BLM_DNN

Homepage Guide (Trial version)

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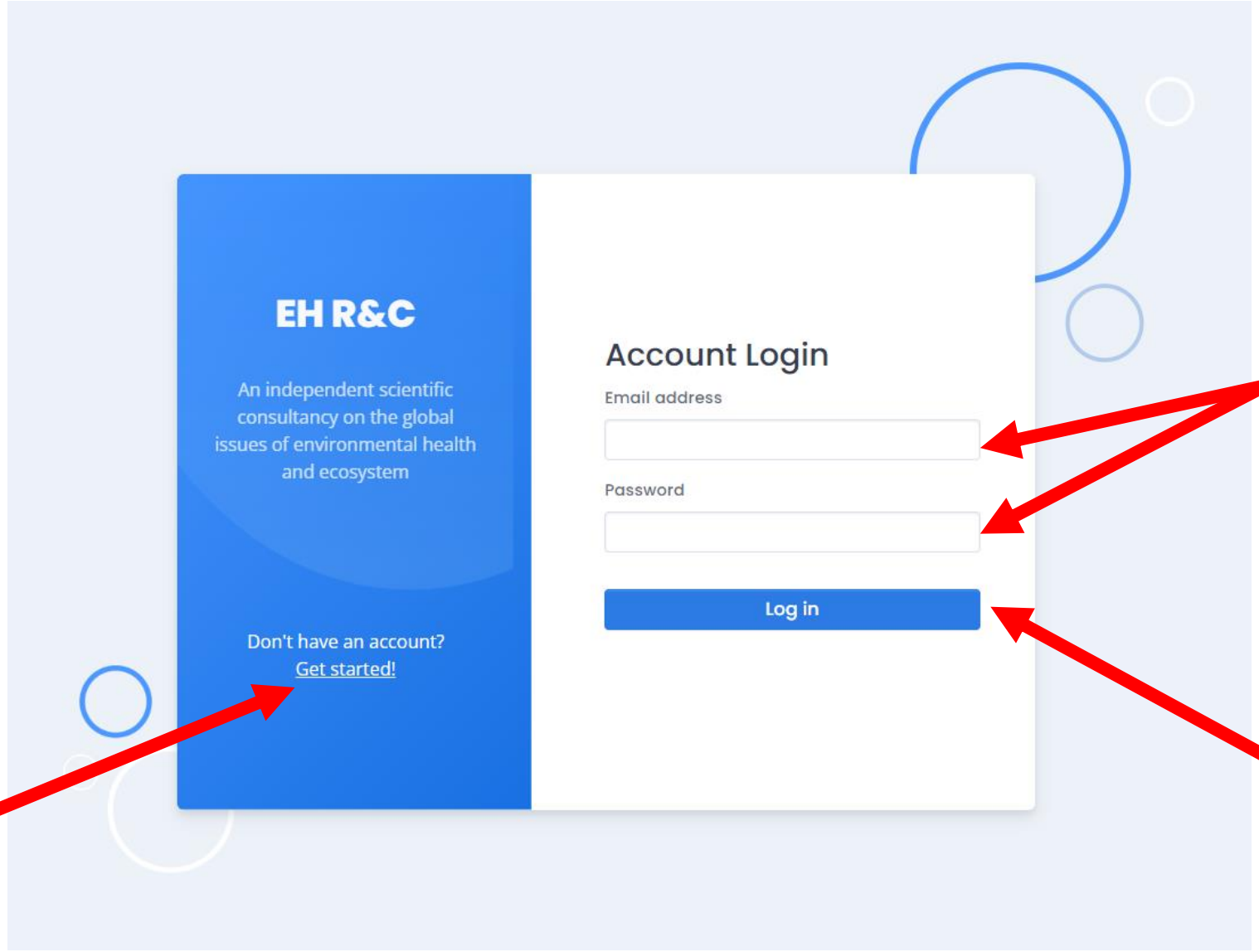
Login Page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An independent