**General Style Notes**

Things to keep in mind for all or most deliverables.

* Use the correct filename: “YearTerm\_NODE\_ProjectShortTitle\_DeliverableType\_Draft(FD/RD)”
	+ 2021Spring\_ARC\_PacificNorthwestHealthAQ\_ProjectSummary\_FD
* Use the correct formal node name for each deliverable
	+ (e.g. Alabama – Marshall, Arizona –  Tempe, California – Ames, California – JPL, Colorado – Fort Collins, Georgia – Athens, Idaho – Pocatello, Maryland – Goddard, Massachusetts – Boston, North Carolina – NCEI, or Virginia – Langley).
	+ Note that this dash in an “en dash,” i.e., a longer dash than the one located on your keyboard.
* Deliverables must be written in **Microsoft Word or PowerPoint**. Use your Microsoft Office 365 accounts!
* The first letter of each word in the title, subtitle, and VPS title are capitalized (APA title case).
* The short title should be a combination of the study area and application area. If the project is a continuation, ‘II’ or ‘III’ should also be included.
* **Do not double space after periods!!**
* Semicolons should be used to separate two independent clauses (meaning they are both complete thoughts and the semicolon could be replaced with a period).
* Use “i.e.” (meaning “that is”) to give further explanation of something. Use “e.g.” (meaning “for example”) to give a few examples, not a complete list.
* Consistency is key!
	+ Capitalization – for example, in the Earth observations section of the Project Summary, if one parameter is capitalized, the rest should capitalized
	+ Pronouns – “we”, “the/our team”, or “the project team”are good options
	+ When writing Earth observations, compare satellite and sensor formats. For example, if you write “Landsat 8 OLI” (satellite & sensor), don’t just write “Sentinel-2” (satellite).

**Project Summary**

**Insert Short Title Here (Example: Intermountain West Health & Air Quality II)**

*Insert Subtitle Here (Example: Utilizing NASA Earth Observations to Enhance Wetland Monitoring and Management in Florida)*

**Project Team:**

Name 1 (Project Lead)

Name 2

Name 3

Name 4

**Advisors & Mentors:**

Name 1 (Affiliation)

Name 2 (Affiliation)

**Past or Other Contributors:** *\* If the project is continuing work on a tool, list ALL previous team members from past terms (who are not current team members).\**

Name 1

Name 2

**Project Objectives:**

* Write project objectives succinctly in bullets and **do not use complete sentences with periods**
* Start each objective with a strong action verb
* Should match the ones featured in your Presentation and Poster deliverables

**Abstract:**

Insert here (150 to 250 words, one paragraph). Make sure you include the EO and partners that are involved. Best Practices:

1. The abstract should be fully contained and give the reader a good grasp of the project.
2. While there is a maximum word limit, if you can say it with fewer words, do so.
3. State the most important information first.
4. Write in past tense.
5. Write in active voice and avoid passive words like “might” or “could” – use powerful language.
6. Spell out all acronyms except NASA.
7. Don’t include citations.
8. Don’t define terms.
9. Read other projects’ abstracts for inspiration.
10. Any major restrictions or limitations on results (if results are included) should be stated.
11. Reread the abstract. Did it answer: who, what, where, when, and why? If it didn’t, then revise it!
12. Don’t forget to add results for the final draft – feel free to include a placeholder sentence in your rough draft!

**Study Location:** Study Location and State Postal Acronym(s), or Country (if project is international)

**Partner Organization(s):**

|  |  |  |  |
| --- | --- | --- | --- |
| **Organization** | **POC (Name, Position/Title)** | **Partner Type** | **Boundary Org?** |
| **Org 1** | Dr. Joe Smith, GIS Specialist | End User | Yes |
| **Org 2** | Dr. Jane Smith, Research Scientist | Collaborator | No |

**Earth Observations & End Products Overview**

|  |  |  |
| --- | --- | --- |
| **Platform & Sensor** | **Parameter(s)** | **Use** |
| **EO-1 Hyperion** | Normalized Difference Vegetation Index (NDVI) | Write 1 to 2 sentences describing how this dataset was used. |
| **Terra MODIS** | Chlorophyll-a | x |
| **Aqua MODIS** | Chlorophyll-a | x |

**Software & Scripting:**

* Software package – Use
* Example: ERDAS IMAGINE – Landsat-derived land classification
* Could be… Google Earth Engine, ERDAS IMAGINE, Esri ArcMap, Esri ArcGIS Pro, Harris Corporation ENVI, R, QGIS, MATLAB, & etc.

