

# Madden-Julian oscillation

## Overview

The Madden–Julian oscillation (MJO) is the largest element of the intraseasonal (30–90 days) variability in the tropical atmosphere. It is a large-scale coupling between atmospheric circulation and tropical deep convection. Daily values are available at <http://cawcr.gov.au/staff/mwheeler/maproom/RMM/RMM1RMM2.74toRealtime.txt> . These values can be imported from a local file or directly from the website.

For more information see: <http://en.wikipedia.org/wiki/MJO>

## Configuration (Example)

### ModuleConfigFiles

# ImportMJO.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<timeSeriesImportRun xmlns="http://www.wldelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.wldelft.nl/fews http://fews.wldelft.nl/schemas/version1.0/timeSeriesImportRun.
  xsd">

  <import>
    <general>
      <importType>MjoClimateIndex</importType>
      <serverUrl>http://www.cawcr.gov.au/staff/mwheeler/maproom/RMM/RMM1RMM2.74toRealtime.txt<
/serverUrl>

      <idMapId>MapIdMJO</idMapId>
      <unitConversionsId>ImportUnitConversions</unitConversionsId>
      <missingValue>-99.99</missingValue>
      <importTimeZone>
        <timeZoneOffset>+00:00</timeZoneOffset>
      </importTimeZone>
    </general>
    <timeSeriesSet>
      <moduleInstanceId>Import_ClimateIndex</moduleInstanceId>
      <valueType>scalar</valueType>
      <parameterId>RMM1</parameterId>
      <locationId>Climate_Index</locationId>
      <timeSeriesType>external historical</timeSeriesType>
      <timeStep unit="day"/>
      <readWriteMode>add originals</readWriteMode>
      <synchLevel>4</synchLevel>
      <expiryTime unit="year" multiplier="100"/>
    </timeSeriesSet>
    <timeSeriesSet>
      <moduleInstanceId>Import_ClimateIndex</moduleInstanceId>
      <valueType>scalar</valueType>
      <parameterId>RMM2</parameterId>
      <locationId>Climate_Index</locationId>
      <timeSeriesType>external historical</timeSeriesType>
      <timeStep unit="day"/>
      <readWriteMode>add originals</readWriteMode>
      <synchLevel>4</synchLevel>
      <expiryTime unit="year" multiplier="100"/>
    </timeSeriesSet>
    <timeSeriesSet>
      <moduleInstanceId>Import_ClimateIndex</moduleInstanceId>
      <valueType>scalar</valueType>
      <parameterId>phase</parameterId>
      <locationId>Climate_Index</locationId>
      <timeSeriesType>external historical</timeSeriesType>
      <timeStep unit="day"/>
      <readWriteMode>add originals</readWriteMode>
      <synchLevel>4</synchLevel>
      <expiryTime unit="year" multiplier="100"/>
    </timeSeriesSet>
    <timeSeriesSet>
      <moduleInstanceId>Import_ClimateIndex</moduleInstanceId>
      <valueType>scalar</valueType>
      <parameterId>amplitude</parameterId>
      <locationId>Climate_Index</locationId>
      <timeSeriesType>external historical</timeSeriesType>
      <timeStep unit="day"/>
      <readWriteMode>add originals</readWriteMode>
      <synchLevel>4</synchLevel>
      <expiryTime unit="year" multiplier="100"/>
    </timeSeriesSet>
  </import>
</timeSeriesImportRun>
```

### ImportMJO.xml (local file)

```
<?xml version="1.0" encoding="UTF-8"?>
<timeSeriesImportRun xmlns="http://www.wldelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.wldelft.nl/fews http://fews.wldelft.nl/schemas/version1.0/timeSeriesImportRun.
  xsd">
  <import>
    <general>
      <importType>MjoClimateIndex</importType>
      <folder>$IMPORT_MJO_FOLDER$</folder>
      ...
    
```

## IdMapFiles

### MapIdMJO.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<idMap xmlns="http://www.wldelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.wldelft.nl/fews http://fews.wldelft.nl/schemas/version1.0/idMap.xsd" version="
  1.1">
  <parameter external="RMM1" internal="MJO_RMM1"/>
  <parameter external="RMM2" internal="MJO_RMM2"/>
  <parameter external="amplitude" internal="MJO_amplitude"/>
  <parameter external="phase" internal="MJO_phase"/>
  <location internalLocation="Climate_Index" externalLocation="Climate_Index"/>
</idMap>
```

The Climate\_Index location is a placeholder since the index does not have different values for different locations.