

Foreign Agricultural Service

Global Market Analysis

International Production Assessment Division

Web: <https://ipad.fas.usda.gov>

August 24, 2020

Commodity Intelligence Report

NORTH KOREA 2020/21 RICE AND CORN OUTLOOK

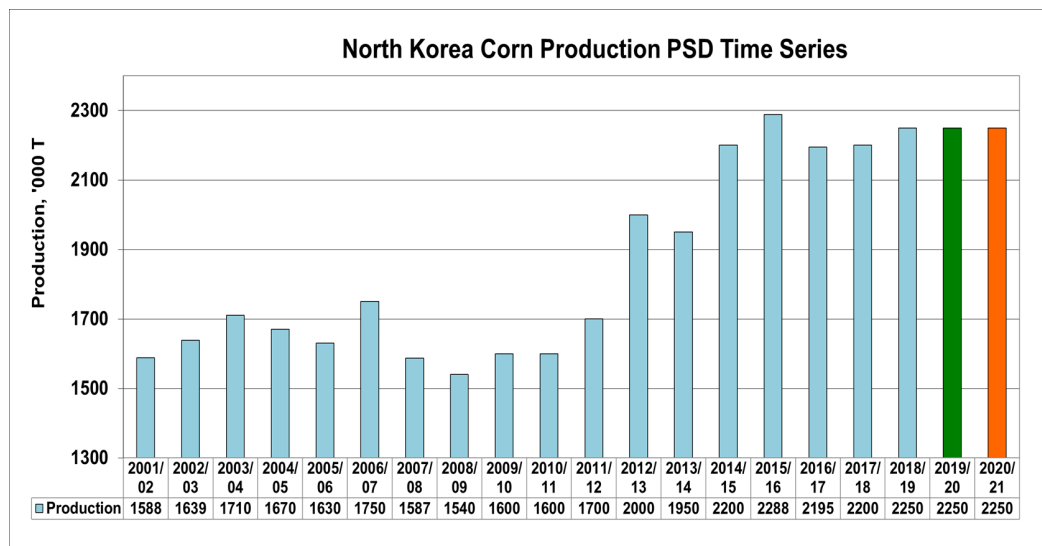
USDA forecasts North Korea corn production at 2.25 million metric tons (mmt), 1 percent above the 5-year average (Figure 1). Corn yield is forecast at 4.13 metric tons per hectare (mt/ha), unchanged from last year and 1 percent above the 5-year average. Rice yield is forecast at 4.18 mt/ha, unchanged from last year and 17 percent below the 5-year average. Rice rough production is forecast at 2.09 million metric tons (Figure 2).

The 2020/21 cropping season is well underway in North Korea. Rice and corn are the major staple foods in North Korea (Figure 3). Rice and corn are grown during May through October. The optimum sowing window is May through June. Since July, rice and corn have been in the advanced vegetative-to-reproductive stages of growth. The major rice and corn production regions are in the provinces of North Pyongyang, South Pyongyang, Pyongyang, North Hwanghae and South Hwanghae (Figure 4).

USDA's crop condition monitoring decision-support systems are primarily based on the interpretation of satellite-derived indicators (agroclimatic and agronomic). The agroclimatic indicators are used to assess weather factors and their impacts on crops; the agronomic indicators are used to assess crop conditions and crop development. From June to July, the indicators revealed that North Korea was experiencing a significantly favorable season compared to the long-term average. That is, both the agroclimatic and agronomic indicators revealed favorable conditions, especially for rice and corn. Early-to-mid season precipitation has been normal (Figure 5). Recent surface wetness anomalies are normal to above-average (Figure 6). Soil moisture conditions during the critical part of the season for corn and rice, primarily in June, ranged from adequate to abundant, depending on the region assessed (Figure 7). The Evaporative Stress Index (ESI), which is used to estimate water losses due to evapotranspiration (ET), indicates crops are functioning well with no signs of moisture stress due to lack of water (Figure 8).

