

AIMS

APCC Integrated Modeling Solution

NoteSquare Inc.

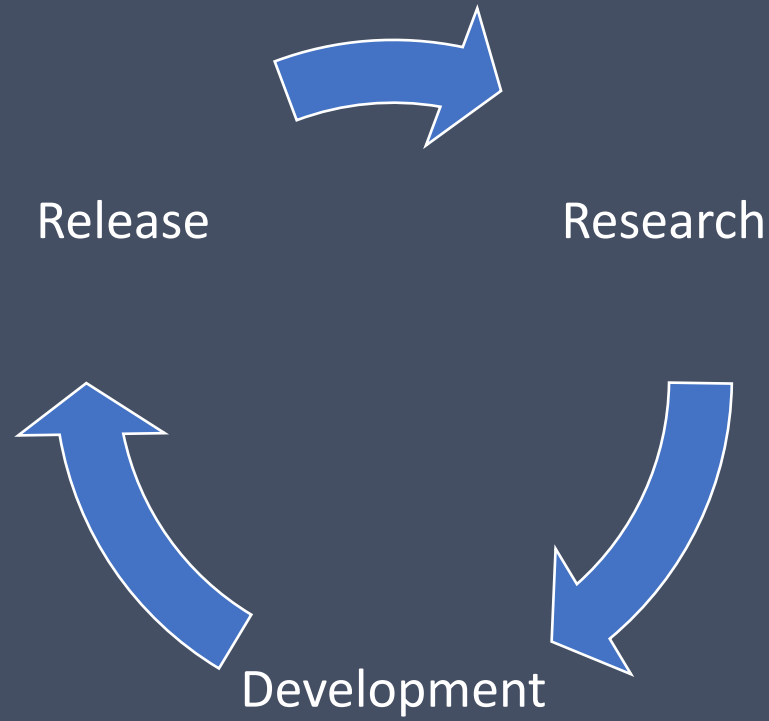
Junhyuk Lee, C.E.O.

