

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

---

**AIW-TEM-002**

**2023-06-19**

**V2.2**



## copyright

본 문서의 저작권은 국립기상과학원과 (주)씨트렉아이 컨소시엄이 소유한다.

국립기상과학원과 (주)씨트렉아이 컨소시엄의 사전 승인 없이 본 문서의 전부 또는 일부에 대한 복사, 전재, 배포, 사용을 금한다.

AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	1

개정이력

버전	작성일	변경내용	작성자	승인자
V0.1	2021-08-31	최초 작성	이희웅	곽성희
V1.0	2021-11-23	GK2A AMI L1B 지원 기능 추가	이희웅	곽성희
V2.0	2022-05-02	LDAPS, GDAPS UM, GDAPS KIM 지원 기능 추가 사용자 피드백 반영	이희웅	박근석
V2.1	2022-07-18	사용자 피드백 반영	이희웅	박근석
V2.2	2022-10-06	사용자 피드백 반영	이희웅	박근석
V2.3	2023-06-19	pytorch를 사용하지 않고 numpy를 이용하는 방법 추가	이희웅	박근석

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	2

## 목차

1. 개요.....	6
1.1. 문서의 목적 .....	6
1.2. AI 확장 라이브러리 .....	6
2. 구성.....	8
3. 사용자 요구 환경 및 설치 방법 .....	10
4. 사용 방법.....	11
4.1. 기상자료 별 Config 작성 방법 .....	11
4.1.1. Himawari Cloud L1B .....	11
4.1.2. GK2A AMI L1B.....	14
4.1.3. Radar CMP .....	17
4.1.4. Radar NetCDF .....	20
4.1.5. LDAPS .....	23
4.1.6. GDAPS UM .....	26
4.1.7. GDAPS KIM .....	29
4.2. 기상자료 혼합 Config yaml 파일 예시.....	32
4.3. Initialize 방법 .....	33
4.4. Data Loader 사용 방법 .....	36
5. 부록.....	39
5.1. 1. LDAPS .....	39
5.1.1. I015_v070_erlo_pres.....	39
5.1.2. I015_v070_erlo_unis .....	45
5.2. GDAPS UM.....	51
5.2.1. G100_v070_erea_pres .....	51
5.2.2. G100_v070_erea_unis.....	57
5.2.3. G120_v070_erea_pres .....	62
5.2.4. G120_v070_erea_unis.....	68
5.2.5. G128_v070_ergl_pres .....	74
5.2.6. G128_v070_ergl_unis .....	80
5.2.7. G512_v070_ergl_pres .....	85
5.2.8. G512_v070_ergl_unis .....	91
5.2.9. G768_v070_ergl_pres .....	96
5.2.10. G768_v070_ergl_unis .....	102
5.3. GDAPS_KIM.....	107
5.3.1. kim_g120_ne36_pres .....	107

<p style="text-align: center;"><b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b></p>	<p>Doc.No.      AIW-TEM-002</p> <p>Rev.              V2.2</p> <p>Date             2023-06-19</p> <p>PAGE            3</p>
--	---

5.3.2. kim\_g120\_ne36\_unis .....114

5.3.3. kim\_g128\_hkor\_pres.....117

5.3.4. kim\_g128\_hkor\_unis .....126

5.3.5. kim\_g128\_ne36\_pres .....127

5.3.6. kim\_g128\_ne36\_unis .....134

5.3.7. kim\_g512\_ne36\_pres .....137

5.3.8. kim\_g512\_ne36\_unis .....144

5.4. GK2A AMI L1B 메타데이터 .....147

<div> <div> AI 기반 예보지원 솔루션 개발</div> <div>AI 확장 라이브러리 사용자 매뉴얼</div> </div>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	4

그림목차

Figure 1 AI 확장 라이브러리 인터페이스.....6

Figure 2 AI 확장 라이브러리 구성요소 .....8

Figure 3 DataLoader .....9

Figure 4 AI 확장 라이브러리 데이터 가공 그림.....36

Figure 5 국가기상위성센터 GK2A L1B Calibration Table .....147

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	<p>Doc.No. AIW-TEM-002</p> <p>Rev. V2.2</p> <p>Date 2023-06-19</p> <p>PAGE 5</p>
---	--

# 표목차

Table 1 주요 포맷 기상 자료 목록 .....7

Table 2 config table .....13

Table 3 config table .....16

Table 4 config table .....19

Table 5 config table .....22

Table 6 config table .....25

Table 7 config table .....28

Table 8 config table .....31

Table 9 argument table .....35

Table 10 AI 확장 라이브러리 데이터 가공 표 .....36

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	6

## 1. 개요

AI 확장 라이브러리는 주요 포맷 기상 자료를 `pytorch` 딥 러닝 모델에 사용하도록 돕는 `Python` 라이브러리입니다.

아래 매뉴얼에서는 다음과 같이 구성되어 있습니다.

- 2 장에서는 AI 확장 라이브러리의 구성 요소를 설명합니다.
- 3 장에서는 AI 확장 라이브러리의 사용자 요구 환경과 설치 방법을 설명합니다.
- 4 장에서는 AI 확장 라이브러리의 사용 방법과 그 예시를 설명합니다.

### 1.1. 문서의 목적

본 문서는 사용자의 AI 확장 라이브러리 사용을 돕기 위해 서술되었습니다. 본 문서의 내용은 AI 확장 라이브러리의 구조와 사용 방법을 포함하며, 라이브러리를 활용해 주요 기상 자료를 사용하려는 사람을 위해 작성되었습니다. 문서를 읽기 위해 기초적인 `python` 지식을 필요로 합니다.

### 1.2. AI 확장 라이브러리

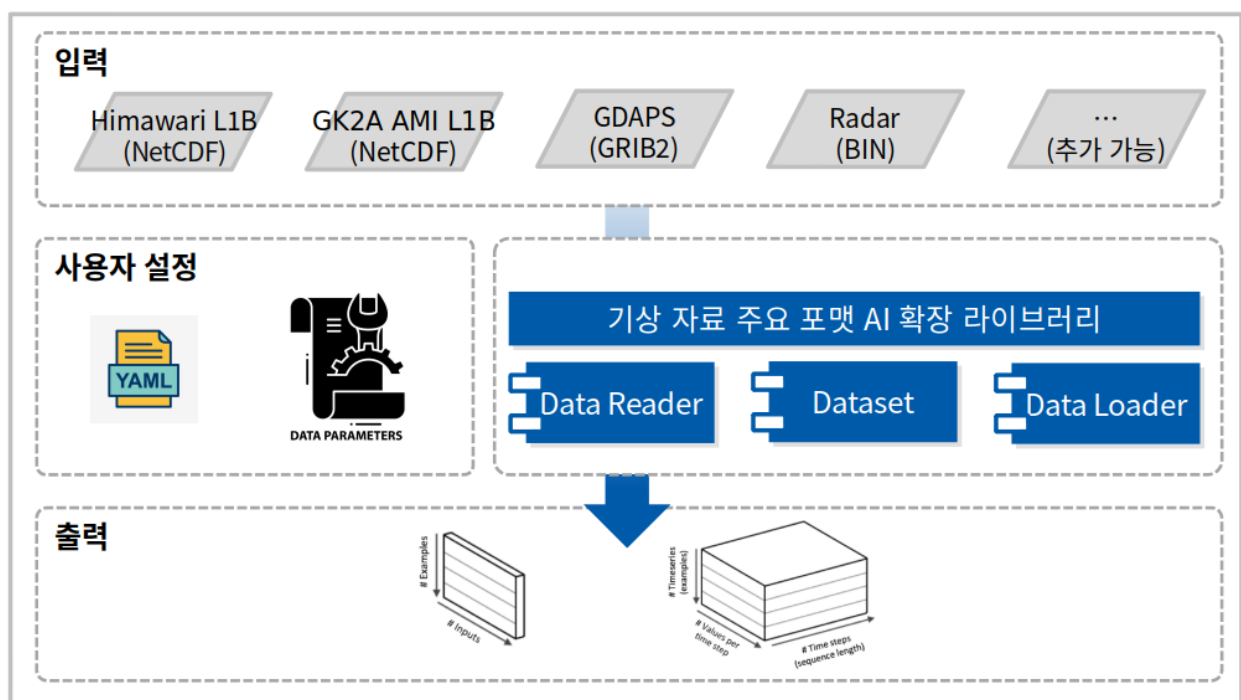


Figure 1 AI 확장 라이브러리 인터페이스

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	7

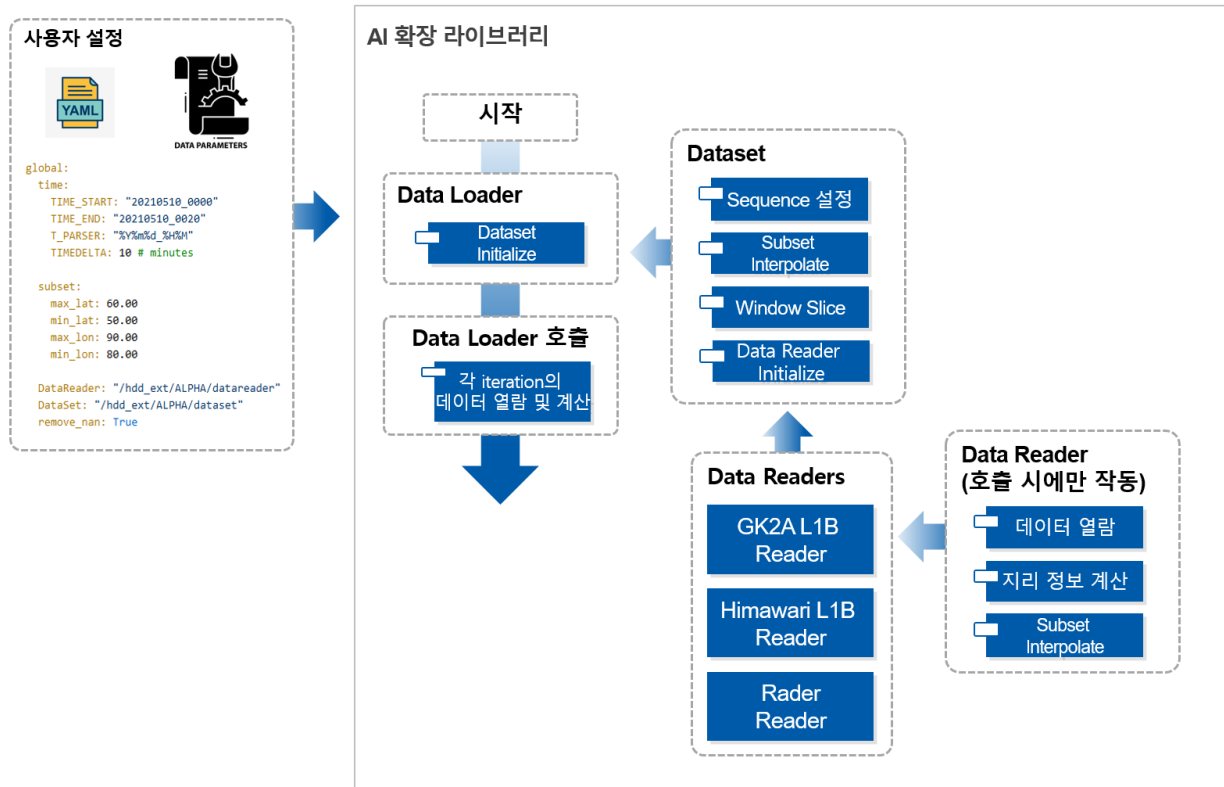
AI 확장 라이브러리는 주요 포맷 기상 자료를 입력으로 받아 **Data Loader** 를 반환하며, **Data Reader**, **Dataset**, **Data Loader** 세 가지로 구성되어 있습니다. 주요 포맷 기상 자료의 전체 목록은 아래와 같습니다. AI 확장 라이브러리는 간편하게 샤로운 기상 자료 포맷을 추가할 수 있으며, 현재는 아래의 모든 주요 기상 자료 포맷을 지원하고 있습니다.

기상 자료 포맷	파일 포맷	현재 지원 여부
Himawari Cloud L1B	NETCDF	O
GK2A AMI L1B	NETCDF	O
Radar CMP	BIN	O
Radar NetCDF	NetCDF	O
LDAPS	GRIB2	O
GDAPS UM	GRIB2	O
GDAPS KIM	GRIB2	O

**Table 1** 주요 포맷 기상 자료 목록



이 절에서는 AI 확장 라이브러리의 구성을 서술합니다.



**Figure 2 AI 확장 라이브러리 구성요소**

**Data Reader** 는 열람할 기상 자료를 탐색한 뒤 각 자료 포맷에 맞는 API 를 사용해 자료를 열람하고 가공합니다. **Dataset** 은 Data Reader 를 호출해 자료를 가져오고, 필요한 데이터를 가공합니다. 가공 목록은 다음과 같습니다.

- Sequence length 설정
- Window Sliding
- 사용자 정의 전처리 method 적용

**Data Loader** 는 Dataset 을 호출해 가공된 자료를 가져오고, 사용자가 Data Loader 를 호출할 때마다 제공합니다. 사용자는 Data Loader 에 사용할 batch data 의 크기, 데이터 배포 순서와 같은 인자를 설정해 전처리된 데이터를 가져올 수 있습니다. 또한, 이 데이터를 딥 러닝 모델의 입력으로 사용할 수 있습니다. Data Loader 에 설정 가능한 인자의 목록은 표 3 Arguments Table 에서 확인할 수 있습니다. AI 확장 라이브러리의 전처리 과정은 그림 4 와 표 4 에서 확인할 수 있습니다. AI 확장 라이브러리의 Data Loader 는 Pytorch DataLoader 의 상속 클래스입니다. Pytorch DataLoader 는 iterable 한 클래스로,

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	<p>Doc.No. AIW-TEM-002</p> <p>Rev. V2.2</p> <p>Date 2023-06-19</p> <p>PAGE 9</p>
---	--

한 번에 처리하기 힘들 정도로 많은 데이터를 적절하게 나눠주는 파이프라인 역할을 합니다. 아래는 Pytorch DataLoader 의 작동 방식을 설명한 그림입니다.

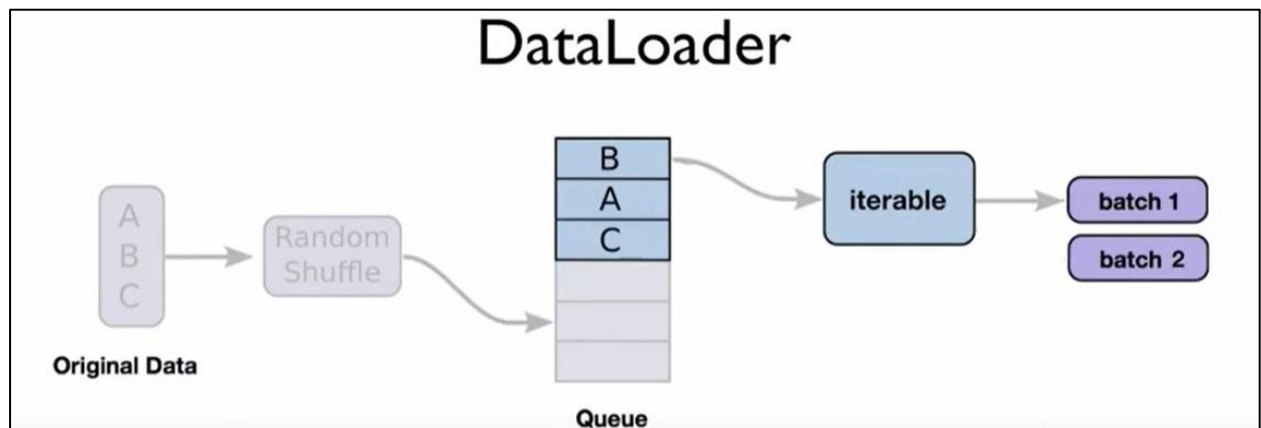


Figure 3 DataLoader

위 그림에서 Original Data 는 전처리 완료된 데이터이며, batch 는 사용자가 한 번에 받는 데이터의 묶음입니다.

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	10

### 3. 사용자 요구 환경 및 설치 방법

이 절에서는 AI 확장 라이브러리의 설치 방법을 서술합니다. AI 확장 라이브러리는 python 3.6 버전 이상을 요구하며, Windows/Linux 에서 모두 사용 가능합니다. AI 확장 라이브러리는 whl 파일로 제공되며, pip install 을 통해서 간단하게 설치할 수 있습니다.

```
pip install MetDL-2.2.0-py3-none-any.whl
```

AI 확장 라이브러리는 외부 라이브러리를 사용하기 때문에 외부 네트워크 사용이 불가능할 경우 한번의 pip 을 통한 설치가 어려울 수 있습니다. 그럴 경우 아래의 requirements.txt 를 참고해 OS 와 버전에 맞춰 외부 라이브러리를 설치해 주시기 바랍니다.

```
certifi>=2021.5.30
cftime>=1.5.0
netCDF4>=1.5.4
numpy>=1.9.0
scipy>=1.5.2
Pillow>=8.3.1
PyYAML==5.4.1
torch>=1.7.1
torchvision>=0.8.2
typing-extensions==3.10.0.0
h5df>=0.1.5
h5py>=2.10.0
pandas>=1.3.1
openpyxl>=3.0.9
pupygrib>=0.9.0
```

GDAPS, GDAPS\_KIM, LDAPS 데이터를 읽기 위해서는 Unix OS 에서 pygrib 패키지를 설치해야 합니다.

Windows OS 에서는 pygrib 패키지를 설치하지 못하므로 GDAPS, GDAPS\_KIM, LDAPS 데이터를 읽을 수 없습니다.

```
pip install pygrib
```

pygrib 을 설치하지 않아도 GDAPS, GDAPS\_KIM, LDAPS 를 제외한 데이터는 정상적으로 사용할 수 있습니다.

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	11

## 4. 사용 방법

이 절에서는 AI 확장 라이브러리의 사용 방법과 그 예시를 서술합니다.

### 4.1. 기상자료 별 Config 작성 방법

AI 확장 라이브러리는 Config yaml 파일에서 실행 정보를 가져와 사용합니다. 이 장에서는 Config 파일의 예시를 들고, Config 파일의 작성 방법을 설명합니다.

#### 4.1.1. Himawari Cloud L1B

아래는 Himawari Cloud L1B 기상자료를 사용할 경우의 예시 Config 입니다.

<pre> --- HIMAWARI:   TYPE: HIMAWARI_CLOUD   DATA_FOLDER: "data/HIMAWARI_CLOUD"   albedo_01:     FILE_NAMING_RULE: "HS_H08_%Y%m%d_%H%M_B01_FLDK.nc"     ALBEDO:       item_path: "/albedo"  execute:   geocoding:     left_upper_pixelY: 0     left_upper_pixelX: 0     right_lower_pixelY: 6001     right_lower_pixelX: 6001     target: HIMAWARI/albedo_01/ALBEDO     order: ["HIMAWARI/albedo_01/ALBEDO"] </pre>	
---	--

아래는 예시 Config 에 대한 설명과 작성 방법입니다.

path	설명 및 예시
HIMAWARI	<p>Config 파일 최상단에 있는 GK2A_AMI 는 데이터셋을 의미합니다. 데이터셋을 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 TYPE, DATA_FOLDER 등 항목을 가집니다. 각 데이터셋의 아래 있는 기상 자료들은 같은 포맷을 가지며 같은 경로 안에 위치해야 합니다.</p> <pre> HIMAWARI:   TYPE: HIMAWARI_CLOUD   DATA_FOLDER: "data/HIMAWARI_CLOUD"   albedo_01:     FILE_NAMING_RULE: "HS_H08_%Y%m%d_%H%M_B01_FLDK.nc"     ALBEDO:       item_path: "/albedo" </pre>
HIMAWARI/TYPE	<p>TYPE 항목은 데이터셋의 아래 있는 기상 자료들의 포맷을 나타냅니다. Himawari Cloud L1B 자료의 경우 'HIMAWARI_CLOUD'를 입력할 수 있습니다.</p> <pre> TYPE: HIMAWARI_CLOUD </pre>
HIMAWARI/DATA_FOLDER	<p>DATA_FOLDER 항목은 데이터셋의 아래 있는 기상 자료들이 위치한 경로를 나타냅니다.</p> <pre> DATA_FOLDER: "data/HIMAWARI_CLOUD" </pre>

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	12

HIMAWARI/albedo_01	albedo_01 항목은 기상 자료를 의미합니다. 기상 자료는 PRODUCTS 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 FILE_NAMING_RULE 항목을 가집니다.
	albedo_01: FILE_NAMING_RULE: "HS_H08_%Y%m%d_%H%M_B01_FLDK.nc" ALBEDO: item_path: "/albedo"
HIMAWARI/albedo_01/FILE_NAMING_RULE	FILE_NAMING_RULE 항목은 기상 자료의 이름을 나타냅니다. 위 global 항목에서 설정한 time 항목을 기반으로 각 시점의 기상 자료를 지정합니다. FILE_NAMING_RULE 에 대한 자세한 포맷 정보는 <a href="#">페이지</a> 를 참고할 수 있습니다.
	FILE_NAMING_RULE: "HS_H08_%Y%m%d_%H%M_B01_FLDK.nc"
HIMAWARI/albedo_01/ALBEDO	ALBEDO 항목은 기상 자료의 band 를 의미합니다. band 는 BAND 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, item_path 항목을 가집니다.
	ALBEDO: item_path: "/albedo"
HIMAWARI/albedo_01/ALBEDO/item_path	item_path 항목은 band 가 존재하는 경로를 나타냅니다. Himawari Cloud L1B 의 경우 '데이터 밴드 경로' 값을 item_path 로 설정할 수 있습니다. 데이터의 밴드 경로는 기상 자료에서 확인할 수 있습니다.
	item_path: "/albedo"
execute	execute 항목에서는 기상 자료를 가공할 방법을 지정할 수 있습니다. execute 아래의 geocoding, order 항목을 통해 공간 해상도와 데이터 순서를 설정할 수 있습니다.
	execute: geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: 6001 right_lower_pixelX: 6001 target: HIMAWARI/albedo_01/ALBEDO order: ["HIMAWARI/albedo_01/ALBEDO"]
execute/geocoding	geocoding 항목은 기상 자료의 공간 해상도를 의미합니다. geocoding 항목 아래의 left_upper_pixelY, left_upper_pixelX, right_lower_pixelY, right_lower_pixelX, target 항목을 통해 기상 자료의 공간 해상도 정보를 설정할 수 있으며, 라이브러리 실행 시 모든 기상 자료가 설정된 공간 해상도로 interpolate 됩니다.
	geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: 6001 right_lower_pixelX: 6001 target: HIMAWARI/albedo_01/ALBEDO
execute/geocoding/left_upper_pixelY	left_upper_pixelY 항목은 공간 해상도의 좌상단 Y pixel 좌표를 의미합니다.
	left_upper_pixelY: 0
execute/geocoding/left_upper_pixelX	left_upper_pixelX 항목은 공간 해상도의 좌상단 X pixel 좌표를 의미합니다.
	left_upper_pixelX: 0

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	13

execute/geocoding/right_lower_pixelY	right_lower_pixelY 항목은 공간 해상도의 우하단 Y pixel 좌표를 의미합니다. -1 로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다.
	right_lower_pixelY: 6001
execute/geocoding/right_lower_pixelX	right_lower_pixelX 항목은 공간 해상도의 우하단 X pixel 좌표를 의미합니다. -1 로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다.
	right_lower_pixelX: 6001
execute/geocoding/target	target 항목은 공간 해상도 좌표를 설정할 기상 자료를 의미합니다. 설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있습니다.
	target: HIMAWARI/albedo_01/ALBEDO
execute/order	order 항목은 DataLoader 에서 데이터를 로드할 순서를 의미합니다. 설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있으며, order 항목에 포함되지 않은 데이터는 로드하지 않습니다.
	order: ["HIMAWARI/albedo_01/ALBEDO"]

Table 2 config table

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	14

### 4.1.2. GK2A AMI L1B

아래는 GK2A AMI L1B 기상자료를 사용할 경우의 예시 Config 입니다.

```

---
GK2A_AMI:
  TYPE: GK2A_AMI
  DATA_FOLDER: "data/GK2A_AMI/"
  USE_CONDITIONAL_PIXEL: True
  USE_PHYSICAL_VALUE: True
  ir087:
    FILE_NAMING_RULE: "gk2a_ami_le1b_ir087_fd020ge_%Y%m%d%H%M.nc"
    ir087:
      item_path: "image_pixel_values"

execute:
  geocoding:
    left_upper_pixelY: 0
    left_upper_pixelX: 0
    right_lower_pixelY: 5500
    right_lower_pixelX: 5500
    target: GK2A_AMI/ir087/ir087
    order: ["GK2A_AMI/ir087/ir087"]

```

아래는 예시 Config 에 대한 설명과 작성 방법입니다.

