

Deliverable Calendar & Requirements

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Introduction to Checkpoints

Since DEVELOP projects are conducted throughout fast-paced, 10-week terms, we want to support you in staying on track for completing deliverables. Checkpoints are designed to guide your team in completing deliverables in smaller chunks as you progress through the term while receiving feedback along the way! Each checkpoint will be thoroughly reviewed by your Lead for in depth feedback and then by a Project Coordination reviewer. From there, Project Coordination will hand back the deliverable for your team to incorporate edits for the final draft. We know that each project's timeline is different, so where you are at in the project might not align perfectly with what the checkpoint is asking you to include. However, we encourage teams to make each checkpoint submission as complete and concrete as possible while remaining open to updates and changes in the project's direction. Checkpoints are designed to be helpful, so teams can include placeholders and ask for extensions if absolutely needed.

To submit a checkpoint or deliverable, move the document into the respective Deliverable Submission folder in the DEVELOP Program Teams channel. Your Project Coordination reviewer will let you know when both the Lead and PC review is complete and the document is ready to be moved back into your node folder so that your team can address comments and continue working. For a timeline of checkpoint due dates, see below. Typically, checkpoints are turned in on Thursday, close of business (local time), on the week that it is due (with some exceptions due to deliverable type and summer holidays). Checkpoint review is typically complete by the following Tuesday, close of business (local time). It is required to incorporate all edits from the Lead and Project Coordination before the next checkpoint is due, so feel free to let us know if you have questions on any comments that we make if you think something doesn't look right!

Finally, make sure you are following the content and formatting requirements listed on the templates for each deliverable! Doing this correctly the first time for each checkpoint will save you time later on. You can find all templates on the Deliverables page on DEVELOPedia. If you have any questions, please reach out to your Lead, your PC point of contact, or Marisa Smedsrud via Teams or email.

Summer 2024 Deliverable Calendar

Week 1	Week 2	Week 3	Week 4	Week 5
Submit Entrance Personal Growth Assessment (PGA) (6/3) DEVELOPedia Profile (6/6)	Study Area Shapefile (6/13)	Creative Comm Form (6/20) Presentation CP1 (6/20)	Tech Paper CP1 (6/27)	Creative Comm Video CP1 (7/3)
Week 6	Week 7	Week 8	Week 9	Week 10
Tech Paper CP2 (7/11) Presentation CP2 (7/11)	Website Image (7/18) Code CP1 (7/18) Creative Comm RD (7/18)	Presentation FD (7/23) Poster FD (7/23) Flash Talks & Highlight Talks (7/24)	Creative Communication FD (8/1) Project Summary FD (8/1) DEVELOPedia Page (8/1)	Submit Exit PGA (8/5) Project Feedback Form (8/8) Tech Paper FD (8/9) Tutorial FD (8/9) Code FD (8/9)

Calendar Notes

- The Creative Communication Deliverable is optional. However, these checkpoints must be submitted if your team does decide to participate. Make sure you are gauging interest from your partners in Week 2 to submit the form in Week 3.
- Your team is only allowed to submit a Tutorial if was scoped into your project by your Lead prior to the term.
- The Entrance and Exit Personal Growth Assessments are due on the Monday of Week 1 and 10 respectively.
- Your team might find it helpful to include some of your own internal deadlines for deliverables that do not have formal checkpoints. For example, our recommendation is to check in with your Lead about your poster no later than Week 5. Additionally, your Lead and Science Advisor should see a rough draft of your entire Tech Paper no later than Week 9 roughly.
- Presentation and Poster Final Drafts are due on Tuesday of Week 8 and modifications cannot be made after this time. Keep in mind that Highlight and Flash Talk slides are also due Wednesday of Week 8 for those who are selected for this. Additional results can be included in the final draft of the Tech Paper; however, it is good to be aware of these deadlines in advance so that your team can scope your project methodology appropriately.