2018/10/15

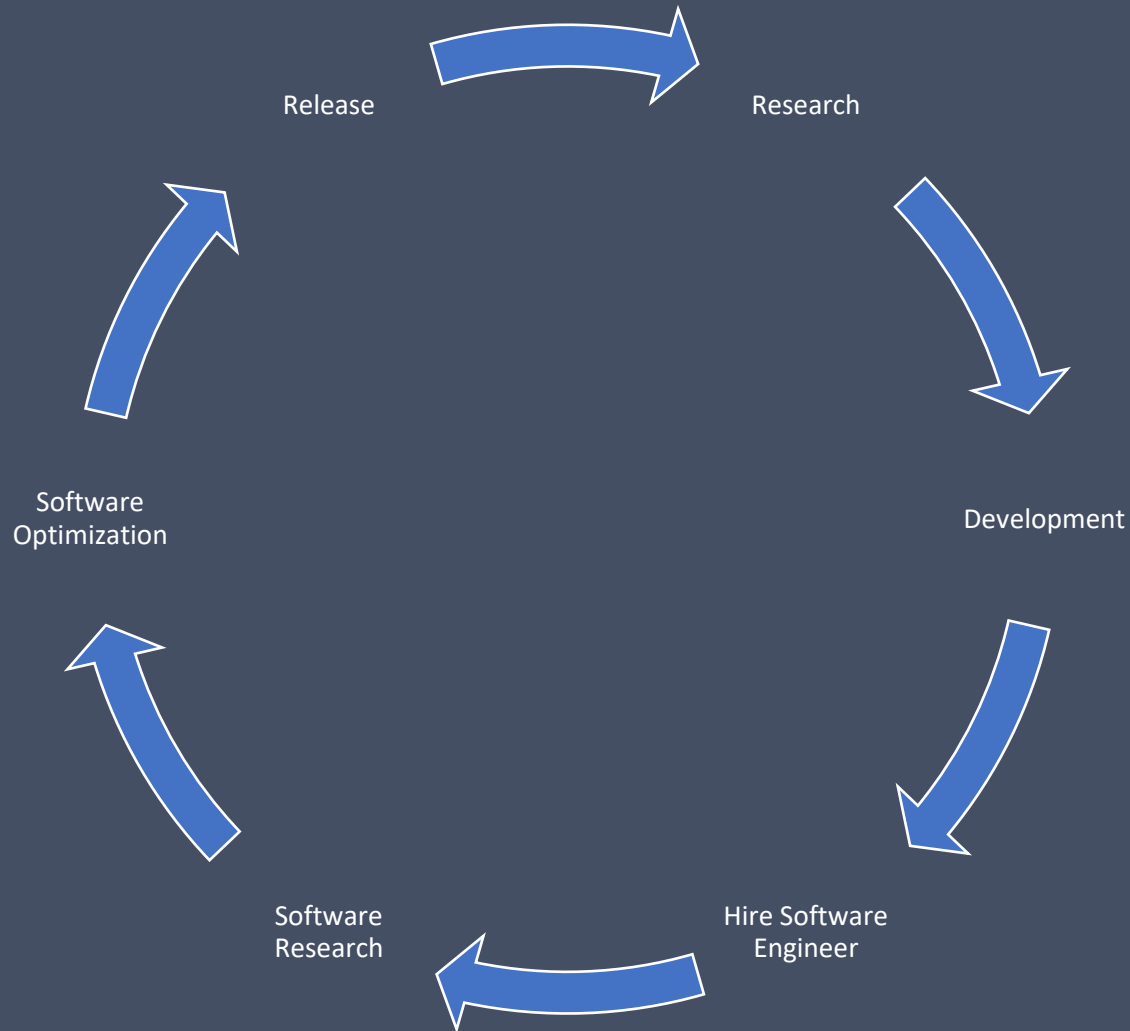


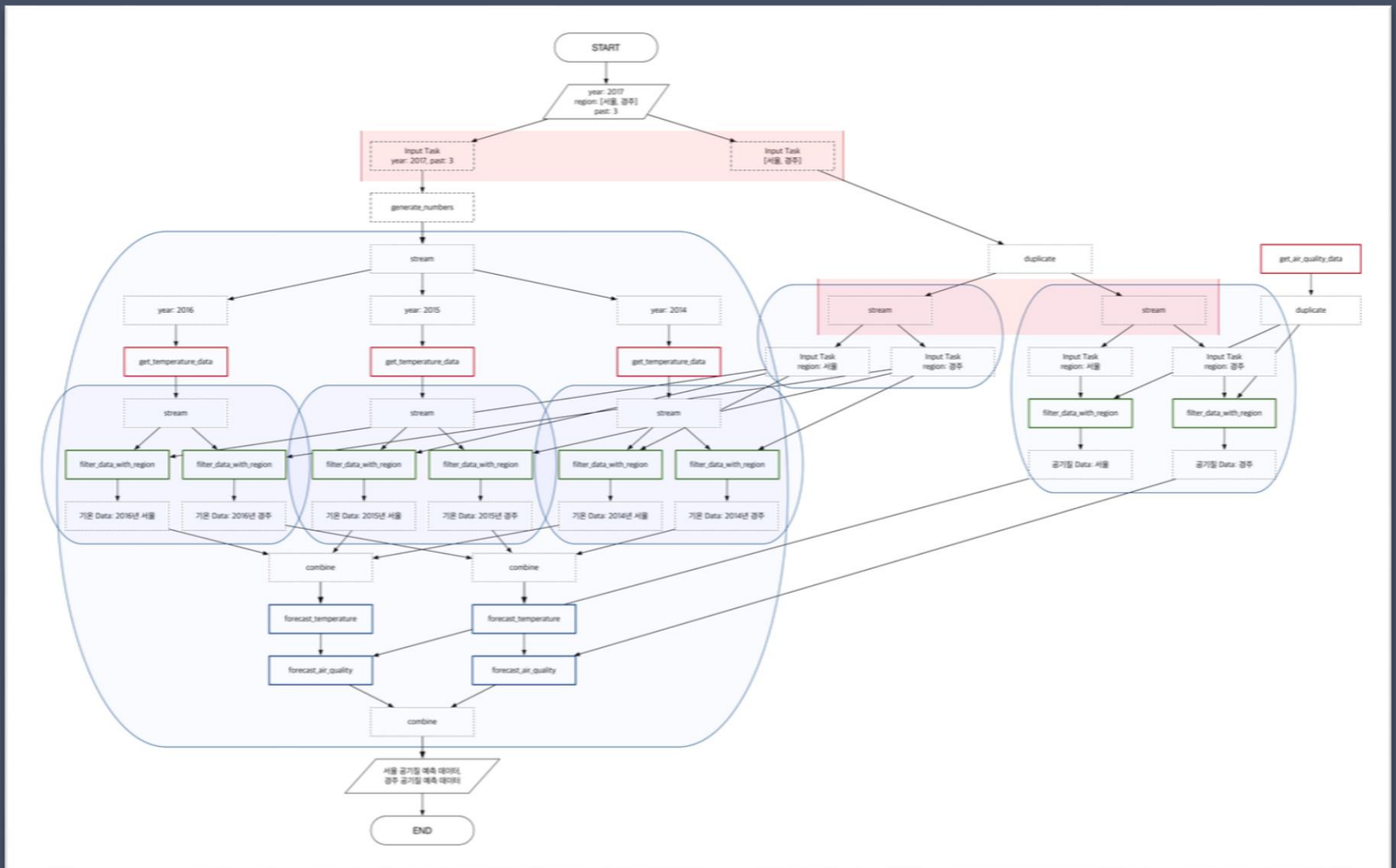
- Software Optimization
 - Dynamically optimize your software
 - Run-time reduced by 60~70%
 - Open Source (currently in closed Beta)
 - Supports R, Javascript, Python
- Scientific Research Software
 - Easier and Faster
 - For everybody