scientific consultancy on the global issues of environmental health and ecosystem
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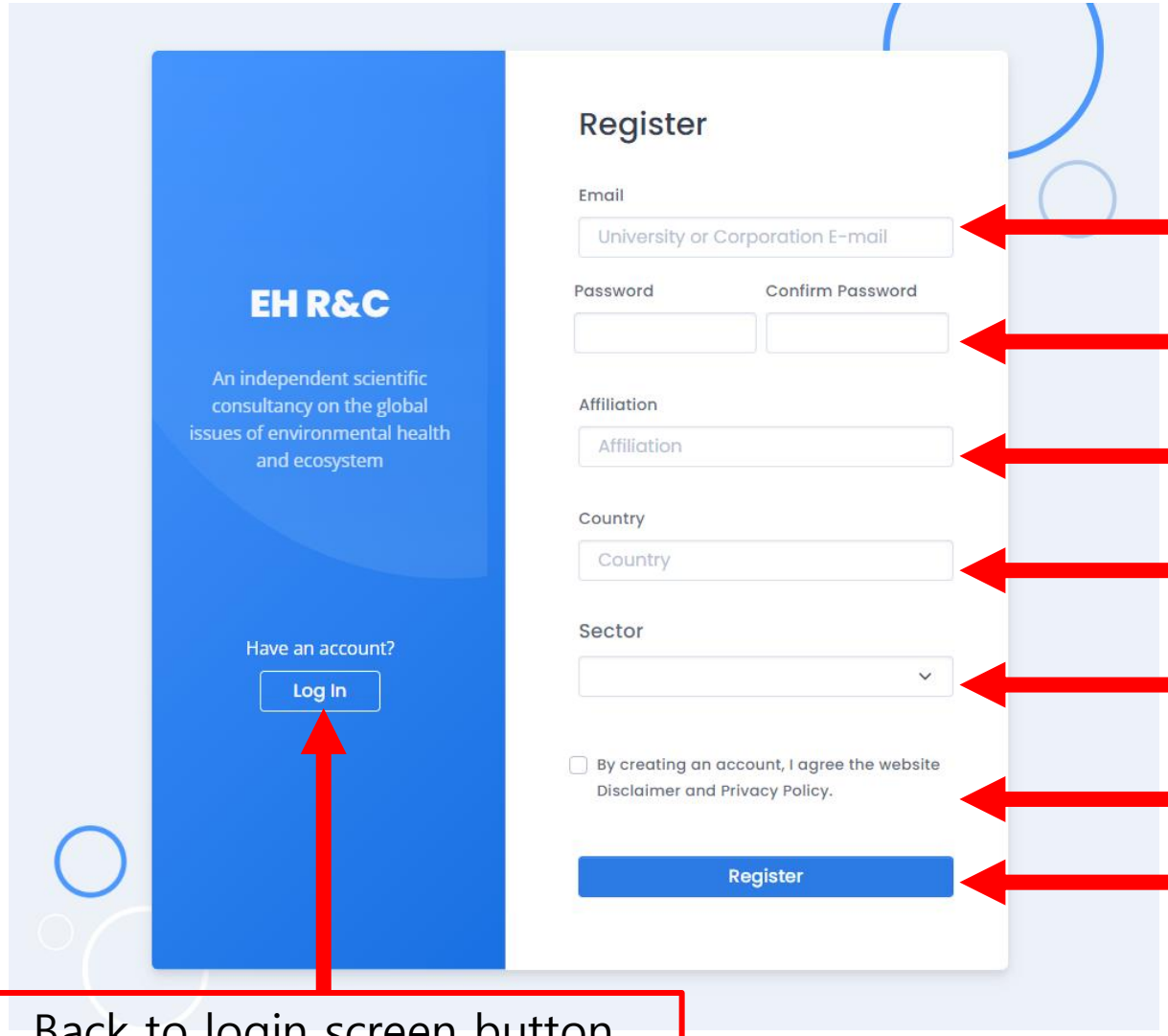
Login button
Register Link