path	설명 및 예시
GK2A_AMI	<p>Config 파일 최상단에 있는 GK2A_AMI 는 데이터셋을 의미합니다. 데이터셋을 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 TYPE, DATA_FOLDER 등 항목을 가집니다.</p> <p>GK2A AMI L1B 의 경우 기상 자료의 특성에 따라 USE_CONDITIONAL_PIXEL, USE_PHYSICAL_VALUE 와 같은 항목들이 필요합니다.</p> <p>각 데이터셋의 아래 있는 기상 자료들은 같은 포맷을 가지며 같은 경로 안에 위치해야 합니다.</p> <pre> GK2A_AMI:   TYPE: GK2A_AMI   DATA_FOLDER: "data/GK2A_AMI/"   USE_CONDITIONAL_PIXEL: True   USE_PHYSICAL_VALUE: True   ir087:     FILE_NAMING_RULE: "gk2a_ami_le1b_ir087_fd020ge_%Y%m%d%H%M.nc"     ir087:       item_path: "image_pixel_values" </pre>
GK2A_AMI/TYPE	<p>TYPE 항목은 데이터셋의 아래 있는 기상 자료들의 포맷을 나타냅니다.</p> <p>GK2A AMI L1B 의 경우 'GK2A_AMI'를 입력할 수 있습니다.</p> <pre>TYPE: GK2A_AMI</pre>
GK2A_AMI/DATA_FOLDER	<p>DATA_FOLDER 항목은 데이터셋의 아래 있는 기상 자료들이 위치한 경로를 나타냅니다.</p> <pre>DATA_FOLDER: "data/GK2A_AMI/"</pre>
GK2A_AMI/	USE_CONDITIONAL_PIXEL 항목은 GK2A_AMI 기상 자료를 사용할 경우 설정하

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	15

USE_CONDITIONAL_PIXEL	<p>는 항목으로, Data Quality Flag 의 조건부 사용 가능 픽셀의 사용 여부를 의미합니다.</p> <p>GK2A AMI 기상 자료는 DQF 에 따라 4 가지 상태를 가지며, 각 상태는 다음과 같습니다.</p> <ul style="list-style-type: none"> <li>• DQF 0: 좋은 품질</li> <li>• DQF 1: 조건에 따라 사용가능</li> <li>• DQF 2: 관측 영역 외부</li> <li>• DQF 3: 오류 존재</li> </ul> <p>DQF 0 픽셀은 항상 nan 처리되지 않습니다.</p> <p>DQF 1 픽셀은 USE_CONDITIONAL_PIXEL 항목을 true 로 설정할 nan 처리하지 않습니다.</p> <p>DQF 2, 3 픽셀은 항상 nan 처리됩니다.</p> <p>USE_CONDITIONAL_PIXEL: True</p>
GK2A_AMI/USE_PHYSICAL_VALUE	<p>USE_PHYSICAL_VALUE 항목은 GK2A_AMI 기상 자료를 사용할 경우 설정하는 항목으로, gain/offset 의 적용 여부를 지정합니다.</p> <p>True 로 설정할 경우 gain, offset 을 적용합니다.</p> <p>False 로 설정할 경우 적용하지 않습니다.</p> <p>USE_PHYSICAL_VALUE: True</p>
GK2A_AMI/ir087	<p>ir087 항목은 기상 자료를 의미합니다.</p> <p>기상 자료는 PRODUCTS 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 FILE_NAMING_RULE 항목을 가집니다.</p> <p>ir087:</p> <p>FILE_NAMING_RULE: "gk2a_ami_le1b_ir087_fd020ge_%Y%m%d%H%M.nc"</p> <p>ir087:</p> <p>item_path: "image_pixel_values"</p>
GK2A_AMI/ir087/FILE_NAMING_RULE	<p>FILE_NAMING_RULE 항목은 기상 자료의 이름을 나타냅니다.</p> <p>위 global 항목에서 설정한 time 항목을 기반으로 각 시점의 기상 자료를 지정합니다.</p> <p>FILE_NAMING_RULE 에 대한 자세한 포맷 정보는 페이지를 참고할 수 있습니다.</p> <p>FILE_NAMING_RULE: "gk2a_ami_le1b_ir087_fd020ge_%Y%m%d%H%M.nc"</p>
GK2A_AMI/ir087/ir087	<p>ALBEDO 항목은 기상 자료의 band 를 의미합니다.</p> <p>band 는 BAND 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, item_path 항목을 가집니다.</p> <p>ir087:</p> <p>item_path: "image_pixel_values"</p>
GK2A_AMI/ir087/ir087/item_path	<p>item_path 항목은 band 가 존재하는 경로를 나타냅니다.</p> <p>GK2A AMI L1B 의 경우 [데이터 밴드 경로] 값을 item_path 로 설정할 수 있습니다.</p> <p>데이터의 밴드 경로는 기상 자료에서 확인할 수 있습니다.</p> <p>item_path: "image_pixel_values"</p>
execute	<p>execute 항목에서는 기상 자료를 가공할 방법을 지정할 수 있습니다.</p> <p>execute 아래의 geocoding, order 항목을 통해 공간 해상도와 데이터 순서를 설정할 수 있습니다.</p> <p>execute:</p> <p>geocoding:</p> <p>left_upper_pixelY: 0</p> <p>left_upper_pixelX: 0</p> <p>right_lower_pixelY: 5500</p> <p>right_lower_pixelX: 5500</p> <p>target: GK2A_AMI/ir087/ir087</p> <p>order: ["GK2A_AMI/ir087/ir087"]</p>



<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	16

execute/geocoding	geocoding 항목은 기상 자료의 공간 해상도를 의미합니다. geocoding 항목 아래의 left_upper_pixelY, left_upper_pixelX, right_lower_pixelY, right_lower_pixelX, target 항목을 통해 기상 자료의 공간 해상도 정보를 설정할 수 있으며, 라이브러리 실행 시 모든 기상 자료가 설정된 공간 해상도로 interpolate 됩니다.
	geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: 5500 right_lower_pixelX: 5500 target: GK2A_AMI/ir087/ir087
execute/geocoding/left_upper_pixelY	left_upper_pixelY 항목은 공간 해상도의 좌상단 Y pixel 좌표를 의미합니다. left_upper_pixelY: 0
execute/geocoding/left_upper_pixelX	left_upper_pixelX 항목은 공간 해상도의 좌상단 X pixel 좌표를 의미합니다. left_upper_pixelX: 0
execute/geocoding/right_lower_pixelY	right_lower_pixelY 항목은 공간 해상도의 우하단 Y pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다. right_lower_pixelY: 5500
execute/geocoding/right_lower_pixelX	right_lower_pixelX 항목은 공간 해상도의 우하단 X pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다. right_lower_pixelX: 5500
execute/geocoding/target	target 항목은 공간 해상도 좌표를 설정할 기상 자료를 의미합니다. 설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있습니다. target: GK2A_AMI/ir087/ir087
execute/order	order 항목은 DataLoader에서 데이터를 로드할 순서를 의미합니다. 설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있으며, order 항목에 포함되지 않은 데이터는 로드하지 않습니다.
	order: ["GK2A_AMI/ir087/ir087"]

Table 3 config table

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	17

### 4.1.3. Radar CMP

아래는 Radar CMP 기상자료를 사용할 경우의 Config yaml 예시 파일입니다.

---
RADAR_CMP:
TYPE: RADAR_CMP
DATA_FOLDER: "data/RADAR_CMP"
HCI:
FILE_NAMING_RULE: "RDR_CMP_HCI_KMA_%Y%m%d%H%M.bin.gz"
ALBEDO:
item_path: "0_0"
execute:
geocoding:
left_upper_pixelY: 0
left_upper_pixelX: 0
right_lower_pixelY: -1
right_lower_pixelX: -1
target: RADAR_CMP/HCI/ALBEDO
order: ["RADAR_CMP/HCI/ALBEDO"]

아래는 예시 Config 에 대한 설명과 작성 방법입니다.

path	설명 및 예시
RADAR_CMP	Config 파일 최상단에 있는 RADAR_CMP 는 데이터셋을 의미합니다. 데이터셋을 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 TYPE, DATA_FOLDER 등 항목을 가집니다.
	각 데이터셋의 아래 있는 기상 자료들은 같은 포맷을 가지며 같은 경로 안에 위치해야 합니다.
	RADAR_CMP: TYPE: RADAR_CMP DATA_FOLDER: "data/RADAR_CMP" HCI: FILE_NAMING_RULE: "RDR_CMP_HCI_KMA_%Y%m%d%H%M.bin.gz" ALBEDO: item_path: "0_0"
RADAR_CMP/TYPE	TYPE 항목은 데이터셋의 아래 있는 기상 자료들의 포맷을 나타냅니다. Radar CMP 의 경우 'RADAR_CMP'를 입력할 수 있습니다.
	TYPE: RADAR_CMP
RADAR_CMP/DATA_FOLDER	DATA_FOLDER 항목은 데이터셋의 아래 있는 기상 자료들이 위치한 경로를 나타냅니다.
	DATA_FOLDER: "data/RADAR_CMP"
RADAR_CMP/HCI	HCI 항목은 기상 자료를 의미합니다. 기상 자료는 PRODUCTS 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 FILE_NAMING_RULE 항목을 가집니다.
	HCI:
	FILE_NAMING_RULE: "RDR_CMP_HCI_KMA_%Y%m%d%H%M.bin.gz" ALBEDO: item_path: "0_0"

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	18

RADAR_CMP/HCI/ FILE_NAMING_RULE	FILE_NAMING_RULE 항목은 기상 자료의 이름을 나타냅니다. 위 global 항목에서 설정한 time 항목을 기반으로 각 시점의 기상 자료를 지정합니다. FILE_NAMING_RULE 에 대한 자세한 포맷 정보는 <a href="#">페이지</a> 를 참고할 수 있습니다.
	FILE_NAMING_RULE: "RDR_CMP_HCI_KMA_%Y%m%d%H%M.bin.gz"
RADAR_CMP/HCI/ ALBEDO	ALBEDO 항목은 기상 자료의 band 를 의미합니다. band 는 BAND 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, item_path 항목을 가집니다.
	ALBEDO: item_path: "0_0"
RADAR_CMP/HCI/ ALBEDO/item_path	item_path 항목은 band 가 존재하는 경로를 나타냅니다. Radar CMP 의 경우 [데이터 밴드 순서][데이터 고도 순서] 값을 item_path 로 설정할 수 있습니다. 데이터의 밴드 순서와 고도 순서는 기상 자료에서 확인할 수 있습니다.
	item_path: "0_0"
execute	execute 항목에서는 기상 자료를 가공할 방법을 지정할 수 있습니다. execute 아래의 geocoding, order 항목을 통해 공간 해상도와 데이터 순서를 설정할 수 있습니다.
	execute: geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: -1 right_lower_pixelX: -1 target: RADAR_CMP/HCI/ALBEDO order: ["RADAR_CMP/HCI/ALBEDO"]
execute/geocoding	geocoding 항목은 기상 자료의 공간 해상도를 의미합니다. geocoding 항목 아래의 left_upper_pixelY, left_upper_pixelX, right_lower_pixelY, right_lower_pixelX, target 항목을 통해 기상 자료의 공간 해상도 정보를 설정할 수 있으며, 라이브러리 실행 시 모든 기상 자료가 설정된 공간 해상도로 interpolate 됩니다.
	geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: -1 right_lower_pixelX: -1 target: RADAR_CMP/HCI/ALBEDO
execute/geocoding/ left_upper_pixelY	left_upper_pixelY 항목은 공간 해상도의 좌상단 Y pixel 좌표를 의미합니다.
	left_upper_pixelY: 0
execute/geocoding/ left_upper_pixelX	left_upper_pixelX 항목은 공간 해상도의 좌상단 X pixel 좌표를 의미합니다.
	left_upper_pixelX: 0
execute/geocoding/ right_lower_pixelY	right_lower_pixelY 항목은 공간 해상도의 우하단 Y pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다.
	right_lower_pixelY: -1
execute/geocoding/ right_lower_pixelX	right_lower_pixelX 항목은 공간 해상도의 우하단 X pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다.
	right_lower_pixelX: -1
execute/geocoding/ target	target 항목은 공간 해상도 좌표를 설정할 기상 자료를 의미합니다. 설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있습니다.

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	<p>Doc.No. AIW-TEM-002</p> <p>Rev. V2.2</p> <p>Date 2023-06-19</p> <p>PAGE 19</p>
---	---

	target: RADAR_CMP/HCI/ALBEDO
execute/order	<p>order 항목은 DataLoader 에서 데이터를 로드할 순서를 의미합니다.</p> <p>설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있으며,</p> <p>order 항목에 포함되지 않은 데이터는 로드하지 않습니다.</p> <p>order: ["RADAR_CMP/HCI/ALBEDO"]</p>

Table 4 config table

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	20

#### 4.1.4. Radar NetCDF

아래는 Radar NetCDF 기상자료를 사용할 경우의 Config yaml 예시 파일입니다.

<pre> --- RADAR_WISSDOM:   TYPE: RADAR_NETCDF   DATA_FOLDER: "data/RADAR_NETCDF"   HSR_01:     FILE_NAMING_RULE: "RDR_R3D_KMA_WD_%Y%m%d%H%M.nc"     ALBEDO:       item_path: "u_component_0"  execute:   geocoding:     left_upper_pixelY: 0     left_upper_pixelX: 0     right_lower_pixelY: -1     right_lower_pixelX: -1     target: RADAR_WISSDOM/HSR_01/ALBEDO     order: ["RADAR_WISSDOM/HSR_01/ALBEDO"] </pre>
---

아래는 예시 Config 에 대한 설명과 작성 방법입니다.

path	설명 및 예시
RADAR_WISSDOM	<p>Config 파일 최상단에 있는 RADAR_WISSDOM 은 데이터셋을 의미합니다. 데이터셋을 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 TYPE, DATA_FOLDER 등 항목을 가집니다. 각 데이터셋의 아래 있는 기상 자료들은 같은 포맷을 가지며 같은 경로 안에 위치해야 합니다.</p> <pre> RADAR_WISSDOM:   TYPE: RADAR_NETCDF   DATA_FOLDER: "data/RADAR_NETCDF"   HSR_01:     FILE_NAMING_RULE: "RDR_R3D_KMA_WD_%Y%m%d%H%M.nc"     ALBEDO:       item_path: "u_component_0" </pre>
RADAR_WISSDOM/TYPE	<p>TYPE 항목은 데이터셋의 아래 있는 기상 자료들의 포맷을 나타냅니다. Radar NetCDF 의 경우 'RADAR_NETCDF'를 입력할 수 있습니다.</p> <pre> TYPE: RADAR_NETCDF </pre>
RADAR_WISSDOM/DATA_FOLDER	<p>DATA_FOLDER 항목은 데이터셋의 아래 있는 기상 자료들이 위치한 경로를 나타냅니다.</p> <pre> DATA_FOLDER: "data/RADAR_NETCDF" </pre>
RADAR_WISSDOM/HSR_01	<p>HSR_01 항목은 기상 자료를 의미합니다. 기상 자료는 PRODUCTS 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 FILE_NAMING_RULE 항목을 가집니다.</p> <pre> HSR_01:   FILE_NAMING_RULE: "RDR_R3D_KMA_WD_%Y%m%d%H%M.nc"   ALBEDO:     item_path: "u_component_0" </pre>
RADAR_WISSDOM/H	<p>FILE_NAMING_RULE 항목은 기상 자료의 이름을 나타냅니다.</p>

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	21

SR_01/FILE_NAMING_RULE	위 global 항목에서 설정한 time 항목을 기반으로 각 시점의 기상 자료를 지정합니다. FILE_NAMING_RULE 에 대한 자세한 포맷 정보는 <a href="#">페이지</a> 를 참고할 수 있습니다.
	FILE_NAMING_RULE: "RDR_R3D_KMA_WD_%Y%m%d%H%M.nc"
RADAR_WISSDOM/HSR_01/ALBEDO	ALBEDO 항목은 기상 자료의 band 를 의미합니다. band 는 BAND 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, item_path 항목을 가집니다.
	ALBEDO: item_path: "u_component_0"
RADAR_WISSDOM/HSR_01/ALBEDO/item_path	item_path 항목은 band 가 존재하는 경로를 나타냅니다. Radar NetCDF 의 경우 [데이터 밴드 순서][데이터 고도 순서] 값을 item_path 로 설정할 수 있습니다. 데이터의 밴드 순서와 고도 순서는 기상 자료에서 확인할 수 있습니다.
	item_path: "u_component_0"
execute	execute 항목에서는 기상 자료를 가공할 방법을 지정할 수 있습니다. execute 아래의 geocoding, order 항목을 통해 공간 해상도와 데이터 순서를 설정할 수 있습니다.
	execute: geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: -1 right_lower_pixelX: -1 target: RADAR_WISSDOM/HSR_01/ALBEDO order: ["RADAR_WISSDOM/HSR_01/ALBEDO"]
execute/geocoding	geocoding 항목은 기상 자료의 공간 해상도를 의미합니다. geocoding 항목 아래의 left_upper_pixelY, left_upper_pixelX, right_lower_pixelY, right_lower_pixelX, target 항목을 통해 기상 자료의 공간 해상도 정보를 설정할 수 있으며, 라이브러리 실행 시 모든 기상 자료가 설정된 공간 해상도로 interpolate 됩니다.
	geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: -1 right_lower_pixelX: -1 target: RADAR_WISSDOM/HSR_01/ALBEDO
execute/geocoding/left_upper_pixelY	left_upper_pixelY 항목은 공간 해상도의 좌상단 Y pixel 좌표를 의미합니다.
	left_upper_pixelY: 0
execute/geocoding/left_upper_pixelX	left_upper_pixelX 항목은 공간 해상도의 좌상단 X pixel 좌표를 의미합니다.
	left_upper_pixelX: 0
execute/geocoding/right_lower_pixelY	right_lower_pixelY 항목은 공간 해상도의 우하단 Y pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다.
	right_lower_pixelY: -1
execute/geocoding/right_lower_pixelX	right_lower_pixelX 항목은 공간 해상도의 우하단 X pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다.
	right_lower_pixelX: -1
execute/geocoding/target	target 항목은 공간 해상도 좌표를 설정할 기상 자료를 의미합니다.

<div> <div>AI 기반 예보지원 솔루션 개발</div> <div>AI 확장 라이브러리 사용자 매뉴얼</div> </div>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	22

get	<div> <div> <div>설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있습니다.</div> <div>target: RADAR_WISSDOM/HSR_01/ALBEDO</div> </div> </div>
	<div> <div> <div>order 항목은 DataLoader 에서 데이터를 로드할 순서를 의미합니다.</div> <div> <div> <div>설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있으며, order 항목에 포함되지 않은 데이터는 로드하지 않습니다.</div> <div>order: ["RADAR_WISSDOM/HSR_01/ALBEDO"]</div> </div> </div> </div> </div>

Table 5 config table

<p style="text-align: center;"><b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b></p>	<p>Doc.No.      AIW-TEM-002</p> <p>Rev.            V2.2</p> <p>Date           2023-06-19</p> <p>PAGE           23</p>
--	---

#### 4.1.5. LDAPS

아래는 LDAPS 기상자료를 사용할 경우의 Config yaml 예시 파일입니다.

<pre> --- LDAPS:   TYPE: LDAPS   DATA_FOLDER: "data/LDAPS/"   LDAPS:     FILE_NAMING_RULE: "I015_v070_erlo_pres_h000.%Y%m%d%H.gb2"     band_1:       item_path: "1"  execute:   geocoding:     left_upper_pixelY: 0     left_upper_pixelX: 0     right_lower_pixelY: -1     right_lower_pixelX: -1     target: LDAPS/LDAPS/band_1     order: ["LDAPS/LDAPS/band_1"] </pre>
--

아래는 예시 Config 에 대한 설명과 작성 방법입니다.

path	설명 및 예시
LDAPS	<p>Config 파일 최상단에 있는 LDAPS 는 데이터셋을 의미합니다. 데이터셋을 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 TYPE, DATA_FOLDER 등 항목을 가집니다.</p> <p>각 데이터셋의 아래 있는 기상 자료들은 같은 포맷을 가지며 같은 경로 안에 위치해야 합니다.</p> <pre> LDAPS:   TYPE: LDAPS   DATA_FOLDER: "data/LDAPS/"   LDAPS:     FILE_NAMING_RULE: "I015_v070_erlo_pres_h000.%Y%m%d%H.gb2"     band_1:       item_path: "1" </pre>
LDAPS /TYPE	<p>TYPE 항목은 데이터셋의 아래 있는 기상 자료들의 포맷을 나타냅니다. LDAPS 의 경우 'LDAPS'를 입력할 수 있습니다.</p> <pre> TYPE: LDAPS </pre>
LDAPS /DATA_FOLDER	<p>DATA_FOLDER 항목은 데이터셋의 아래 있는 기상 자료들이 위치한 경로를 나타냅니다.</p> <pre> DATA_FOLDER: "data/LDAPS/" </pre>
LDAPS /LDAPS	<p>LDAPS 항목은 기상 자료를 의미합니다. 기상 자료는 PRODUCTS 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 FILE_NAMING_RULE 항목을 가집니다.</p> <pre> LDAPS:   FILE_NAMING_RULE: "I015_v070_erlo_pres_h000.%Y%m%d%H.gb2"   band_1:     item_path: "1" </pre>



<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	24

LDAPS /LDAPS /FILE_NAMING_RULE	FILE_NAMING_RULE 항목은 기상 자료의 이름을 나타냅니다. 위 global 항목에서 설정한 time 항목을 기반으로 각 시점의 기상 자료를 지정합니다. FILE_NAMING_RULE 에 대한 자세한 포맷 정보는 <a href="#">페이지</a> 를 참고할 수 있습니다.
	FILE_NAMING_RULE: "I015_v070_erlo_pres_h000.%Y%m%d%H.gb2"
LDAPS /band_1	PRES_1000 항목은 기상 자료의 band 를 의미합니다. band 는 BAND 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, item_path 항목을 가집니다.
	band_1: item_path: "1"
LDAPS /band_1/item_path	item_path 항목은 band 가 존재하는 경로를 나타냅니다. LDAPS 의 경우 [데이터 밴드 순서] 값을 item_path 로 설정할 수 있습니다. 데이터의 밴드 순서는 부록에서 확인할 수 있습니다.
	item_path: "1"
execute	execute 항목에서는 기상 자료를 가공할 방법을 지정할 수 있습니다. execute 아래의 geocoding, order 항목을 통해 공간 해상도와 데이터 순서를 설정할 수 있습니다.
	execute: geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: -1 right_lower_pixelX: -1 target: LDAPS/LDAPS/band_1 order: ["LDAPS/LDAPS/band_1"]
execute/geocoding	geocoding 항목은 기상 자료의 공간 해상도를 의미합니다. geocoding 항목 아래의 left_upper_pixelY, left_upper_pixelX, right_lower_pixelY, right_lower_pixelX, target 항목을 통해 기상 자료의 공간 해상도 정보를 설정할 수 있으며, 라이브러리 실행 시 모든 기상 자료가 설정된 공간 해상도로 interpolate 됩니다.
	geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: -1 right_lower_pixelX: -1 target: LDAPS/LDAPS/band_1
execute/geocoding/left_upper_pixelY	left_upper_pixelY 항목은 공간 해상도의 좌상단 Y pixel 좌표를 의미합니다.
	left_upper_pixelY: 0
execute/geocoding/left_upper_pixelX	left_upper_pixelX 항목은 공간 해상도의 좌상단 X pixel 좌표를 의미합니다.
	left_upper_pixelX: 0
execute/geocoding/right_lower_pixelY	right_lower_pixelY 항목은 공간 해상도의 우하단 Y pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다.
	right_lower_pixelY: -1
execute/geocoding/right_lower_pixelX	right_lower_pixelX 항목은 공간 해상도의 우하단 X pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다.
	right_lower_pixelX: -1
execute/geocoding/target	target 항목은 공간 해상도 좌표를 설정할 기상 자료를 의미합니다. 설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있습니다.
	target: LDAPS/LDAPS/band_1

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	<p>Doc.No.      AIW-TEM-002</p> <p>Rev.              V2.2</p> <p>Date             2023-06-19</p> <p>PAGE            25</p>
---	--

execute/order	<p>order 항목은 DataLoader 에서 데이터를 로드할 순서를 의미합니다.          설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있으며, order 항목에 포함되지 않은 데이터는 로드하지 않습니다.</p>
	<p>order: ["LDAPS/LDAPS/band_1"]</p>

**Table 6 config table**

<div> <div> AI 기반 예보지원 솔루션 개발</div> <div>AI 확장 라이브러리 사용자 매뉴얼</div> </div>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	26

#### 4.1.6. GDAPS UM

아래는 GDAPS UM 기상자료를 사용할 경우의 Config yaml 예시 파일입니다.