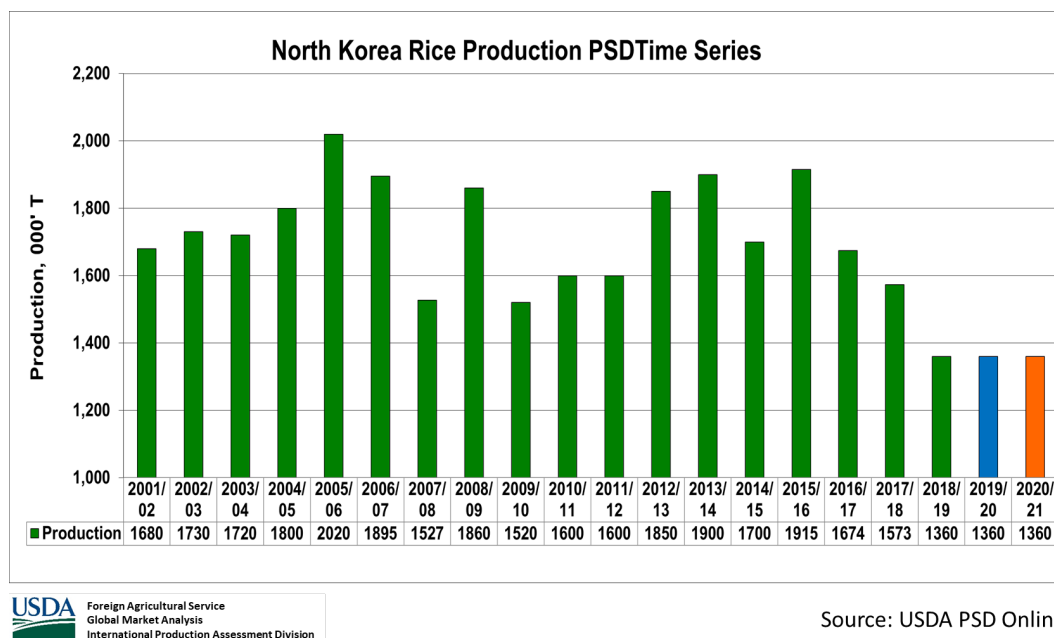
Spatial NDVI patterns (Figure 9) indicate favorable crop conditions occurred widely across the major rice and corn growing regions in the western provinces. South Hwanghae, North Hwanghae, and Pyongyang benefitted most from above-average rainfall, and surface soil moisture assessments and vegetative conditions are above average (Figures 10, 11, 12). There is, however, some variation within the country's cropping regions, where the northeastern part of the country experienced more dryness compared to western cropping regions. As the season progresses, continued normal levels of rainfall and adequate irrigation supplies will increase the chance of rice and

corn achieving higher-than-expected productivity, leading to an increase in food supply and food security for North Korea.



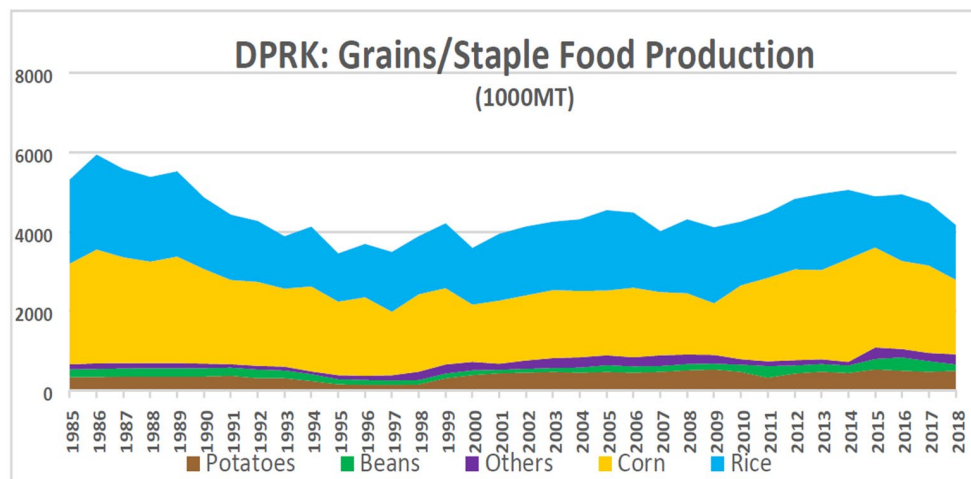
Source: USDA PSD Online

Figure 1. USDA's North Korea corn production time series. Source USDA.



