

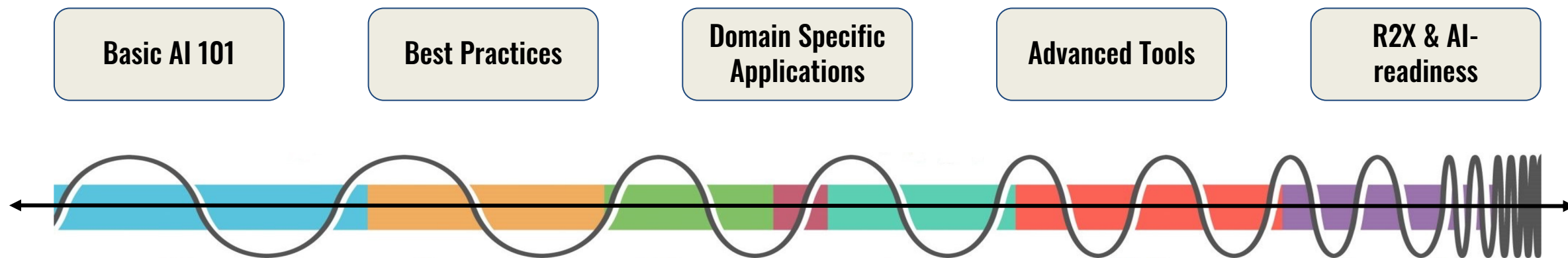
# Enabling Community Contribution of Cloud-based Training for AI/ML in Earth and Space Science

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Partly supported by 2021 ESIP Lab Grant

# Identifying Community Needs – A Training Spectrum

What?



How?

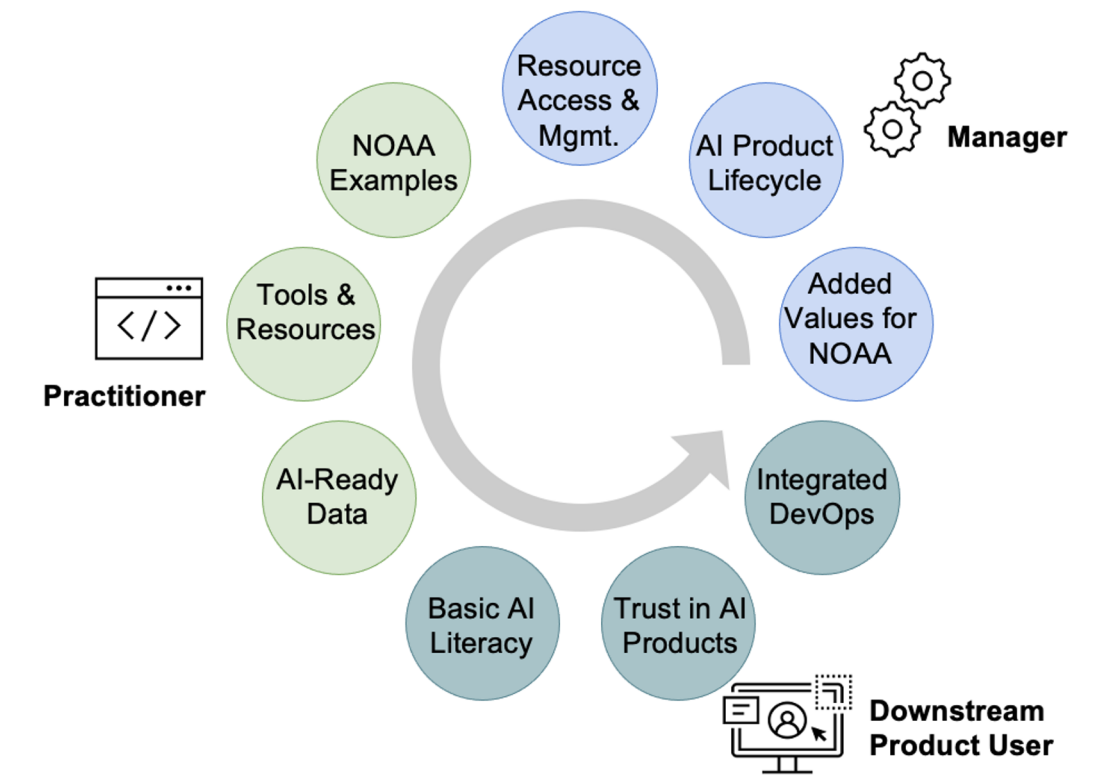


# Identifying Community Needs – Gap Assessment

*“To address the workforce training needs, resource creation should be prioritized to **convert NOAA AI success stories into interactive training material** in a computing environment that allows the workforce to immediately apply learning outcomes to support NOAA’s mission via the AI strategy.”*