**End Product(s):**

|  |  |  |  |
| --- | --- | --- | --- |
| **End Product** | **Earth Observations Used**  | **Benefit & Use** | **Software Release Category** |
| **End Product 1****(Example: Landscape Fragmentation Map; written in title case)** | List what EO data were used to derive your product. Use acronyms.Example: Landsat 8 OLI | Write a brief description of how the end product will or can **improve a specific decision-making process or be used by** future end users (1 to 2 sentences). | Options:N/AIIIIIIIVV |
| **End Product 2** |  |  |  |

**Project Reflections** (to be completed at the end of the term)

**Does the team consider this project to be successful?**

Insert 2-3 sentences here about why or why not you consider this project successful. It’s ok to be candid here! If the project proved that it is not feasible to use a specific EO for a certain application, it can still be considered a successful project; if so, make sure to amply discuss why the EO couldn’t be used for the intended application. The team’s feedback, along with the PSI score, will help us identify the types of projects that are successful, as well as why some projects aren’t as effective. Both help us to make improvements in the future.

**If you had the opportunity to do this project again, what would you do differently?**

Insert 2-5 sentences here highlighting changes that you would make.

**Do you have any recommendations for future teams pursuing a similar project to consider?**

Insert 1-3 recommendations here in sentence form.

**NASA Earth Observation Data**

*Insert Satellite & Sensor Names Here* (Insert DOI Here) EX: *Landsat 8 OLI* (<https://doi.org/10.5066/f78s4mzj>)

* **Source**: Where did you get the data from? Include the URL if downloaded **or** the name of Science Team from whom you directly received the data (EX: downloaded from Earth Data Search, received from science advisors/science teams, etc.)
* **General Overview**: What are some of your general insights into ease of use or issues that arose? (EX: We had no issues accessing, downloading, pre-processing, or analyzing the data, there were substantial references and information available to support use of Landsat 8 data.)
* **Acquisition**: What is your feedback on data acquisition? (EX.: Earth Explorer was straightforward to use, we did not have any acquisition problems, the download link didn’t work and directions unclear, etc.)
* **Processing/Analysis**: What is your feedback on data processing/analysis? (EX: We had no issues when processing the Landsat data, analysis went smoothly, etc.)

**Partner Engagement**

*Insert Partner Org Name Here (End User* ***or*** *Collaborator)* EX: *National Park Service, Yellowstone National Park (End User)*

* **Involvement**: How much interaction did they have with you? (EX: They were very engaged during the term, joined telecons each week, provided good feedback on preliminary results throughout the term, provided an interview and other footage for our VPS video, etc.)
* **Responsiveness**: Were they punctual and responsive to team communications, did they provide data by when they said they would, etc.? (EX: The partner joined each telecon, was responsive by email throughout the term, etc.)
* **Capacity Built**: How did the team build their capacity? What can they now do that they couldn’t before? (EX: They now have access to EO-derived wildfire fuel loading maps that enhance their land management abilities and support targeted fuel removal activities, they did not previously have the knowledge or methodology to create these maps using NASA EO, they now have a 2017 fuel load map, as well as the ability to make future fuel load maps themselves, etc.)
* **Further Collaboration**: Would this partner be a good DEVELOP partner for future projects? Why or why not? (EX: They were an engaged and active partner, which provided a good experience.)

**Culminating Research Questions Generated**

**Team-Identified Future Work:**

* The team should identify opportunities where continued work would benefit the project. (EX: validation & accuracy assessments, additional study period or study area to include more data, applying a different model or algorithm, etc.)
* Future work is often listed in the final presentation; feel free to copy and paste that text here. Make sure to ensure that it’s fairly specific so that future teams can readily understand your notes and take them into consideration.

**Partner-Identified Follow-On Research Questions:**

* Use the information from emails, telecon conversations, and feedback given during partner meetings and the project handoff to complete this section.
* We realize it may be limited, but do your best to glean what you can from your partner interactions.
* Identify any additional questions or lines of research that your partners are interested in pursuing now that they have seen your results and products.
* What additional research questions and topics would they like to pursue themselves or have DEVELOP pursue in the future? What has your project sparked them to consider?

**Project Summary**

The Project Summary is your go-to document for project information. The content in this document is compiled for reporting to NASA HQ and is often shared with future teams, partners, and the Capacity Building and Applied Sciences Programs. You can use this to complete your project page on DEVELOPedia.