Register Page



Email

Password & Confirm password

Your affiliation

Your country

Your sector

Consent to provision of personal information

Register button

Back to login screen button

Main Page

Move to the current main screen, introduction

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Introduction

DNN model

Copper-EU

Copper-ASIA

Nickel

Zinc

DNN_model applied EU-species, ASIA-species movable

Nickel, Zinc will be updated later

Logout

You can log out by clicking on the profile icon

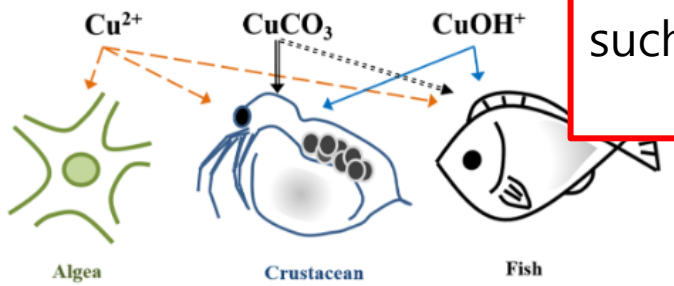
It will be added later, such as checking the profile

DNN model for BLM vol.1

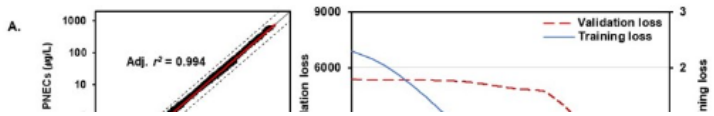
Metals are released into the aquatic environment through the use of many of industrial manufacturing and consumer products. Since the concentration of metals in water bodies that adversely affect aquatic life depends on water quality conditions, the risks to the aquatic environment need to be effectively managed for the sustainable use of metals. A PNEC as single concentration may overestimate or underestimate the risk of a metal to the aquatic envir
depending on water quality conditions.

The DNN models with reduced input variables is the tools that predicts BLM-based chronic PNEC and acu
derived using full-BLM approach (applying three different types of BLMs for each taxonomic group in acc
EU guidelines)[a].

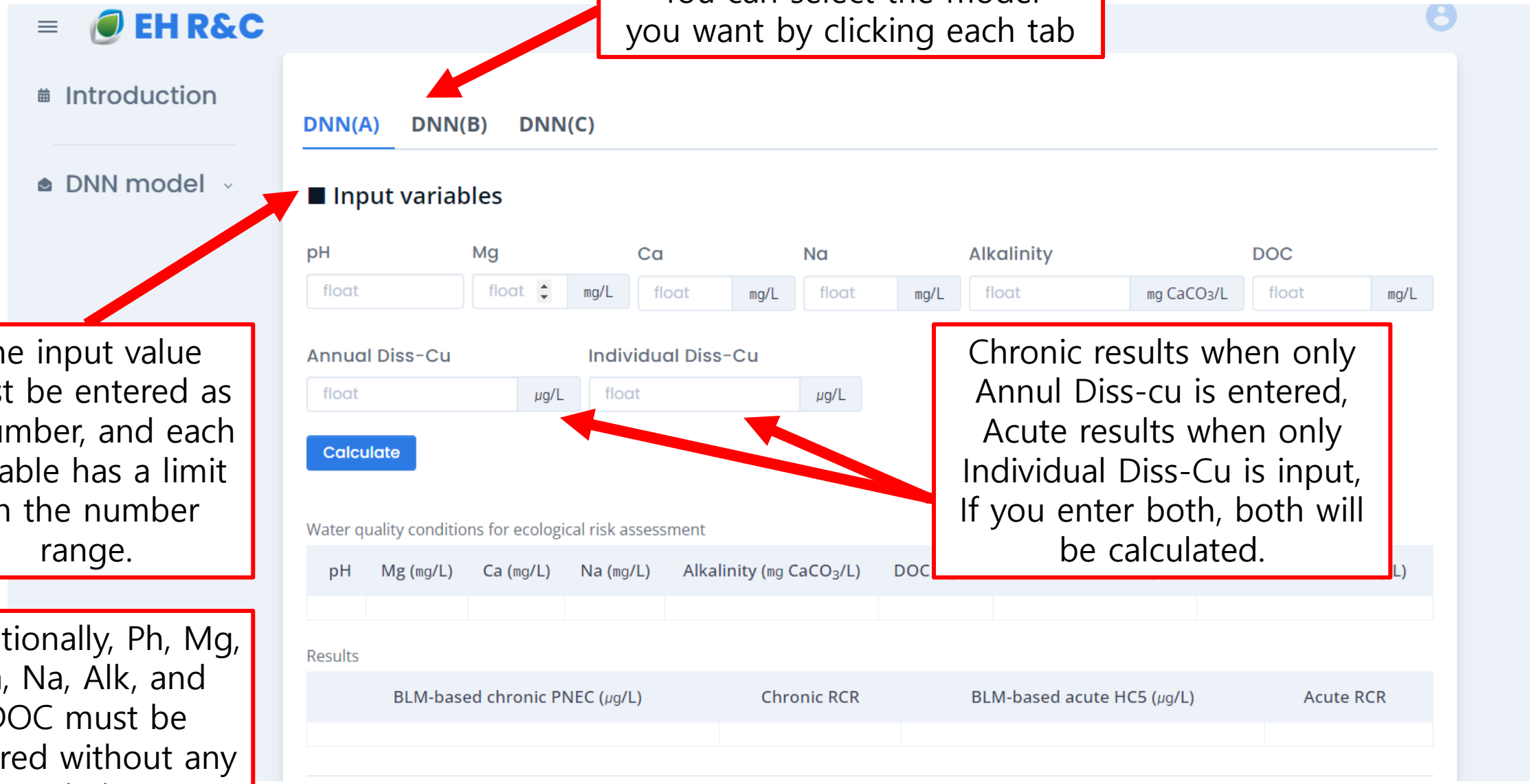
Using the models to quantitatively describe the bioavailability of metals, such as BLM (Biotic ligand model), it is possible to efficiently manage the site-specific risk of metals to the aquatic environment