Tech Paper Requirements

(Additionally, see the Tech Paper Template for more details on content and formatting)

Checkpoint 1 – Introduction, Data Acquisition, References (Week 4)

For this checkpoint, teams should have wrapped up their literature review and should have acquired most of their data. In the introduction of the paper, we need everything from the template (description of the problem and study area, scientific basis of methods with citations, partner information, project objectives, etc). The only thing that is not required in this checkpoint is the study area map and time period since they often are subject to change throughout the start of the term. If you can do these now it will be helpful, but if you want to hold off on this, just denote where these will be (e.g., "We analyzed the region from #### to #### using..." or "**Study area map to be inserted here**"). Additionally, the Data Acquisition section should be completed as concrete as possible along with Earth observation (EO) citations included in the references section. It is okay to make updates and add EOs/other datasets later as the project progresses. We also encourage you to include a table of datasets that you used! Finally, we will be doing a thorough check of your references up to this point.

Checkpoint 2 – Data Processing, Data Analysis, References (Week 6)

By this point, teams should have a solid understanding of their data processing and analysis methodology, even if it is not all the way complete. Remember, data processing is what is done in order for the data to be useable or readable (e.g., cloud masking, mosaicking, NDVI calculation, etc.) and data analysis is what is done to the data to create your end products (e.g., statistics, validation efforts, etc.). In this checkpoint, we want to see a written narrative about your methodology as concretely as possible even if your team has not conducted all of it. Feel free to use place holders or general summaries where needed or leave a comment to Project Coordination that something is uncertain. Don't forget to provide journal article references for index formulas. Finally,

Final Draft – Results & Discussion, Conclusions, Abstract, Acknowledgements, Glossary, References, Appendices (Week 10)

After all of your hard work throughout the term, you should have your results and conclusions wrapped up and a final draft of the Tech Paper completed. It might help to write the body of your Tech Paper first before going back to write your Abstract. We also recommend that you work with your Lead and Science Advisor around Week 9 to review a rough draft of your Tech Paper to ensure that you are making conclusions that are backed by your results and that you are speaking to the feasibility of using remote sensing techniques for the environmental application or decision that your partner is faced with. For the Final Draft submission, we are looking for perfect formatting following the template. For the glossary, make sure this section is not solely acronyms. Go back through what you have written and put a definition for every word that is technical jargon, field specific, or an acronym. When in doubt, put it in the glossary. For the References and Appendices sections, make sure you are starting them on a new page using a page break.

Hurray! You have now completed the tech paper!

Presentation Requirements

(Additionally, see the Presentation template for more details on content and formatting)

Checkpoint 1 – Study Area, Study Period, Objectives, Partners, Comm Concerns, Earth Observations (Week 3)

The information needed in this checkpoint goes roughly in tandem with Tech Paper Checkpoint 1. In this, we should have preliminary slides on all of the topics listed above. We understand that this may require some visualizations/partner media, but if this is not in hand it is ok to put in *partner image here* if needed. If there are any faces in photos, make sure those folks have signed a media release form. For the presentation, feel free to reorder your slides or add additional content to tell your project's story and ensure that your partner understands your project. When you turn in these checkpoints, make sure that you have completed speaker notes and that images are correctly cited on the slide and in the notes. See the Deliverable Webinars for more information on citing images or ask for help if you get stuck! Finally, we encourage you to look at the examples listed on the Deliverables page on DEVELOPedia for inspiration, but please make sure you are looking at the Presentation template for up-to-date formatting and content requirements for this term.

Checkpoint 2 – Methodology, Results, Errors/Uncertainties (Week 6)

For this checkpoint, we will be looking for as close to final slides as possible on the topics listed above as well as updated slides from Checkpoint 1. However, we know that you might still be finalizing results and that is okay! Feel free to use placeholders where needed. Before submitting, do not forget to include completed speaker notes, image credits, and separate end editable figures/maps! If you are showing Planet or Maxar data, make sure you are including correct copyright statements with each image (Maxar:

<https://www.earthdata.nasa.gov/esds/csda/csda-vendor-maxar>; Planet:

<https://www.earthdata.nasa.gov/esds/csda/csda-vendor-planet>).