###### *General Writing & Formatting*

* The formatting for each section should match the template:
	+ All text is Garamond, 11-point font.
	+ Science advisor affiliations are in parentheses.
	+ Bullets are used for the Community Concerns, Project Objectives, Ancillary Datasets, Modeling, and Software & Scripting sections.
* Write in past tense (except for the Product Benefit to End User and the Project Continuation Plan sections – write those in the future tense). Use active voice as much as possible. Here are examples in the past passive and past active voice:
	+ Past passive: Three 2-L samples were taken at a depth of between 0.1 and 0.5 m at the down-wind end of each wetland.
	+ Past active: Each of the three groups took 2-L samples at a depth of between 0.1 and 0.5 m at the down-wind end of each wetland.
	+ [www.englishpractice.com/improve/active-passive-voice-simple-tense/](http://www.englishpractice.com/improve/active-passive-voice-simple-tense/)
* *Each paragraph should have at least three sentences.*
* Spell out all acronyms the first time they are used in the text, even if they have also been spelled out in the abstract.
* Change “(s)” for any given section
	+ For example, “National Application Areas Addressed” on the template should read either:
		- National Application Area Addressed: Application Area 1
		- National Application Areas Addressed: Application Area 1, Application Area 2

## Project Overview

## *Header*

* Please note that there is text in the cover page Header which needs to be updated
	+ If you’re using the Microsoft Word Online version the Header text may not be visible to you. Select "Header" in the upper right-hand corner and edit "Insert DEVELOP Node Name (Ex. Virginia – Langley)" appropriately.

###### *Abstract*

While not a separate deliverable, the abstract appears in the Project Summary, Tech Paper, Poster, and on the DEVELOP website. It is a short summary of your project that introduces the problem, partners, NASA EO, results, and significance. The abstract “lives” in the project summary until the final draft.

* **Word count limit:** 150-250 words and only one paragraph.
* Write in past tense and avoid passive voice.
* Acronyms should be spelled out the first time they are used in the abstract, and then also the first time they are used in the text.
* There should be no citations in the abstract.
* Any changes made to the abstract should be reflected in your final draft in the Project Summary.
	+ If you need to make changes to your abstract *after* you’ve submitted the Project Summary FD, send any updated versions to the Project Coordination team and ensure that the updated version is used on any subsequent deliverables and on your project page on DEVELOPedia.
* The Abstract **must** include the following (note that some aspects may not be applicable for Tech & Innovation projects):
	+ What the problem was
	+ Who the decision makers are and what the decision being made is
	+ The partner organization(s) with whom you partnered
	+ What NASA Earth observations were involved
	+ What you did in response to the problem
	+ What the benefits or outcomes are/will be
	+ What your results were
* Abstract best practices:
	+ The abstract should be fully contained and give the reader a good grasp of the project.
	+ While there is a maximum word limit, say it with fewer words if able.
	+ State the most important information first.
	+ Write in active voice and avoid passive words like “might” or “could” – use powerful language.
	+ Spell out all acronyms except NASA.
	+ Do not define terms.
	+ Read other projects’ abstracts for inspiration.
	+ Any major restrictions or limitations on results (if results are included) should be stated.
	+ Reread the abstract. Did it answer: **who, what, when, where,** and **why?** If it didn’t, revise it!
	+ Don’t forget to add results for the final draft – feel free to include a placeholder sentence in your rough draft.

###### *Study Location and Study Period*

* List each state in the study area section with its postal acronym
	+ Ex: Western shore of Lake Michigan bordering WI, IL, and IN
* If working on a seasonal project, include study period months as well as years.

###### *Project Objectives*

* Objectives should not be in complete sentences or have periods.
* These should match the objectives you put in your Presentation and Poster (optional) deliverables.
* Be succinct and start each objective with a strong action verb.

## Partner Overview

###### *Partner Organization Table*

* Tech & Innovation projects: delete if not applicable
* Follow proper partner nomenclature and include the full partner org name with any larger/umbrella orgs first.
	+ Ex: National Park Service (umbrella organization), Glen Canyon National Recreation Area (specific office being partnered with)
* If there is more than one point of contact (POC) for an organization, list them in the same box separated by semi-colon.
* List end users first. Each partner is **either** an end user **or** a collaborator, not both.
* Boundary organizations are also listed as either a collaborator or an end user, and the notation for boundary organization is at the end of the listing.
* If you add or remove any partners during the term, **make sure to notify the Project Coordination team!**

## Earth Observation & End Products Overview

###### *Earth Observation Table*

* List each instrument on an individual line, even if the parameter and use are the same.
	+ Example: Landsat 5 TM, Landsat 7 ETM+, and Landsat 8 OLI should all be in separate rows.
* Use past tense in the Use column.
* List the platform then the sensor, not just the sensor (e.g. ISS ECOSTRESS, not just ECOSTRESS)

###### *Software & Scripting*

* List any software or scripts you used in your project. For software or languages with a version number, include that as well. (e.g. “Esri ArcMap 10.5 – used for map creation and data processing”)

###### *End Product(s) Table*

* This table is different from the one listed in the project proposal!**Do not** copy and paste from the proposal.
* Write in future tense for the Partner Benefit & Use column.
* Double-check the Software Release categories with your Fellow (if applicable)

## Project Reflections

* Use complete sentences, even when using bullet points.

## Checklist

* Delete checklist and general style notes before FD submission.