presentations through the Speakers Bureau and initiating and maintaining the Database of Author Contributions described in the DESC Publication Policy.

Management Response

Highlighting ECS contributions to DESC papers remains a key priority for DESC Management and Leadership, and we propose a series of actions to highlight those contributions.

Resulting Action

DESC management will work with/charge the Speakers Bureau and Publication Board to

- Arrange externally facing seminars where we highlight the work of the early career scientists involved in Key papers
- To develop a system for soliciting and assigning conference talks
- Implement/maintain a Database of Author contributions for all Early Science papers
- Provide content on DESC webpages to highlight publications, including sets of related publications that collectively support major science results. This could be implemented by creating a DESC EPO group.

9. Full Membership and Builder status

ESTF Recommendation

We recommend that the Membership Committee, JuDO leadership, mentors, and senior DESC scientists encourage ECS to apply for Full Membership (FM) and Builder Status as soon as they become eligible, since important voting and authorship rights result.

Management Response

Encouraging more DESC Full members and Builders remains a priority for DESC as we get closer to data. We propose a series of actions below.

Resulting Action

DESC management will support the Membership Committee to have a Full member drive, and to develop a robust plan for identifying and encouraging Builders and Full members. We will highlight this in messaging to the collaboration, planned with the Membership Committee.

10. Awareness of policies and procedures

ESTF Recommendation

We recommend that time at DESC collaboration meetings and DESC internal seminars continue to include reminders to the collaboration of the content of existing policies, including the Publication Policy and Speakers Bureau Policy.

Management Response

We agree with the ESTF that knowledge of our policies is important to ensuring that we follow them, particularly as we get into a more fast-paced and stressful time related to publications.

Resulting Action

We highlighted the policies in the opening DESC management plenary and plan to have boilerplate introductory slides to this end at DESC seminars.

11. DESC Management Transparency

ESTF Recommendation

We recommend that DESC Management practice maximum transparency in communicating how Early Science plans are made and what those plans are. This will help all DESC members understand where and when they can contribute.

Management Response

We appreciate this recommendation and are aware that insufficient communication can lead to the perception of opacity in decision making and plans. We will make extra effort to share our plans widely and also to advertise them actively to the collaboration.

Resulting Action

DESC management will share the response to feedback from the Collaboration. We will have discussions on this report within the DESC Leadership meetings, which are open (and will be advertised widely). In addition, we will advertise the plans for early science papers by sharing leadership slides and summarising the plenary and parallel discussions during the plenary.

12. Engaging DESC Ombudspersons

ESTF Recommendation

We recommend that DESC Leadership remind all collaboration members of their ability to consult the Leadership members and/or Ombudspersons when research conflicts arise.

Management Response

Effective management of authorship (and other) conflicts is critical for keeping the collaboration working efficiently in what may be a time of higher stress. The current process can be slow and lead to divisions within working groups.

Resulting Action

We are working with the Publication Board and DESC Leadership to clarify the procedures around authorship conflicts, as part of the broader Publication Board reorganization process. We will also continue to highlight the availability of the Ombudspersons at collaboration meetings and other venues including their availability to mediate conflicts. We will work with the Ombuds to make examples of some conflicts that could be heard by the Ombuds to demystify the process.

13. Review of DESC conflict resolution processes

ESTF Recommendation

We recommend that DESC Management review whether DESC's conflict resolution processes are ready to handle the urgent demands that might occur during the Early Science period.

Management Response

Management shares the concern that the Ombuds and formal conflict resolution procedures may be overwhelmed as the proximity to data increases.

Resulting Action

The recent proposed change in the Pub Board will facilitate resolving conflicts around author disputes more rapidly by DESC Management. DESC Management will work with the DESC Ombuds to assess whether or not DESC needs to increase the number of Ombuds, or find other processes or write additional conflict resolution procedures for dealing with conflicts (including but not limited to those that arise during Early Science).

14. DESC Analysis Coordination

ESTF Recommendation

We recommend that very close attention be paid to Analysis Coordination during the Early Science era, both to ensure robust results and as preparation for doing cosmology with DR2. As a result, DESC Management should expect the Analysis Coordination effort to require an increased total time commitment.

Management Response

This is a valid recommendation and well-taken.

