Gap Analysis of CRT-Plus Query Mechanism

Arif Albayrak & Bill Teng

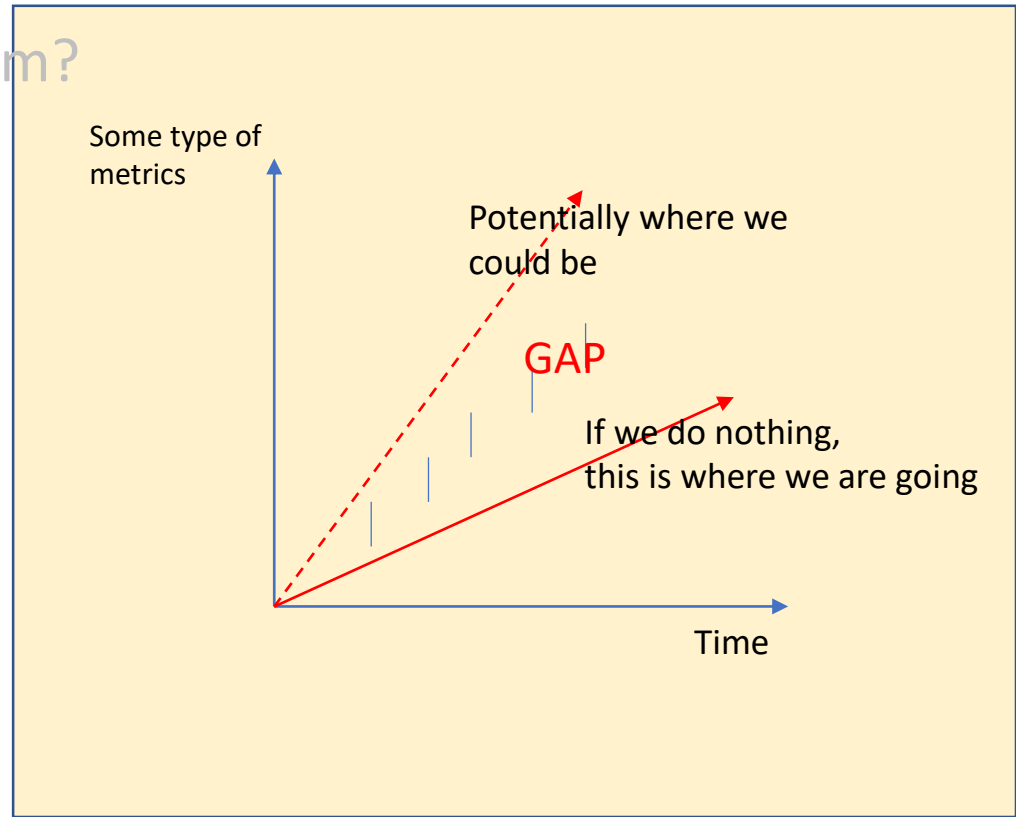
ADNET Systems (at NASA GES DISC)

Definition

- Actual Performance vs. Desired Performance
  - Where are we now?
  - Where do we want to be?
  - Where are the gaps and how can we close them?

Definition

- Actual Performance versus Desired Performance
  - Where are we now?
  - Where do we want to be?
  - Where are the gaps and how can we close them?
- Drilling down
  - Why the gaps?
  - Do we need customized approach?



