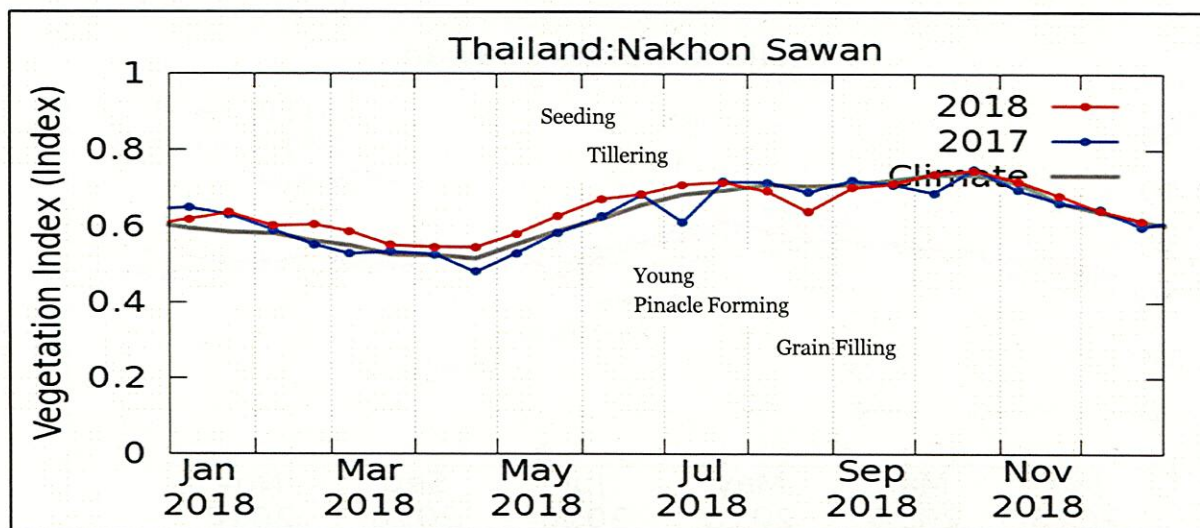


# How to decipher JASMIN Time Series Graph

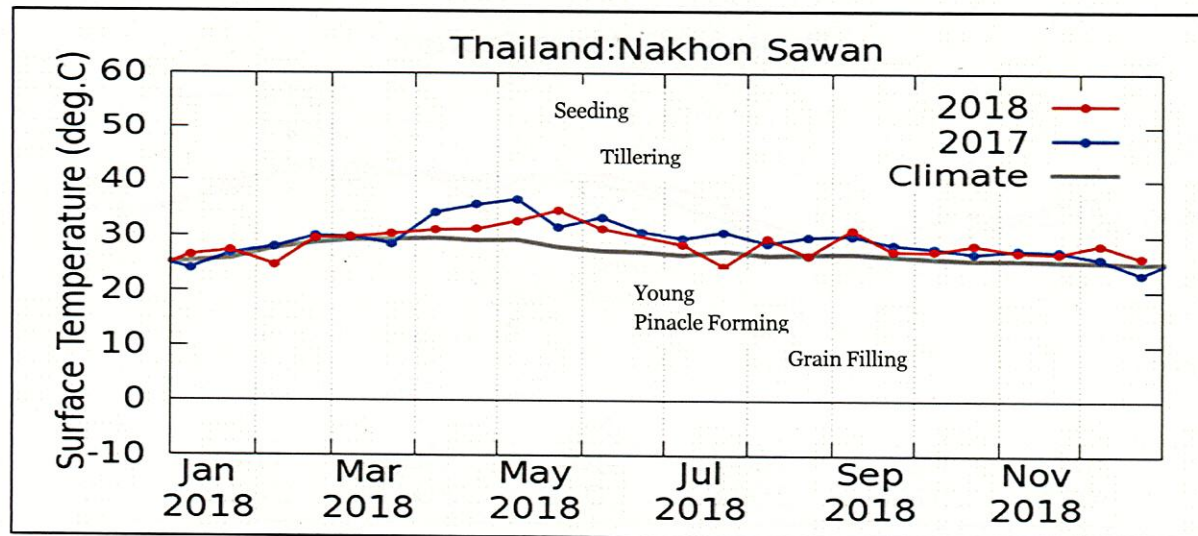
## Vegetation Index



Vegetation index is a processed data which requires a certain amount of experience to decipher the actual rice growing condition by the trend of the graph. Although vegetation index shows dense planting degree and activity, it is necessary to note this index is not limited to the growth of paddy. It is better to combination use with Map, such as confirming the situation of the main production area of paddy rice. Although it is not limited to rice, the index decline in August may be affected by shortage of precipitation in summer.