Source: USDA PSD Online

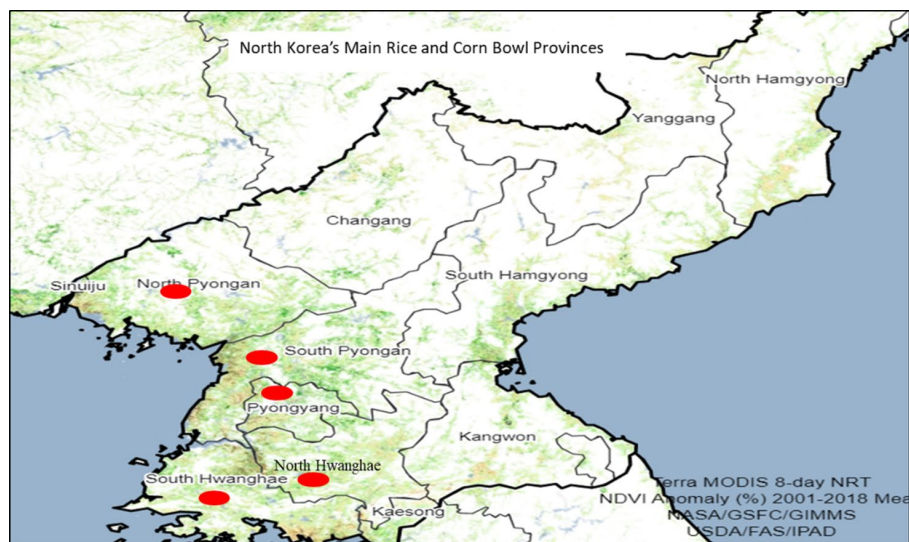
Figure 2. USDA's North Korea rice production time series. Source USDA.



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Source: United Nations World Food Programme (WFP)

Figure 3. Rice and corn are the major staple foods in North Korea. Source UN.



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Source: NASA/GSFC/GIMMS, August 11, 2020

Figure 4. The major rice and corn production regions are concentrated in the western provinces.