The three different types of DNN models for BLM use different of input variables.



Input variable Page



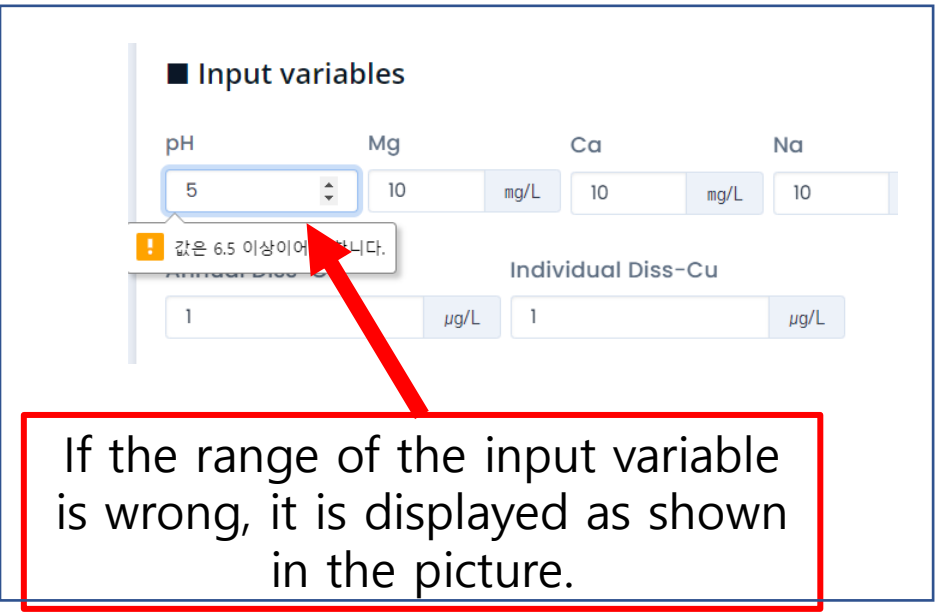
You can select the model you want by clicking each tab

The input value must be entered as a number, and each variable has a limit on the number range.

Additionally, Ph, Mg, Ca, Na, Alk, and DOC must be entered without any omission.

Chronic results when only Annul Diss-cu is entered, Acute results when only Individual Diss-Cu is input, If you enter both, both will be calculated.

Result and Range Functions in the Input Variables Screen



If the range of the input variable is wrong, it is displayed as shown in the picture.

If you have entered the input variable correctly
case
You can get the same result as the picture.

Check input values with TABLE
You can check the result value TABLE

DNN(A) DNN(B) DNN(C)

■ Input variables

pH	Mg	Ca	Na	Alkalinity	DOC
float	float mg/L	float mg/L	float mg/L	float mg $CaCO_3$/L	float mg/L