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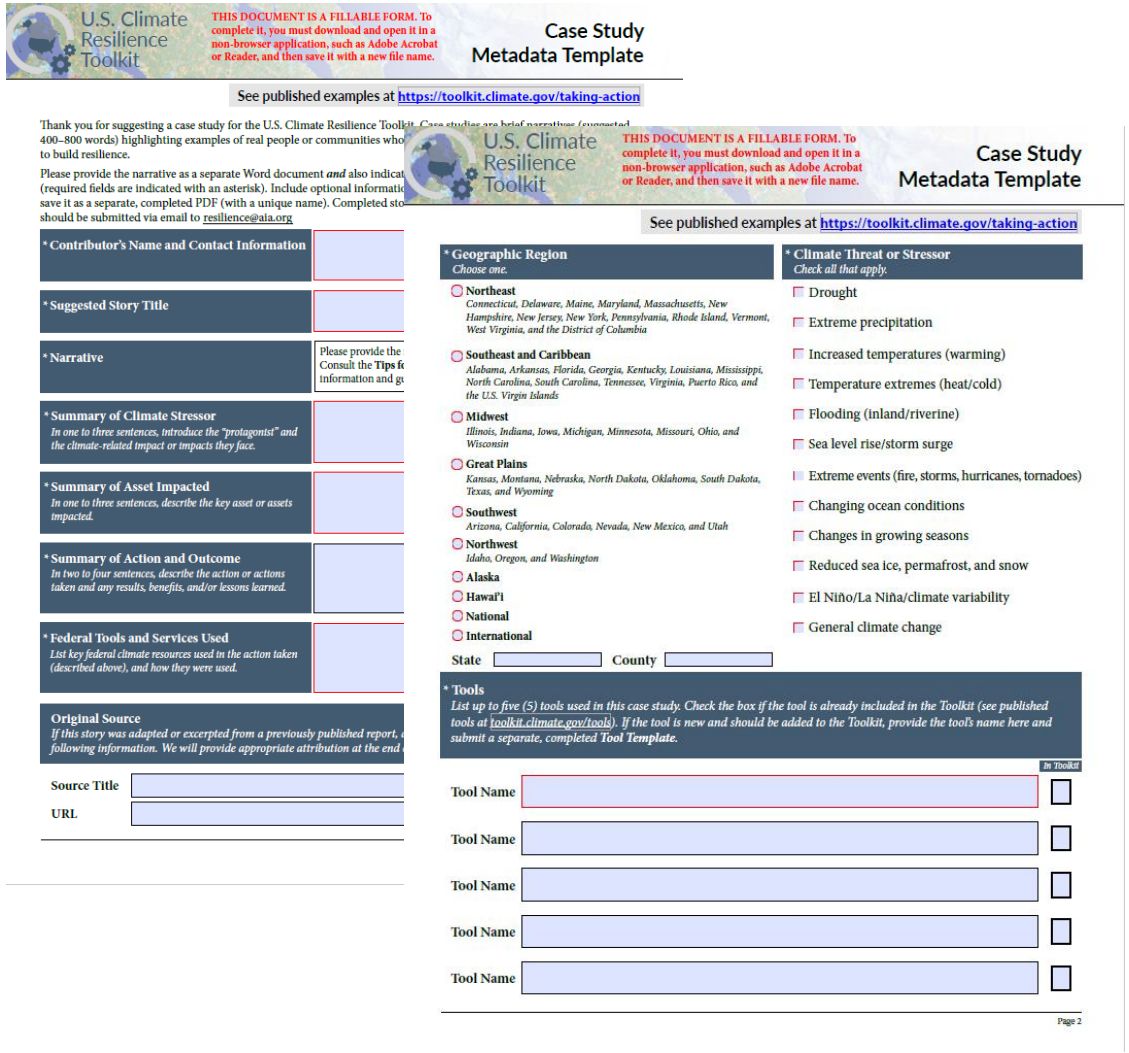

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Case Study Metadata Template

See published examples at https://toolkit.climate.gov/taking-action

Thank you for suggesting a case study for the U.S. Climate Resilience Toolkit. Case studies are brief narratives (suggested 400–800 words) highlighting examples of real people or communities who to build resilience.

Please provide the narrative as a separate Word document ***and*** also indicat (required fields are indicated with an asterisk). Include optional informatio save it as a separate, completed PDF (with a unique name). Completed sto should be submitted via email to resilience@aia.org

* **Contributor's Name and Contact Information**	
* **Suggested Story Title**	
* **Narrative**	Please provide the Consult the **Tips f** information and g
* **Summary of Climate Stressor** *In one to three sentences, introduce the "protagonist" and the climate-related impact or impacts they face.*	
* **Summary of Asset Impacted** *In one to three sentences, describe the key asset or assets impacted.*	
* **Summary of Action and Outcome** *In two to four sentences, describe the action or actions taken and any results, benefits, and/or lessons learned.*	
* **Federal Tools and Services Used** *List key federal climate resources used in the action taken (described above), and how they were used.*	

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Case Study Metadata Template

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*** Geographic Region**
Choose one.

- **Northeast** — *Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia, and the District of Columbia*
- **Southeast and Caribbean** — *Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, Puerto Rico, and the U.S. Virgin Islands*
- **Midwest** — *Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin*
- **Great Plains** — *Kansas, Montana, Nebraska, North Dakota, Oklahoma, South Dakota, Texas, and Wyoming*
- **Southwest** — *Arizona, California, Colorado, Nevada, New Mexico, and Utah*
- **Northwest** — *Idaho, Oregon, and Washington*
- **Alaska**
- **Hawai'i**
- **National**
- **International**

State _____ **County** _____

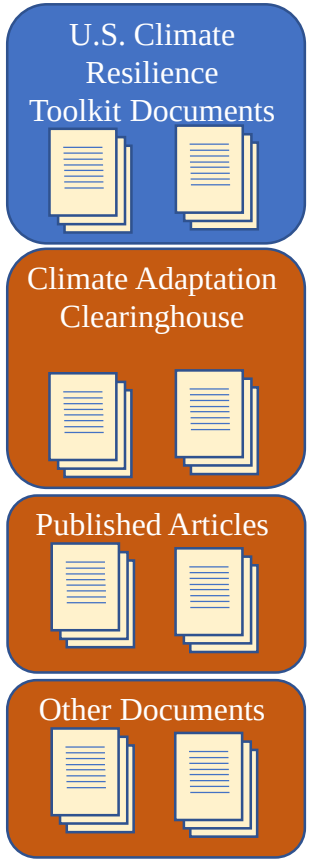
*** Climate Threat or Stressor**
Check all that apply.