<pre> --- GDAPS:   TYPE: GDAPS_UM   DATA_FOLDER: "data/GDAPS_UM/"   G128_PRES:     FILE_NAMING_RULE: "g128_v070_ergl_pres_h000.%Y%m%d%H.gb2"     band_1:       item_path: "1"  execute:   geocoding:     left_upper_pixelY: 0     left_upper_pixelX: 0     right_lower_pixelY: -1     right_lower_pixelX: -1     target: "GDAPS/G128_PRES/band_1"     order: ["GDAPS/G128_PRES/band_1"] </pre>
--

아래는 예시 Config 에 대한 설명과 작성 방법입니다.

path	설명 및 예시
GDAPS	<p>Config 파일 최상단에 있는 GDAPS 는 데이터셋을 의미합니다.  데이터셋을 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 TYPE, DATA_FOLDER 등 항목을 가집니다.  각 데이터셋의 아래 있는 기상 자료들은 같은 포맷을 가지며 같은 경로 안에 위치해야 합니다.</p>
	<pre> GDAPS:   TYPE: GDAPS_UM   DATA_FOLDER: "data/GDAPS_UM/"   G128_PRES:     FILE_NAMING_RULE: "g128_v070_ergl_pres_h000.%Y%m%d%H.gb2"     band_1:       item_path: "1" </pre>
GDAPS/TYPE	<p>TYPE 항목은 데이터셋의 아래 있는 기상 자료들의 포맷을 나타냅니다.  GDAPS UM 의 경우 'GDAPS_UM'을 입력할 수 있습니다.</p> <pre> TYPE: GDAPS_UM </pre>
GDAPS/DATA_FOLDER	<p>DATA_FOLDER 항목은 데이터셋의 아래 있는 기상 자료들이 위치한 경로를 나타냅니다.</p> <pre> DATA_FOLDER: "data/GDAPS_UM/" </pre>
GDAPS/G128_PRES	<p>G128_PRES 항목은 기상 자료를 의미합니다.  기상 자료는 PRODUCTS 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 FILE_NAMING_RULE 항목을 가집니다.</p>
	<pre> G128_PRES:   FILE_NAMING_RULE: "g128_v070_ergl_pres_h000.%Y%m%d%H.gb2"   band_1:     item_path: "1" </pre>

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	27

GDAPS/G128_PRES/FILE_NAMING_RULE	FILE_NAMING_RULE 항목은 기상 자료의 이름을 나타냅니다. 위 global 항목에서 설정한 time 항목을 기반으로 각 시점의 기상 자료를 지정합니다. FILE_NAMING_RULE 에 대한 자세한 포맷 정보는 <a href="#">페이지</a> 를 참고할 수 있습니다.
	FILE_NAMING_RULE: "g128_v070_ergl_pres_h000.%Y%m%d%H.gb2"
GDAPS/G128_PRES/band_1	PRES_1000 항목은 기상 자료의 band 를 의미합니다. band 는 BAND 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, item_path 항목을 가집니다.
	band_1: item_path: "1"
GDAPS/G128_PRES/band_1/item_path	item_path 항목은 band 가 존재하는 경로를 나타냅니다. GDAPS UM 의 경우 [데이터 밴드 순서] 값을 item_path 로 설정할 수 있습니다. 데이터의 밴드 순서는 부록에서 확인할 수 있습니다.
	item_path: "1"
execute	execute 항목에서는 기상 자료를 가공할 방법을 지정할 수 있습니다. execute 아래의 geocoding, order 항목을 통해 공간 해상도와 데이터 순서를 설정할 수 있습니다.
	execute: geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: -1 right_lower_pixelX: -1 target: GDAPS/G128_PRES/band_1 order: ["GDAPS/G128_PRES/band_1"]
execute/geocoding	geocoding 항목은 기상 자료의 공간 해상도를 의미합니다. geocoding 항목 아래의 left_upper_pixelY, left_upper_pixelX, right_lower_pixelY, right_lower_pixelX, target 항목을 통해 기상 자료의 공간 해상도 정보를 설정할 수 있으며, 라이브러리 실행 시 모든 기상 자료가 설정된 공간 해상도로 interpolate 됩니다.
	geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: -1 right_lower_pixelX: -1 target: GDAPS/G128_PRES/band_1
execute/geocoding/left_upper_pixelY	left_upper_pixelY 항목은 공간 해상도의 좌상단 Y pixel 좌표를 의미합니다. left_upper_pixelY: 0
execute/geocoding/left_upper_pixelX	left_upper_pixelX 항목은 공간 해상도의 좌상단 X pixel 좌표를 의미합니다. left_upper_pixelX: 0
execute/geocoding/right_lower_pixelY	right_lower_pixelY 항목은 공간 해상도의 우하단 Y pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다. right_lower_pixelY: -1
execute/geocoding/right_lower_pixelX	right_lower_pixelX 항목은 공간 해상도의 우하단 X pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다. right_lower_pixelX: -1
execute/geocoding/target	target 항목은 공간 해상도 좌표를 설정할 기상 자료를 의미합니다. 설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있습니다.

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	<p>Doc.No. AIW-TEM-002</p> <p>Rev. V2.2</p> <p>Date 2023-06-19</p> <p>PAGE 28</p>
---	---

	target: GDAPS/G128_PRES/band_1
execute/order	<p>order 항목은 DataLoader 에서 데이터를 로드할 순서를 의미합니다.</p> <p>설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있으며, order 항목에 포함되지 않은 데이터는 로드하지 않습니다.</p>
	order: ["GDAPS/G128_PRES/band_1"]

Table 7 config table

<p style="text-align: center;"><b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b></p>	<p>Doc.No.      AIW-TEM-002</p> <p>Rev.            V2.2</p> <p>Date           2023-06-19</p> <p>PAGE           29</p>
--	---

#### 4.1.7. GDAPS KIM

아래는 GDAPS KIM 기상자료를 사용할 경우의 Config yaml 예시 파일입니다.

<pre> --- GDAPS:   TYPE: GDAPS_KIM   DATA_FOLDER: "data/GDAPS_KIM/"   G128_NE36_PRES:     FILE_NAMING_RULE: "kim_g128_ne36_pres_h000.%Y%m%d%H.gb2"     band_1:       item_path: "1"  execute:   geocoding:     left_upper_pixelY: 0     left_upper_pixelX: 0     right_lower_pixelY: -1     right_lower_pixelX: -1     target: GDAPS/G128_NE36_PRES/band_1     order: ["GDAPS/G128_NE36_PRES/band_1"] </pre>
--

아래는 예시 Config 에 대한 설명과 작성 방법입니다.

path	설명 및 예시
GDAPS	<p>Config 파일 최상단에 있는 GDAPS 는 데이터셋을 의미합니다. 데이터셋을 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 TYPE, DATA_FOLDER 등 항목을 가집니다. 각 데이터셋의 아래 있는 기상 자료들은 같은 포맷을 가지며 같은 경로 안에 위치해야 합니다.</p> <pre> GDAPS:   TYPE: GDAPS_KIM   DATA_FOLDER: "data/GDAPS_KIM/"   G128_NE36_PRES:     FILE_NAMING_RULE: "kim_g128_ne36_pres_h000.%Y%m%d%H.gb2"     band_1:       item_path: "1" </pre>
GDAPS/TYPE	<p>TYPE 항목은 데이터셋의 아래 있는 기상 자료들의 포맷을 나타냅니다. GDAPS KIM 의 경우 'GDAPS_KIM'을 입력할 수 있습니다.</p> <pre> TYPE: GDAPS_KIM </pre>
GDAPS/DATA_FOLDER	<p>DATA_FOLDER 항목은 데이터셋의 아래 있는 기상 자료들이 위치한 경로를 나타냅니다.</p> <pre> DATA_FOLDER: "data/GDAPS_KIM/" </pre>
GDAPS/G128_NE36_PRES	<p>G128_NE36_PRES 항목은 기상 자료를 의미합니다. 기상 자료는 PRODUCTS 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, 하위에 FILE_NAMING_RULE 항목을 가집니다.</p> <pre> G128_NE36_PRES:   FILE_NAMING_RULE: "kim_g128_ne36_pres_h000.%Y%m%d%H.gb2"   band_1:     item_path: "1" </pre>

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	30

GDAPS/G128_NE36_PRES/FILE_NAMING_RULE	FILE_NAMING_RULE 항목은 기상 자료의 이름을 나타냅니다. 위 global 항목에서 설정한 time 항목을 기반으로 각 시점의 기상 자료를 지정합니다. FILE_NAMING_RULE 에 대한 자세한 포맷 정보는 <a href="#">페이지</a> 를 참고할 수 있습니다.
	FILE_NAMING_RULE: "kim_g128_ne36_pres_h000.%Y%m%d%H.gb2"
GDAPS/G128_NE36_PRES/band_1	band_1 항목은 기상 자료의 band 를 의미합니다. band 는 BAND 항목의 아래에 자유로운 이름으로 여러 개 설정할 수 있으며, item_path 항목을 가집니다.
	band_1: item_path: "1"
GDAPS/G128_NE36_PRES/band_1/item_path	item_path 항목은 band 가 존재하는 경로를 나타냅니다. GDAPS KIM 의 경우 [데이터 밴드 순서] 값을 item_path 로 설정할 수 있습니다. 데이터의 밴드 순서는 부록에서 확인할 수 있습니다.
	item_path: "1"
execute	execute 항목에서는 기상 자료를 가공할 방법을 지정할 수 있습니다. execute 아래의 geocoding, order 항목을 통해 공간 해상도와 데이터 순서를 설정할 수 있습니다.
	execute: geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: -1 right_lower_pixelX: -1 target: GDAPS/G128_NE36_PRES/band_1 order: ["GDAPS/G128_NE36_PRES/band_1"]
execute/geocoding	geocoding 항목은 기상 자료의 공간 해상도를 의미합니다. geocoding 항목 아래의 left_upper_pixelY, left_upper_pixelX, right_lower_pixelY, right_lower_pixelX, target 항목을 통해 기상 자료의 공간 해상도 정보를 설정할 수 있으며, 라이브러리 실행 시 모든 기상 자료가 설정된 공간 해상도로 interpolate 됩니다.
	geocoding: left_upper_pixelY: 0 left_upper_pixelX: 0 right_lower_pixelY: -1 right_lower_pixelX: -1 target: GDAPS/G128_NE36_PRES/band_1
execute/geocoding/left_upper_pixelY	left_upper_pixelY 항목은 공간 해상도의 좌상단 Y pixel 좌표를 의미합니다. left_upper_pixelY: 0
execute/geocoding/left_upper_pixelX	left_upper_pixelX 항목은 공간 해상도의 좌상단 X pixel 좌표를 의미합니다. left_upper_pixelX: 0
execute/geocoding/right_lower_pixelY	right_lower_pixelY 항목은 공간 해상도의 우하단 Y pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다. right_lower_pixelY: -1
execute/geocoding/right_lower_pixelX	right_lower_pixelX 항목은 공간 해상도의 우하단 X pixel 좌표를 의미합니다. -1로 설정할 경우 기상 자료에서 설정할 수 있는 최고 범위로 설정됩니다. right_lower_pixelX: -1
execute/geocoding/target	target 항목은 공간 해상도 좌표를 설정할 기상 자료를 의미합니다. 설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있습니다.

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	<p>Doc.No. AIW-TEM-002</p> <p>Rev. V2.2</p> <p>Date 2023-06-19</p> <p>PAGE 31</p>
---	---

	target: GDAPS/G128_NE36_PRES/band_1
execute/order	<p>order 항목은 DataLoader 에서 데이터를 로드할 순서를 의미합니다.</p> <p>설정 파일 상단의 Dataset 아래 기상 자료의 band 경로를 선택할 수 있으며, order 항목에 포함되지 않은 데이터는 로드하지 않습니다.</p>
	order: ["GDAPS/G128_NE36_PRES/band_1"]

**Table 8 config table**



<p style="text-align: center;"><b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b></p>	<p>Doc.No.      AIW-TEM-002</p> <p>Rev.            V2.2</p> <p>Date          2023-06-19</p> <p>PAGE         32</p>
--	--

## 4.2. 기상자료 혼합 Config yaml 파일 예시

아래는 GDAPS UM 기상자료와 LDAPS 기상자료를 동시에 사용할 경우의 Config 예시 파일입니다.  
다른 자료 역시 아래와 같은 방법으로 혼합하여 사용할 수 있습니다.

```

---
GDAPS:
  TYPE: GDAPS_UM
  DATA_FOLDER: "data/GDAPS_UM/"
  G128_PRES:
    FILE_NAMING_RULE: "g128_v070_ergl_pres_h000.%Y%m%d%H.gb2"
    band_1:
      item_path: "1"

LDAPS:
  TYPE: LDAPS
  DATA_FOLDER: "data/LDAPS/"
  LDAPS:
    FILE_NAMING_RULE: "l015_v070_erlo_pres_h000.%Y%m%d%H.gb2"
    band_1:
      item_path: "1"

execute:
  geocoding:
    left_upper_pixelY: 0
    left_upper_pixelX: 0
    right_lower_pixelY: -1
    right_lower_pixelX: -1
    target: "LDAPS/LDAPS/band_1"
  order: ["GDAPS/G128_PRES/band_1", "LDAPS/LDAPS/band_1"]

```

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	33

### 4.3. Initialize 방법

Config 작성 후 파이썬을 통해 Data Loader를 initialize 할 수 있습니다. Data Loader는 파이썬 코드에서 import 한 뒤 아래와 같이 initialize 할 수 있습니다.

```
from MetDL.dataloader.dataloader import DataLoader

dataloader = DataLoader.initialize(config="conf/GK2A_AMI_L1B.yaml",
timeStart="20210510_0000", timeEnd="20210510_0000", timeParser="%Y%m%d_%H%M",
timeDelta=10)
```

#### Code Block 1 python

위 코드에 포함된 인자들은 필수로 입력해야 하는 인자들입니다. 아래는 선택적으로 입력할 수 있는 인자가 모두 포함된 경우의 사용 예시입니다.

```
from MetDL.dataloader.dataloader import DataLoader

def minus2(x):
    return x - 2

dataloader = DataLoader.initialize(config="GK2A_AMI_L1B.yaml", batchSize=1,
timeStart="20210510_0000", timeEnd="20210510_0000",
timeParser="%Y%m%d_%H%M", timeDelta=10,
windowWidth=128, windowHeight=128, windowStride=64,
sequenceLength=1, interpolateMethod='nearest',
cacheQueue=16,
cacheDirectory="/hdd_ext/ALPHA/save/GK2A_AMI_L1B", useCache=False, saveCache=True,
replaceNanValue='median', timeInterpolate='error',
preprocess_fn=[minus2], gk2aAmiCalibrationTable=None)
```

#### Code Block 2 python

아래는 DataLoader initialize에서 사용 가능한 모든 인자에 대한 설명입니다.

path	type	설명
config	String	기상 자료 정보가 기록된 config 파일 경로
batchSize	int, optional	한 번에 로드할 데이터 샘플 개수 (default value: 1)
timeStart	string	데이터를 열람할 시간대의 시작 시점
timeEnd	string	데이터를 열람할 시간대의 종료 시점
timeParser	string	time_start, time_end 인자 파싱 방법
timeDelta	int	데이터를 열람할 시간대의 단위. 1 분 단위로 입력 가능
windowWidth	int, optional	window sliding 을 적용할 window 의 넓이 (default value: pixel_number)

<p style="text-align: center;"><b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b></p>	<p>Doc.No.      AIW-TEM-002</p> <p>Rev.              V2.2</p> <p>Date             2023-06-19</p> <p>PAGE            34</p>
--	--

windowHeight	int, optional	window sliding 을 적용할 window 의 높이 (default value: line_number)
windowStride	int, optional	window sliding 을 적용할 window 의 간격 (default value: 1)
sequenceLength	int, optional	sequence 를 적용할 시계열의 길이 (default value: 1)
interpolateMethod	string, optional	<p>데이터 영역을 interpolate 할 방법 (default value: 'nearest') interpolate 할 경우</p> <ul style="list-style-type: none"> <li>interpolate_method 에 'nearest', 'linear', 'cubic' 중 하나를 입력</li> </ul> <p>interpolate 하지 않을 경우</p> <ul style="list-style-type: none"> <li>pixel_number, line_number 에 원본 데이터의 크기를 입력</li> <li>interpolate_method 에 'skip' 입력</li> </ul>
cacheQueue	int, optional	라이브러리 메모리에 저장할 cache 데이터의 길이 (default value: 1) config 파일에 존재하는 Band 수* sequence_length 값을 입력하는 것을 권장
cacheDirectory	string, optional	파일 시스템에 저장할 cache 데이터 경로 (default value: "") 가공한 데이터를 지정된 경로에 저장. 존재하지 않는 경로를 입력 시 그 디렉토리를 생성 후 저장
useCache	bool, optional	파일 시스템에 저장된 cache 데이터 사용 여부 (default value: False) True 로 설정할 경우, cache_directory 에서 cache 데이터를 찾아 사용
saveCache	bool, optional	파일 시스템에 cache 데이터 저장 여부 (default value: False) True 로 설정할 경우, cache_directory 에 cache 데이터를 저장
replaceNanValue	string/int, optional	<p>데이터의 nan 영역 치환 방법 (default value: 'median') median</p> <ul style="list-style-type: none"> <li>'median'으로 설정한 경우 nan 을 제외한 데이터의 중간값으로 nan 영역을 치환</li> </ul> <p>mean</p> <ul style="list-style-type: none"> <li>'mean'으로 설정한 경우 nan 을 제외한 데이터의 평균값으로 nan 영역을 치환</li> </ul> <p>특정 값</p> <ul style="list-style-type: none"> <li>특정 값으로 설정한 경우 그 값으로 nan 영역을 치환</li> </ul> <p>config 파일에 fill_value 가 설정된 경우, config 의 값을 우선으로 적용</p> <p>nan 영역 치환은 데이터 영역 interpolate 절차에서 실행</p>
timeInterpolate	string/ method/ numpy value, optional	<p>빈 시간대 데이터를 interpolate 할 방법 (default value: 'error') method</p> <ul style="list-style-type: none"> <li>method 로 설정한 경우 method 를 통해 빈 시간대 데이터를 계산</li> </ul> <p>numpy value</p> <ul style="list-style-type: none"> <li>numpy value 로 설정한 경우 빈 시간대 데이터를 numpy value 값으로 대체</li> </ul> <p>error</p> <ul style="list-style-type: none"> <li>'error'로 설정한 경우 빈 시간대 데이터 존재 시 에러 발생</li> </ul>
preprocess_fn	list, optional	<p>사용자 정의 전처리 메소드 (default value: []) 데이터에 특정 전처리 메소드를 추가하는 방법</p> <p>preprocess_fn 은 python list 안에 method 가 들어가 있는 형태이며,</p>

<p style="text-align: center;"><b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b></p>	<p>Doc.No.      AIW-TEM-002</p> <p>Rev.              V2.2</p> <p>Date             2023-06-19</p> <p>PAGE            35</p>
--	--

		<p>각 method 는 numpy array 를 입력으로 받고 같은 shape 의 array 를 출력해야 함</p> <p>preprocess_fn 은 마지막 데이터 가공 절차이며, 기상 자료의 데이터 밴드에 개별적으로 적용</p>
gk2aAmiCalibrationTable	string, optional	<p>GK2A AMI Reader gain/composite 메타데이터 경로 (default value: None)</p> <p>메타데이터 경로를 지정할 경우 지정한 메타데이터 사용</p> <p>지정하지 않을 경우 기본 메타데이터 사용</p> <p>메타데이터에 대한 설명은 부록 참조</p>

**Table 9 argument table**

#### 4.4. Data Loader 사용 방법

Initialize 완료된 Data Loader 는 반복문을 통해 데이터를 로드할 수 있습니다. Data Loader 는 입력한 기상 자료를 가공한 뒤 데이터를 제공합니다. 아래는 기상 자료가 AI 확장 라이브러리를 통해 변환되는 과정의 예시입니다.

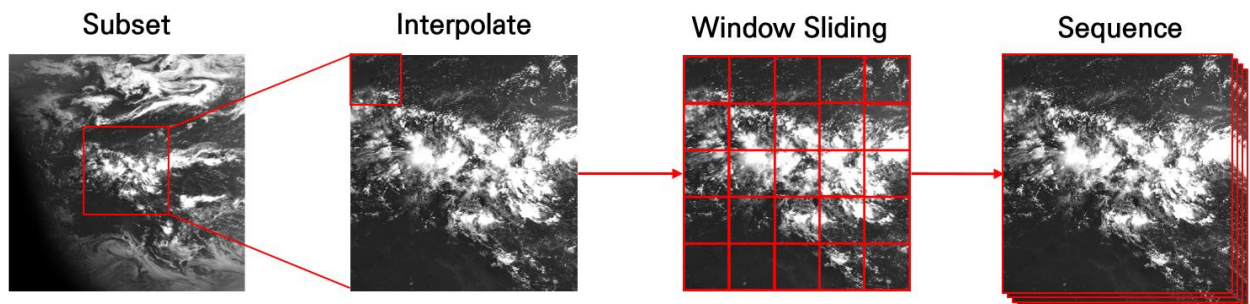


Figure 4 AI 확장 라이브러리 데이터 가공 그림

아래는 각 데이터 가공 과정에 대한 설명입니다.

	데이터 가공 절차	설명
1	Subset	데이터에서 필요한 영역을 자릅니다. <ul style="list-style-type: none"> <li>원본 데이터에서 lu_lat, lu_lon, rl_lat, rl_lon 영역은 subset</li> </ul>
2	Interpolate	subset 된 데이터를 원하는 크기로 변환합니다. <ul style="list-style-type: none"> <li>subset 된 영역을 line_number, pixel_number 크기로 interpolate</li> </ul> Interpolate 된 데이터는 lu_lat, lu_lon, rl_lat, rl_lon 영역에서 line_number, pixel_number 격자를 가지는 WGS84 좌표계를 사용합니다.
3	Window Sliding	큰 데이터를 여러 조각으로 분할합니다. <ul style="list-style-type: none"> <li>interpolate 된 데이터를 window_height, window_width 크기 window, window_stride 간격으로 분할</li> </ul> 예시 그림에서는 $\text{window\_height} = \text{line\_number} / 5$ , $\text{window\_width} = \text{pixel\_number} / 5$ , $\text{window\_stride} = \text{line\_number} / 5$ 로 설정합니다.
4	Sequence	여러 시간대 데이터를 하나로 묶습니다. <ul style="list-style-type: none"> <li>설정된 sequence_length 에 따라 데이터 묶음</li> </ul> Sequence 에 따른 데이터의 예시 <ul style="list-style-type: none"> <li>첫 번째 Sequence 는 첫 번째, 두 번째 시간대 데이터 묶음</li> <li>두 번째 Sequence 는 두 번째, 세 번째 시간대 데이터 묶음</li> <li>n 번째 Sequence 는 n 번째, n+1 번째 시간대 데이터 묶음</li> </ul>

Table 10 AI 확장 라이브러리 데이터 가공 표

DataLoader 에서는 위와 같은 가공 과정을 거쳐 데이터가 로드됩니다. 예시 그림과 같은 설정에서 반복문 진행에 따른 데이터 진행 방향은 아래와 같습니다.

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	37

- Iter 1: 첫 번째 sequence 에서 첫 번째 window 데이터 로드
- Iter 2: 첫 번째 sequence 에서 두 번째 window 데이터 로드
- ...
- Iter 26: 두 번째 sequence 에서 첫 번째 window 데이터 로드
- ...
- Iter n: 마지막 sequence 에서 마지막 window 데이터 로드

모든 데이터가 로드된 뒤 **DataLoader** 반복문이 종료됩니다. 사용자는 이 데이터들을 바로 딥 러닝 모델 입력 데이터로 사용할 수 있습니다. 아래는 **Data Loader** 를 사용하는 예시입니다.

```
from MetDL.dataloader.dataloader import DataLoader

def minus2(x):
    return x - 2

dataloader = DataLoader.initialize(config="GK2A_AMI_L1B.yaml", batchSize=1,
                                  timeStart="20210510_0000", timeEnd="20210510_0000",
                                  timeParser="%Y%m%d_%H%M", timeDelta=10,
                                  windowWidth=128, windowHeight=128, windowStride=64,
                                  sequenceLength=1, interpolateMethod='nearest',
                                  cacheQueue=16,
                                  cacheDirectory="/hdd_ext/ALPHA/save/GK2A_AMI_L1B", useCache=False, saveCache=True,
                                  replaceNanValue='median', timeInterpolate='error',
                                  preprocess_fn=[minus2], gk2aAmiCalibrationTable=None)

for (data, mask) in dataloader:
    print(data, mask)
```

**Code Block 3 python**

AI 확장 라이브러리의 **Data Loader** 는 기상 자료 데이터와 기상 자료 데이터의 nan 영역을 출력합니다. 기상 자료 데이터는 nan 이 치환된 float array 이고, mask 는 기상 자료 데이터와 같은 shape 의 bool array 입니다. 데이터 shape 는 (batch\_size, sequence\_length, band 수, window\_height, window\_width) 입니다.

```
for (data, mask) in dataloader:
    numpy_data = data.detach().cpu().numpy()
    numpy_mask = mask.detach().cpu().numpy()
    print(numpy_data, numpy_mask)
```

**Code Block 4 python**

<p>AI 기반 예보지원 솔루션 개발</p> <p>AI 확장 라이브러리 사용자 매뉴얼</p>	<p>Doc.No. AIW-TEM-002</p> <p>Rev. V2.2</p> <p>Date 2023-06-19</p> <p>PAGE 38</p>
---	---

Pytorch Tensor 대신 Numpy array 자료형으로 값을 사용하고 싶다면 위와 같이 `detach().cpu().numpy()` 코드를 추가해 Numpy array 로 값을 변환할 수 있습니다.