Final Draft – Feasibility & Partner Implementation, Errors and Uncertainties, Conclusions, Acknowledgements, and final visualizations (Tuesday of Week 8)

This is considered the final draft of your presentation. Here, not only do we need content on the topics above, but we also need all slides to be buttoned up and polished. Check for aligned text, 25% black font color, correct image credits, speaker notes, separate and editable, etc. This version is going to serve as the presentation final draft to be presented to partners as well as the public and edits cannot be made after this point. Due to DEVELOP Day that happens during the summer term, please note that this deadline is on the Tuesday of Week 8. If you obtain additional results after this deadline, you are still able to discuss them verbally during your hand-off presentation and include them in your Tech Paper.

Creative Communication Requirements

Video Checkpoint 1 – Outline and Video Intro, Community Concerns, and DEVELOP/NASA Graphics (Week 5)

This checkpoint is only for teams creating a video, other creative communication deliverables do not have a checkpoint this week. Teams creating videos should submit a full video outline and a few pieces of the actual video: Intro, Community Concerns, and DEVELOP/NASA Graphics.

Rough Draft – Non-Video & Video (Week 7)

This rough draft is required for *all* types of CC deliverables. It serves as an opportunity for you to check in with the Comms Team about your progress toward a final draft and vice versa. At this point, teams creating videos should have begun incorporating feedback and edits from the Comms Team. All teams are also encouraged to leave comments and questions for the Comms Team throughout their deliverable.

Non-Videos

- This is the first and only review for all non-video creative communication deliverables. In this rough draft, your team should outline ideas/concepts and ask questions about working toward the final draft.

Videos

- At this point, teams should have more clips gathered for their video and are required to create a Citation Log rough draft. The Climax, Solution, Results/Conclusions of your video are also due here.

Final Draft – All (Week 9)

This is your final, polished draft of your creative communication deliverable. For videos, this includes the content submitted for the rough draft, transcript final draft, and citation log final draft. For all deliverable types, teams should have incorporated all feedback into a superb public-facing deliverable. If there are any final edits, the Comms Team will be in touch during the first few days of week 10.

Other Deliverable Requirements

Study Area Shapefile – (Week 2)

The study area shapefile is the first major deliverable that your team will produce. The study area shapefile is important for DEVELOP to understand where projects are making an impact. It is also important for your team to decide a precise and consistent area of analysis. To complete this deliverable, your team must submit a shapefile outlining the study area that you will list in your Tech Paper. The shapefile must be a polygon containing only one feature and the attribute table should contain only a "Project" field with the project short title. For further instruction on what your attribute table should look like and how to hide unnecessary fields, access the Study Area Shapefile instruction page by navigating to the Deliverables Page on DEVELOPedia. Finally, ensure that your shapefile has the geographic coordinate system "WGS 1984" with no projected coordinate system. To submit, export your polygon as a shapefile to folder with the correct file naming structure for this term (e.x., 2024Sum_LaRC_CapeHatterasEcoll_StudyArea_FD).

Website Image – (Week 7)

The website image is a creative opportunity for your team to illustrate your study area! Each DEVELOP project is posted publicly on the Applied Sciences website, so we use the website image that your team creates to provide an interesting visual to your project's webpage. The website image must be of your study area, include at least one NASA Earth observation in one of the layers, the NASA data must be from 2023-2024, and the data must have gone through some kind of processing/analysis. It is not enough to simply do a false color composite. Please ensure that your website image is exported as a .jpg file and is sized to 1920 x 1440 pixels with a resolution of at least 300 dpi. You can do this in ArcGIS Pro by inserting a layout with a custom page size, setting the Page units to "Point", and setting the Page size to "Custom" to adjust accordingly. Then, you can set the image resolution and file extension when exporting the layout. Additionally, your team will need to write an informative caption that includes the date of the imagery, the processing/analysis that was done, and what sensor(s) the data came from.