- Drought
- Extreme precipitation
- Increased temperatures (warming)
- Temperature extremes (heat/cold)
- Flooding (inland/riverine)
- Sea level rise/storm surge
- Extreme events (fire, storms, hurricanes, tornadoes)
- Changing ocean conditions
- Changes in growing seasons
- Reduced sea ice, permafrost, and snow
- El Niño/La Niña/climate variability
- General climate change

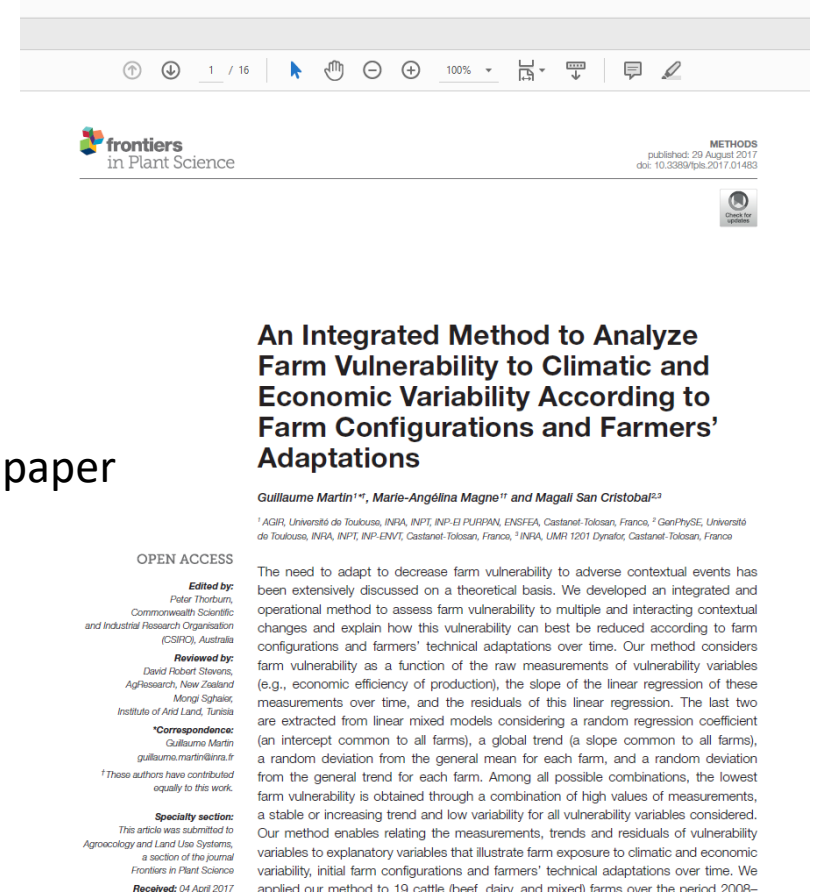
*** Tools**
List up to five (5) tools used in this case study. Check the box if the tool is already included in the Toolkit (see published tools at toolkit.climate.gov/tools). If the tool is new and should be added to the Toolkit, provide the tool's name here and submit a separate, completed **Tool Template.**

	In Toolkit
Tool Name	
Tool Name	
Tool Name	
Tool Name	
Tool Name	

Data Resources



Example of a published paper



frontiers in Plant Science

METHODS
published: 29 August 2017
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An Integrated Method to Analyze Farm Vulnerability to Climatic and Economic Variability According to Farm Configurations and Farmers' Adaptations