Resulting Action

Management will flag this recommendation for the incoming DESC Spokesperson and their Management team. Some proposed actions include:

- Delineate clearly the responsibilities of the Working Group co-convenor, Coordinator and Deputy Coordinator during each management term, through 1-2 calls to put everybody on the same page and share the responsibilities.
- Determine if additional support from DESC Operations is needed for this and arrange for this support if needed and possible.

15. Synergies between Early Science Analyses and DR2 pipeline development

ESTF Recommendation

We recommend that DESC Management take advantage of synergy between Early Science analyses and pipeline development whenever possible while ensuring that sufficient resources are devoted to pipeline readiness for DR2 analysis. If the analysis of Early Science data and the development of DESC pipelines come into conflict, DESC Pipeline Scientists will need clear guidance and frequent communication with Management.

Management Response

We agree that linking papers to associated DESC pipelines (and the DESC Work Breakdown Structure or WBS) will be critical to ensuring that we are able to achieve pipeline readiness.

Resulting Action

We are adjusting the DESC WBS to link pipelines linked to DESC papers.

16. Communication between DESC and Rubin Project

ESTF Recommendation

We recommend that DESC Management establish timelines for providing feedback to the Rubin Project based on DESC's findings from Early Science datasets. To offer feedback that is both timely and thorough, it may be useful to define a timetable for both initial and final feedback on each of the datasets.

Management Response

Developing a plan for communication between DESC and Rubin during Early Science (and in between Rubin Data Releases) is a key priority for the coming months.

Resulting Action

Management will propose a plan for communication and feedback on the Early Science data sets, publications and the Rubin Data Releases, and will set up calls with Rubin to iterate on this plan, through designated liaisons. Once finalized the plan will be shared widely with DESC. Such a plan will involve several working groups including SRV, the Rubin Commissioning Science units and DESC management.

17. Clarify DESC publication review

ESTF Recommendation

We recommend that the Publications Board clarify details related to the implementation of the DESC internal review process. The Publication Policy envisions that some internal reviewers (IRs) will become familiar with a project as the paper is drafted; however, if IRs are assigned at this stage, they often feel tasked with reviewing a draft journal paper that is not yet ready for review. Clear instructions should be offered to WG conveners as to when IRs are to be chosen, and to IRs and authors as to when IRs are expected to become familiar with the project and when they are expected to review a draft paper.

Management Response

The Publication Board is being restructured with a specific focus on creating a sub-group tasked with shepherding paper review.

Resulting Action

Management will work with the Publication Board and Collaboration Council to finalize this process and restructuring and communicate it with the collaboration.

18. Speed up DESC internal review

ESTF Recommendation

We recommend streamlining the DESC internal review process. Most iterations with internal reviewers take 2-4 weeks, and there are frequently three iterations. This is far slower than intended by the Publication Policy, which notes that “it is expected that the pace of responses from both authors and reviewers will accelerate as convergence is neared.”

Management Response

This is an important issue that we need to work on in concert with DESC Leadership and the Publication Board given the proposed reorganization described above.

Resulting Action

Management will work with the Publication Board to develop a specific plan for a streamlined internal review process and discuss it with DESC Leadership.

19. Automating publication review reminders

ESTF Recommendation

We recommend that the Publication Board explore mechanisms for automating reminders to internal reviewers that responses are due within two weeks and for supporting WG Conveners in catalyzing or replacing internal reviewers.

Management Response

We agree that automation should be used wherever possible to speed up the process of engaging with internal reviewers, authors and the collaboration regarding publication.

Resulting Action

Management will work with the Publication Board and the PubDB team to determine ways in which automation may help the publication review.

20. DESC project definition scope

ESTF Recommendation

We recommend that DESC Leadership insist that each project declaration clearly defines the project's scope and articulates how it complements other announced projects within the DESC landscape. Vigilance should then be exercised within WGs to avoid unplanned overlap in the resulting papers.

Management Response

Some attempts at this have already been made through the [Project Proposal](#) document. We also agree that any (small) changes in the project scope creep should be recorded on the project page and circulated to the working group in the interests of transparency.

Resulting Action

Management will formalize the Project Proposal document linked above, and add language related to any changes in scope to the document. We will work with the PubDB team to ensure that this document reflects the process within PubDB.