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 39

## 5. 부록

### 5.1. 1. LDAPS

이 절에서는 LDAPS UM 데이터의 band 별 정보를 설명한다.

#### 5.1.1. I015\_v070\_erlo\_pres

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
2	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
3	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
4	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
5	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
6	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
7	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
8	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
9	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
10	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
11	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
12	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
13	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
14	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
15	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs
16	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
17	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
18	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
19	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
20	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
21	Geometric vertical velocity	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 40

22	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
23	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
24	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
25	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
26	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
27	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
28	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
29	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
30	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
31	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
32	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
33	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
34	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
35	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
36	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
37	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
38	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
39	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
40	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
41	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
42	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
43	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
44	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
45	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
46	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
47	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
48	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
49	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
50	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
51	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
52	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
53	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs
54	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 41

55	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
56	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
57	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
58	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
59	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
60	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
61	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
62	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
63	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
64	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
65	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
66	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
67	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
68	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
69	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
70	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
71	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
72	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
73	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
74	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
75	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
76	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
77	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
78	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
79	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
80	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
81	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
82	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
83	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
84	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
85	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
86	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
87	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 42

88	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
89	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
90	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
91	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
92	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
93	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
94	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
95	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
96	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
97	Temperature	K (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
98	Temperature	K (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
99	Temperature	K (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
100	Temperature	K (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
101	Temperature	K (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
102	Temperature	K (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
103	Temperature	K (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
104	Temperature	K (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
105	Temperature	K (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
106	Temperature	K (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
107	Temperature	K (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
108	Temperature	K (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
109	Temperature	K (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
110	Temperature	K (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
111	Temperature	K (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs
112	Temperature	K (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
113	Temperature	K (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
114	Temperature	K (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
115	Temperature	K (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
116	Temperature	K (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
117	Temperature	K (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
118	Temperature	K (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
119	Temperature	K (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
120	Temperature	K (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 43

121	194	194 (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
122	194	194 (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
123	194	194 (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
124	194	194 (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
125	194	194 (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
126	194	194 (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
127	194	194 (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
128	194	194 (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
129	194	194 (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
130	194	194 (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
131	194	194 (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
132	194	194 (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
133	194	194 (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
134	194	194 (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
135	194	194 (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs
136	194	194 (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
137	194	194 (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
138	194	194 (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
139	194	194 (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
140	194	194 (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
141	194	194 (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
142	194	194 (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
143	194	194 (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
144	194	194 (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
145	Relative humidity	% (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
146	Relative humidity	% (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
147	Relative humidity	% (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
148	Relative humidity	% (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
149	Relative humidity	% (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
150	Relative humidity	% (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
151	Relative humidity	% (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
152	Relative humidity	% (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
153	Relative humidity	% (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 44

154	Relative humidity	% (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
155	Relative humidity	% (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
156	Relative humidity	% (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
157	Relative humidity	% (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
158	Relative humidity	% (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
159	Relative humidity	% (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs
160	Relative humidity	% (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
161	Relative humidity	% (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
162	Relative humidity	% (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
163	Relative humidity	% (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
164	Relative humidity	% (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
165	Relative humidity	% (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
166	Relative humidity	% (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
167	Relative humidity	% (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
168	Relative humidity	% (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 45

## 5.1.2. l015\_v070\_erlo\_unis

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	192	192 (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
2	198	198 (avg)	lambert	heightAboveGround	level 2 m	fcst time -2147483647--2147483646 hrs (avg)
3	199	199 (avg)	lambert	heightAboveGround	level 2 m	fcst time -2147483647--2147483646 hrs (avg)
4	200	200 (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
5	192	192 (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
6	194	194 (avg)	lambert	nominalTop	level 0	fcst time -2147483647--2147483646 hrs (avg)
7	196	196 (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
8	Large scale precipitation (non-convective)	kg m**-2 (accum)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (accum)
9	Large scale snow	kg m**-2 (accum)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (accum)
10	Large scale precipitation rate	kg m**-2 s**-1 (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
11	Large scale snowfall rate	m s**-1 (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
12	196	196 (instant)	lambert	unknown	level 0 220	fcst time 0 hrs
13	193	193 (avg)	lambert	depthBelowLandLayer	level 0 m	fcst time -2147483647--2147483646 hrs (avg)
14	192	192 (avg)	lambert	heightAboveGround	level 2 m	fcst time -2147483647--2147483646 hrs (avg)
15	10 metre U wind component	m s**-1 (instant)	lambert	heightAboveGround	level 10 m	fcst time 0 hrs
16	10 metre V wind component	m s**-1 (instant)	lambert	heightAboveGround	level 10 m	fcst time 0 hrs
17	194	194 (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 46

18	194	194 (avg)	lambert	heightAboveGround	level 5 m	fcst time -2147483647--2147483646 hrs (avg)
19	195	195 (avg)	lambert	heightAboveGround	level 5 m	fcst time -2147483647--2147483646 hrs (avg)
20	Latent heat net flux	W m**2 (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
21	Temperature	K (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
22	Minimum temperature	K (min)	lambert	heightAboveGround	level 1.5 m	fcst time -2147483647--2147483646 hrs (min)
23	Maximum temperature	K (max)	lambert	heightAboveGround	level 1.5 m	fcst time -2147483647--2147483646 hrs (max)
24	Specific humidity	kg kg**-1 (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
25	196	196 (accum)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (accum)
26	Relative humidity	% (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
27	Visibility	m (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
28	193	193 (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
29	Dew point temperature	K (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
30	194	194 (instant)	lambert	heightAboveGround	level 0 m	fcst time 0 hrs
31	198	198 (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
32	193	193 (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
33	192	192 (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
34	199	199 (instant)	lambert	surface	level 1	fcst time 0 hrs
35	199	199 (instant)	lambert	surface	level 2	fcst time 0 hrs
36	199	199 (instant)	lambert	surface	level 3	fcst time 0 hrs
37	199	199 (instant)	lambert	surface	level 4	fcst time 0 hrs
38	199	199 (instant)	lambert	surface	level 5	fcst time 0 hrs
39	199	199 (instant)	lambert	surface	level 6	fcst time 0 hrs
40	199	199 (instant)	lambert	surface	level 7	fcst time 0 hrs
41	199	199 (instant)	lambert	surface	level 8	fcst time 0 hrs
42	199	199 (instant)	lambert	surface	level 9	fcst time 0 hrs
43	195	195 (instant)	lambert	unknown	level 0 254	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 47

44	196	196 (instant)	lambert	surface	level 0	fcst time 0 hrs
45	197	197 (instant)	lambert	surface	level 0	fcst time 0 hrs
46	198	198 (instant)	lambert	surface	level 0	fcst time 0 hrs
47	198	198 (instant)	lambert	surface	level 1	fcst time 0 hrs
48	198	198 (instant)	lambert	surface	level 2	fcst time 0 hrs
49	198	198 (instant)	lambert	surface	level 3	fcst time 0 hrs
50	198	198 (instant)	lambert	surface	level 4	fcst time 0 hrs
51	198	198 (instant)	lambert	surface	level 5	fcst time 0 hrs
52	198	198 (instant)	lambert	surface	level 6	fcst time 0 hrs
53	198	198 (instant)	lambert	surface	level 7	fcst time 0 hrs
54	198	198 (instant)	lambert	surface	level 8	fcst time 0 hrs
55	198	198 (instant)	lambert	surface	level 9	fcst time 0 hrs
56	201	201 (instant)	lambert	surface	level 1	fcst time 0 hrs
57	201	201 (instant)	lambert	surface	level 2	fcst time 0 hrs
58	201	201 (instant)	lambert	surface	level 3	fcst time 0 hrs
59	201	201 (instant)	lambert	surface	level 4	fcst time 0 hrs
60	201	201 (instant)	lambert	surface	level 5	fcst time 0 hrs
61	201	201 (instant)	lambert	surface	level 6	fcst time 0 hrs
62	201	201 (instant)	lambert	surface	level 7	fcst time 0 hrs
63	201	201 (instant)	lambert	surface	level 8	fcst time 0 hrs
64	201	201 (instant)	lambert	surface	level 9	fcst time 0 hrs
65	195	195 (instant)	lambert	surface	level 1	fcst time 0 hrs
66	195	195 (instant)	lambert	surface	level 2	fcst time 0 hrs
67	195	195 (instant)	lambert	surface	level 3	fcst time 0 hrs
68	195	195 (instant)	lambert	surface	level 4	fcst time 0 hrs
69	195	195 (instant)	lambert	surface	level 5	fcst time 0 hrs
70	196	196 (instant)	lambert	surface	level 1	fcst time 0 hrs
71	196	196 (instant)	lambert	surface	level 2	fcst time 0 hrs
72	196	196 (instant)	lambert	surface	level 3	fcst time 0 hrs
73	196	196 (instant)	lambert	surface	level 4	fcst time 0 hrs
74	196	196 (instant)	lambert	surface	level 5	fcst time 0 hrs
75	197	197 (instant)	lambert	surface	level 1	fcst time 0 hrs
76	197	197 (instant)	lambert	surface	level 2	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 48

77	197	197 (instant)	lambert	surface	level 3	fcst time 0 hrs
78	197	197 (instant)	lambert	surface	level 4	fcst time 0 hrs
79	197	197 (instant)	lambert	surface	level 5	fcst time 0 hrs
80	197	197 (instant)	lambert	surface	level 6	fcst time 0 hrs
81	197	197 (instant)	lambert	surface	level 7	fcst time 0 hrs
82	197	197 (instant)	lambert	surface	level 8	fcst time 0 hrs
83	197	197 (instant)	lambert	surface	level 9	fcst time 0 hrs
84	198	198 (instant)	lambert	surface	level 1	fcst time 0 hrs
85	198	198 (instant)	lambert	surface	level 2	fcst time 0 hrs
86	198	198 (instant)	lambert	surface	level 3	fcst time 0 hrs
87	198	198 (instant)	lambert	surface	level 4	fcst time 0 hrs
88	198	198 (instant)	lambert	surface	level 5	fcst time 0 hrs
89	198	198 (instant)	lambert	surface	level 6	fcst time 0 hrs
90	198	198 (instant)	lambert	surface	level 7	fcst time 0 hrs
91	198	198 (instant)	lambert	surface	level 8	fcst time 0 hrs
92	198	198 (instant)	lambert	surface	level 9	fcst time 0 hrs
93	199	199 (instant)	lambert	surface	level 0	fcst time 0 hrs
94	199	199 (instant)	lambert	surface	level 1	fcst time 0 hrs
95	199	199 (instant)	lambert	surface	level 2	fcst time 0 hrs
96	199	199 (instant)	lambert	surface	level 3	fcst time 0 hrs
97	199	199 (instant)	lambert	surface	level 4	fcst time 0 hrs
98	199	199 (instant)	lambert	surface	level 5	fcst time 0 hrs
99	Maximum wind speed	m s**-1 (max)	lambert	heightAboveGround	level 0 m	fcst time -2147483647--2147483646 hrs (max)
100	193	193 (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
101	Snow melt	kg m**-2 (accum)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (accum)
102	203	203 (instant)	lambert	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs
103	203	203 (instant)	lambert	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
104	203	203 (instant)	lambert	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
105	203	203 (instant)	lambert	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 49

106	Soil Temperature	K (instant)	lambert	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs
107	Soil Temperature	K (instant)	lambert	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
108	Soil Temperature	K (instant)	lambert	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
109	Soil Temperature	K (instant)	lambert	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs
110	204	204 (instant)	lambert	surface	level 0	fcst time 0 hrs
111	205	205 (instant)	lambert	surface	level 0	fcst time 0 hrs
112	209	209 (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
113	Low cloud cover	% (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
114	Medium cloud cover	% (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
115	High cloud cover	% (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
116	210	210 (instant)	lambert	unknown	level 0 196	fcst time 0 hrs
117	211	211 (instant)	lambert	unknown	level 0 196	fcst time 0 hrs
118	212	212 (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
119	213	213 (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
120	214	214 (instant)	lambert	surface	level 0	fcst time 0 hrs
121	215	215 (instant)	lambert	meanSea	level 0	fcst time 0 hrs
122	216	216 (instant)	lambert	isothermZero	level 0	fcst time 0 hrs
123	217	217 (instant)	lambert	heightAboveGround	level 0 m	fcst time 0 hrs
124	197	197 (min)	lambert	heightAboveGround	level 50 m	fcst time -2147483647--2147483646 hrs (min)
125	198	198 (min)	lambert	heightAboveGround	level 50 m	fcst time -2147483647--2147483646 hrs (min)
126	197	197 (max)	lambert	heightAboveGround	level 50 m	fcst time -2147483647--2147483646 hrs (max)
127	198	198 (max)	lambert	heightAboveGround	level 50 m	fcst time -2147483647--2147483646 hrs (max)
128	Pressure reduced to MSL	Pa (instant)	lambert	meanSea	level 0	fcst time 0 hrs
129	197	197 (accum)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (accum)
130	Temperature	K (instant)	lambert	surface	level 0	fcst time 0 hrs
131	Planetary boundary layer height	m (instant)	lambert	unknown	level 0 220	fcst time 0 hrs

AI 기반 예보지원 솔루션 개발  
AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 50

132	Surface roughness	m (instant)	lambert	surface	level 0	fcst time 0 hrs
133	Land-sea mask	(0 - 1) (instant)	lambert	surface	level 0	fcst time 0 hrs
134	192	192 (instant)	lambert	surface	level 0	fcst time 0 hrs
135	Geometrical height	m (instant)	lambert	surface	level 0	fcst time 0 hrs
136	Surface pressure	Pa (instant)	lambert	surface	level 0	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 51

## 5.2. GDAPS UM

이 절에서는 GDAPS UM 데이터의 band 별 정보를 설명한다.

### 5.2.1. G100\_v070\_erea\_pres

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
2	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
3	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
4	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
5	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
6	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
7	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
8	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
9	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
10	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
11	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
12	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
13	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
14	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
15	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
16	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
17	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
18	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
19	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
20	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
21	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
22	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
23	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
24	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
25	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 52

26	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
27	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
28	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
29	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
30	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
31	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
32	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
33	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
34	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
35	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
36	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
37	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
38	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
39	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
40	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
41	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
42	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
43	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
44	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
45	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
46	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
47	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
48	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
49	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
50	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
51	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
52	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
53	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
54	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
55	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
56	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
57	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
58	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 53

59	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
60	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
61	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
62	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
63	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
64	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
65	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
66	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
67	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
68	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
69	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
70	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
71	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
72	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
73	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
74	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
75	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
76	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
77	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
78	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
79	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
80	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
81	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
82	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
83	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
84	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
85	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
86	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
87	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
88	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
89	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
90	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
91	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 54

92	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
93	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
94	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
95	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
96	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
97	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
98	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
99	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
100	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
101	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
102	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
103	Geopotential Height	gpm (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
104	Geopotential Height	gpm (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
105	Temperature	K (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
106	Temperature	K (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
107	Temperature	K (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
108	Temperature	K (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
109	Temperature	K (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
110	Temperature	K (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
111	Temperature	K (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
112	Temperature	K (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
113	Temperature	K (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
114	Temperature	K (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
115	Temperature	K (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
116	Temperature	K (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
117	Temperature	K (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
118	Temperature	K (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
119	Temperature	K (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
120	Temperature	K (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
121	Temperature	K (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
122	Temperature	K (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
123	Temperature	K (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
124	Temperature	K (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 55

125	Temperature	K (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
126	Temperature	K (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
127	Temperature	K (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
128	Temperature	K (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
129	Temperature	K (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
130	Temperature	K (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
131	194	194 (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
132	194	194 (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
133	194	194 (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
134	194	194 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
135	194	194 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
136	194	194 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
137	194	194 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
138	194	194 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
139	194	194 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
140	194	194 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
141	194	194 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
142	194	194 (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
143	194	194 (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
144	194	194 (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
145	194	194 (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
146	194	194 (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
147	194	194 (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
148	194	194 (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
149	194	194 (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
150	200	200 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
151	200	200 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
152	200	200 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
153	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
154	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
155	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
156	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
157	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 56

158	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 600 hPa	fcst time 0 hrs
159	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 500 hPa	fcst time 0 hrs
160	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 400 hPa	fcst time 0 hrs
161	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 300 hPa	fcst time 0 hrs
162	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 250 hPa	fcst time 0 hrs
163	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 200 hPa	fcst time 0 hrs
164	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 150 hPa	fcst time 0 hrs
165	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 100 hPa	fcst time 0 hrs
166	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 70 hPa	fcst time 0 hrs
167	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 50 hPa	fcst time 0 hrs
168	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 30 hPa	fcst time 0 hrs
169	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 20 hPa	fcst time 0 hrs
170	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 15 hPa	fcst time 0 hrs
171	Relative humidity	% (instant)	regular_ll	isobaricInhPa	level 10 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 57

## 5.2.2. G100\_v070\_erea\_unis

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	192	192 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
2	193	193 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
3	194	194 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
4	195	195 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
5	196	196 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
6	197	197 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
7	198	198 (avg)	regular_ll	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
8	199	199 (avg)	regular_ll	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
9	200	200 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
10	192	192 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
11	193	193 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
12	194	194 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
13	195	195 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
14	196	196 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
15	197	197 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
16	Large scale precipitation (non-	kg m**-2 (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 58

	convective)					(accum)
17	Large scale snow	kg m <sup>-2</sup> (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
18	Large scale precipitation rate	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_II	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
19	Large scale snowfall rate	m s <sup>-1</sup> (avg)	regular_II	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
20	Standard deviation of height	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
21	192	192 (instant)	regular_II	heightAboveGround	level 20 m	fcst time 0 hrs
22	193	193 (instant)	regular_II	heightAboveGround	level 20 m	fcst time 0 hrs
23	192	192 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
24	193	193 (avg)	regular_II	depthBelowLandLayer	level 0 m	fcst time -2147483645--2147483642 hrs (avg)
25	192	192 (avg)	regular_II	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
26	10 metre U wind component	m s <sup>-1</sup> (instant)	regular_II	heightAboveGround	level 10 m	fcst time 0 hrs
27	10 metre V wind component	m s <sup>-1</sup> (instant)	regular_II	heightAboveGround	level 10 m	fcst time 0 hrs
28	194	194 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
29	194	194 (avg)	regular_II	heightAboveGround	level 20 m	fcst time -2147483645--2147483642 hrs (avg)
30	195	195 (avg)	regular_II	heightAboveGround	level 20 m	fcst time -2147483645--2147483642 hrs (avg)
31	192	192 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
32	196	196 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
33	195	195 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
34	192	192 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
35	193	193 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 59

						(avg)
36	194	194 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
37	Latent heat net flux	W m**2 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
38	197	197 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
39	Temperature	K (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
40	Minimum temperature	K (min)	regular_II	heightAboveGround	level 1.5 m	fcst time -2147483645--2147483642 hrs (min)
41	Maximum temperature	K (max)	regular_II	heightAboveGround	level 1.5 m	fcst time -2147483645--2147483642 hrs (max)
42	Specific humidity	kg kg**-1 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
43	196	196 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
44	Relative humidity	% (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
45	Visibility	m (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
46	193	193 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
47	Dew point temperature	K (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
48	194	194 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
49	198	198 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
50	193	193 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
51	199	199 (instant)	regular_II	surface	level 1	fcst time 0 hrs
52	193	193 (instant)	regular_II	surface	level 0	fcst time 0 hrs
53	194	194 (instant)	regular_II	surface	level 0	fcst time 0 hrs
54	Maximum wind speed	m s**-1 (max)	regular_II	heightAboveGround	level 0 m	fcst time -2147483645--2147483642 hrs (max)
55	Frictional velocity	m s**-1 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
56	Convective precipitation (water)	kg m**-2 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
57	Convective snow	kg m**-2 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 60

58	Convective precipitation rate	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_ll	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
59	Convective snowfall rate	m s <sup>-1</sup> (avg)	regular_ll	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
60	200	200 (instant)	regular_ll	unknown	level 0 242	fcst time 0 hrs
61	201	201 (instant)	regular_ll	unknown	level 0 243	fcst time 0 hrs
62	202	202 (instant)	regular_ll	unknown	level 0 199	fcst time 0 hrs
63	203	203 (instant)	regular_ll	unknown	level 0 198	fcst time 0 hrs
64	Mean total precipitation flux	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_ll	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
65	Convective available potential energy	J kg <sup>-1</sup> (max)	regular_ll	entireAtmosphere	level 0	fcst time -2147483645--2147483642 hrs (max)
66	204	204 (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
67	205	205 (instant)	regular_ll	unknown	level 0 242	fcst time 0 hrs
68	206	206 (instant)	regular_ll	unknown	level 0 243	fcst time 0 hrs
69	207	207 (instant)	regular_ll	unknown	level 0 199	fcst time 0 hrs
70	208	208 (instant)	regular_ll	unknown	level 0 198	fcst time 0 hrs
71	Total precipitation	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
72	195	195 (max)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (max)
73	196	196 (max)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (max)
74	Convective cloud cover	% (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
75	Snow melt	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
76	200	200 (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
77	201	201 (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
78	Soil moisture content	kg m <sup>-2</sup> (instant)	regular_ll	surface	level 0	fcst time 0 hrs
79	202	202 (instant)	regular_ll	unknown	level 0 197	fcst time 0 hrs
80	203	203 (instant)	regular_ll	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 61

81	203	203 (instant)	regular_II	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
82	203	203 (instant)	regular_II	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
83	203	203 (instant)	regular_II	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs
84	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs
85	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
86	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
87	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs
88	Low cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
89	Medium cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
90	High cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
91	210	210 (instant)	regular_II	unknown	level 0 196	fcst time 0 hrs
92	211	211 (instant)	regular_II	unknown	level 0 196	fcst time 0 hrs
93	212	212 (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
94	213	213 (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
95	216	216 (instant)	regular_II	isothermZero	level 0	fcst time 0 hrs
96	217	217 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
97	197	197 (instant)	regular_II	heightAboveGround	level 50 m	fcst time 0 hrs
98	198	198 (instant)	regular_II	heightAboveGround	level 50 m	fcst time 0 hrs
99	Pressure reduced to MSL	Pa (instant)	regular_II	meanSea	level 0	fcst time 0 hrs
100	197	197 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
101	Temperature	K (instant)	regular_II	surface	level 0	fcst time 0 hrs
102	Planetary boundary layer height	m (instant)	regular_II	unknown	level 0 220	fcst time 0 hrs
103	Surface roughness	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
104	Land-sea mask	(0 - 1) (instant)	regular_II	surface	level 0	fcst time 0 hrs
105	192	192 (instant)	regular_II	surface	level 0	fcst time 0 hrs
106	Geometrical height	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
107	Surface pressure	Pa (instant)	regular_II	surface	level 0	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 62

## 5.2.3. G120\_v070\_erea\_pres

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Potential vorticity	K m**2 kg**-1 s**-1 (instant)	lamBERT	theta	level 330 theta	fcst time 0 hrs
2	Potential vorticity	K m**2 kg**-1 s**-1 (instant)	lamBERT	theta	level 315 theta	fcst time 0 hrs
3	Potential vorticity	K m**2 kg**-1 s**-1 (instant)	lamBERT	theta	level 300 theta	fcst time 0 hrs
4	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
5	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 975 hPa	fcst time 0 hrs
6	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 950 hPa	fcst time 0 hrs
7	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 925 hPa	fcst time 0 hrs
8	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 900 hPa	fcst time 0 hrs
9	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 875 hPa	fcst time 0 hrs
10	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 850 hPa	fcst time 0 hrs
11	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 800 hPa	fcst time 0 hrs
12	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 750 hPa	fcst time 0 hrs
13	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 700 hPa	fcst time 0 hrs
14	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 650 hPa	fcst time 0 hrs
15	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 600 hPa	fcst time 0 hrs
16	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 550 hPa	fcst time 0 hrs
17	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 500 hPa	fcst time 0 hrs
18	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 450 hPa	fcst time 0 hrs
19	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 400 hPa	fcst time 0 hrs
20	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 350 hPa	fcst time 0 hrs
21	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 300 hPa	fcst time 0 hrs
22	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 250 hPa	fcst time 0 hrs
23	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 200 hPa	fcst time 0 hrs
24	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 150 hPa	fcst time 0 hrs
25	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 100 hPa	fcst time 0 hrs
26	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 70 hPa	fcst time 0 hrs
27	Geometric vertical velocity	m s**-1 (instant)	lamBERT	isobaricInhPa	level 50 hPa	fcst time 0 hrs
28	U component of wind	m s**-1 (instant)	lamBERT	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
29	V component of wind	m s**-1 (instant)	lamBERT	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
30	U component of wind	m s**-1 (instant)	lamBERT	isobaricInhPa	level 975 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 63