Actual R&D cycle in Scientific Research Software

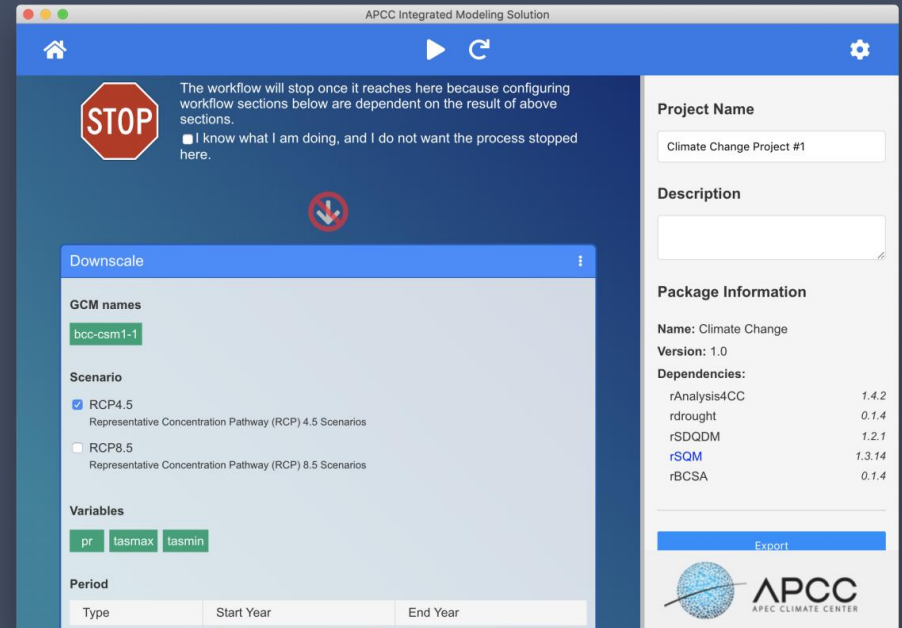
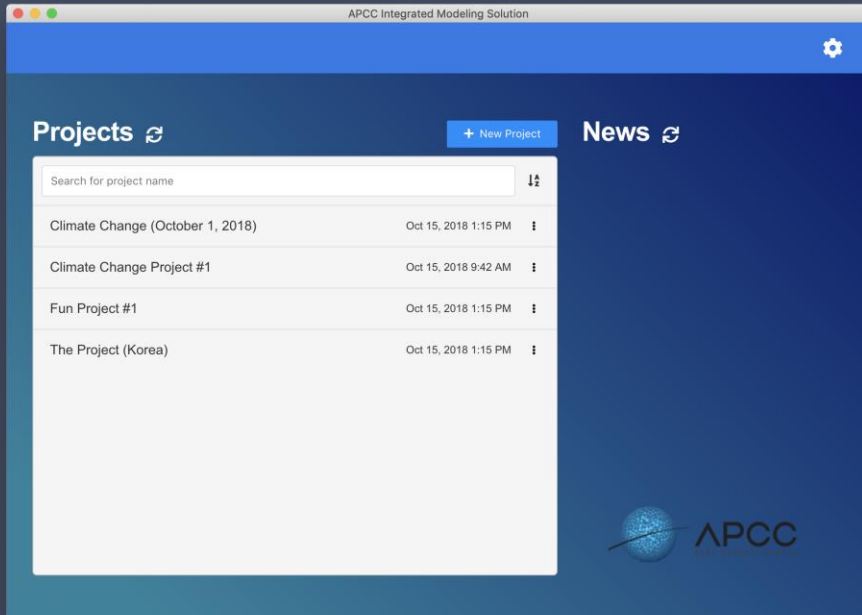