# How to decipher JASMIN Time Series Graph

## Surface Temperature

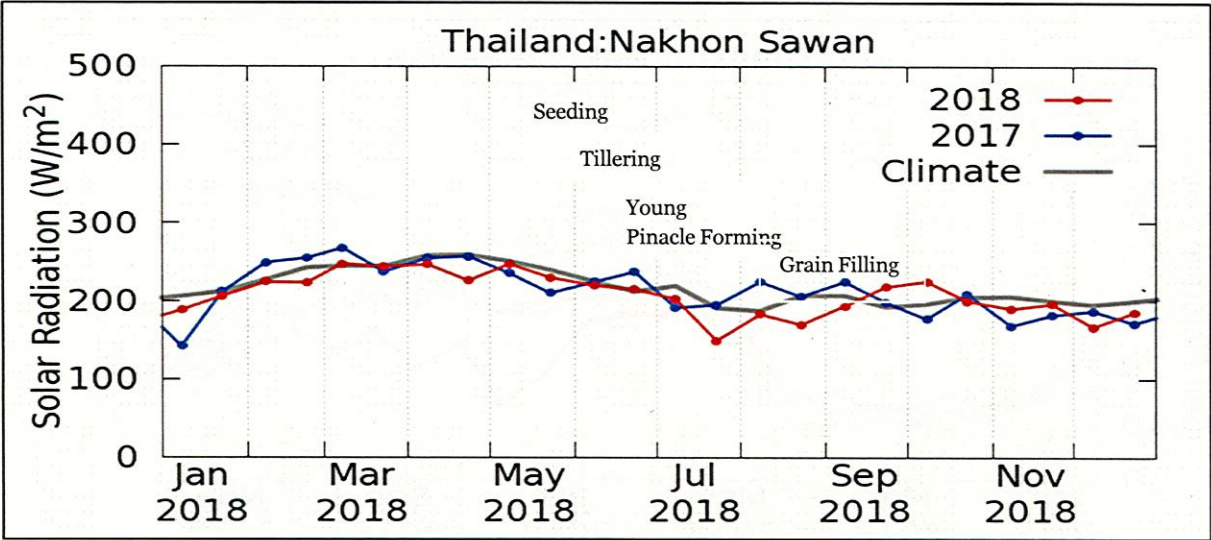


With the warm and stable climate condition in the South-East Asia region, it is estimated that the influence on rice growing due to temperature variance would be uncommon, even though the cold resistance of Indica rice may be low. The concerns on temperature, it suffices to say that there may be delay of tillering during the tillering stage due to low temperature and there may be quality loss during the grain filling stage because of high temperature at night.

In 2018, high temperature has continued during the early growing season of wet season rice, but there is no big problem, if the agricultural water management is properly done.