Guillaume Martin[1†], Marie-Angélina Magne[1†] and Magali San Cristobal[2,3]*

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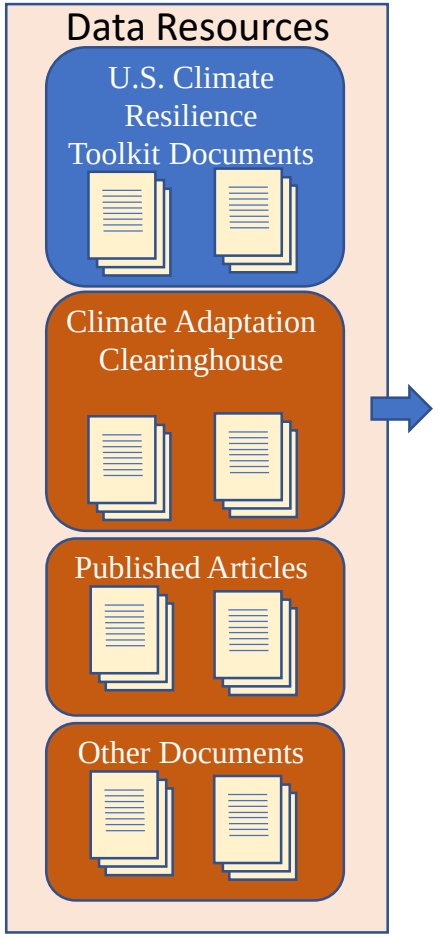
The need to adapt to decrease farm vulnerability to adverse contextual events has been extensively discussed on a theoretical basis. We developed an integrated and operational method to assess farm vulnerability to multiple and interacting contextual changes and explain how this vulnerability can best be reduced according to farm configurations and farmers' technical adaptations over time. Our method considers farm vulnerability as a function of the raw measurements of vulnerability variables (e.g., economic efficiency of production), the slope of the linear regression of these measurements over time, and the residuals of this linear regression. The last two are extracted from linear mixed models considering a random regression coefficient (an intercept common to all farms), a global trend (a slope common to all farms), a random deviation from the general mean for each farm, and a random deviation from the general trend for each farm. Among all possible combinations, the lowest farm vulnerability is obtained through a combination of high values of measurements, a stable or increasing trend and low variability for all vulnerability variables considered. Our method enables relating the measurements, trends and residuals of vulnerability variables to explanatory variables that illustrate farm exposure to climatic and economic variability, initial farm configurations and farmers' technical adaptations over time. We applied our method to 19 cattle (beef, dairy, and mixed) farms over the period 2008–