Annual Diss-Cu	Individual Diss-Cu
float μg/L	float μg/L

Calculate

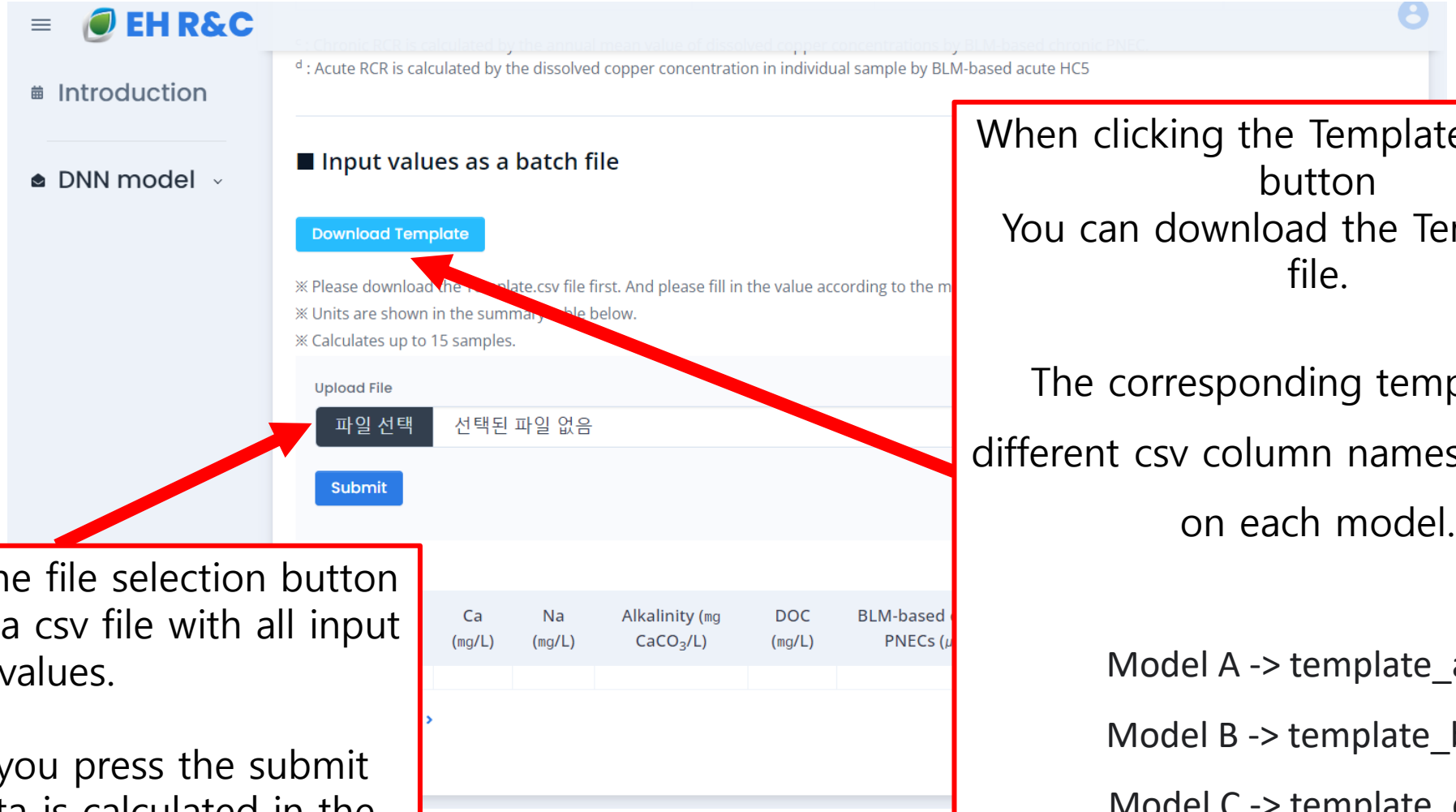
Water quality conditions for ecological risk assessment

pH	Mg (mg/L)	Ca (mg/L)	Na (mg/L)	Alkalinity (mg $CaCO_3$/L)	DOC (mg/L)	Annual Diss-Cu (μg/L)	Individual Diss-Cu (μg/L)
7	10	10	10	100	10	1	1

Results

BLM-based chronic PNEC (μg/L)	Chronic RCR	BLM-based acute HC5 (μg/L)	Acute RCR
4.66e+1	2.15e-2	1.50e+2	6.66e-3

Calculation Page after CSV upload



When clicking the Template Download button
You can download the Template.csv file.

The corresponding template has different csv column names depending on each model.