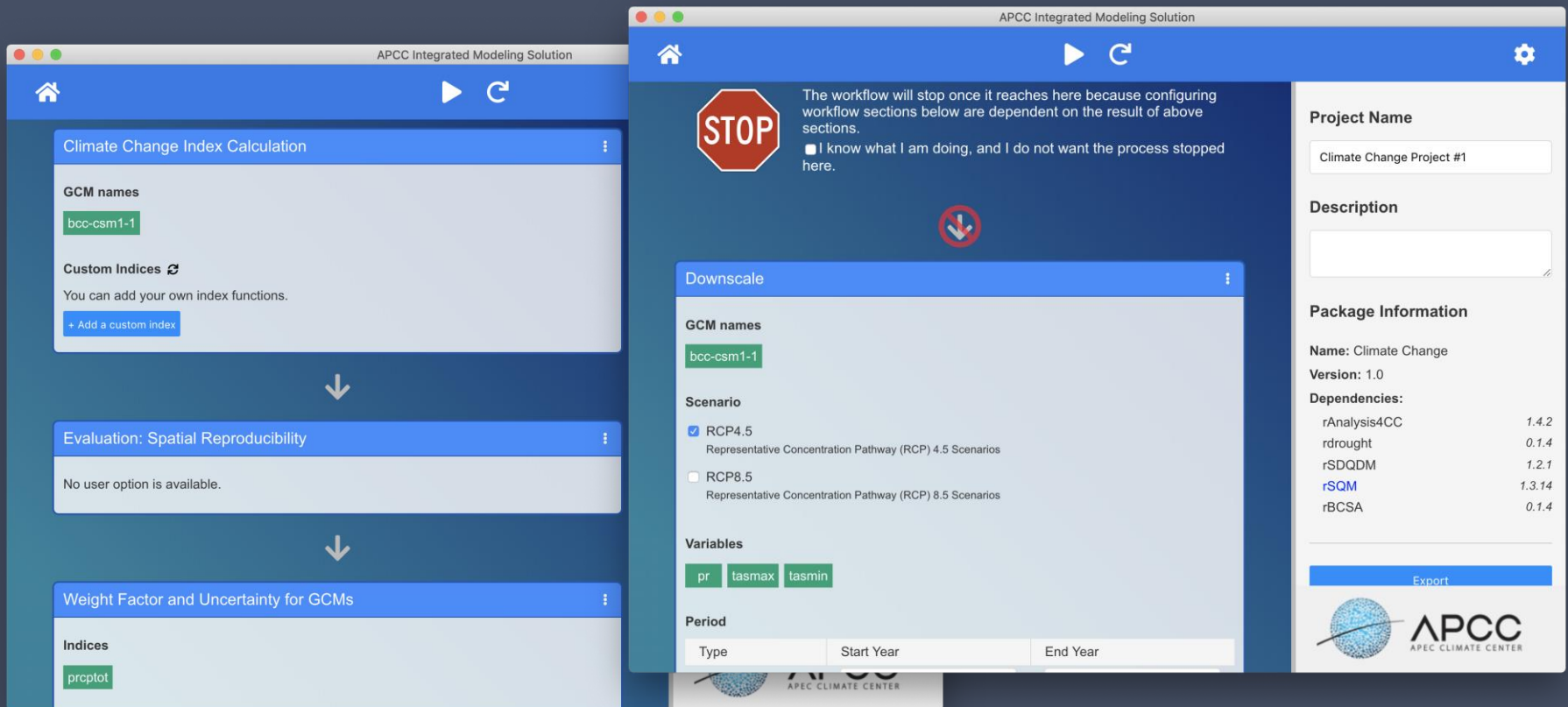
- APCC Integrated Modeling Solution
 - Desktop application
 - Project began in June 2017
 - Version 1.0 released in October 2017
 - Version 2.0 to be released in late 2018
 - Currently in 2.0 beta
- AIMS Web
 - AIMS Project data sharing platform
 - Web application