Problem: Different types of data sets

- Each data set has a different format.
- Some of the documents concentrate on decisions, others technical, etc.
- ….
- ….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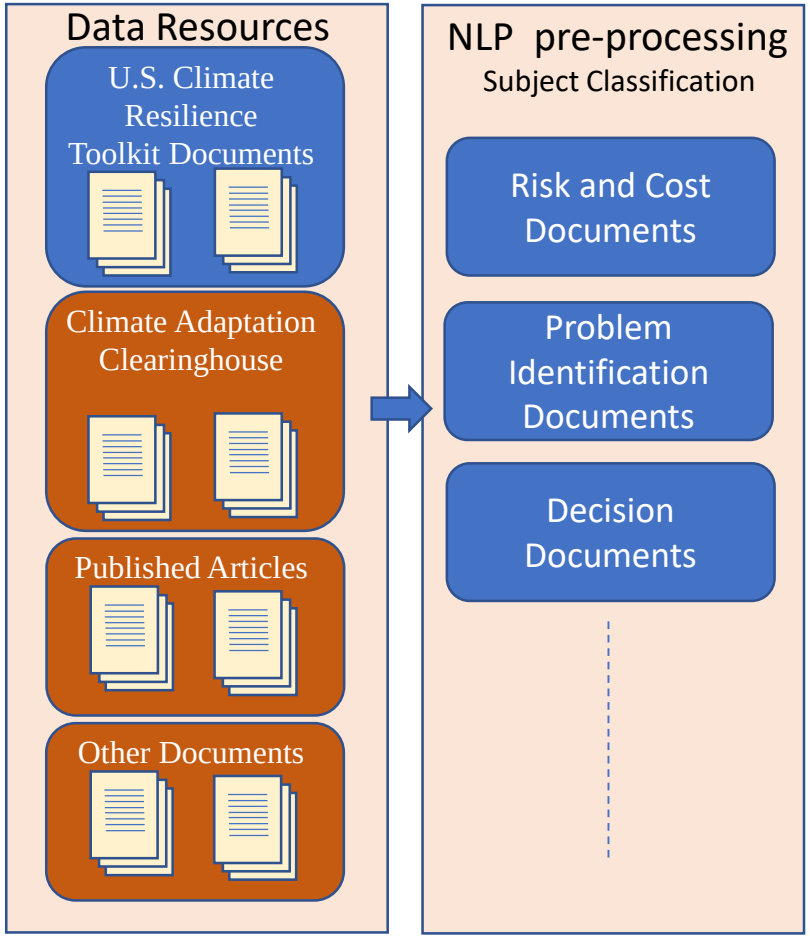
Climate Adaptation Clearinghouse