31	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
32	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
33	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
34	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
35	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
36	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
37	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
38	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
39	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
40	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
41	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
42	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
43	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
44	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
45	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
46	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
47	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
48	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
49	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
50	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
51	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
52	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
53	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
54	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
55	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
56	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs
57	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs
58	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
59	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
60	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
61	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
62	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
63	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 64

64	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
65	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
66	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
67	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
68	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
69	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
70	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
71	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
72	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
73	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
74	U component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
75	V component of wind	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
76	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
77	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
78	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
79	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
80	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
81	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
82	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
83	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
84	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
85	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
86	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
87	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
88	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
89	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
90	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs
91	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
92	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
93	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
94	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
95	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
96	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 65

97	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
98	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
99	Geopotential Height	gpm (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
100	Temperature	K (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
101	Temperature	K (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
102	Temperature	K (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
103	Temperature	K (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
104	Temperature	K (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
105	Temperature	K (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
106	Temperature	K (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
107	Temperature	K (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
108	Temperature	K (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
109	Temperature	K (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
110	Temperature	K (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
111	Temperature	K (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
112	Temperature	K (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
113	Temperature	K (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
114	Temperature	K (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs
115	Temperature	K (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
116	Temperature	K (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
117	Temperature	K (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
118	Temperature	K (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
119	Temperature	K (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
120	Temperature	K (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
121	Temperature	K (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
122	Temperature	K (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
123	Temperature	K (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
124	194	194 (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
125	194	194 (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
126	194	194 (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
127	194	194 (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
128	194	194 (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
129	194	194 (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 66

130	194	194 (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
131	194	194 (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
132	194	194 (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
133	194	194 (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
134	194	194 (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
135	194	194 (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
136	194	194 (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
137	194	194 (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
138	194	194 (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs
139	194	194 (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
140	194	194 (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
141	194	194 (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
142	194	194 (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
143	194	194 (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
144	194	194 (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
145	194	194 (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
146	194	194 (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
147	194	194 (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
148	200	200 (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
149	200	200 (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
150	200	200 (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
151	Relative humidity	% (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
152	Relative humidity	% (instant)	lambert	isobaricInhPa	level 975 hPa	fcst time 0 hrs
153	Relative humidity	% (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
154	Relative humidity	% (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
155	Relative humidity	% (instant)	lambert	isobaricInhPa	level 900 hPa	fcst time 0 hrs
156	Relative humidity	% (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
157	Relative humidity	% (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
158	Relative humidity	% (instant)	lambert	isobaricInhPa	level 800 hPa	fcst time 0 hrs
159	Relative humidity	% (instant)	lambert	isobaricInhPa	level 750 hPa	fcst time 0 hrs
160	Relative humidity	% (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
161	Relative humidity	% (instant)	lambert	isobaricInhPa	level 650 hPa	fcst time 0 hrs
162	Relative humidity	% (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs

AI 기반 예보지원 솔루션 개발  
AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 67

163	Relative humidity	% (instant)	lambert	isobaricInhPa	level 550 hPa	fcst time 0 hrs
164	Relative humidity	% (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
165	Relative humidity	% (instant)	lambert	isobaricInhPa	level 450 hPa	fcst time 0 hrs
166	Relative humidity	% (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
167	Relative humidity	% (instant)	lambert	isobaricInhPa	level 350 hPa	fcst time 0 hrs
168	Relative humidity	% (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
169	Relative humidity	% (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
170	Relative humidity	% (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
171	Relative humidity	% (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
172	Relative humidity	% (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
173	Relative humidity	% (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
174	Relative humidity	% (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 68

## 5.2.4. G120\_v070\_erea\_unis

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	192	192 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
2	193	193 (avg)	lambert	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
3	194	194 (avg)	lambert	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
4	195	195 (avg)	lambert	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
5	196	196 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
6	197	197 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
7	198	198 (avg)	lambert	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
8	199	199 (avg)	lambert	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
9	200	200 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
10	192	192 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
11	193	193 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
12	194	194 (avg)	lambert	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
13	195	195 (avg)	lambert	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
14	196	196 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
15	197	197 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
16	Large scale precipitation (non-	kg m**-2 (accum)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 69

	convective)					(accum)
17	Large scale snow	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
18	Large scale precipitation rate	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
19	Large scale snowfall rate	m s <sup>-1</sup> (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
20	Standard deviation of height	m (instant)	lambert	surface	level 0	fcst time 0 hrs
21	192	192 (instant)	lambert	heightAboveGround	level 20 m	fcst time 0 hrs
22	193	193 (instant)	lambert	heightAboveGround	level 20 m	fcst time 0 hrs
23	192	192 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
24	193	193 (avg)	lambert	depthBelowLandLayer	level 0 m	fcst time -2147483645--2147483642 hrs (avg)
25	192	192 (avg)	lambert	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
26	10 metre U wind component	m s <sup>-1</sup> (instant)	lambert	heightAboveGround	level 10 m	fcst time 0 hrs
27	10 metre V wind component	m s <sup>-1</sup> (instant)	lambert	heightAboveGround	level 10 m	fcst time 0 hrs
28	194	194 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
29	194	194 (avg)	lambert	heightAboveGround	level 20 m	fcst time -2147483645--2147483642 hrs (avg)
30	195	195 (avg)	lambert	heightAboveGround	level 20 m	fcst time -2147483645--2147483642 hrs (avg)
31	192	192 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
32	196	196 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
33	195	195 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
34	192	192 (accum)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
35	193	193 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 70

						(avg)
36	194	194 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
37	Latent heat net flux	W m**2 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
38	197	197 (avg)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
39	Temperature	K (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
40	Minimum temperature	K (min)	lambert	heightAboveGround	level 1.5 m	fcst time -2147483645--2147483642 hrs (min)
41	Maximum temperature	K (max)	lambert	heightAboveGround	level 1.5 m	fcst time -2147483645--2147483642 hrs (max)
42	Specific humidity	kg kg**-1 (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
43	196	196 (accum)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
44	Relative humidity	% (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
45	Visibility	m (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
46	193	193 (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
47	Dew point temperature	K (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
48	194	194 (instant)	lambert	heightAboveGround	level 0 m	fcst time 0 hrs
49	198	198 (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
50	193	193 (instant)	lambert	heightAboveGround	level 1.5 m	fcst time 0 hrs
51	199	199 (instant)	lambert	surface	level 1	fcst time 0 hrs
52	199	199 (instant)	lambert	surface	level 2	fcst time 0 hrs
53	199	199 (instant)	lambert	surface	level 3	fcst time 0 hrs
54	199	199 (instant)	lambert	surface	level 4	fcst time 0 hrs
55	199	199 (instant)	lambert	surface	level 5	fcst time 0 hrs
56	199	199 (instant)	lambert	surface	level 6	fcst time 0 hrs
57	199	199 (instant)	lambert	surface	level 7	fcst time 0 hrs
58	199	199 (instant)	lambert	surface	level 8	fcst time 0 hrs
59	199	199 (instant)	lambert	surface	level 9	fcst time 0 hrs
60	193	193 (instant)	lambert	surface	level 0	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 71

61	194	194 (instant)	lambert	surface	level 0	fcst time 0 hrs
62	Maximum wind speed	m s <sup>-1</sup> (max)	lambert	heightAboveGround	level 0 m	fcst time -2147483645--2147483642 hrs (max)
63	Frictional velocity	m s <sup>-1</sup> (instant)	lambert	heightAboveGround	level 0 m	fcst time 0 hrs
64	Convective precipitation (water)	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
65	Convective snow	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
66	Convective precipitation rate	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
67	Convective snowfall rate	m s <sup>-1</sup> (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
68	200	200 (instant)	lambert	unknown	level 0 242	fcst time 0 hrs
69	201	201 (instant)	lambert	unknown	level 0 243	fcst time 0 hrs
70	202	202 (instant)	lambert	unknown	level 0 199	fcst time 0 hrs
71	203	203 (instant)	lambert	unknown	level 0 198	fcst time 0 hrs
72	Mean total precipitation flux	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	lambert	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
73	Convective available potential energy	J kg <sup>-1</sup> (max)	lambert	entireAtmosphere	level 0	fcst time -2147483645--2147483642 hrs (max)
74	204	204 (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
75	205	205 (instant)	lambert	unknown	level 0 242	fcst time 0 hrs
76	206	206 (instant)	lambert	unknown	level 0 243	fcst time 0 hrs
77	207	207 (instant)	lambert	unknown	level 0 199	fcst time 0 hrs
78	208	208 (instant)	lambert	unknown	level 0 198	fcst time 0 hrs
79	Total precipitation	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
80	195	195 (max)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (max)
81	196	196 (max)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (max)
82	Convective cloud cover	% (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
83	Snow melt	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 72

						(accum)
84	200	200 (accum)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
85	201	201 (accum)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
86	Soil moisture content	kg m**-2 (instant)	lambert	surface	level 0	fcst time 0 hrs
87	202	202 (instant)	lambert	unknown	level 0 197	fcst time 0 hrs
88	203	203 (instant)	lambert	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs
89	203	203 (instant)	lambert	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
90	203	203 (instant)	lambert	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
91	203	203 (instant)	lambert	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs
92	Soil Temperature	K (instant)	lambert	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs
93	Soil Temperature	K (instant)	lambert	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
94	Soil Temperature	K (instant)	lambert	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
95	Soil Temperature	K (instant)	lambert	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs
96	Low cloud cover	% (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
97	Medium cloud cover	% (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
98	High cloud cover	% (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
99	210	210 (instant)	lambert	unknown	level 0 196	fcst time 0 hrs
100	211	211 (instant)	lambert	unknown	level 0 196	fcst time 0 hrs
101	212	212 (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
102	213	213 (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
103	216	216 (instant)	lambert	isothermZero	level 0	fcst time 0 hrs
104	217	217 (instant)	lambert	heightAboveGround	level 0 m	fcst time 0 hrs
105	197	197 (instant)	lambert	heightAboveGround	level 50 m	fcst time 0 hrs
106	198	198 (instant)	lambert	heightAboveGround	level 50 m	fcst time 0 hrs
107	Pressure reduced to MSL	Pa (instant)	lambert	meanSea	level 0	fcst time 0 hrs
108	197	197 (accum)	lambert	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)

AI 기반 예보지원 솔루션 개발  
AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 73

109	Temperature	K (instant)	lambert	surface	level 0	fcst time 0 hrs
110	Planetary boundary layer height	m (instant)	lambert	unknown	level 0 220	fcst time 0 hrs
111	Surface roughness	m (instant)	lambert	surface	level 0	fcst time 0 hrs
112	Land-sea mask	(0 - 1) (instant)	lambert	surface	level 0	fcst time 0 hrs
113	192	192 (instant)	lambert	surface	level 0	fcst time 0 hrs
114	Geometrical height	m (instant)	lambert	surface	level 0	fcst time 0 hrs
115	Surface pressure	Pa (instant)	lambert	surface	level 0	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 74

## 5.2.5. G128\_v070\_ergl\_pres

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
2	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
3	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
4	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
5	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
6	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
7	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
8	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
9	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
10	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
11	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
12	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
13	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
14	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
15	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
16	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
17	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
18	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
19	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
20	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
21	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
22	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
23	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
24	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
25	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
26	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
27	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
28	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
29	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
30	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 75

31	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
32	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
33	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
34	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
35	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
36	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
37	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
38	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
39	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
40	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
41	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
42	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
43	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
44	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
45	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
46	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
47	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
48	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
49	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
50	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
51	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
52	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
53	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
54	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
55	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
56	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
57	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
58	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
59	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
60	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
61	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
62	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
63	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 76

64	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
65	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
66	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
67	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
68	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
69	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
70	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
71	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
72	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
73	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
74	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
75	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
76	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
77	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
78	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
79	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
80	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
81	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
82	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
83	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
84	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
85	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
86	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
87	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
88	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
89	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
90	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
91	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
92	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
93	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
94	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
95	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
96	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 77

97	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
98	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
99	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
100	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
101	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
102	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
103	Geopotential Height	gpm (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
104	Geopotential Height	gpm (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
105	Temperature	K (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
106	Temperature	K (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
107	Temperature	K (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
108	Temperature	K (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
109	Temperature	K (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
110	Temperature	K (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
111	Temperature	K (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
112	Temperature	K (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
113	Temperature	K (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
114	Temperature	K (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
115	Temperature	K (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
116	Temperature	K (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
117	Temperature	K (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
118	Temperature	K (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
119	Temperature	K (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
120	Temperature	K (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
121	Temperature	K (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
122	Temperature	K (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
123	Temperature	K (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
124	Temperature	K (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
125	Temperature	K (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
126	Temperature	K (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
127	Temperature	K (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
128	Temperature	K (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
129	Temperature	K (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 78

130	Temperature	K (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
131	194	194 (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
132	194	194 (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
133	194	194 (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
134	194	194 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
135	194	194 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
136	194	194 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
137	194	194 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
138	194	194 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
139	194	194 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
140	194	194 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
141	194	194 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
142	194	194 (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
143	194	194 (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
144	194	194 (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
145	194	194 (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
146	194	194 (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
147	194	194 (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
148	194	194 (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
149	194	194 (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
150	200	200 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
151	200	200 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
152	200	200 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
153	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
154	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
155	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
156	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
157	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
158	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
159	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
160	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
161	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
162	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs

AI 기반 예보지원 솔루션 개발  
AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 79

163	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
164	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
165	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
166	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
167	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
168	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
169	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
170	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
171	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 80

## 5.2.6. G128\_v070\_ergl\_unis

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	192	192 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
2	193	193 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
3	194	194 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
4	195	195 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
5	196	196 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
6	197	197 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
7	198	198 (avg)	regular_ll	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
8	199	199 (avg)	regular_ll	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
9	200	200 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
10	192	192 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
11	193	193 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
12	194	194 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
13	195	195 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
14	196	196 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
15	197	197 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
16	Large scale precipitation (non-	kg m**-2 (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 81

	convective)					(accum)
17	Large scale snow	kg m <sup>-2</sup> (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
18	Large scale precipitation rate	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_II	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
19	Large scale snowfall rate	m s <sup>-1</sup> (avg)	regular_II	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
20	Standard deviation of height	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
21	192	192 (instant)	regular_II	heightAboveGround	level 20 m	fcst time 0 hrs
22	193	193 (instant)	regular_II	heightAboveGround	level 20 m	fcst time 0 hrs
23	192	192 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
24	193	193 (avg)	regular_II	depthBelowLandLayer	level 0 m	fcst time -2147483645--2147483642 hrs (avg)
25	192	192 (avg)	regular_II	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
26	10 metre U wind component	m s <sup>-1</sup> (instant)	regular_II	heightAboveGround	level 10 m	fcst time 0 hrs
27	10 metre V wind component	m s <sup>-1</sup> (instant)	regular_II	heightAboveGround	level 10 m	fcst time 0 hrs
28	194	194 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
29	194	194 (avg)	regular_II	heightAboveGround	level 20 m	fcst time -2147483645--2147483642 hrs (avg)
30	195	195 (avg)	regular_II	heightAboveGround	level 20 m	fcst time -2147483645--2147483642 hrs (avg)
31	192	192 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
32	196	196 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
33	195	195 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
34	192	192 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
35	193	193 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 82

						(avg)
36	194	194 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
37	Latent heat net flux	W m**2 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
38	197	197 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
39	Temperature	K (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
40	Minimum temperature	K (min)	regular_II	heightAboveGround	level 1.5 m	fcst time -2147483645--2147483642 hrs (min)
41	Maximum temperature	K (max)	regular_II	heightAboveGround	level 1.5 m	fcst time -2147483645--2147483642 hrs (max)
42	Specific humidity	kg kg**-1 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
43	196	196 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
44	Relative humidity	% (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
45	Visibility	m (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
46	193	193 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
47	Dew point temperature	K (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
48	194	194 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
49	198	198 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
50	193	193 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
51	199	199 (instant)	regular_II	surface	level 1	fcst time 0 hrs
52	193	193 (instant)	regular_II	surface	level 0	fcst time 0 hrs
53	194	194 (instant)	regular_II	surface	level 0	fcst time 0 hrs
54	Maximum wind speed	m s**-1 (max)	regular_II	heightAboveGround	level 0 m	fcst time -2147483645--2147483642 hrs (max)
55	Frictional velocity	m s**-1 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
56	Convective precipitation (water)	kg m**-2 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
57	Convective snow	kg m**-2 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 83

58	Convective precipitation rate	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_ll	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
59	Convective snowfall rate	m s <sup>-1</sup> (avg)	regular_ll	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
60	200	200 (instant)	regular_ll	unknown	level 0 242	fcst time 0 hrs
61	201	201 (instant)	regular_ll	unknown	level 0 243	fcst time 0 hrs
62	202	202 (instant)	regular_ll	unknown	level 0 199	fcst time 0 hrs
63	203	203 (instant)	regular_ll	unknown	level 0 198	fcst time 0 hrs
64	Mean total precipitation flux	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_ll	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
65	Convective available potential energy	J kg <sup>-1</sup> (max)	regular_ll	entireAtmosphere	level 0	fcst time -2147483645--2147483642 hrs (max)
66	204	204 (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
67	205	205 (instant)	regular_ll	unknown	level 0 242	fcst time 0 hrs
68	206	206 (instant)	regular_ll	unknown	level 0 243	fcst time 0 hrs
69	207	207 (instant)	regular_ll	unknown	level 0 199	fcst time 0 hrs
70	208	208 (instant)	regular_ll	unknown	level 0 198	fcst time 0 hrs
71	Total precipitation	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
72	195	195 (max)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (max)
73	196	196 (max)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (max)
74	Convective cloud cover	% (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
75	Snow melt	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
76	200	200 (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
77	201	201 (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
78	Soil moisture content	kg m <sup>-2</sup> (instant)	regular_ll	surface	level 0	fcst time 0 hrs
79	202	202 (instant)	regular_ll	unknown	level 0 197	fcst time 0 hrs
80	203	203 (instant)	regular_ll	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 84

81	203	203 (instant)	regular_II	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
82	203	203 (instant)	regular_II	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
83	203	203 (instant)	regular_II	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs
84	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs
85	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
86	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
87	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs
88	Low cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
89	Medium cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
90	High cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
91	210	210 (instant)	regular_II	unknown	level 0 196	fcst time 0 hrs
92	211	211 (instant)	regular_II	unknown	level 0 196	fcst time 0 hrs
93	212	212 (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
94	213	213 (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
95	216	216 (instant)	regular_II	isothermZero	level 0	fcst time 0 hrs
96	217	217 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
97	197	197 (instant)	regular_II	heightAboveGround	level 50 m	fcst time 0 hrs
98	198	198 (instant)	regular_II	heightAboveGround	level 50 m	fcst time 0 hrs
99	Pressure reduced to MSL	Pa (instant)	regular_II	meanSea	level 0	fcst time 0 hrs
100	197	197 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
101	Temperature	K (instant)	regular_II	surface	level 0	fcst time 0 hrs
102	Planetary boundary layer height	m (instant)	regular_II	unknown	level 0 220	fcst time 0 hrs
103	Surface roughness	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
104	Land-sea mask	(0 - 1) (instant)	regular_II	surface	level 0	fcst time 0 hrs
105	192	192 (instant)	regular_II	surface	level 0	fcst time 0 hrs
106	Geometrical height	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
107	Surface pressure	Pa (instant)	regular_II	surface	level 0	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 85

## 5.2.7. G512\_v070\_ergl\_pres

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
2	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
3	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
4	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
5	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
6	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
7	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
8	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
9	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
10	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
11	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
12	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
13	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
14	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
15	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
16	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
17	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
18	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
19	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
20	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
21	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
22	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
23	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
24	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
25	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
26	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
27	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
28	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
29	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
30	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 86

31	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
32	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
33	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
34	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
35	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
36	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
37	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
38	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
39	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
40	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
41	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
42	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
43	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
44	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
45	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
46	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
47	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
48	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
49	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
50	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
51	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
52	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
53	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
54	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
55	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
56	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
57	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
58	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
59	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
60	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
61	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
62	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
63	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 87

64	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
65	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
66	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
67	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
68	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
69	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
70	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
71	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
72	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
73	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
74	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
75	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
76	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
77	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
78	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
79	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
80	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
81	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
82	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
83	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
84	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
85	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
86	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
87	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
88	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
89	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
90	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
91	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
92	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
93	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
94	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
95	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
96	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 88

97	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
98	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
99	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
100	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
101	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
102	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
103	Geopotential Height	gpm (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
104	Geopotential Height	gpm (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
105	Temperature	K (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
106	Temperature	K (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
107	Temperature	K (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
108	Temperature	K (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
109	Temperature	K (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
110	Temperature	K (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
111	Temperature	K (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
112	Temperature	K (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
113	Temperature	K (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
114	Temperature	K (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
115	Temperature	K (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
116	Temperature	K (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
117	Temperature	K (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
118	Temperature	K (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
119	Temperature	K (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
120	Temperature	K (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
121	Temperature	K (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
122	Temperature	K (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
123	Temperature	K (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
124	Temperature	K (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
125	Temperature	K (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
126	Temperature	K (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
127	Temperature	K (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
128	Temperature	K (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
129	Temperature	K (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 89

130	Temperature	K (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
131	194	194 (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
132	194	194 (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
133	194	194 (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
134	194	194 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
135	194	194 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
136	194	194 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
137	194	194 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
138	194	194 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
139	194	194 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
140	194	194 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
141	194	194 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
142	194	194 (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
143	194	194 (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
144	194	194 (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
145	194	194 (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
146	194	194 (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
147	194	194 (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
148	194	194 (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
149	194	194 (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
150	200	200 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
151	200	200 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
152	200	200 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
153	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
154	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
155	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
156	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
157	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
158	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
159	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
160	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
161	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
162	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs

AI 기반 예보지원 솔루션 개발  
AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 90

163	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
164	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
165	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
166	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
167	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
168	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
169	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
170	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
171	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 91

## 5.2.8. G512\_v070\_ergl\_unis

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	192	192 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
2	193	193 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
3	194	194 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
4	195	195 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
5	196	196 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
6	197	197 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
7	198	198 (avg)	regular_ll	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
8	199	199 (avg)	regular_ll	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
9	200	200 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
10	192	192 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
11	193	193 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
12	194	194 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
13	195	195 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
14	196	196 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
15	197	197 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
16	Large scale precipitation (non-	kg m**-2 (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 92

	convective)					(accum)
17	Large scale snow	kg m <sup>-2</sup> (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
18	Large scale precipitation rate	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_II	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
19	Large scale snowfall rate	m s <sup>-1</sup> (avg)	regular_II	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
20	Standard deviation of height	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
21	192	192 (instant)	regular_II	heightAboveGround	level 20 m	fcst time 0 hrs
22	193	193 (instant)	regular_II	heightAboveGround	level 20 m	fcst time 0 hrs
23	192	192 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
24	193	193 (avg)	regular_II	depthBelowLandLayer	level 0 m	fcst time -2147483645--2147483642 hrs (avg)
25	192	192 (avg)	regular_II	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
26	10 metre U wind component	m s <sup>-1</sup> (instant)	regular_II	heightAboveGround	level 10 m	fcst time 0 hrs
27	10 metre V wind component	m s <sup>-1</sup> (instant)	regular_II	heightAboveGround	level 10 m	fcst time 0 hrs
28	194	194 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
29	194	194 (avg)	regular_II	heightAboveGround	level 20 m	fcst time -2147483645--2147483642 hrs (avg)
30	195	195 (avg)	regular_II	heightAboveGround	level 20 m	fcst time -2147483645--2147483642 hrs (avg)
31	192	192 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
32	196	196 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
33	195	195 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
34	192	192 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
35	193	193 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 93