- User Interface
 - Project-base
 - Card System



- Faster
 - Computational Graph
 - Parallel Workflow



The image displays two overlapping screenshots of the APCC Integrated Modeling Solution interface. The background screenshot shows a workflow graph with three steps: 'Climate Change Index Calculation', 'Evaluation: Spatial Reproducibility', and 'Weight Factor and Uncertainty for GCMs'. The foreground screenshot shows a configuration window for the 'Downscale' step, which is currently stopped, indicated by a red 'STOP' sign and a red circle with a downward arrow.

Workflow Graph (Background):

- Climate Change Index Calculation:**
 - GCM names: bcc-csm1-1
 - Custom Indices: You can add your own index functions. (+ Add a custom index)
- Evaluation: Spatial Reproducibility:** No user option is available.
- Weight Factor and Uncertainty for GCMs:**
 - Indices: prcptot

Downscale Configuration Window (Foreground):

The workflow will stop once it reaches here because configuring workflow sections below are dependent on the result of above sections.

- I know what I am doing, and I do not want the process stopped here.

Configuration Details:

- GCM names:** bcc-csm1-1
- Scenario:**
 - RCP4.5 (Representative Concentration Pathway (RCP) 4.5 Scenarios)
 - RCP8.5 (Representative Concentration Pathway (RCP) 8.5 Scenarios)
- Variables:** pr, tasmax, tasmin
- Period:**

Type	Start Year	End Year

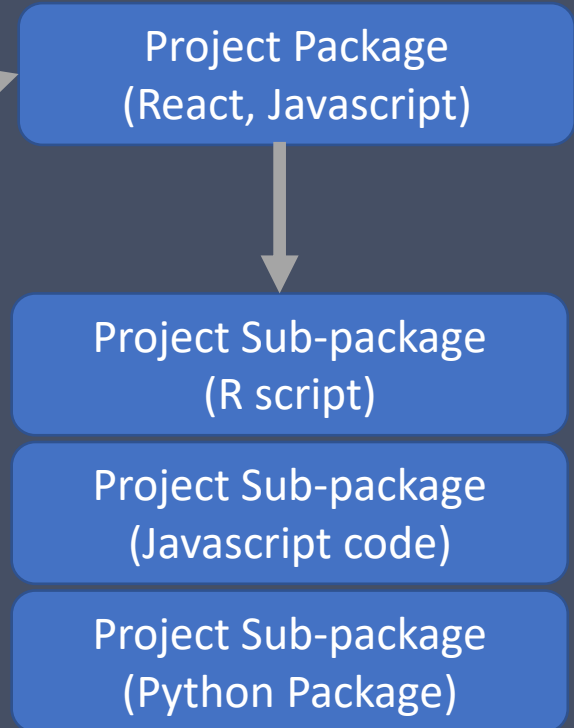
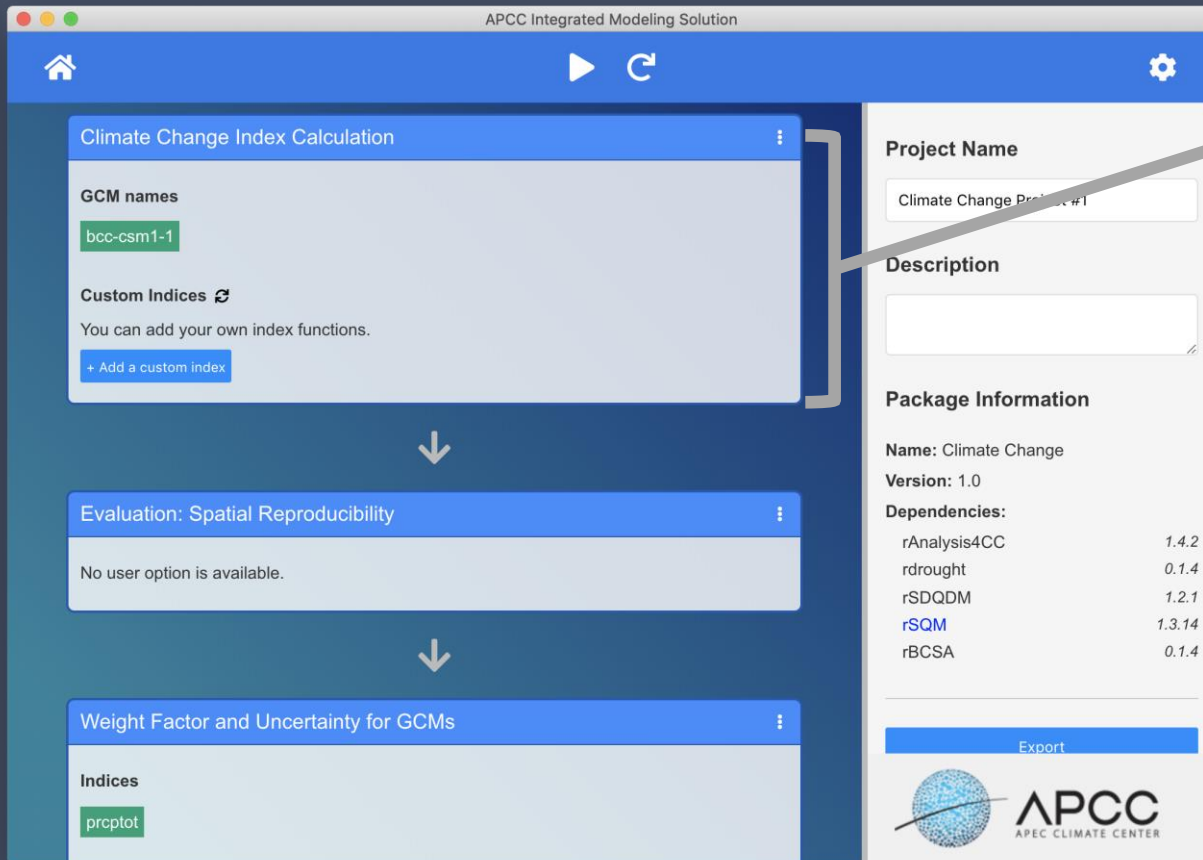
Project Information (Right Panel):