# How to decipher JASMIN Time Series Graph

## Solar Radiation

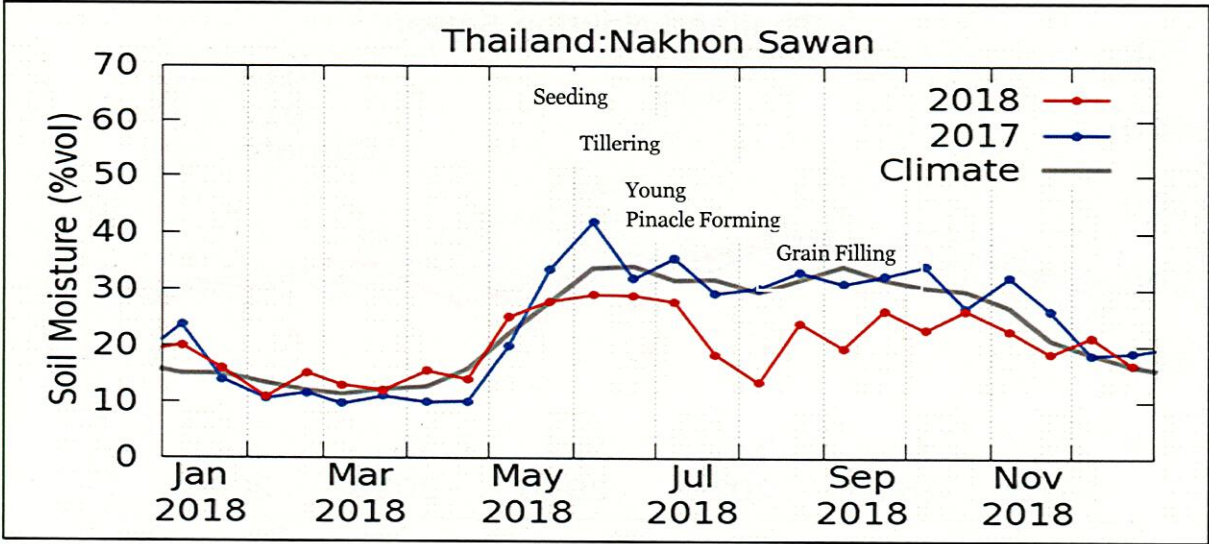


Solar radiation is a necessary weather condition for a photosynthetic promotion of the panicle number during the tillering stage and grain weight during the grain filling stage.

In 2018, the solar radiation trend remained in the normal value during the seeding stage and tillering stage. With this solar radiation trend, it was estimated that the panicle number would be within the normal value. On the other hand, there is some concern about light of grain weight due to lack of sunshine in grain filling stage.

# How to decipher JASMIN Time Series Graph

## Soil Moisture

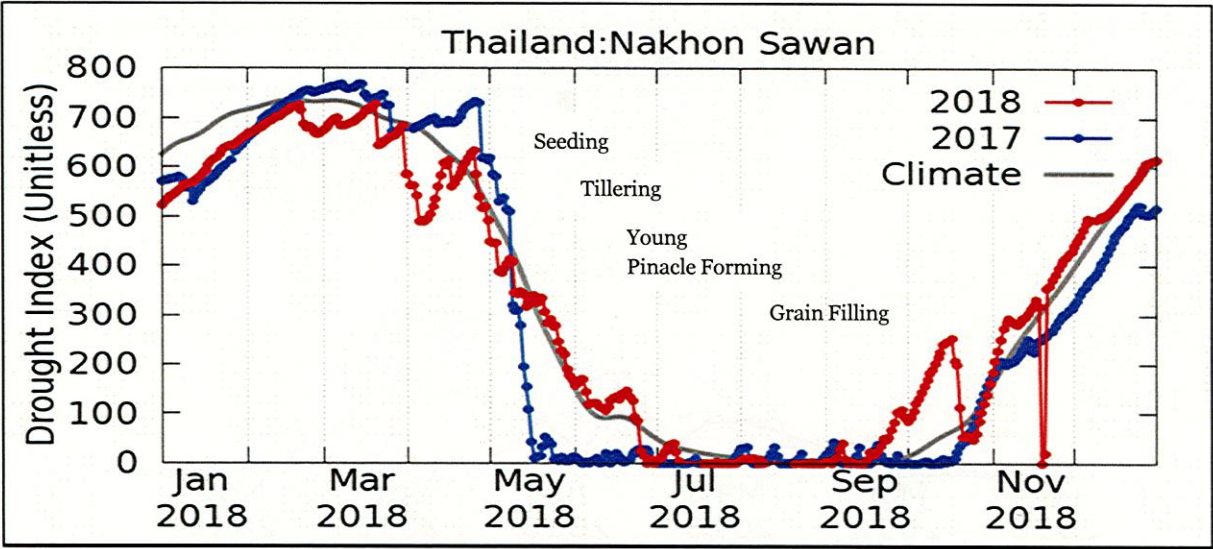


For the rice cultivation method by flood irrigations, the influence rate of drought is indicated by the soil moisture during drought.