Model A -> template_a.csv

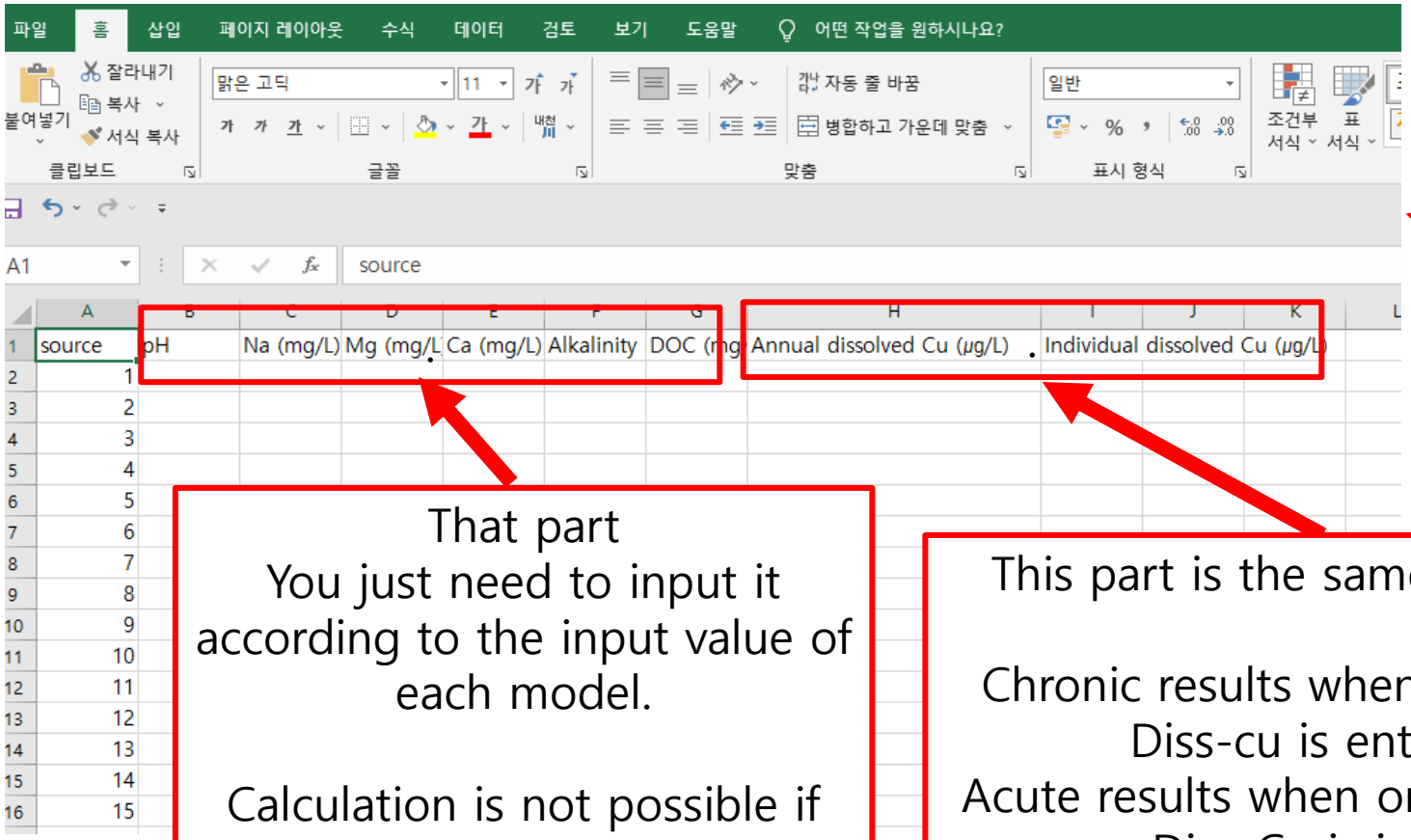
Model B -> template_b.csv

Model C -> template_c.csv

When clicking the file selection button
You can upload a csv file with all input values.

Afterwards, if you press the submit button, the data is calculated in the calculation server according to the csv and returned to the table.

Template.csv



downloaded
template_a.csv is like the picture on the left.
file. B and C files have columns for each model.

That part
You just need to input it according to the input value of each model.

Calculation is not possible if the input is empty.

Ex) Calculation is not possible when input values that do not fit the model are filled in

This part is the same as before.

Chronic results when only Annul Diss-cu is entered,
Acute results when only Individual Diss-Cu is input,
If you enter both, both will be calculated.