						(avg)
36	194	194 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
37	Latent heat net flux	W m**2 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
38	197	197 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
39	Temperature	K (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
40	Minimum temperature	K (min)	regular_II	heightAboveGround	level 1.5 m	fcst time -2147483645--2147483642 hrs (min)
41	Maximum temperature	K (max)	regular_II	heightAboveGround	level 1.5 m	fcst time -2147483645--2147483642 hrs (max)
42	Specific humidity	kg kg**-1 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
43	196	196 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
44	Relative humidity	% (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
45	Visibility	m (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
46	193	193 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
47	Dew point temperature	K (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
48	194	194 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
49	198	198 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
50	193	193 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
51	199	199 (instant)	regular_II	surface	level 1	fcst time 0 hrs
52	193	193 (instant)	regular_II	surface	level 0	fcst time 0 hrs
53	194	194 (instant)	regular_II	surface	level 0	fcst time 0 hrs
54	Maximum wind speed	m s**-1 (max)	regular_II	heightAboveGround	level 0 m	fcst time -2147483645--2147483642 hrs (max)
55	Frictional velocity	m s**-1 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
56	Convective precipitation (water)	kg m**-2 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
57	Convective snow	kg m**-2 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 94

58	Convective precipitation rate	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_II	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
59	Convective snowfall rate	m s <sup>-1</sup> (avg)	regular_II	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
60	200	200 (instant)	regular_II	unknown	level 0 242	fcst time 0 hrs
61	201	201 (instant)	regular_II	unknown	level 0 243	fcst time 0 hrs
62	202	202 (instant)	regular_II	unknown	level 0 199	fcst time 0 hrs
63	203	203 (instant)	regular_II	unknown	level 0 198	fcst time 0 hrs
64	Mean total precipitation flux	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_II	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
65	Convective available potential energy	J kg <sup>-1</sup> (max)	regular_II	entireAtmosphere	level 0	fcst time -2147483645--2147483642 hrs (max)
66	204	204 (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
67	205	205 (instant)	regular_II	unknown	level 0 242	fcst time 0 hrs
68	206	206 (instant)	regular_II	unknown	level 0 243	fcst time 0 hrs
69	207	207 (instant)	regular_II	unknown	level 0 199	fcst time 0 hrs
70	208	208 (instant)	regular_II	unknown	level 0 198	fcst time 0 hrs
71	Total precipitation	kg m <sup>-2</sup> (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
72	195	195 (max)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (max)
73	196	196 (max)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (max)
74	Convective cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
75	Snow melt	kg m <sup>-2</sup> (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
76	200	200 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
77	201	201 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
78	Soil moisture content	kg m <sup>-2</sup> (instant)	regular_II	surface	level 0	fcst time 0 hrs
79	202	202 (instant)	regular_II	unknown	level 0 197	fcst time 0 hrs
80	203	203 (instant)	regular_II	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 95

81	203	203 (instant)	regular_II	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
82	203	203 (instant)	regular_II	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
83	203	203 (instant)	regular_II	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs
84	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs
85	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
86	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
87	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs
88	Low cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
89	Medium cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
90	High cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
91	210	210 (instant)	regular_II	unknown	level 0 196	fcst time 0 hrs
92	211	211 (instant)	regular_II	unknown	level 0 196	fcst time 0 hrs
93	212	212 (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
94	213	213 (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
95	216	216 (instant)	regular_II	isothermZero	level 0	fcst time 0 hrs
96	217	217 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
97	197	197 (instant)	regular_II	heightAboveGround	level 50 m	fcst time 0 hrs
98	198	198 (instant)	regular_II	heightAboveGround	level 50 m	fcst time 0 hrs
99	Pressure reduced to MSL	Pa (instant)	regular_II	meanSea	level 0	fcst time 0 hrs
100	197	197 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
101	Temperature	K (instant)	regular_II	surface	level 0	fcst time 0 hrs
102	Planetary boundary layer height	m (instant)	regular_II	unknown	level 0 220	fcst time 0 hrs
103	Surface roughness	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
104	Land-sea mask	(0 - 1) (instant)	regular_II	surface	level 0	fcst time 0 hrs
105	192	192 (instant)	regular_II	surface	level 0	fcst time 0 hrs
106	Geometrical height	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
107	Surface pressure	Pa (instant)	regular_II	surface	level 0	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 96

## 5.2.9. G768\_v070\_ergl\_pres

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
2	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
3	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
4	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
5	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
6	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
7	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
8	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
9	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
10	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
11	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
12	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
13	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
14	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
15	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
16	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
17	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
18	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
19	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
20	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
21	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
22	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
23	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
24	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
25	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
26	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
27	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
28	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
29	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
30	U component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 97

31	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
32	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
33	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
34	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
35	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
36	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
37	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
38	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
39	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
40	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
41	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
42	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
43	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
44	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
45	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
46	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
47	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
48	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
49	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
50	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
51	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
52	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
53	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
54	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
55	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
56	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
57	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
58	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
59	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
60	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
61	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
62	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
63	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 98

64	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
65	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
66	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
67	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
68	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
69	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
70	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
71	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
72	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
73	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
74	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
75	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
76	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
77	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
78	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
79	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
80	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
81	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
82	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
83	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
84	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
85	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
86	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
87	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
88	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
89	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
90	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
91	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
92	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
93	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
94	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
95	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
96	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 99

97	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
98	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
99	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
100	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
101	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
102	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
103	Geopotential Height	gpm (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs
104	Geopotential Height	gpm (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
105	Temperature	K (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
106	Temperature	K (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
107	Temperature	K (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
108	Temperature	K (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
109	Temperature	K (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
110	Temperature	K (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
111	Temperature	K (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
112	Temperature	K (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
113	Temperature	K (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
114	Temperature	K (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
115	Temperature	K (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
116	Temperature	K (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
117	Temperature	K (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
118	Temperature	K (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
119	Temperature	K (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
120	Temperature	K (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
121	Temperature	K (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
122	Temperature	K (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
123	Temperature	K (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
124	Temperature	K (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
125	Temperature	K (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
126	Temperature	K (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
127	Temperature	K (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
128	Temperature	K (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
129	Temperature	K (instant)	regular_ll	isobariclnPa	level 0.5 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 100

130	Temperature	K (instant)	regular_ll	isobariclnPa	level 0.4 hPa	fcst time 0 hrs
131	194	194 (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
132	194	194 (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
133	194	194 (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
134	194	194 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
135	194	194 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
136	194	194 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
137	194	194 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
138	194	194 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
139	194	194 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
140	194	194 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
141	194	194 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
142	194	194 (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
143	194	194 (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
144	194	194 (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
145	194	194 (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
146	194	194 (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
147	194	194 (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
148	194	194 (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
149	194	194 (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
150	200	200 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
151	200	200 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
152	200	200 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
153	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
154	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
155	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
156	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
157	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
158	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
159	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
160	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
161	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
162	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs

AI 기반 예보지원 솔루션 개발  
AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 101

163	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
164	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
165	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
166	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
167	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
168	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
169	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
170	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
171	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 102

## 5.2.10. G768\_v070\_ergl\_unis

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	192	192 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
2	193	193 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
3	194	194 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
4	195	195 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
5	196	196 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
6	197	197 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
7	198	198 (avg)	regular_ll	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
8	199	199 (avg)	regular_ll	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
9	200	200 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
10	192	192 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
11	193	193 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
12	194	194 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
13	195	195 (avg)	regular_ll	nominalTop	level 0	fcst time -2147483645--2147483642 hrs (avg)
14	196	196 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
15	197	197 (avg)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
16	Large scale precipitation (non-	kg m**-2 (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 103

	convective)					(accum)
17	Large scale snow	kg m <sup>-2</sup> (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
18	Large scale precipitation rate	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_II	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
19	Large scale snowfall rate	m s <sup>-1</sup> (avg)	regular_II	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
20	Standard deviation of height	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
21	192	192 (instant)	regular_II	heightAboveGround	level 20 m	fcst time 0 hrs
22	193	193 (instant)	regular_II	heightAboveGround	level 20 m	fcst time 0 hrs
23	192	192 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
24	193	193 (avg)	regular_II	depthBelowLandLayer	level 0 m	fcst time -2147483645--2147483642 hrs (avg)
25	192	192 (avg)	regular_II	heightAboveGround	level 10 m	fcst time -2147483645--2147483642 hrs (avg)
26	10 metre U wind component	m s <sup>-1</sup> (instant)	regular_II	heightAboveGround	level 10 m	fcst time 0 hrs
27	10 metre V wind component	m s <sup>-1</sup> (instant)	regular_II	heightAboveGround	level 10 m	fcst time 0 hrs
28	194	194 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
29	194	194 (avg)	regular_II	heightAboveGround	level 20 m	fcst time -2147483645--2147483642 hrs (avg)
30	195	195 (avg)	regular_II	heightAboveGround	level 20 m	fcst time -2147483645--2147483642 hrs (avg)
31	192	192 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
32	196	196 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
33	195	195 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
34	192	192 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
35	193	193 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 104

						(avg)
36	194	194 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
37	Latent heat net flux	W m**2 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
38	197	197 (avg)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (avg)
39	Temperature	K (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
40	Minimum temperature	K (min)	regular_II	heightAboveGround	level 1.5 m	fcst time -2147483645--2147483642 hrs (min)
41	Maximum temperature	K (max)	regular_II	heightAboveGround	level 1.5 m	fcst time -2147483645--2147483642 hrs (max)
42	Specific humidity	kg kg**-1 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
43	196	196 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
44	Relative humidity	% (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
45	Visibility	m (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
46	193	193 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
47	Dew point temperature	K (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
48	194	194 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
49	198	198 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
50	193	193 (instant)	regular_II	heightAboveGround	level 1.5 m	fcst time 0 hrs
51	199	199 (instant)	regular_II	surface	level 1	fcst time 0 hrs
52	193	193 (instant)	regular_II	surface	level 0	fcst time 0 hrs
53	194	194 (instant)	regular_II	surface	level 0	fcst time 0 hrs
54	Maximum wind speed	m s**-1 (max)	regular_II	heightAboveGround	level 0 m	fcst time -2147483645--2147483642 hrs (max)
55	Frictional velocity	m s**-1 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
56	Convective precipitation (water)	kg m**-2 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
57	Convective snow	kg m**-2 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 105

58	Convective precipitation rate	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_ll	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
59	Convective snowfall rate	m s <sup>-1</sup> (avg)	regular_ll	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
60	200	200 (instant)	regular_ll	unknown	level 0 242	fcst time 0 hrs
61	201	201 (instant)	regular_ll	unknown	level 0 243	fcst time 0 hrs
62	202	202 (instant)	regular_ll	unknown	level 0 199	fcst time 0 hrs
63	203	203 (instant)	regular_ll	unknown	level 0 198	fcst time 0 hrs
64	Mean total precipitation flux	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_ll	surface	level 0	fcst time -2147483647--2147483646 hrs (avg)
65	Convective available potential energy	J kg <sup>-1</sup> (max)	regular_ll	entireAtmosphere	level 0	fcst time -2147483645--2147483642 hrs (max)
66	204	204 (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
67	205	205 (instant)	regular_ll	unknown	level 0 242	fcst time 0 hrs
68	206	206 (instant)	regular_ll	unknown	level 0 243	fcst time 0 hrs
69	207	207 (instant)	regular_ll	unknown	level 0 199	fcst time 0 hrs
70	208	208 (instant)	regular_ll	unknown	level 0 198	fcst time 0 hrs
71	Total precipitation	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
72	195	195 (max)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (max)
73	196	196 (max)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (max)
74	Convective cloud cover	% (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
75	Snow melt	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
76	200	200 (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
77	201	201 (accum)	regular_ll	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
78	Soil moisture content	kg m <sup>-2</sup> (instant)	regular_ll	surface	level 0	fcst time 0 hrs
79	202	202 (instant)	regular_ll	unknown	level 0 197	fcst time 0 hrs
80	203	203 (instant)	regular_ll	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 106

81	203	203 (instant)	regular_II	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
82	203	203 (instant)	regular_II	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
83	203	203 (instant)	regular_II	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs
84	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0-0.1 m	fcst time 0 hrs
85	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0.1-0.35 m	fcst time 0 hrs
86	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0.35-1 m	fcst time 0 hrs
87	Soil Temperature	K (instant)	regular_II	depthBelowLandLayer	levels 1-3 m	fcst time 0 hrs
88	Low cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
89	Medium cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
90	High cloud cover	% (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
91	210	210 (instant)	regular_II	unknown	level 0 196	fcst time 0 hrs
92	211	211 (instant)	regular_II	unknown	level 0 196	fcst time 0 hrs
93	212	212 (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
94	213	213 (instant)	regular_II	unknown	level 0 200	fcst time 0 hrs
95	216	216 (instant)	regular_II	isothermZero	level 0	fcst time 0 hrs
96	217	217 (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
97	197	197 (instant)	regular_II	heightAboveGround	level 50 m	fcst time 0 hrs
98	198	198 (instant)	regular_II	heightAboveGround	level 50 m	fcst time 0 hrs
99	Pressure reduced to MSL	Pa (instant)	regular_II	meanSea	level 0	fcst time 0 hrs
100	197	197 (accum)	regular_II	surface	level 0	fcst time -2147483645--2147483642 hrs (accum)
101	Temperature	K (instant)	regular_II	surface	level 0	fcst time 0 hrs
102	Planetary boundary layer height	m (instant)	regular_II	unknown	level 0 220	fcst time 0 hrs
103	Surface roughness	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
104	Land-sea mask	(0 - 1) (instant)	regular_II	surface	level 0	fcst time 0 hrs
105	192	192 (instant)	regular_II	surface	level 0	fcst time 0 hrs
106	Geometrical height	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
107	Surface pressure	Pa (instant)	regular_II	surface	level 0	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 107

## 5.3. GDAPS\_KIM

이 절에서는 GDAPS KIM 데이터의 band 별 정보를 설명한다.

### 5.3.1. kim\_g120\_ne36\_pres

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
2	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
3	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
4	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
5	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
6	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
7	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
8	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
9	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
10	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
11	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
12	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
13	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
14	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
15	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
16	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
17	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 30 hPa	fcst time 0 hrs
18	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 20 hPa	fcst time 0 hrs
19	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 15 hPa	fcst time 0 hrs
20	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 10 hPa	fcst time 0 hrs
21	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 7 hPa	fcst time 0 hrs
22	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 5 hPa	fcst time 0 hrs
23	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 3 hPa	fcst time 0 hrs
24	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 2 hPa	fcst time 0 hrs
25	Geometric vertical velocity	m s <sup>-1</sup> (instant)	lambert	isobaricInhPa	level 1 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 108

26	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
27	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 950 hPa	fcst time 0 hrs
28	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 925 hPa	fcst time 0 hrs
29	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 875 hPa	fcst time 0 hrs
30	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 850 hPa	fcst time 0 hrs
31	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 700 hPa	fcst time 0 hrs
32	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 600 hPa	fcst time 0 hrs
33	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 500 hPa	fcst time 0 hrs
34	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 400 hPa	fcst time 0 hrs
35	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 300 hPa	fcst time 0 hrs
36	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 250 hPa	fcst time 0 hrs
37	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 200 hPa	fcst time 0 hrs
38	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 150 hPa	fcst time 0 hrs
39	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 100 hPa	fcst time 0 hrs
40	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 70 hPa	fcst time 0 hrs
41	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 50 hPa	fcst time 0 hrs
42	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 30 hPa	fcst time 0 hrs
43	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 20 hPa	fcst time 0 hrs
44	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 15 hPa	fcst time 0 hrs
45	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 10 hPa	fcst time 0 hrs
46	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 7 hPa	fcst time 0 hrs
47	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 5 hPa	fcst time 0 hrs
48	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 3 hPa	fcst time 0 hrs
49	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 2 hPa	fcst time 0 hrs
50	Geopotential Height	gpm (instant)	lambert	isobariclnhPa	level 1 hPa	fcst time 0 hrs
51	Relative humidity	% (instant)	lambert	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
52	Relative humidity	% (instant)	lambert	isobariclnhPa	level 950 hPa	fcst time 0 hrs
53	Relative humidity	% (instant)	lambert	isobariclnhPa	level 925 hPa	fcst time 0 hrs
54	Relative humidity	% (instant)	lambert	isobariclnhPa	level 875 hPa	fcst time 0 hrs
55	Relative humidity	% (instant)	lambert	isobariclnhPa	level 850 hPa	fcst time 0 hrs
56	Relative humidity	% (instant)	lambert	isobariclnhPa	level 700 hPa	fcst time 0 hrs
57	Relative humidity	% (instant)	lambert	isobariclnhPa	level 600 hPa	fcst time 0 hrs
58	Relative humidity	% (instant)	lambert	isobariclnhPa	level 500 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 109

59	Relative humidity	% (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
60	Relative humidity	% (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
61	Relative humidity	% (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
62	Relative humidity	% (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
63	Relative humidity	% (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
64	Relative humidity	% (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
65	Relative humidity	% (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
66	Relative humidity	% (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
67	Relative humidity	% (instant)	lambert	isobaricInhPa	level 30 hPa	fcst time 0 hrs
68	Relative humidity	% (instant)	lambert	isobaricInhPa	level 20 hPa	fcst time 0 hrs
69	Relative humidity	% (instant)	lambert	isobaricInhPa	level 15 hPa	fcst time 0 hrs
70	Relative humidity	% (instant)	lambert	isobaricInhPa	level 10 hPa	fcst time 0 hrs
71	Relative humidity	% (instant)	lambert	isobaricInhPa	level 7 hPa	fcst time 0 hrs
72	Relative humidity	% (instant)	lambert	isobaricInhPa	level 5 hPa	fcst time 0 hrs
73	Relative humidity	% (instant)	lambert	isobaricInhPa	level 3 hPa	fcst time 0 hrs
74	Relative humidity	% (instant)	lambert	isobaricInhPa	level 2 hPa	fcst time 0 hrs
75	Relative humidity	% (instant)	lambert	isobaricInhPa	level 1 hPa	fcst time 0 hrs
76	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
77	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
78	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
79	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
80	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
81	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
82	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
83	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
84	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
85	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
86	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
87	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
88	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
89	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
90	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
91	Relative humidity with respect to water	% (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 110

92	Relative humidity with respect to water	% (instant)	lambert	isobariclnhPa	level 30 hPa	fcst time 0 hrs
93	Relative humidity with respect to water	% (instant)	lambert	isobariclnhPa	level 20 hPa	fcst time 0 hrs
94	Relative humidity with respect to water	% (instant)	lambert	isobariclnhPa	level 15 hPa	fcst time 0 hrs
95	Relative humidity with respect to water	% (instant)	lambert	isobariclnhPa	level 10 hPa	fcst time 0 hrs
96	Relative humidity with respect to water	% (instant)	lambert	isobariclnhPa	level 7 hPa	fcst time 0 hrs
97	Relative humidity with respect to water	% (instant)	lambert	isobariclnhPa	level 5 hPa	fcst time 0 hrs
98	Relative humidity with respect to water	% (instant)	lambert	isobariclnhPa	level 3 hPa	fcst time 0 hrs
99	Relative humidity with respect to water	% (instant)	lambert	isobariclnhPa	level 2 hPa	fcst time 0 hrs
100	Relative humidity with respect to water	% (instant)	lambert	isobariclnhPa	level 1 hPa	fcst time 0 hrs
101	Temperature	K (instant)	lambert	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
102	Temperature	K (instant)	lambert	isobariclnhPa	level 950 hPa	fcst time 0 hrs
103	Temperature	K (instant)	lambert	isobariclnhPa	level 925 hPa	fcst time 0 hrs
104	Temperature	K (instant)	lambert	isobariclnhPa	level 875 hPa	fcst time 0 hrs
105	Temperature	K (instant)	lambert	isobariclnhPa	level 850 hPa	fcst time 0 hrs
106	Temperature	K (instant)	lambert	isobariclnhPa	level 700 hPa	fcst time 0 hrs
107	Temperature	K (instant)	lambert	isobariclnhPa	level 600 hPa	fcst time 0 hrs
108	Temperature	K (instant)	lambert	isobariclnhPa	level 500 hPa	fcst time 0 hrs
109	Temperature	K (instant)	lambert	isobariclnhPa	level 400 hPa	fcst time 0 hrs
110	Temperature	K (instant)	lambert	isobariclnhPa	level 300 hPa	fcst time 0 hrs
111	Temperature	K (instant)	lambert	isobariclnhPa	level 250 hPa	fcst time 0 hrs
112	Temperature	K (instant)	lambert	isobariclnhPa	level 200 hPa	fcst time 0 hrs
113	Temperature	K (instant)	lambert	isobariclnhPa	level 150 hPa	fcst time 0 hrs
114	Temperature	K (instant)	lambert	isobariclnhPa	level 100 hPa	fcst time 0 hrs
115	Temperature	K (instant)	lambert	isobariclnhPa	level 70 hPa	fcst time 0 hrs
116	Temperature	K (instant)	lambert	isobariclnhPa	level 50 hPa	fcst time 0 hrs
117	Temperature	K (instant)	lambert	isobariclnhPa	level 30 hPa	fcst time 0 hrs
118	Temperature	K (instant)	lambert	isobariclnhPa	level 20 hPa	fcst time 0 hrs
119	Temperature	K (instant)	lambert	isobariclnhPa	level 15 hPa	fcst time 0 hrs
120	Temperature	K (instant)	lambert	isobariclnhPa	level 10 hPa	fcst time 0 hrs
121	Temperature	K (instant)	lambert	isobariclnhPa	level 7 hPa	fcst time 0 hrs
122	Temperature	K (instant)	lambert	isobariclnhPa	level 5 hPa	fcst time 0 hrs
123	Temperature	K (instant)	lambert	isobariclnhPa	level 3 hPa	fcst time 0 hrs
124	Temperature	K (instant)	lambert	isobariclnhPa	level 2 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 111

125	Temperature	K (instant)	lambert	isobaricInhPa	level 1 hPa	fcst time 0 hrs
126	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
127	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
128	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
129	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
130	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
131	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
132	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs
133	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 500 hPa	fcst time 0 hrs
134	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 400 hPa	fcst time 0 hrs
135	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 300 hPa	fcst time 0 hrs
136	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 250 hPa	fcst time 0 hrs
137	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 200 hPa	fcst time 0 hrs
138	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 150 hPa	fcst time 0 hrs
139	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 100 hPa	fcst time 0 hrs
140	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 70 hPa	fcst time 0 hrs
141	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
142	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 30 hPa	fcst time 0 hrs
143	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 20 hPa	fcst time 0 hrs
144	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 15 hPa	fcst time 0 hrs
145	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 10 hPa	fcst time 0 hrs
146	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 7 hPa	fcst time 0 hrs
147	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 5 hPa	fcst time 0 hrs
148	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 3 hPa	fcst time 0 hrs
149	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 2 hPa	fcst time 0 hrs
150	U component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 1 hPa	fcst time 0 hrs
151	V component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
152	V component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 950 hPa	fcst time 0 hrs
153	V component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 925 hPa	fcst time 0 hrs
154	V component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 875 hPa	fcst time 0 hrs
155	V component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 850 hPa	fcst time 0 hrs
156	V component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 700 hPa	fcst time 0 hrs
157	V component of wind	m s <sup>**</sup> -1 (instant)	lambert	isobaricInhPa	level 600 hPa	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 112

158	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 500 hPa	fcst time 0 hrs
159	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 400 hPa	fcst time 0 hrs
160	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 300 hPa	fcst time 0 hrs
161	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 250 hPa	fcst time 0 hrs
162	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 200 hPa	fcst time 0 hrs
163	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 150 hPa	fcst time 0 hrs
164	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 100 hPa	fcst time 0 hrs
165	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 70 hPa	fcst time 0 hrs
166	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 50 hPa	fcst time 0 hrs
167	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 30 hPa	fcst time 0 hrs
168	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 20 hPa	fcst time 0 hrs
169	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 15 hPa	fcst time 0 hrs
170	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 10 hPa	fcst time 0 hrs
171	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 7 hPa	fcst time 0 hrs
172	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 5 hPa	fcst time 0 hrs
173	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 3 hPa	fcst time 0 hrs
174	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 2 hPa	fcst time 0 hrs
175	V component of wind	m s**-1 (instant)	lambert	isobariclnhPa	level 1 hPa	fcst time 0 hrs
176	200	200 (instant)	lambert	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
177	200	200 (instant)	lambert	isobariclnhPa	level 950 hPa	fcst time 0 hrs
178	200	200 (instant)	lambert	isobariclnhPa	level 925 hPa	fcst time 0 hrs
179	200	200 (instant)	lambert	isobariclnhPa	level 875 hPa	fcst time 0 hrs
180	200	200 (instant)	lambert	isobariclnhPa	level 850 hPa	fcst time 0 hrs
181	200	200 (instant)	lambert	isobariclnhPa	level 700 hPa	fcst time 0 hrs
182	200	200 (instant)	lambert	isobariclnhPa	level 600 hPa	fcst time 0 hrs
183	200	200 (instant)	lambert	isobariclnhPa	level 500 hPa	fcst time 0 hrs
184	200	200 (instant)	lambert	isobariclnhPa	level 400 hPa	fcst time 0 hrs
185	200	200 (instant)	lambert	isobariclnhPa	level 300 hPa	fcst time 0 hrs
186	200	200 (instant)	lambert	isobariclnhPa	level 250 hPa	fcst time 0 hrs
187	200	200 (instant)	lambert	isobariclnhPa	level 200 hPa	fcst time 0 hrs
188	200	200 (instant)	lambert	isobariclnhPa	level 150 hPa	fcst time 0 hrs
189	200	200 (instant)	lambert	isobariclnhPa	level 100 hPa	fcst time 0 hrs
190	200	200 (instant)	lambert	isobariclnhPa	level 70 hPa	fcst time 0 hrs