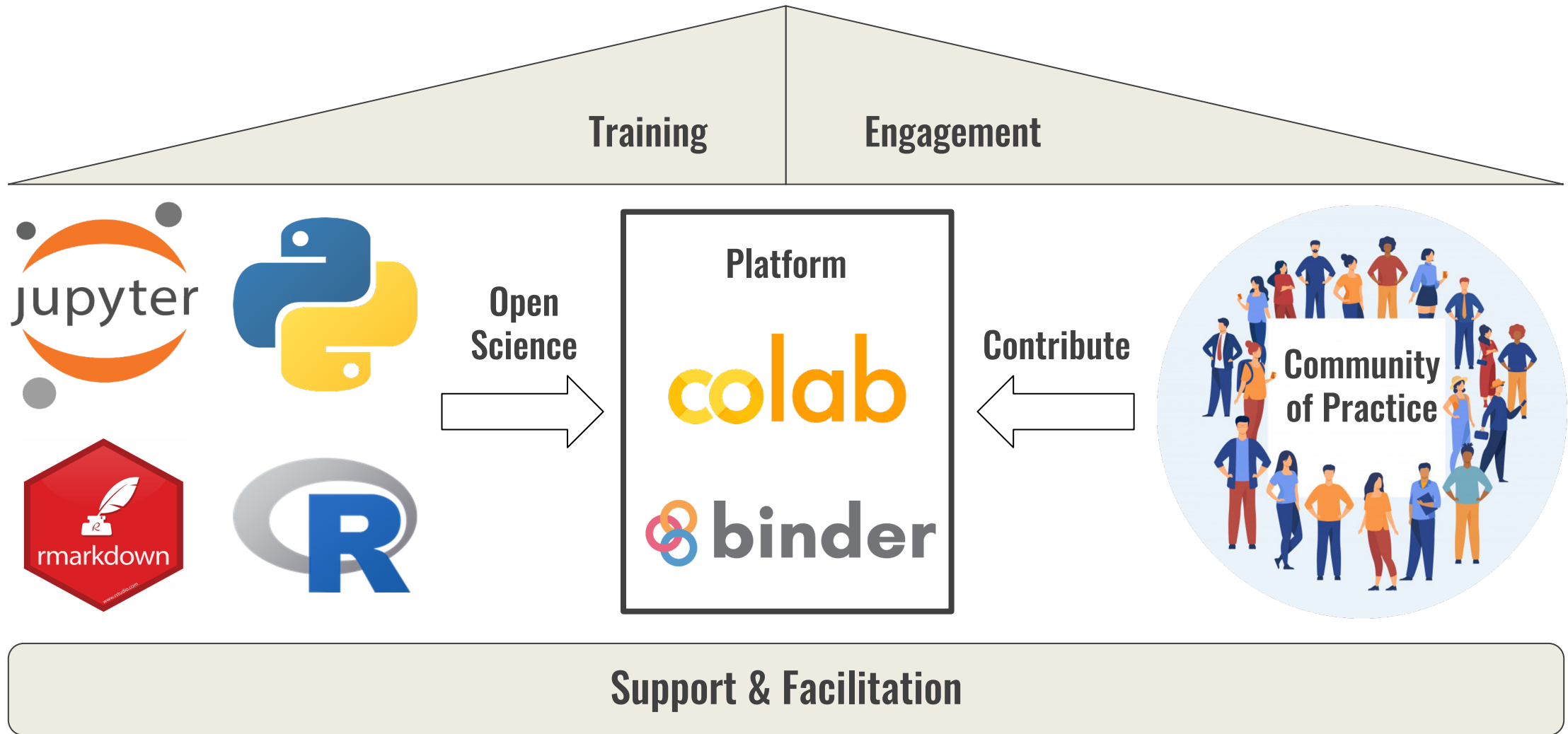
NOAA AI Community of Practice Pilot  
Resource Gap Assessment

<https://noaa.gov/ai/training>



NOAA training action priority lifecycle highlighted by workforce role and relationship to AI.