Published Articles
Other Documents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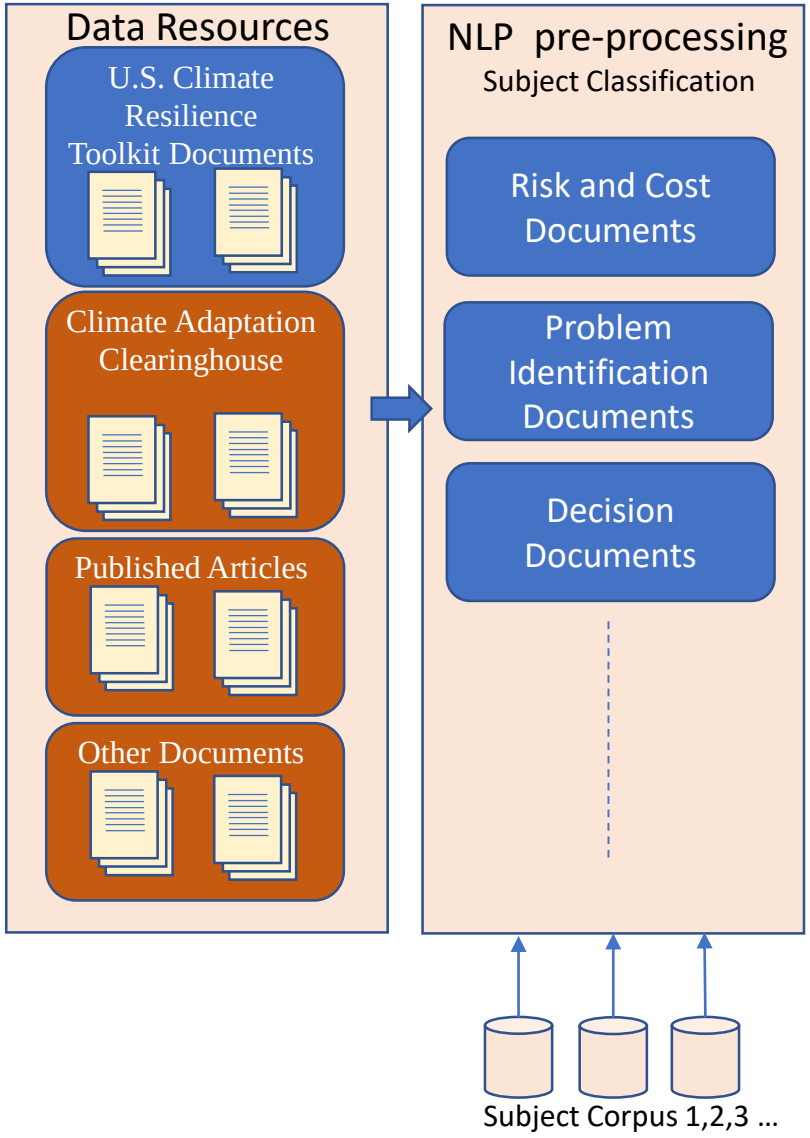
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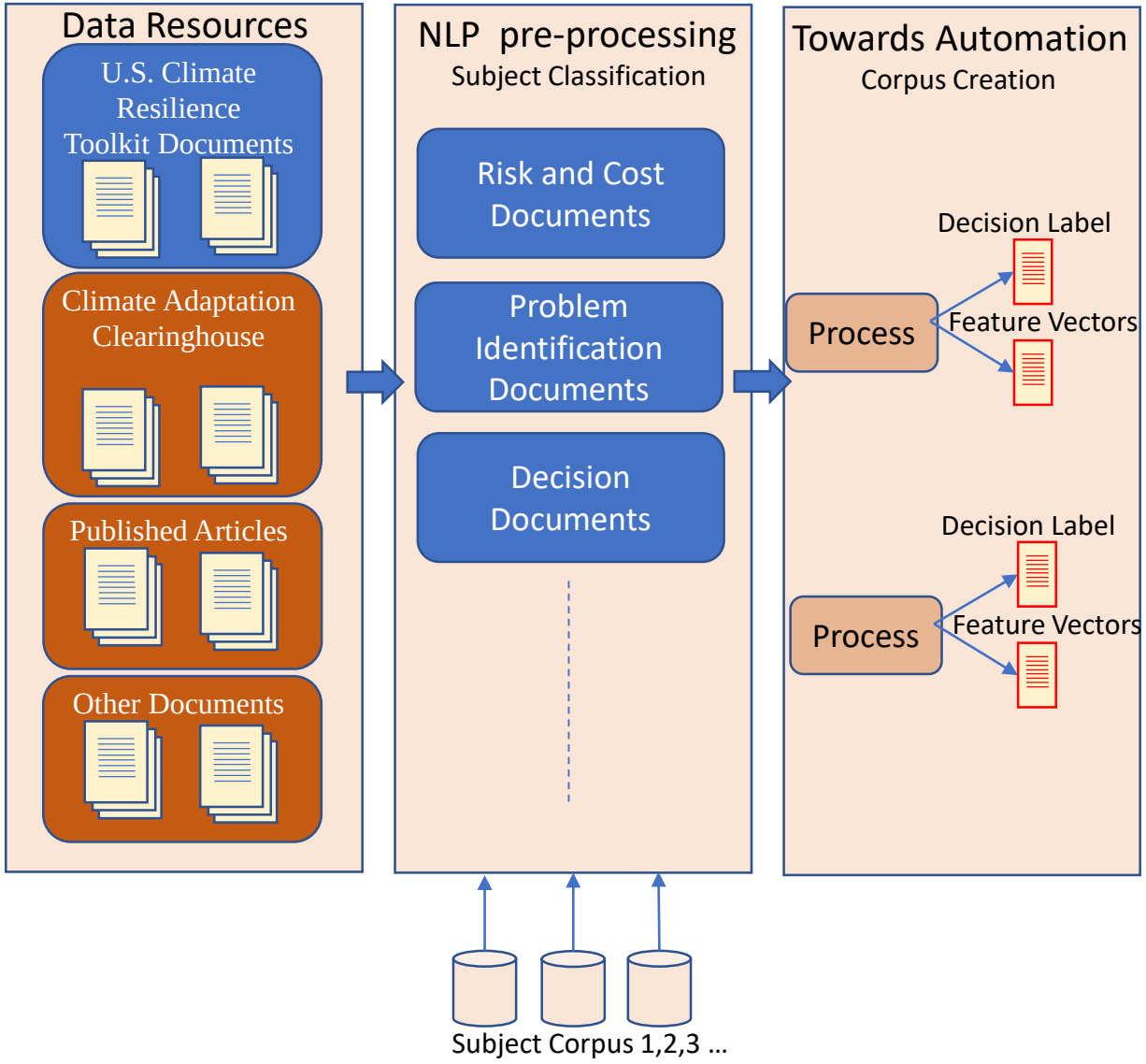
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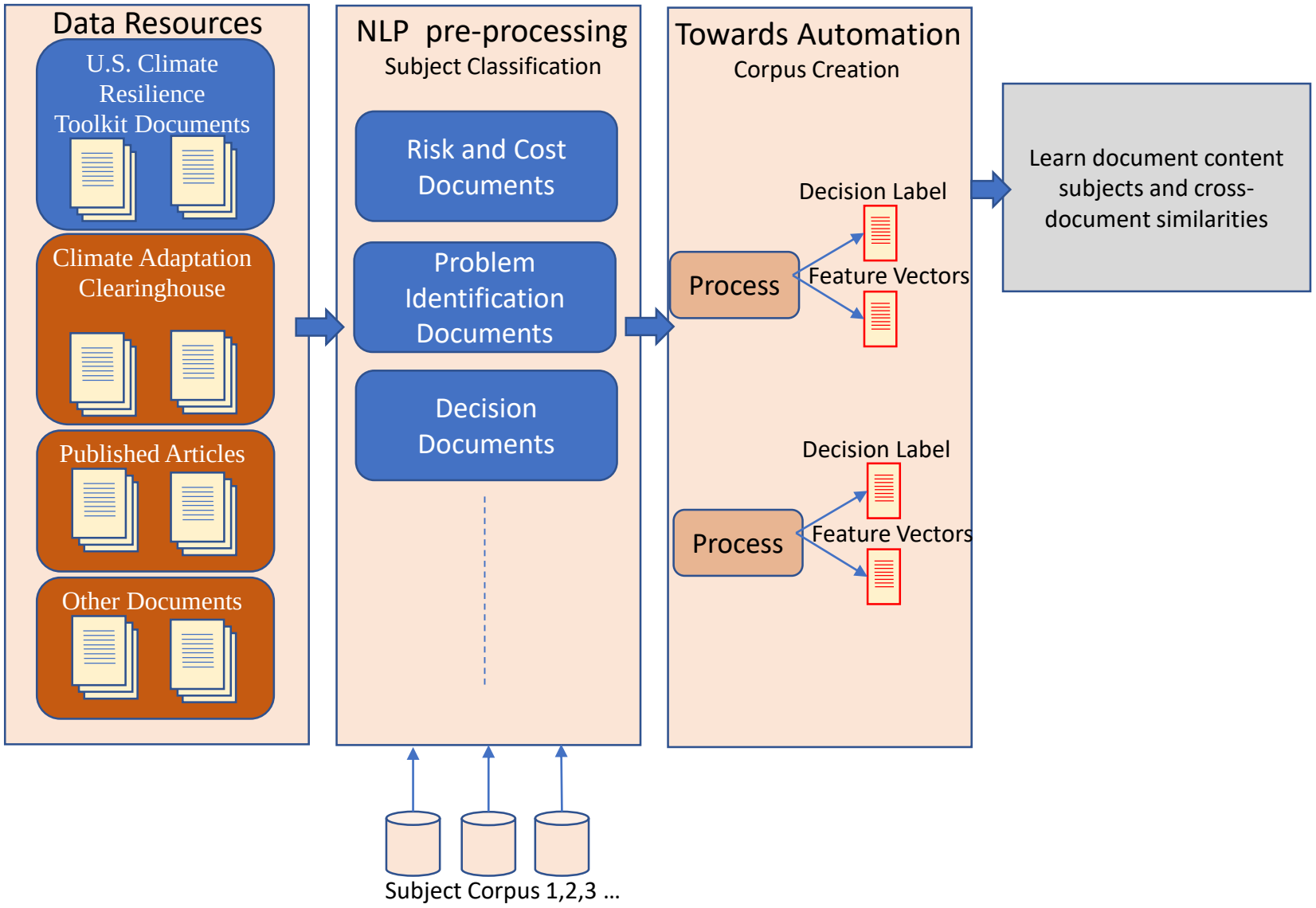