- Project Name:** Climate Change Project #1
- Description:**
- Package Information:**
 - Name: Climate Change
 - Version: 1.0
 - Dependencies:

rAnalysis4CC	1.4.2
rdrought	0.1.4
rSDQDM	1.2.1
rSQM	1.3.14
rBCSA	0.1.4

APCC APEC CLIMATE CENTER

- Extensibility



- Cross-platform (Windows, Mac, Linux*)
 - Windows 7 or newer
 - 64-bit operating system is recommended
 - 200GB or more storage
- Internet connection is required

* Ask for Linux build at jlee@notesquare.co.kr



Hands-on

Download AIMS 2.0-beta from

<http://aims.apcc21.org>



- AIMS Web Application

The screenshot displays the AIMS Web Application interface within a browser window. The browser's address bar shows the URL https://www.aims_web.co.kr/. The main content area features a world map with a search bar containing the text "Asia". To the right of the map is a vertical menu with filter options: "Map Tools", "Continent", "Country" (highlighted in blue), "Region", "State", and "Basin Area". Below the map, the text "AIMS Web" is visible.

On the right side of the interface, there is a "Location" section with a button labeled "Areas on View Map" and a link for "+ Advanced Search". Below this is a "Projects" section containing four project cards, each with a title, author, objectives, data source, and publication information:

- Project 1:** "Dry spell analysis and maize yields for two semi-arid locations in east Africa". Author: Kenneth. Objectives: Dry. Data Source: CMIP 5. Publication: Vulnerability Analysis #1.
- Project 2:** "A new river flooding scheme for global climate applications: Off-line evaluation over South America". Author: John. Objectives: Flood. Data Source: CMIP 6. Publication: Vulnerability Analysis #1, Vulnerability Analysis #2.
- Project 3:** "Changes in frost, snow and Baltic sea ice based on climate model projections for Europe". Author: Adam. Objectives: Snow, Frost. Data Source: CorDEX. Publication: [unspecified].
- Project 4:** "20 km mesh global climate simulations using JMA-GSM model - mean climate states -". Author: Sam. URL: <https://doi.org/10.2151/jmsj.84.165>. Keywords: Global Climate. All 4 versions.

At the bottom of the page, there is a footer with the APCC logo and links for "APCC", "Terms", "Help", and "Send feedback".