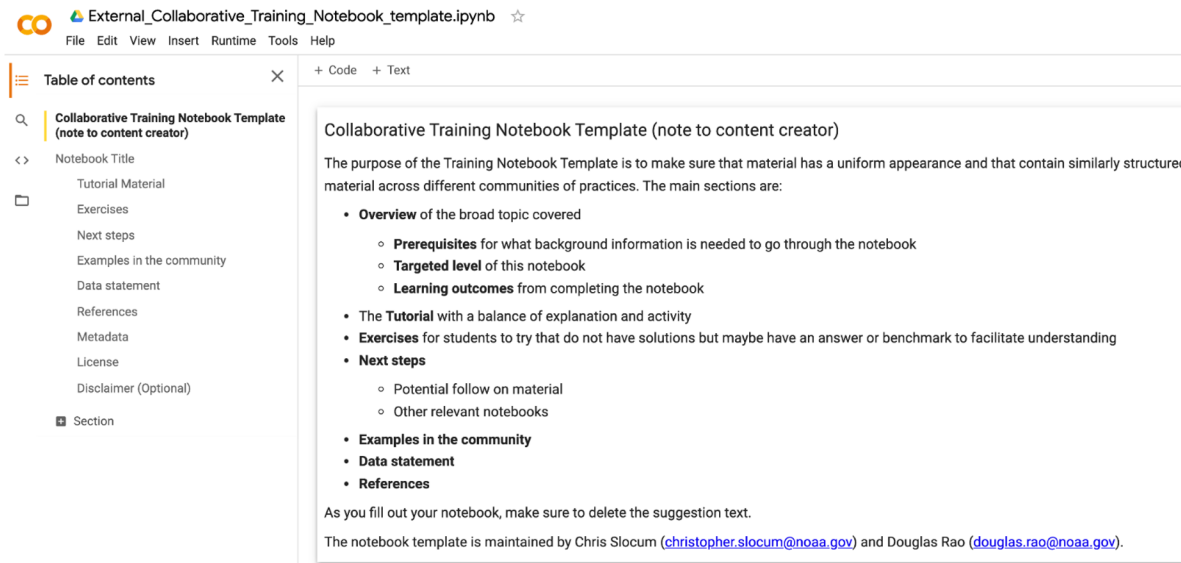
# Using Open Science to Enable Community Contribution



# Facilitate Community Contribution of Cloud-based Training Materials

## Jupyter Notebook Template

- Provides consistent appearance & presentation
- Clear instructions on mandatory sections needed



## Sections

- Overview
  - Prerequisites
  - Learning outcomes
- Tutorial Material
  - Background
  - Data section
  - Basic example
  - Complex example
  - Final thoughts
- Exercises
- Next steps & Examples in NOAA
- Data Statement
- References



# Facilitate Community Contribution of Cloud-based Training Materials

## **RATCHET** - *Readability Assessment Tool for Code that Helps with Effective Training*

- In-notebook & command line utility
- Provides time estimate for code & text
- Gives readability metrics



```
Processing: ENS0_Seasonal_Forecasting.ipynb
```

### Notebook metadata

```
Language:Python 3
Number Markdown Cells: 35
    Number of URLs: 7
    Number of valid URLs: 7
Number Code Cells: 22
    Percent Text Output: 59%
    Percent Display Output: 50%
```

### Readability metrics:

```
Flesch reading ease:
    Score: 46.7
    Text interpretation:Difficult
    Grade level:College
Flesch-Kincaid Grade Level: 12.8
```

### Reading time estimates:

```
Estimated text reading time:          13 to 25 min
Estimated code reading time:          10 to 20 min
    Estimated code annotation reading time:  4 to 7 min
Estimated total reading time:          23 to 45 min
```