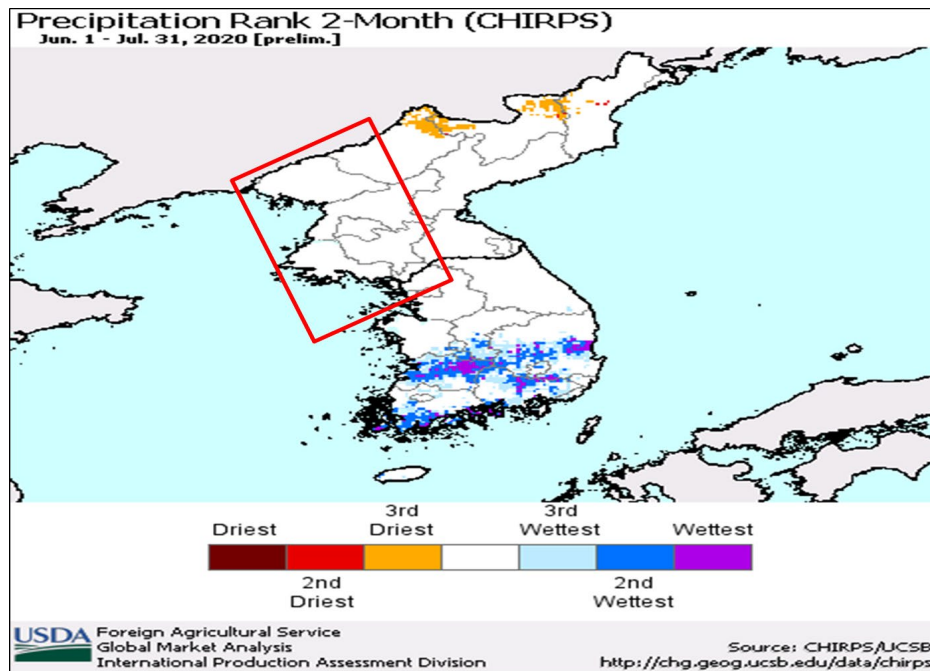


Figure 5. Favorable precipitation during the major part of the season, June to July. Source UCSB CHIRPS.

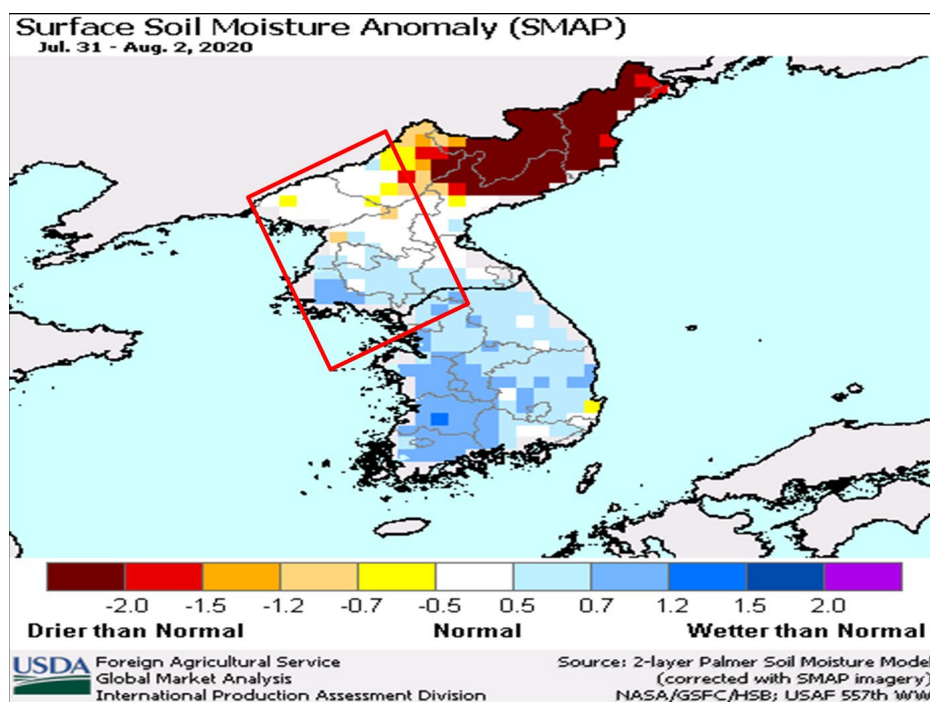


Figure 6. Favorable surface soil moisture conditions. Source NASA and USDA.