- AIMS project sharing

The screenshot displays the AIMS Web interface in a browser window. The browser tab is labeled 'APCC Integrated moc' and the address bar shows 'https://www.aims_web.co.kr/'.

Left Sidebar:

- AIMS (Web) (selected)
- AIMS
- Account

Main Map Area:

The map shows Asia highlighted in dark blue. A search bar at the top left contains 'Asia'. A 'Map Tools' menu is open, showing options: Continent, Country (selected), Region, State, and Basin Area. A search icon is visible below the menu.

Right Panel: Asia Weather Research and Forecast

- Author:** Jaden
- Location:** Asia
- Data Source:** CMIP 6
- Objective:** Precipitation [+ Details](#)

Description:

To produce new, more robust and trustworthy projections of Asian Precipitation for the next few decades based on improved global models and advances in process understanding

Publication:

Paper: Precipitation variability increases in a warmer Climate
 Author: Jaden, Jun Hyuk Lee
<https://doi.org/10.1016/j.trd.2005.04.001>
 Keywords: Precipitation, Warm Climate
 All 2 versions

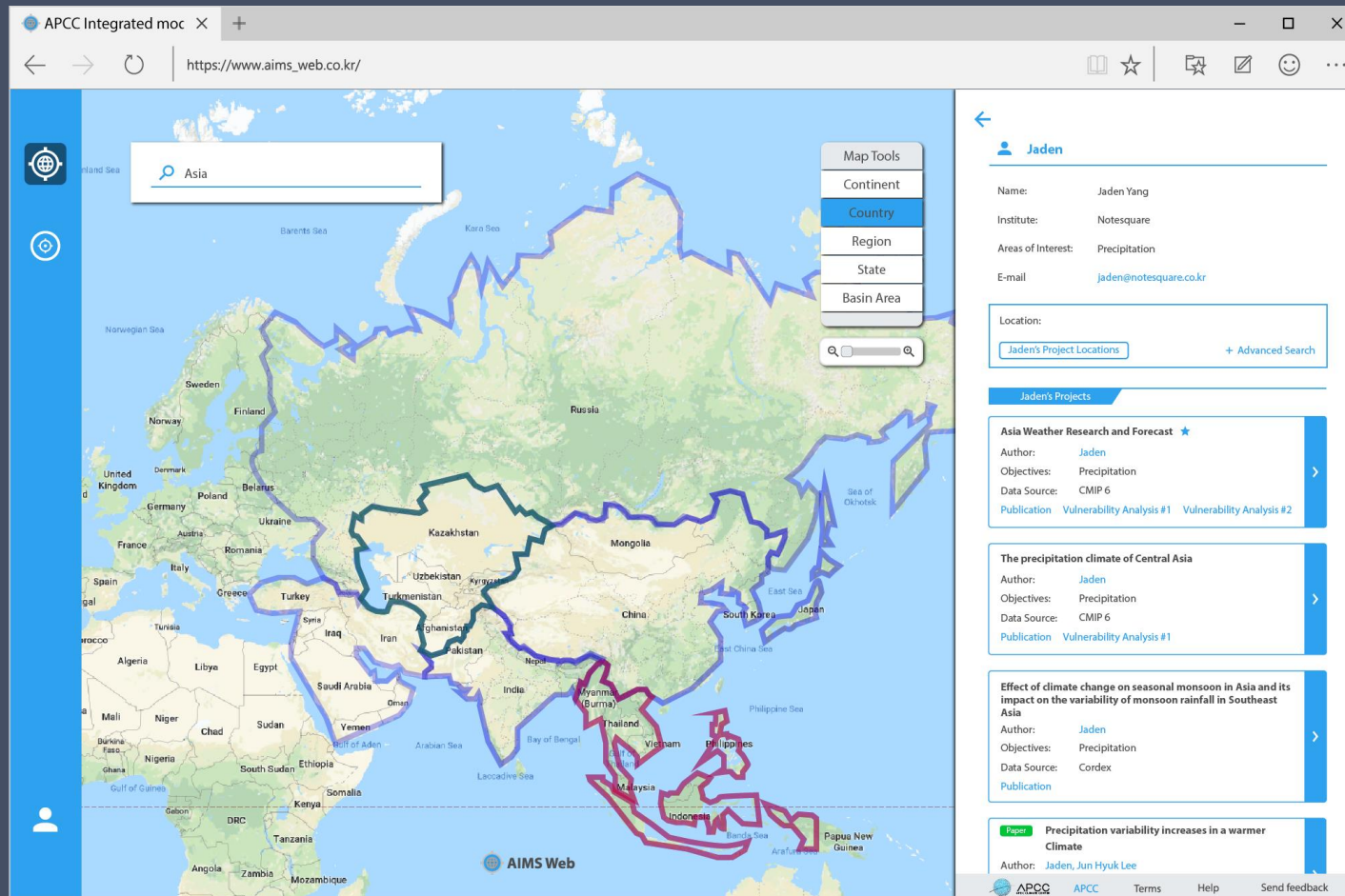
Vulnerability Analysis:

Extreme Rainfall Events: Vulnerability Analysis
 Analyzed by: Jaden, Jun Hyuk Lee

[Export AIMS Project File](#)

Footer: APCC APCC Terms Help Send feedback

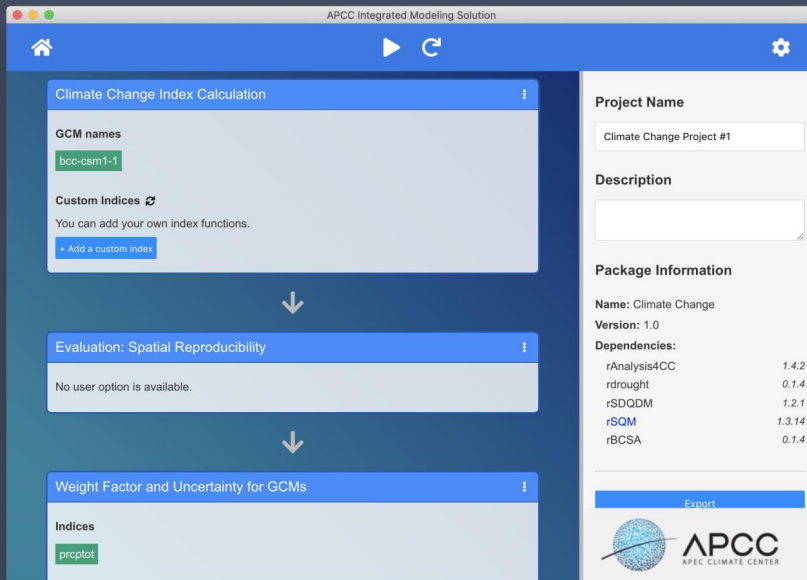
- Easy-to-use web interface
 - Search by author / region-of-interest / map



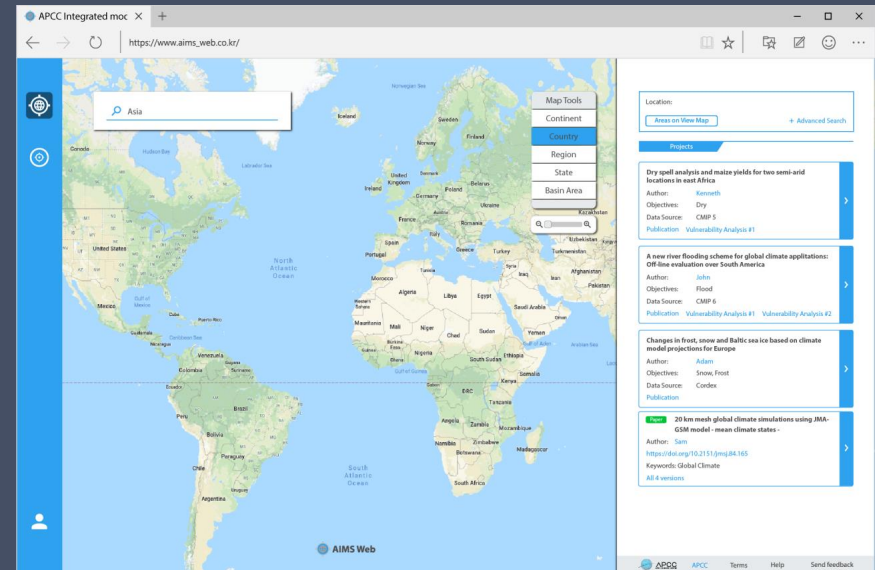
- Works on all modern web browser
- Tightly integrated with AIMS 2.0
- Under development
- To be released on late 2018



- AIMS 2.0



- AIMS Web



Any request or idea for AIMS package is welcome!

Thank you

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