AI 기반 예보지원 솔루션 개발  
AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 113

191	200	200 (instant)	lambert	isobaricInhPa	level 50 hPa	fcst time 0 hrs
192	200	200 (instant)	lambert	isobaricInhPa	level 30 hPa	fcst time 0 hrs
193	200	200 (instant)	lambert	isobaricInhPa	level 20 hPa	fcst time 0 hrs
194	200	200 (instant)	lambert	isobaricInhPa	level 15 hPa	fcst time 0 hrs
195	200	200 (instant)	lambert	isobaricInhPa	level 10 hPa	fcst time 0 hrs
196	200	200 (instant)	lambert	isobaricInhPa	level 7 hPa	fcst time 0 hrs
197	200	200 (instant)	lambert	isobaricInhPa	level 5 hPa	fcst time 0 hrs
198	200	200 (instant)	lambert	isobaricInhPa	level 3 hPa	fcst time 0 hrs
199	200	200 (instant)	lambert	isobaricInhPa	level 2 hPa	fcst time 0 hrs
200	200	200 (instant)	lambert	isobaricInhPa	level 1 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 114

## 5.3.2. kim\_g120\_ne36\_unis

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Land-sea mask	(0 - 1) (instant)	lambert	surface	level 0	fcst time 0 hrs
2	Sea ice area fraction	(0 - 1) (instant)	lambert	surface	level 0	fcst time 0 hrs
3	Orography	m (instant)	lambert	surface	level 0	fcst time 0 hrs
4	Surface pressure	Pa (instant)	lambert	surface	level 0	fcst time 0 hrs
5	Pressure reduced to MSL	Pa (instant)	lambert	meanSea	level 0	fcst time 0 hrs
6	Sea surface temperature	K (instant)	lambert	surface	level 0	fcst time 0 hrs
7	Temperature	K (instant)	lambert	surface	level 0	fcst time 0 hrs
8	10 metre U wind component	m s <sup>-1</sup> (instant)	lambert	heightAboveGround	level 10 m	fcst time 0 hrs
9	10 metre V wind component	m s <sup>-1</sup> (instant)	lambert	heightAboveGround	level 10 m	fcst time 0 hrs
10	10 metre wind gust in the last 3 hours	m s <sup>-1</sup> (max)	lambert	heightAboveGround	level 10 m	fcst time -3-0 hrs (max)
11	2 metre temperature	K (instant)	lambert	heightAboveGround	level 2 m	fcst time 0 hrs
12	2 metre relative humidity	% (instant)	lambert	heightAboveGround	level 2 m	fcst time 0 hrs
13	2 metre relative humidity with respect to water	% (instant)	lambert	heightAboveGround	level 2 m	fcst time 0 hrs
14	Humidity mixing ratio	kg kg <sup>-1</sup> (instant)	lambert	heightAboveGround	level 2 m	fcst time 0 hrs
15	Specific humidity	kg kg <sup>-1</sup> (instant)	lambert	heightAboveGround	level 2 m	fcst time 0 hrs
16	2 metre dewpoint temperature	K (instant)	lambert	heightAboveGround	level 2 m	fcst time 0 hrs
17	Mean total precipitation flux	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	lambert	surface	level 0	fcst time -3-0 hrs (avg)
18	Large scale precipitation (non-convective)	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time -3-0 hrs (accum)
19	Convective precipitation (water)	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time -3-0 hrs (accum)
20	Total precipitation	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time 0 hrs (accum)
21	Large scale water precipitation (non-convective)	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time 0 hrs (accum)
22	Convective water precipitation	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time 0 hrs (accum)
23	Large scale snow	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time 0 hrs (accum)
24	Convective snow	kg m <sup>-2</sup> (accum)	lambert	surface	level 0	fcst time 0 hrs (accum)
25	Low cloud cover	% (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
26	Medium cloud cover	% (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
27	High cloud cover	% (instant)	lambert	unknown	level 0 200	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 115

28	Total Cloud Cover	% (instant)	lambert	entireAtmosphere	level 0	fcst time 0 hrs
29	Planetary boundary layer height	m (instant)	lambert	unknown	level 0 220	fcst time 0 hrs
30	Frictional velocity	m s <sup>-1</sup> (instant)	lambert	heightAboveGround	level 0 m	fcst time 0 hrs
31	Snow depth	m (instant)	lambert	surface	level 0	fcst time 0 hrs
32	Snow density	kg m <sup>-3</sup> (instant)	lambert	surface	level 0	fcst time 0 hrs
33	Surface roughness	m (instant)	lambert	surface	level 0	fcst time 0 hrs
34	19	19 (instant)	lambert	depthBelowLandLayer	levels 0.0-0.1 m	fcst time 0 hrs
35	19	19 (instant)	lambert	depthBelowLandLayer	levels 0.1-0.4 m	fcst time 0 hrs
36	19	19 (instant)	lambert	depthBelowLandLayer	levels 0.4-1 m	fcst time 0 hrs
37	19	19 (instant)	lambert	depthBelowLandLayer	levels 1-2 m	fcst time 0 hrs
38	Soil temperature	K (instant)	lambert	depthBelowLandLayer	levels 0.0-0.1 m	fcst time 0 hrs
39	Soil temperature	K (instant)	lambert	depthBelowLandLayer	levels 0.1-0.4 m	fcst time 0 hrs
40	Soil temperature	K (instant)	lambert	depthBelowLandLayer	levels 0.4-1 m	fcst time 0 hrs
41	Soil temperature	K (instant)	lambert	depthBelowLandLayer	levels 1-2 m	fcst time 0 hrs
42	Sensible heat net flux	W m <sup>-2</sup> (avg)	lambert	surface	level 0	fcst time -3-0 hrs (avg)
43	Latent heat net flux	W m <sup>-2</sup> (avg)	lambert	surface	level 0	fcst time -3-0 hrs (avg)
44	Net short wave radiation flux	W m <sup>-2</sup> (avg)	lambert	surface	level 0	fcst time -3-0 hrs (avg)
45	Net long wave radiation flux	W m <sup>-2</sup> (avg)	lambert	surface	level 0	fcst time -3-0 hrs (avg)
46	Downward long-wave radiation flux	W m <sup>-2</sup> (avg)	lambert	surface	level 0	fcst time -3-0 hrs (avg)
47	Downward short-wave radiation flux	W m <sup>-2</sup> (avg)	lambert	surface	level 0	fcst time -3-0 hrs (avg)
48	Upward long-wave radiation flux	W m <sup>-2</sup> (avg)	lambert	nominalTop	level 0	fcst time -3-0 hrs (avg)
49	Downward short-wave radiation flux	W m <sup>-2</sup> (avg)	lambert	nominalTop	level 0	fcst time -3-0 hrs (avg)
50	Water equivalent of accumulated snow depth	kg m <sup>-2</sup> (instant)	lambert	surface	level 0	fcst time 0 hrs
51	Geometrical height	m (instant)	lambert	unknown	level 0 245	fcst time 0 hrs
52	Planetary boundary layer regime	code table (4.209) (instant)	lambert	unknown	level 0 220	fcst time 0 hrs
53	Pressure	Pa (instant)	lambert	unknown	level 0 242	fcst time 0 hrs
54	Pressure	Pa (instant)	lambert	unknown	level 0 243	fcst time 0 hrs
55	32	32 (instant)	lambert	isothermZero	level 0	fcst time 0 hrs

AI 기반 예보지원 솔루션 개발  
AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 116

56	Eastward turbulent surface stress	N m**2 s (avg)	lambert	surface	level 0	fcst time -3-0 hrs (avg)
57	Northward turbulent surface stress	N m**2 s (avg)	lambert	surface	level 0	fcst time -3-0 hrs (avg)
58	Convective cloud cover	% (instant)	lambert	unknown	level 0 200	fcst time 0 hrs
59	Maximum temperature	K (max)	lambert	heightAboveGround	level 2 m	fcst time -3-0 hrs (max)
60	Minimum temperature	K (min)	lambert	heightAboveGround	level 2 m	fcst time -3-0 hrs (min)

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 117

## 5.3.3. kim\_g128\_hkor\_pres

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
2	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 975 hPa	fcst time 0 hrs
3	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 950 hPa	fcst time 0 hrs
4	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 925 hPa	fcst time 0 hrs
5	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 900 hPa	fcst time 0 hrs
6	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 875 hPa	fcst time 0 hrs
7	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 850 hPa	fcst time 0 hrs
8	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 800 hPa	fcst time 0 hrs
9	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 750 hPa	fcst time 0 hrs
10	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 700 hPa	fcst time 0 hrs
11	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 650 hPa	fcst time 0 hrs
12	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 600 hPa	fcst time 0 hrs
13	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 550 hPa	fcst time 0 hrs
14	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 500 hPa	fcst time 0 hrs
15	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 450 hPa	fcst time 0 hrs
16	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 400 hPa	fcst time 0 hrs
17	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 350 hPa	fcst time 0 hrs
18	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 300 hPa	fcst time 0 hrs
19	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 250 hPa	fcst time 0 hrs
20	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 200 hPa	fcst time 0 hrs
21	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 150 hPa	fcst time 0 hrs
22	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 100 hPa	fcst time 0 hrs
23	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 70 hPa	fcst time 0 hrs
24	U component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 50 hPa	fcst time 0 hrs
25	V component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
26	V component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 975 hPa	fcst time 0 hrs
27	V component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 950 hPa	fcst time 0 hrs
28	V component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 925 hPa	fcst time 0 hrs
29	V component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 900 hPa	fcst time 0 hrs
30	V component of wind	m s**-1 (instant)	regular_ll	isobaricInhPa	level 875 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 118

31	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
32	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 800 hPa	fcst time 0 hrs
33	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 750 hPa	fcst time 0 hrs
34	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
35	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 650 hPa	fcst time 0 hrs
36	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
37	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 550 hPa	fcst time 0 hrs
38	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
39	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 450 hPa	fcst time 0 hrs
40	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
41	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 350 hPa	fcst time 0 hrs
42	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
43	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
44	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
45	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
46	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
47	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
48	V component of wind	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
49	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
50	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 975 hPa	fcst time 0 hrs
51	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
52	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
53	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 900 hPa	fcst time 0 hrs
54	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
55	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
56	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 800 hPa	fcst time 0 hrs
57	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 750 hPa	fcst time 0 hrs
58	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
59	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 650 hPa	fcst time 0 hrs
60	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
61	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 550 hPa	fcst time 0 hrs
62	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
63	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 450 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 119

64	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
65	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 350 hPa	fcst time 0 hrs
66	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
67	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
68	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
69	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
70	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
71	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
72	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
73	Temperature	K (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
74	Temperature	K (instant)	regular_ll	isobariclnhPa	level 975 hPa	fcst time 0 hrs
75	Temperature	K (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
76	Temperature	K (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
77	Temperature	K (instant)	regular_ll	isobariclnhPa	level 900 hPa	fcst time 0 hrs
78	Temperature	K (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
79	Temperature	K (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
80	Temperature	K (instant)	regular_ll	isobariclnhPa	level 800 hPa	fcst time 0 hrs
81	Temperature	K (instant)	regular_ll	isobariclnhPa	level 750 hPa	fcst time 0 hrs
82	Temperature	K (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
83	Temperature	K (instant)	regular_ll	isobariclnhPa	level 650 hPa	fcst time 0 hrs
84	Temperature	K (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
85	Temperature	K (instant)	regular_ll	isobariclnhPa	level 550 hPa	fcst time 0 hrs
86	Temperature	K (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
87	Temperature	K (instant)	regular_ll	isobariclnhPa	level 450 hPa	fcst time 0 hrs
88	Temperature	K (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
89	Temperature	K (instant)	regular_ll	isobariclnhPa	level 350 hPa	fcst time 0 hrs
90	Temperature	K (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
91	Temperature	K (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
92	Temperature	K (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
93	Temperature	K (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
94	Temperature	K (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
95	Temperature	K (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
96	Temperature	K (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 120

97	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
98	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 975 hPa	fcst time 0 hrs
99	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
100	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
101	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 900 hPa	fcst time 0 hrs
102	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
103	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
104	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 800 hPa	fcst time 0 hrs
105	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 750 hPa	fcst time 0 hrs
106	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
107	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 650 hPa	fcst time 0 hrs
108	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
109	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 550 hPa	fcst time 0 hrs
110	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
111	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 450 hPa	fcst time 0 hrs
112	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
113	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 350 hPa	fcst time 0 hrs
114	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
115	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
116	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
117	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
118	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
119	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
120	Pressure	Pa (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
121	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
122	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 975 hPa	fcst time 0 hrs
123	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
124	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
125	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 900 hPa	fcst time 0 hrs
126	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
127	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
128	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 800 hPa	fcst time 0 hrs
129	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 750 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 121

130	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
131	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 650 hPa	fcst time 0 hrs
132	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
133	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 550 hPa	fcst time 0 hrs
134	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
135	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 450 hPa	fcst time 0 hrs
136	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
137	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 350 hPa	fcst time 0 hrs
138	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
139	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
140	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
141	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
142	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
143	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
144	Potential temperature	K (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
145	26	26 (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
146	26	26 (instant)	regular_ll	isobariclnhPa	level 975 hPa	fcst time 0 hrs
147	26	26 (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
148	26	26 (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
149	26	26 (instant)	regular_ll	isobariclnhPa	level 900 hPa	fcst time 0 hrs
150	26	26 (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
151	26	26 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
152	26	26 (instant)	regular_ll	isobariclnhPa	level 800 hPa	fcst time 0 hrs
153	26	26 (instant)	regular_ll	isobariclnhPa	level 750 hPa	fcst time 0 hrs
154	26	26 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
155	26	26 (instant)	regular_ll	isobariclnhPa	level 650 hPa	fcst time 0 hrs
156	26	26 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
157	26	26 (instant)	regular_ll	isobariclnhPa	level 550 hPa	fcst time 0 hrs
158	26	26 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
159	26	26 (instant)	regular_ll	isobariclnhPa	level 450 hPa	fcst time 0 hrs
160	26	26 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
161	26	26 (instant)	regular_ll	isobariclnhPa	level 350 hPa	fcst time 0 hrs
162	26	26 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 122

163	26	26 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
164	26	26 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
165	26	26 (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
166	26	26 (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
167	26	26 (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
168	26	26 (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
169	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
170	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 975 hPa	fcst time 0 hrs
171	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
172	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
173	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 900 hPa	fcst time 0 hrs
174	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
175	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
176	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 800 hPa	fcst time 0 hrs
177	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 750 hPa	fcst time 0 hrs
178	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
179	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 650 hPa	fcst time 0 hrs
180	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
181	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 550 hPa	fcst time 0 hrs
182	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
183	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 450 hPa	fcst time 0 hrs
184	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
185	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 350 hPa	fcst time 0 hrs
186	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
187	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
188	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
189	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
190	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
191	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
192	Density	kg m**-3 (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
193	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
194	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 975 hPa	fcst time 0 hrs
195	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 123

196	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
197	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 900 hPa	fcst time 0 hrs
198	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
199	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
200	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 800 hPa	fcst time 0 hrs
201	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 750 hPa	fcst time 0 hrs
202	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
203	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 650 hPa	fcst time 0 hrs
204	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
205	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 550 hPa	fcst time 0 hrs
206	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
207	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 450 hPa	fcst time 0 hrs
208	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
209	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 350 hPa	fcst time 0 hrs
210	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
211	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
212	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
213	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
214	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
215	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
216	Relative humidity	% (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
217	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
218	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 975 hPa	fcst time 0 hrs
219	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
220	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
221	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 900 hPa	fcst time 0 hrs
222	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
223	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
224	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 800 hPa	fcst time 0 hrs
225	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 750 hPa	fcst time 0 hrs
226	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
227	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 650 hPa	fcst time 0 hrs
228	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 124

229	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 550 hPa	fcst time 0 hrs
230	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
231	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 450 hPa	fcst time 0 hrs
232	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
233	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 350 hPa	fcst time 0 hrs
234	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
235	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
236	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
237	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
238	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
239	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
240	Relative humidity with respect to water	% (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
241	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
242	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 975 hPa	fcst time 0 hrs
243	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
244	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
245	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 900 hPa	fcst time 0 hrs
246	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
247	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
248	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 800 hPa	fcst time 0 hrs
249	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 750 hPa	fcst time 0 hrs
250	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
251	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 650 hPa	fcst time 0 hrs
252	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
253	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 550 hPa	fcst time 0 hrs
254	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
255	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 450 hPa	fcst time 0 hrs
256	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
257	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 350 hPa	fcst time 0 hrs
258	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
259	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
260	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
261	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 125

262	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
263	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
264	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
265	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
266	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 975 hPa	fcst time 0 hrs
267	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
268	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
269	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 900 hPa	fcst time 0 hrs
270	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
271	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
272	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 800 hPa	fcst time 0 hrs
273	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 750 hPa	fcst time 0 hrs
274	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
275	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 650 hPa	fcst time 0 hrs
276	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
277	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 550 hPa	fcst time 0 hrs
278	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
279	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 450 hPa	fcst time 0 hrs
280	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
281	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 350 hPa	fcst time 0 hrs
282	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
283	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
284	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
285	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
286	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
287	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
288	Specific humidity	kg kg**-1 (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
289	Orography	m (instant)	regular_ll	surface	level 0	fcst time 0 hrs
290	Surface pressure	Pa (instant)	regular_ll	surface	level 0	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 126

## 5.3.4. kim\_g128\_hkor\_unis

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Land-sea mask	(0 - 1) (instant)	regular_ll	surface	level 0	fcst time 0 hrs
2	Orography	m (instant)	regular_ll	surface	level 0	fcst time 0 hrs
3	Surface pressure	Pa (instant)	regular_ll	surface	level 0	fcst time 0 hrs
4	Pressure reduced to MSL	Pa (instant)	regular_ll	meanSea	level 0	fcst time 0 hrs
5	Temperature	K (instant)	regular_ll	surface	level 0	fcst time 0 hrs
6	10 metre U wind component	m s <sup>**</sup> -1 (instant)	regular_ll	heightAboveGround	level 10 m	fcst time 0 hrs
7	10 metre V wind component	m s <sup>**</sup> -1 (instant)	regular_ll	heightAboveGround	level 10 m	fcst time 0 hrs
8	U component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	heightAboveGround	level 80 m	fcst time 0 hrs
9	V component of wind	m s <sup>**</sup> -1 (instant)	regular_ll	heightAboveGround	level 80 m	fcst time 0 hrs
10	2 metre temperature	K (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
11	2 metre relative humidity	% (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
12	2 metre relative humidity with respect to water	% (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
13	Specific humidity	kg kg <sup>**</sup> -1 (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
14	Large scale water precipitation (non-convective)	kg m <sup>**</sup> -2 (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
15	Convective water precipitation	kg m <sup>**</sup> -2 (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
16	Large scale snow	kg m <sup>**</sup> -2 (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
17	Convective snow	kg m <sup>**</sup> -2 (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
18	Planetary boundary layer height	m (instant)	regular_ll	unknown	level 0 220	fcst time 0 hrs
19	19	19 (instant)	regular_ll	depthBelowLandLayer	levels 0.0-0.1 m	fcst time 0 hrs
20	19	19 (instant)	regular_ll	depthBelowLandLayer	levels 0.1-0.4 m	fcst time 0 hrs
21	19	19 (instant)	regular_ll	depthBelowLandLayer	levels 0.4-1 m	fcst time 0 hrs
22	19	19 (instant)	regular_ll	depthBelowLandLayer	levels 1-2 m	fcst time 0 hrs
23	Planetary boundary layer regime	code table (4.209) (instant)	regular_ll	unknown	level 0 220	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 127

## 5.3.5. kim\_g128\_ne36\_pres

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
2	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
3	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
4	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
5	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
6	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
7	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
8	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
9	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
10	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
11	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
12	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
13	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
14	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
15	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
16	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
17	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
18	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
19	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
20	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
21	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
22	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
23	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
24	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
25	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
26	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
27	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
28	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
29	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
30	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 128

31	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 700 hPa	fcst time 0 hrs
32	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 600 hPa	fcst time 0 hrs
33	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 500 hPa	fcst time 0 hrs
34	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 400 hPa	fcst time 0 hrs
35	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 300 hPa	fcst time 0 hrs
36	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 250 hPa	fcst time 0 hrs
37	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 200 hPa	fcst time 0 hrs
38	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 150 hPa	fcst time 0 hrs
39	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 100 hPa	fcst time 0 hrs
40	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 70 hPa	fcst time 0 hrs
41	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 50 hPa	fcst time 0 hrs
42	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 30 hPa	fcst time 0 hrs
43	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 20 hPa	fcst time 0 hrs
44	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 15 hPa	fcst time 0 hrs
45	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 10 hPa	fcst time 0 hrs
46	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 7 hPa	fcst time 0 hrs
47	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 5 hPa	fcst time 0 hrs
48	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 3 hPa	fcst time 0 hrs
49	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 2 hPa	fcst time 0 hrs
50	Geopotential Height	gpm (instant)	regular_II	isobariclnhPa	level 1 hPa	fcst time 0 hrs
51	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
52	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 950 hPa	fcst time 0 hrs
53	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 925 hPa	fcst time 0 hrs
54	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 875 hPa	fcst time 0 hrs
55	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 850 hPa	fcst time 0 hrs
56	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 700 hPa	fcst time 0 hrs
57	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 600 hPa	fcst time 0 hrs
58	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 500 hPa	fcst time 0 hrs
59	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 400 hPa	fcst time 0 hrs
60	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 300 hPa	fcst time 0 hrs
61	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 250 hPa	fcst time 0 hrs
62	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 200 hPa	fcst time 0 hrs
63	Relative humidity	% (instant)	regular_II	isobariclnhPa	level 150 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 129

64	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
65	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
66	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
67	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
68	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
69	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
70	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs
71	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 7 hPa	fcst time 0 hrs
72	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 5 hPa	fcst time 0 hrs
73	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 3 hPa	fcst time 0 hrs
74	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 2 hPa	fcst time 0 hrs
75	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 1 hPa	fcst time 0 hrs
76	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
77	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 950 hPa	fcst time 0 hrs
78	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 925 hPa	fcst time 0 hrs
79	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 875 hPa	fcst time 0 hrs
80	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 850 hPa	fcst time 0 hrs
81	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
82	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
83	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
84	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
85	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
86	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
87	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs
88	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs
89	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
90	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
91	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
92	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
93	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
94	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
95	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs
96	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 7 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 130

97	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 5 hPa	fcst time 0 hrs
98	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 3 hPa	fcst time 0 hrs
99	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 2 hPa	fcst time 0 hrs
100	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 1 hPa	fcst time 0 hrs
101	Temperature	K (instant)	regular_II	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
102	Temperature	K (instant)	regular_II	isobaricInhPa	level 950 hPa	fcst time 0 hrs
103	Temperature	K (instant)	regular_II	isobaricInhPa	level 925 hPa	fcst time 0 hrs
104	Temperature	K (instant)	regular_II	isobaricInhPa	level 875 hPa	fcst time 0 hrs
105	Temperature	K (instant)	regular_II	isobaricInhPa	level 850 hPa	fcst time 0 hrs
106	Temperature	K (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
107	Temperature	K (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
108	Temperature	K (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
109	Temperature	K (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
110	Temperature	K (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
111	Temperature	K (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
112	Temperature	K (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs
113	Temperature	K (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs
114	Temperature	K (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
115	Temperature	K (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
116	Temperature	K (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
117	Temperature	K (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
118	Temperature	K (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
119	Temperature	K (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
120	Temperature	K (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs
121	Temperature	K (instant)	regular_II	isobaricInhPa	level 7 hPa	fcst time 0 hrs
122	Temperature	K (instant)	regular_II	isobaricInhPa	level 5 hPa	fcst time 0 hrs
123	Temperature	K (instant)	regular_II	isobaricInhPa	level 3 hPa	fcst time 0 hrs
124	Temperature	K (instant)	regular_II	isobaricInhPa	level 2 hPa	fcst time 0 hrs
125	Temperature	K (instant)	regular_II	isobaricInhPa	level 1 hPa	fcst time 0 hrs
126	U component of wind	m s <sup>-1</sup> (instant)	regular_II	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
127	U component of wind	m s <sup>-1</sup> (instant)	regular_II	isobaricInhPa	level 950 hPa	fcst time 0 hrs
128	U component of wind	m s <sup>-1</sup> (instant)	regular_II	isobaricInhPa	level 925 hPa	fcst time 0 hrs
129	U component of wind	m s <sup>-1</sup> (instant)	regular_II	isobaricInhPa	level 875 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 131