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Feature Vectors
Process
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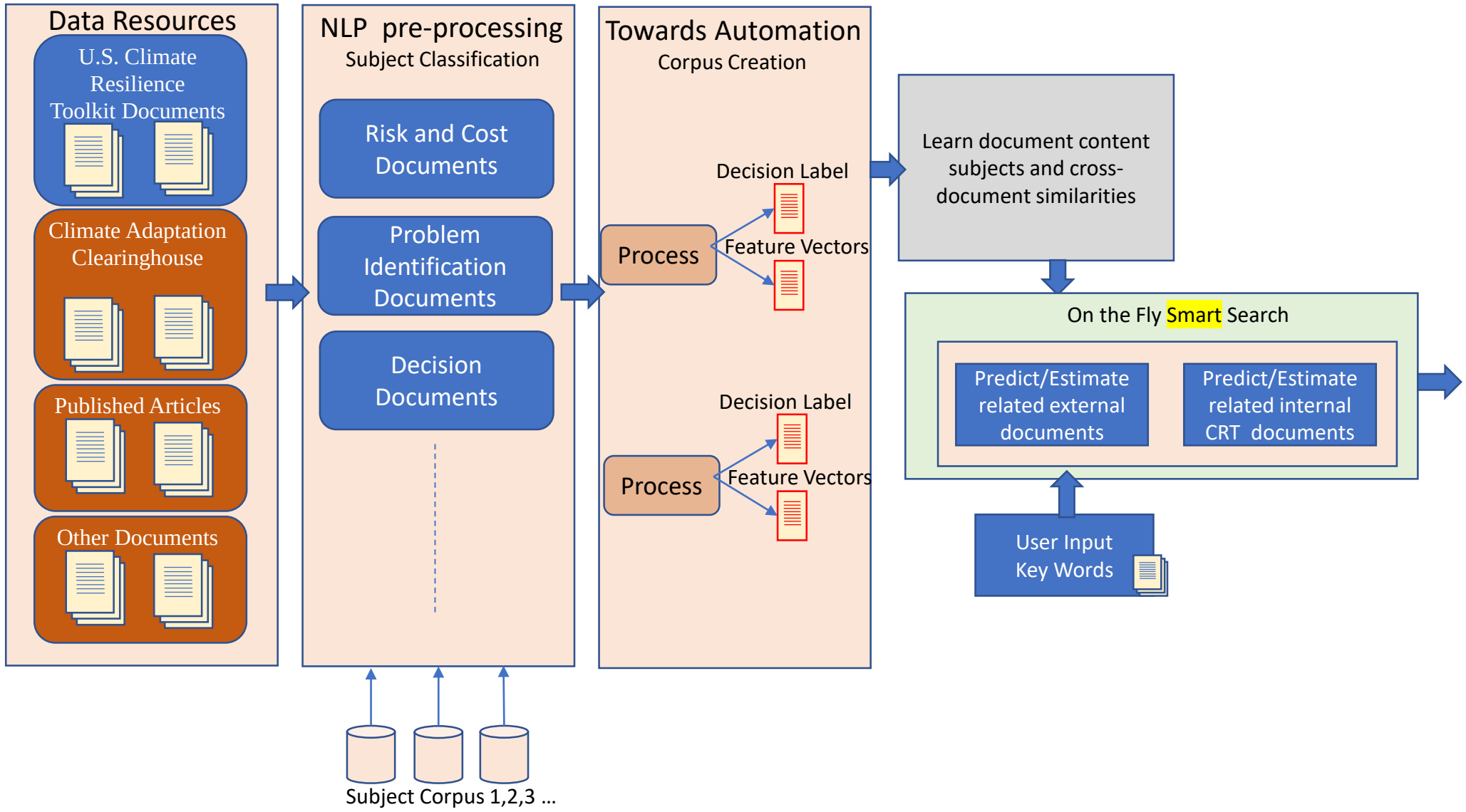
Feature Vectors
Learn document content subjects and cross-document