Code Checkpoint 1 – (Week 7)

For this checkpoint, teams should add their **README file** ([README Template here](#)) and a **draft of thoroughly-commented, working script(s) in .Rich Text Format (.rtf extension)** to the SharePoint. For GEE, Jupyter Notebooks, and RStudio, teams can simply copy and paste your script into a .rtf file. We understand these files are rough drafts and subject to change.

Note: If your team is working on multiple scripts, add each script as a separate file, noting the scripting language used, in a project folder on SharePoint (General > Summer 2024 > Deliverable Submission > Code > Add folder here (Node - Project)).

Flash & Highlight Talks – (Week 8)

DEVELOP Day is an annual showcase of DEVELOP projects that takes place at the end of the summer term at NASA Headquarters (For more information, ask your Lead or visit the DEVELOP Day page on DEVELOPedia). Select projects will be invited to present a short presentation in addition to participating in a poster session. More guidance will come later on in the term, but for now, please note that some participants will be expected to turn in final drafts of these talks during Week 8 of the term.

Poster Final Draft – (Week 8)

The poster deliverable is another way for your team to illustrate your project's impact and/or methodologies. For the summer term, your poster will be printed and taken to DEVELOP Day; additionally, your team can take the poster to outside conferences to present your work (with NPO permission). DEVELOP offers two templates for teams to choose from: Science and Impact

(see the DEVELOPedia Deliverables page for downloadable templates). Science posters have a traditional format where you include similar sections to your tech paper and are focused on the scientific methodology and results that you obtained. Impact posters on the other hand have a more infographic feel to them and highlight the community concerns that your partner is facing along with the solutions that your project provides. The Science Poster is typically more straight forward, but if your team chooses to pursue the Impact Poster, make sure that you have a clear idea and that it makes sense with your project and partner's work. We recommend that you choose which poster type your team wants to pursue by around Week 4 and provide your Lead with a rough layout showing your idea by the end of Week 5. However, this timeline may vary depending on the project.

When submitting your final draft, ensure that you have not mixed elements from both template types (For example, you do not have a methods section on an Impact Poster). We are expecting to see finalized graphics that are separate and editable and that your team has followed correct formatting requirements (e.x., black 25% lighter text, within the margins, correct headshot sizing, ESA/Planet/Maxar acknowledgements, etc.).

Project Summary Final Draft – (Week 9)

The Project Summary is mainly used by DEVELOP and NASA Headquarters to obtain snapshot information about your project like short synopses, data and models that were used, and end products that were created. To complete this deliverable, fill out the template posted on the DEVELOPedia deliverables page. Information on the Project Summary should be consistent with what is on the Tech Paper and your DEVELOPedia project page. For example, the Abstract and Project Synopsis should be the same on the Tech Paper, the Poster (if following the Science template), and your DEVELOPedia project page.

Tutorial Final Draft – (Week 10)

Before working on this deliverable, ensure that your Lead has scoped this into your project ahead of the term and that Geoinformatics is aware. The Tutorial is an optional deliverable.

The GIS Tutorial* is a useful tool for instructing partners on how to replicate a workflow that your team accomplished using GIS software such as ArcGIS Pro and TerrSet. The GIS Tutorial may not reference any code, including JavaScript for GEE. The Code Tutorial has a similar goal to the GIS Tutorial, but it may reference open-source code with a license.

For both GIS and Code Tutorials, the Tutorial should be easy to follow and written with your partner's proficiency level in GIS/RS in mind. Please read the [Tutorial Template on DEVELOPedia](#) thoroughly and consult the examples provided at the bottom of the document. Like the other Deliverables, please submit through SharePoint.

*All teams that are pursuing the Tutorial will be doing GIS Tutorials, unless instructed otherwise by your Lead/Geoinformatics. The GIS Tutorial is less restricted in the export control process because GIS is not considered new software and GIS Tutorials do not go through the software release process.