130	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 850 hPa	fcst time 0 hrs
131	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
132	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
133	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
134	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
135	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
136	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
137	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs
138	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs
139	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
140	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
141	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
142	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
143	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
144	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
145	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs
146	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 7 hPa	fcst time 0 hrs
147	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 5 hPa	fcst time 0 hrs
148	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 3 hPa	fcst time 0 hrs
149	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 2 hPa	fcst time 0 hrs
150	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 1 hPa	fcst time 0 hrs
151	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
152	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 950 hPa	fcst time 0 hrs
153	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 925 hPa	fcst time 0 hrs
154	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 875 hPa	fcst time 0 hrs
155	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 850 hPa	fcst time 0 hrs
156	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
157	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
158	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
159	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
160	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
161	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
162	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 132

163	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs
164	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
165	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
166	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
167	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
168	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
169	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
170	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs
171	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 7 hPa	fcst time 0 hrs
172	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 5 hPa	fcst time 0 hrs
173	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 3 hPa	fcst time 0 hrs
174	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 2 hPa	fcst time 0 hrs
175	V component of wind	m s <sup>**</sup> -1 (instant)	regular_II	isobaricInhPa	level 1 hPa	fcst time 0 hrs
176	200	200 (instant)	regular_II	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
177	200	200 (instant)	regular_II	isobaricInhPa	level 950 hPa	fcst time 0 hrs
178	200	200 (instant)	regular_II	isobaricInhPa	level 925 hPa	fcst time 0 hrs
179	200	200 (instant)	regular_II	isobaricInhPa	level 875 hPa	fcst time 0 hrs
180	200	200 (instant)	regular_II	isobaricInhPa	level 850 hPa	fcst time 0 hrs
181	200	200 (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
182	200	200 (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
183	200	200 (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
184	200	200 (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
185	200	200 (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
186	200	200 (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
187	200	200 (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs
188	200	200 (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs
189	200	200 (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
190	200	200 (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
191	200	200 (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
192	200	200 (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
193	200	200 (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
194	200	200 (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
195	200	200 (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs

AI 기반 예보지원 솔루션 개발  
AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 133

196	200	200 (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
197	200	200 (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
198	200	200 (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
199	200	200 (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
200	200	200 (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 134

## 5.3.6. kim\_g128\_ne36\_unis

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Land-sea mask	(0 - 1) (instant)	regular_ll	surface	level 0	fcst time 0 hrs
2	Sea ice area fraction	(0 - 1) (instant)	regular_ll	surface	level 0	fcst time 0 hrs
3	Orography	m (instant)	regular_ll	surface	level 0	fcst time 0 hrs
4	Surface pressure	Pa (instant)	regular_ll	surface	level 0	fcst time 0 hrs
5	Pressure reduced to MSL	Pa (instant)	regular_ll	meanSea	level 0	fcst time 0 hrs
6	Sea surface temperature	K (instant)	regular_ll	surface	level 0	fcst time 0 hrs
7	Temperature	K (instant)	regular_ll	surface	level 0	fcst time 0 hrs
8	10 metre U wind component	m s <sup>-1</sup> (instant)	regular_ll	heightAboveGround	level 10 m	fcst time 0 hrs
9	10 metre V wind component	m s <sup>-1</sup> (instant)	regular_ll	heightAboveGround	level 10 m	fcst time 0 hrs
10	10 metre wind gust in the last 3 hours	m s <sup>-1</sup> (max)	regular_ll	heightAboveGround	level 10 m	fcst time -3-0 hrs (max)
11	2 metre temperature	K (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
12	2 metre relative humidity	% (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
13	2 metre relative humidity with respect to water	% (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
14	Humidity mixing ratio	kg kg <sup>-1</sup> (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
15	Specific humidity	kg kg <sup>-1</sup> (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
16	2 metre dewpoint temperature	K (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
17	Mean total precipitation flux	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
18	Large scale precipitation (non-convective)	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time -3-0 hrs (accum)
19	Convective precipitation (water)	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time -3-0 hrs (accum)
20	Total precipitation	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
21	Large scale water precipitation (non-convective)	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
22	Convective water precipitation	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
23	Large scale snow	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
24	Convective snow	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
25	Low cloud cover	% (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
26	Medium cloud cover	% (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
27	High cloud cover	% (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 135

28	Total Cloud Cover	% (instant)	regular_II	entireAtmosphere	level 0	fcst time 0 hrs
29	Planetary boundary layer height	m (instant)	regular_II	unknown	level 0 220	fcst time 0 hrs
30	Frictional velocity	m s <sup>-1</sup> (instant)	regular_II	heightAboveGround	level 0 m	fcst time 0 hrs
31	Snow depth	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
32	Snow density	kg m <sup>-3</sup> (instant)	regular_II	surface	level 0	fcst time 0 hrs
33	Surface roughness	m (instant)	regular_II	surface	level 0	fcst time 0 hrs
34	19	19 (instant)	regular_II	depthBelowLandLayer	levels 0.0-0.1 m	fcst time 0 hrs
35	19	19 (instant)	regular_II	depthBelowLandLayer	levels 0.1-0.4 m	fcst time 0 hrs
36	19	19 (instant)	regular_II	depthBelowLandLayer	levels 0.4-1 m	fcst time 0 hrs
37	19	19 (instant)	regular_II	depthBelowLandLayer	levels 1-2 m	fcst time 0 hrs
38	Soil temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0.0-0.1 m	fcst time 0 hrs
39	Soil temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0.1-0.4 m	fcst time 0 hrs
40	Soil temperature	K (instant)	regular_II	depthBelowLandLayer	levels 0.4-1 m	fcst time 0 hrs
41	Soil temperature	K (instant)	regular_II	depthBelowLandLayer	levels 1-2 m	fcst time 0 hrs
42	Sensible heat net flux	W m <sup>-2</sup> (avg)	regular_II	surface	level 0	fcst time -3-0 hrs (avg)
43	Latent heat net flux	W m <sup>-2</sup> (avg)	regular_II	surface	level 0	fcst time -3-0 hrs (avg)
44	Net short wave radiation flux	W m <sup>-2</sup> (avg)	regular_II	surface	level 0	fcst time -3-0 hrs (avg)
45	Net long wave radiation flux	W m <sup>-2</sup> (avg)	regular_II	surface	level 0	fcst time -3-0 hrs (avg)
46	Downward long-wave radiation flux	W m <sup>-2</sup> (avg)	regular_II	surface	level 0	fcst time -3-0 hrs (avg)
47	Downward short-wave radiation flux	W m <sup>-2</sup> (avg)	regular_II	surface	level 0	fcst time -3-0 hrs (avg)
48	Upward long-wave radiation flux	W m <sup>-2</sup> (avg)	regular_II	nominalTop	level 0	fcst time -3-0 hrs (avg)
49	Downward short-wave radiation flux	W m <sup>-2</sup> (avg)	regular_II	nominalTop	level 0	fcst time -3-0 hrs (avg)
50	Water equivalent of accumulated snow depth	kg m <sup>-2</sup> (instant)	regular_II	surface	level 0	fcst time 0 hrs
51	Geometrical height	m (instant)	regular_II	unknown	level 0 245	fcst time 0 hrs
52	Planetary boundary layer regime	code table (4.209) (instant)	regular_II	unknown	level 0 220	fcst time 0 hrs
53	Pressure	Pa (instant)	regular_II	unknown	level 0 242	fcst time 0 hrs
54	Pressure	Pa (instant)	regular_II	unknown	level 0 243	fcst time 0 hrs
55	32	32 (instant)	regular_II	isothermZero	level 0	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 136

56	Eastward turbulent surface stress	N m**2 s (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
57	Northward turbulent surface stress	N m**2 s (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
58	Convective cloud cover	% (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
59	Maximum temperature	K (max)	regular_ll	heightAboveGround	level 2 m	fcst time -3-0 hrs (max)
60	Minimum temperature	K (min)	regular_ll	heightAboveGround	level 2 m	fcst time -3-0 hrs (min)

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 137

## 5.3.7. kim\_g512\_ne36\_pres

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
2	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
3	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
4	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
5	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs
6	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 700 hPa	fcst time 0 hrs
7	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 600 hPa	fcst time 0 hrs
8	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 500 hPa	fcst time 0 hrs
9	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 400 hPa	fcst time 0 hrs
10	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 300 hPa	fcst time 0 hrs
11	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 250 hPa	fcst time 0 hrs
12	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 200 hPa	fcst time 0 hrs
13	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 150 hPa	fcst time 0 hrs
14	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 100 hPa	fcst time 0 hrs
15	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 70 hPa	fcst time 0 hrs
16	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 50 hPa	fcst time 0 hrs
17	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 30 hPa	fcst time 0 hrs
18	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 20 hPa	fcst time 0 hrs
19	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 15 hPa	fcst time 0 hrs
20	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 10 hPa	fcst time 0 hrs
21	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
22	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
23	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
24	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
25	Geometric vertical velocity	m s <sup>-1</sup> (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs
26	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 1000 hPa	fcst time 0 hrs
27	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 950 hPa	fcst time 0 hrs
28	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 925 hPa	fcst time 0 hrs
29	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 875 hPa	fcst time 0 hrs
30	Geopotential Height	gpm (instant)	regular_ll	isobariclnhPa	level 850 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 138

31	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
32	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
33	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
34	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
35	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
36	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
37	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs
38	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs
39	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
40	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
41	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
42	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
43	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
44	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
45	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs
46	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 7 hPa	fcst time 0 hrs
47	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 5 hPa	fcst time 0 hrs
48	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 3 hPa	fcst time 0 hrs
49	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 2 hPa	fcst time 0 hrs
50	Geopotential Height	gpm (instant)	regular_II	isobaricInhPa	level 1 hPa	fcst time 0 hrs
51	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
52	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 950 hPa	fcst time 0 hrs
53	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 925 hPa	fcst time 0 hrs
54	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 875 hPa	fcst time 0 hrs
55	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 850 hPa	fcst time 0 hrs
56	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
57	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
58	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
59	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
60	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
61	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
62	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs
63	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 139

64	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
65	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
66	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
67	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
68	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
69	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
70	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs
71	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 7 hPa	fcst time 0 hrs
72	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 5 hPa	fcst time 0 hrs
73	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 3 hPa	fcst time 0 hrs
74	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 2 hPa	fcst time 0 hrs
75	Relative humidity	% (instant)	regular_II	isobaricInhPa	level 1 hPa	fcst time 0 hrs
76	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
77	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 950 hPa	fcst time 0 hrs
78	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 925 hPa	fcst time 0 hrs
79	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 875 hPa	fcst time 0 hrs
80	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 850 hPa	fcst time 0 hrs
81	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
82	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
83	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
84	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
85	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
86	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
87	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs
88	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs
89	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
90	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
91	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
92	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
93	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
94	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
95	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs
96	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 7 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 140

97	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 5 hPa	fcst time 0 hrs
98	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 3 hPa	fcst time 0 hrs
99	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 2 hPa	fcst time 0 hrs
100	Relative humidity with respect to water	% (instant)	regular_II	isobaricInhPa	level 1 hPa	fcst time 0 hrs
101	Temperature	K (instant)	regular_II	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
102	Temperature	K (instant)	regular_II	isobaricInhPa	level 950 hPa	fcst time 0 hrs
103	Temperature	K (instant)	regular_II	isobaricInhPa	level 925 hPa	fcst time 0 hrs
104	Temperature	K (instant)	regular_II	isobaricInhPa	level 875 hPa	fcst time 0 hrs
105	Temperature	K (instant)	regular_II	isobaricInhPa	level 850 hPa	fcst time 0 hrs
106	Temperature	K (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
107	Temperature	K (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
108	Temperature	K (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
109	Temperature	K (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
110	Temperature	K (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
111	Temperature	K (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
112	Temperature	K (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs
113	Temperature	K (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs
114	Temperature	K (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
115	Temperature	K (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
116	Temperature	K (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
117	Temperature	K (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
118	Temperature	K (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
119	Temperature	K (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
120	Temperature	K (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs
121	Temperature	K (instant)	regular_II	isobaricInhPa	level 7 hPa	fcst time 0 hrs
122	Temperature	K (instant)	regular_II	isobaricInhPa	level 5 hPa	fcst time 0 hrs
123	Temperature	K (instant)	regular_II	isobaricInhPa	level 3 hPa	fcst time 0 hrs
124	Temperature	K (instant)	regular_II	isobaricInhPa	level 2 hPa	fcst time 0 hrs
125	Temperature	K (instant)	regular_II	isobaricInhPa	level 1 hPa	fcst time 0 hrs
126	U component of wind	m s <sup>-1</sup> (instant)	regular_II	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
127	U component of wind	m s <sup>-1</sup> (instant)	regular_II	isobaricInhPa	level 950 hPa	fcst time 0 hrs
128	U component of wind	m s <sup>-1</sup> (instant)	regular_II	isobaricInhPa	level 925 hPa	fcst time 0 hrs
129	U component of wind	m s <sup>-1</sup> (instant)	regular_II	isobaricInhPa	level 875 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 141

130	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 850 hPa	fcst time 0 hrs
131	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
132	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
133	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
134	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
135	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
136	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
137	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs
138	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs
139	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
140	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
141	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
142	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
143	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
144	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
145	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs
146	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 7 hPa	fcst time 0 hrs
147	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 5 hPa	fcst time 0 hrs
148	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 3 hPa	fcst time 0 hrs
149	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 2 hPa	fcst time 0 hrs
150	U component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 1 hPa	fcst time 0 hrs
151	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
152	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 950 hPa	fcst time 0 hrs
153	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 925 hPa	fcst time 0 hrs
154	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 875 hPa	fcst time 0 hrs
155	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 850 hPa	fcst time 0 hrs
156	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
157	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
158	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
159	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
160	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
161	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
162	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 142

163	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs
164	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
165	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
166	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
167	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
168	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
169	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
170	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs
171	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 7 hPa	fcst time 0 hrs
172	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 5 hPa	fcst time 0 hrs
173	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 3 hPa	fcst time 0 hrs
174	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 2 hPa	fcst time 0 hrs
175	V component of wind	m s**-1 (instant)	regular_II	isobaricInhPa	level 1 hPa	fcst time 0 hrs
176	200	200 (instant)	regular_II	isobaricInhPa	level 1000 hPa	fcst time 0 hrs
177	200	200 (instant)	regular_II	isobaricInhPa	level 950 hPa	fcst time 0 hrs
178	200	200 (instant)	regular_II	isobaricInhPa	level 925 hPa	fcst time 0 hrs
179	200	200 (instant)	regular_II	isobaricInhPa	level 875 hPa	fcst time 0 hrs
180	200	200 (instant)	regular_II	isobaricInhPa	level 850 hPa	fcst time 0 hrs
181	200	200 (instant)	regular_II	isobaricInhPa	level 700 hPa	fcst time 0 hrs
182	200	200 (instant)	regular_II	isobaricInhPa	level 600 hPa	fcst time 0 hrs
183	200	200 (instant)	regular_II	isobaricInhPa	level 500 hPa	fcst time 0 hrs
184	200	200 (instant)	regular_II	isobaricInhPa	level 400 hPa	fcst time 0 hrs
185	200	200 (instant)	regular_II	isobaricInhPa	level 300 hPa	fcst time 0 hrs
186	200	200 (instant)	regular_II	isobaricInhPa	level 250 hPa	fcst time 0 hrs
187	200	200 (instant)	regular_II	isobaricInhPa	level 200 hPa	fcst time 0 hrs
188	200	200 (instant)	regular_II	isobaricInhPa	level 150 hPa	fcst time 0 hrs
189	200	200 (instant)	regular_II	isobaricInhPa	level 100 hPa	fcst time 0 hrs
190	200	200 (instant)	regular_II	isobaricInhPa	level 70 hPa	fcst time 0 hrs
191	200	200 (instant)	regular_II	isobaricInhPa	level 50 hPa	fcst time 0 hrs
192	200	200 (instant)	regular_II	isobaricInhPa	level 30 hPa	fcst time 0 hrs
193	200	200 (instant)	regular_II	isobaricInhPa	level 20 hPa	fcst time 0 hrs
194	200	200 (instant)	regular_II	isobaricInhPa	level 15 hPa	fcst time 0 hrs
195	200	200 (instant)	regular_II	isobaricInhPa	level 10 hPa	fcst time 0 hrs

AI 기반 예보지원 솔루션 개발  
AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 143

196	200	200 (instant)	regular_ll	isobariclnhPa	level 7 hPa	fcst time 0 hrs
197	200	200 (instant)	regular_ll	isobariclnhPa	level 5 hPa	fcst time 0 hrs
198	200	200 (instant)	regular_ll	isobariclnhPa	level 3 hPa	fcst time 0 hrs
199	200	200 (instant)	regular_ll	isobariclnhPa	level 2 hPa	fcst time 0 hrs
200	200	200 (instant)	regular_ll	isobariclnhPa	level 1 hPa	fcst time 0 hrs



# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 144

## 5.3.8. kim\_g512\_ne36\_unis

	name	units	typeOfGrid	typeOfLevel	level	stemRange
1	Land-sea mask	(0 - 1) (instant)	regular_ll	surface	level 0	fcst time 0 hrs
2	Sea ice area fraction	(0 - 1) (instant)	regular_ll	surface	level 0	fcst time 0 hrs
3	Orography	m (instant)	regular_ll	surface	level 0	fcst time 0 hrs
4	Surface pressure	Pa (instant)	regular_ll	surface	level 0	fcst time 0 hrs
5	Pressure reduced to MSL	Pa (instant)	regular_ll	meanSea	level 0	fcst time 0 hrs
6	Sea surface temperature	K (instant)	regular_ll	surface	level 0	fcst time 0 hrs
7	Temperature	K (instant)	regular_ll	surface	level 0	fcst time 0 hrs
8	10 metre U wind component	m s <sup>-1</sup> (instant)	regular_ll	heightAboveGround	level 10 m	fcst time 0 hrs
9	10 metre V wind component	m s <sup>-1</sup> (instant)	regular_ll	heightAboveGround	level 10 m	fcst time 0 hrs
10	10 metre wind gust in the last 3 hours	m s <sup>-1</sup> (max)	regular_ll	heightAboveGround	level 10 m	fcst time -3-0 hrs (max)
11	2 metre temperature	K (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
12	2 metre relative humidity	% (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
13	2 metre relative humidity with respect to water	% (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
14	Humidity mixing ratio	kg kg <sup>-1</sup> (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
15	Specific humidity	kg kg <sup>-1</sup> (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
16	2 metre dewpoint temperature	K (instant)	regular_ll	heightAboveGround	level 2 m	fcst time 0 hrs
17	Mean total precipitation flux	kg m <sup>-2</sup> s <sup>-1</sup> (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
18	Large scale precipitation (non-convective)	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time -3-0 hrs (accum)
19	Convective precipitation (water)	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time -3-0 hrs (accum)
20	Total precipitation	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
21	Large scale water precipitation (non-convective)	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
22	Convective water precipitation	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
23	Large scale snow	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
24	Convective snow	kg m <sup>-2</sup> (accum)	regular_ll	surface	level 0	fcst time 0 hrs (accum)
25	Low cloud cover	% (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
26	Medium cloud cover	% (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
27	High cloud cover	% (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002

Rev. V2.2  
Date 2023-06-19  
PAGE 145

28	Total Cloud Cover	% (instant)	regular_ll	entireAtmosphere	level 0	fcst time 0 hrs
29	Planetary boundary layer height	m (instant)	regular_ll	unknown	level 0 220	fcst time 0 hrs
30	Frictional velocity	m s**-1 (instant)	regular_ll	heightAboveGround	level 0 m	fcst time 0 hrs
31	Snow depth	m (instant)	regular_ll	surface	level 0	fcst time 0 hrs
32	Snow density	kg m**-3 (instant)	regular_ll	surface	level 0	fcst time 0 hrs
33	Surface roughness	m (instant)	regular_ll	surface	level 0	fcst time 0 hrs
34	19	19 (instant)	regular_ll	depthBelowLandLayer	levels 0.0-0.1 m	fcst time 0 hrs
35	19	19 (instant)	regular_ll	depthBelowLandLayer	levels 0.1-0.4 m	fcst time 0 hrs
36	19	19 (instant)	regular_ll	depthBelowLandLayer	levels 0.4-1 m	fcst time 0 hrs
37	19	19 (instant)	regular_ll	depthBelowLandLayer	levels 1-2 m	fcst time 0 hrs
38	Soil temperature	K (instant)	regular_ll	depthBelowLandLayer	levels 0.0-0.1 m	fcst time 0 hrs
39	Soil temperature	K (instant)	regular_ll	depthBelowLandLayer	levels 0.1-0.4 m	fcst time 0 hrs
40	Soil temperature	K (instant)	regular_ll	depthBelowLandLayer	levels 0.4-1 m	fcst time 0 hrs
41	Soil temperature	K (instant)	regular_ll	depthBelowLandLayer	levels 1-2 m	fcst time 0 hrs
42	Sensible heat net flux	W m**-2 (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
43	Latent heat net flux	W m**-2 (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
44	Net short wave radiation flux	W m**-2 (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
45	Net long wave radiation flux	W m**-2 (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
46	Downward long-wave radiation flux	W m**-2 (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
47	Downward short-wave radiation flux	W m**-2 (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
48	Upward long-wave radiation flux	W m**-2 (avg)	regular_ll	nominalTop	level 0	fcst time -3-0 hrs (avg)
49	Downward short-wave radiation flux	W m**-2 (avg)	regular_ll	nominalTop	level 0	fcst time -3-0 hrs (avg)
50	Water equivalent of accumulated snow depth	kg m**-2 (instant)	regular_ll	surface	level 0	fcst time 0 hrs
51	Geometrical height	m (instant)	regular_ll	unknown	level 0 245	fcst time 0 hrs
52	Planetary boundary layer regime	code table (4.209) (instant)	regular_ll	unknown	level 0 220	fcst time 0 hrs
53	Pressure	Pa (instant)	regular_ll	unknown	level 0 242	fcst time 0 hrs
54	Pressure	Pa (instant)	regular_ll	unknown	level 0 243	fcst time 0 hrs
55	32	32 (instant)	regular_ll	isothermZero	level 0	fcst time 0 hrs

# AI 기반 예보지원 솔루션 개발 AI 확장 라이브러리 사용자 매뉴얼

Doc.No. AIW-TEM-002  
Rev. V2.2  
Date 2023-06-19  
PAGE 146

56	Eastward turbulent surface stress	N m**2 s (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
57	Northward turbulent surface stress	N m**2 s (avg)	regular_ll	surface	level 0	fcst time -3-0 hrs (avg)
58	Convective cloud cover	% (instant)	regular_ll	unknown	level 0 200	fcst time 0 hrs
59	Maximum temperature	K (max)	regular_ll	heightAboveGround	level 2 m	fcst time -3-0 hrs (max)
60	Minimum temperature	K (min)	regular_ll	heightAboveGround	level 2 m	fcst time -3-0 hrs (min)

<b>AI 기반 예보지원 솔루션 개발</b> <b>AI 확장 라이브러리 사용자 매뉴얼</b>	Doc.No.	AIW-TEM-002
	Rev.	V2.2
	Date	2023-06-19
	PAGE	147

#### 5.4. GK2A AMI L1B 메타데이터

이 절에서는 GK2A AMI L1B DataReader 에 사용되는 메타데이터를 설명한다.

GK2A AMI L1B 기상자료의 설정 파일에서 USE\_PHYSICAL\_VALUE 를 true 로 설정할 경우 기상자료의 값을 physical value 로 변경해서 사용할 수 있다.

기상자료를 physical value 로 변경할 때 gain, composite 값이 사용되는데, 라이브러리는 이 값을 [GK2A L1B Calibration Table](#) 에서 가져와 사용한다.

The screenshot shows the National Meteorological Satellite Center's website. The main content area displays the title '천리안위성 2A호 AMI Calibration(Conversion) Table (2019.11.15. v3.1)' and a download link for the file '20191115\_gk-2a ami calibration table\_v3.1\_ir133\_srf\_shift.xlsx'. Below this, a description states that the table is used to convert Digital Number (DN) values to physical values. The page includes a sidebar with navigation links such as '다음 글' (Next) and '이전 글' (Previous). The footer contains an OPEN logo and a copyright notice for the National Meteorological Satellite Center.

**Figure 5 국가기상위성센터 GK2A L1B Calibration Table**

이 데이터와 다른 값을 사용하고 싶다면 DataLoader 의 gk2aAmiCalibrationTable 인자에 새로운 메타데이터의 경로를 입력하면 된다.

새로운 메타데이터는 기본 메타데이터와 동일한 형식이어야 하며, 다른 형식을 가질 경우 비정상적인 실행 혹은 에러가 발생할 수 있다.

**[End of Document]**