In 2018, the soil moisture trends during the rice growing season reflect precipitation trends and remain below normal levels. As far as the drought index is concerned, it is presumed that it was not at a level that had a big impact on the cultivation of wet season rice. However, 2018 year can not be said that it was easy to secure abundant agricultural water during the growing season of wet season rice, and it could be said that it was necessary to confirm the growing situation while paying attention to drought concerns.

# How to decipher JASMIN Time Series Graph

## Drought Index

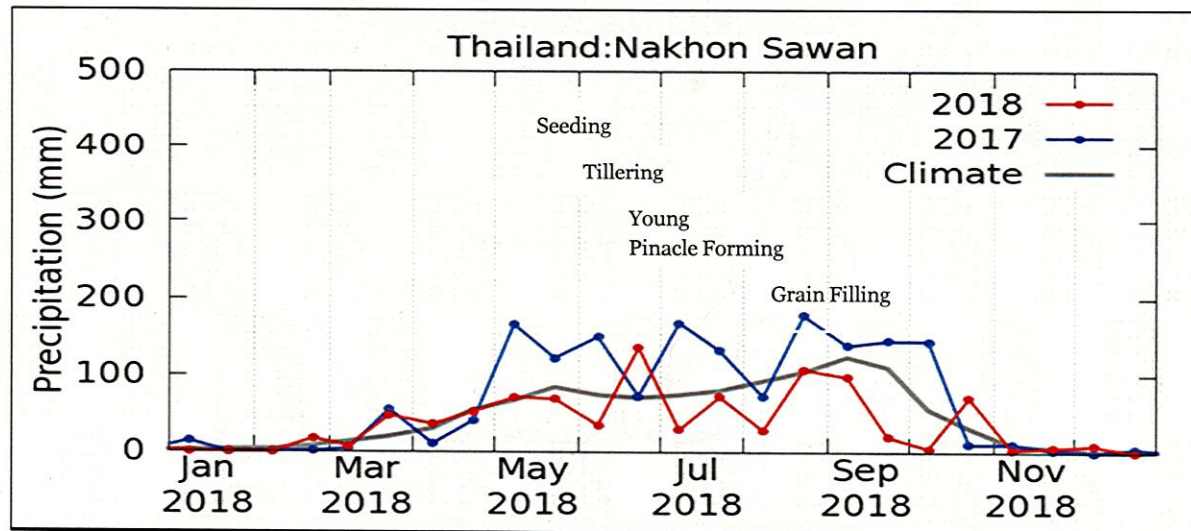


Drought index is a processed data which requires a certain amount of experience to decipher the actual condition of drought by the trend of the graph.

In 2018, the drought index followed with normal value during the rice growing season. In the precipitation situation, although there was concern about sowing condition, it can be deciphered that it was not hard condition from the drought index. In addition, it can be clearly understood from the movement of the index in October that precipitation and drought index are linked to as the data.

# How to decipher JASMIN Time Series Graph

## Precipitation



The precipitation trend is a weather condition that affects the growing condition considering the rice cultivation by flood irrigations. The precipitation condition for the wet season rice must be especially monitored because rice cultivation in rain-fed paddy field, which relies on the precipitation water flooding the paddy field, is prevalent in the region.

In 2018, it was feared that Nakhon Sawan province might experience a difficult condition with inadequate agricultural water securement due to the less precipitation during the rice growing season. Although sowing is concerned about the shortage of agricultural water, it is thought that it was carried out almost with normal year. On the other hand, the lack of rainfall after sowing was constant, and in particular there is concern about securing of agricultural water in young panicle forming stage which requires the most water for paddy growing. In the harvesting time, harvesting work was estimated to run smoothly due to the good field condition.