Template.csv Good & Bad Examples

- Good example

	A	B	C	D	E	F	G	H	I
1	source	pH	Na (mg/L)	Mg (mg/L)	Ca (mg/L)	Alkalinity (mg	DOC (mg/L	Annual dissolved Cu (μg/L)	Individual dissolved Cu (μg/L)
2	1	7.72	35.5	5.3	31.4	77.3	3.5	1	1
3	2	8.44	20.4	3.7	23.2	62.0	2.1	1	1
4	3	7.96	27.7	6.5	32.0	71.7	2.3	1	1
5	4	7.23	85.0	5.2	56.1	73.3	3.3	1	1
6	5	8.32	10.0	3.7	16.8	43.7	1.4	1	1
7	6	7.44	6.9	8.1	31.2	88.7	1.6	1	1
8	7	7.69	9.4	6.1	27.9	73.3	1.7	1	1
9	8	8.01	9.9	3.2	17.3	45.0	2.3	1	1
10	9	7.64	5.1	2.4	12.4	31.0	1.0	1	1
11	10	7.52	11.2	3.5	17.2	47.3	1.6	1	1
12	11	7.75	7.8	3.5	17.0	40.7	1.2	1	1
13	12	7.86	4.8	1.7	8.7	23.7	1.2	1	1
14	13	7.97	106.5	5.5	36.2	45.0	2.9	1	1
15	14	7.73	112.1	4.9	30.1	104.3	9.3	1	1

- Bad example

	A	B	C	D	E	F	G	H	I
1	source	pH	Na (mg/L)	Mg (mg/L)	Ca (mg/L)	Alkalinity (mg	DOC (mg/L	Annual dissolved Cu (μg/L)	Individual dissolved Cu (μg/L)
2	1	7.72	35.5	5.3	31.4	77.3	3.5	1	1
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4	3	7.96	27.7	6.5	32.0	71.7	2.3	1	
5	4	7.23	85.0		56.1	73.3	3.3	1	
6	5		10.0		16.8	43.7	1.4		
7	6		6.9		31.2	88.7	1.6		
8	7		9.4		27.9	73.3	1.7		1
9	8		9.9		17.3	45.0	2.3		1
10	9		5.1	2.4	12.4	31.0	1.0		1
11	10		11.2	3.5	17.2	47.3	1.6		1
12	11		7.8	3.5	17.0	40.7	1.2		1
13	12	7.86	4.8	1.7	8.7		1.2		1
14	13	7.97	106.5	5.5	36.2		2.9	1	1
15	14	7.73	112.1	4.9	30.1		9.3	1	1

This input file can cause errors.

Each model uses column values as input values, but calculation is impossible because there is a missing values.

Similarly, other models that use Na and Ca to calculate also have errors in their calculations.

Calculation result Page after csv upload

■ Input values as a batch file

Download Template

※ Please download the Template.csv file first. And please fill in the value according to the model and upload it.
※ Units are shown in the summary table below.
※ Calculates up to 15 samples.

Upload File

파일 선택 선택된 파일 없음

Submit

After uploading the Template.csv file, click the submit button

Summary

pH	Mg (mg/L)	Ca (mg/L)	Na (mg/L)	Alkalinity (mg $CaCO_3$/L)	DOC (mg/L)	BLM-based chronic PNECs (μg/L)	Chronic RCR	BLM-based acute HC5s (μg/L)	Acute RCR
7.72	5.3	31.4	35.5	77.3	3.5	1.15e+1	8.73e-2	3.69e+1	2.71e-2
8.44	3.7	23.2	20.4	62.0	2.1	5.67e+0	1.76e-1	1.82e+1	5.48e-2
7.96	6.5	32.0	27.7	71.7	2.3	5.93e+0	1.69e-1	1.91e+1	5.24e-2
7.23	5.2	56.0	85.0	73.3	3.3	1.38e+1	7.24e-2	4.45e+1	2.25e-2
8.32	3.7	16.8	10.0	43.7	1.4	3.43e+0	2.92e-1	1.10e+1	9.06e-2

1 to 5 of 15 — View all ›

Previous Next

View all : shows all results,
Next : shows the next page

Homepage errors and inquiries

Please send an e-mail to js.jo@ehrnc.com with a screen capture

and a detailed description of the situation in which the error occurred.

We will give you a quick response and kind reply.

Thank you