similarities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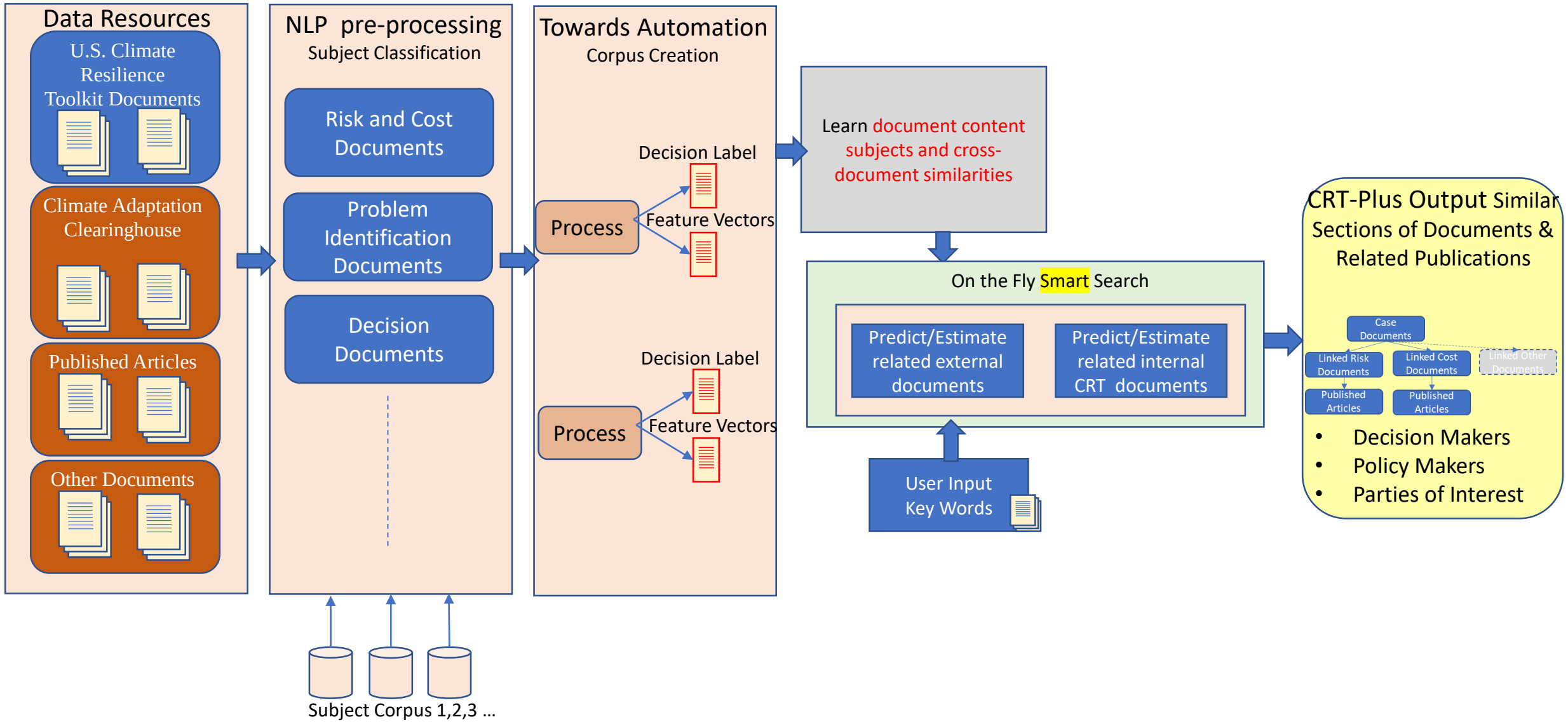
On the Fly Smart Search
Predict/Estimate related external documents
Predict/Estimate related internal CRT documents
User Input Key Words
Subject Corpus 1,2,3 …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