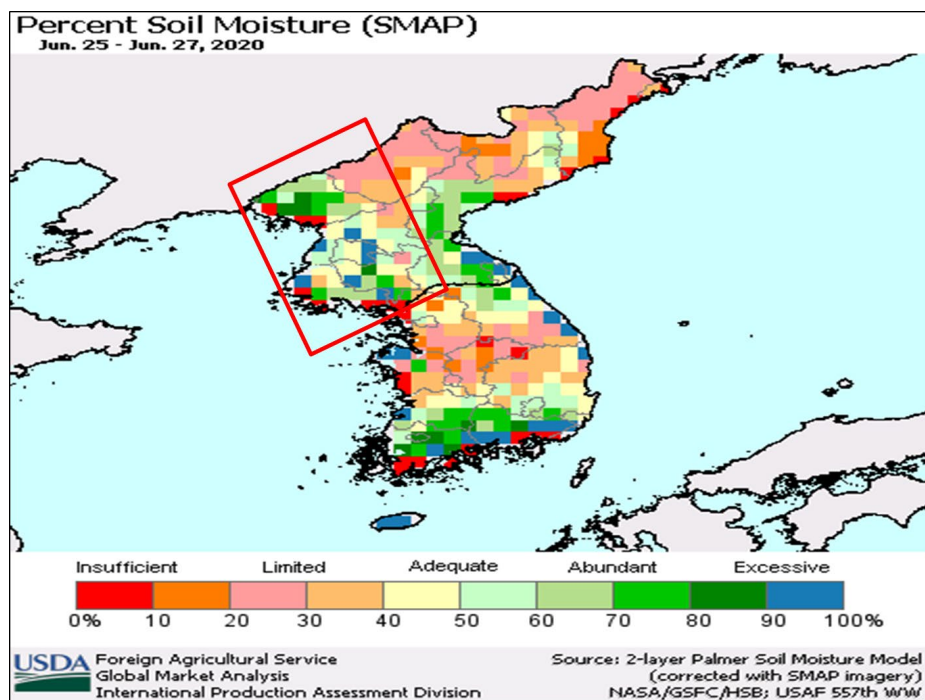


Figure 7. Adequate-to-abundant soil moisture conditions. Source NASA and USDA.

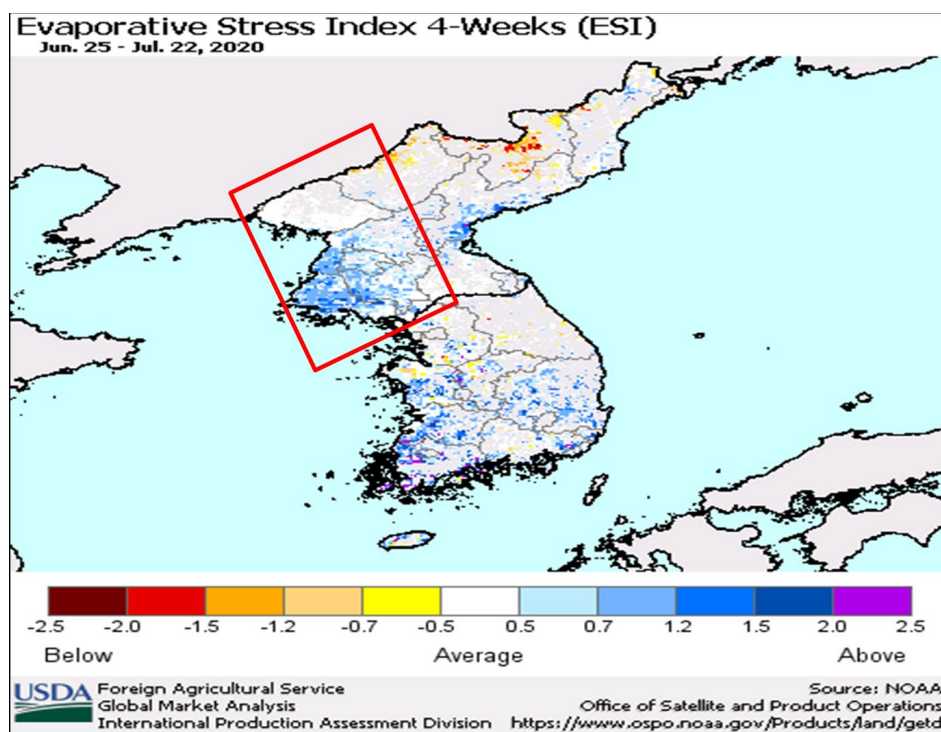


Figure 8. The Evaporative Stress Index (ESI), which is used to estimate water loss due to evapotranspiration (ET), indicates crops are functioning well with no signs of moisture stress due to lack of water. Source NOAA.

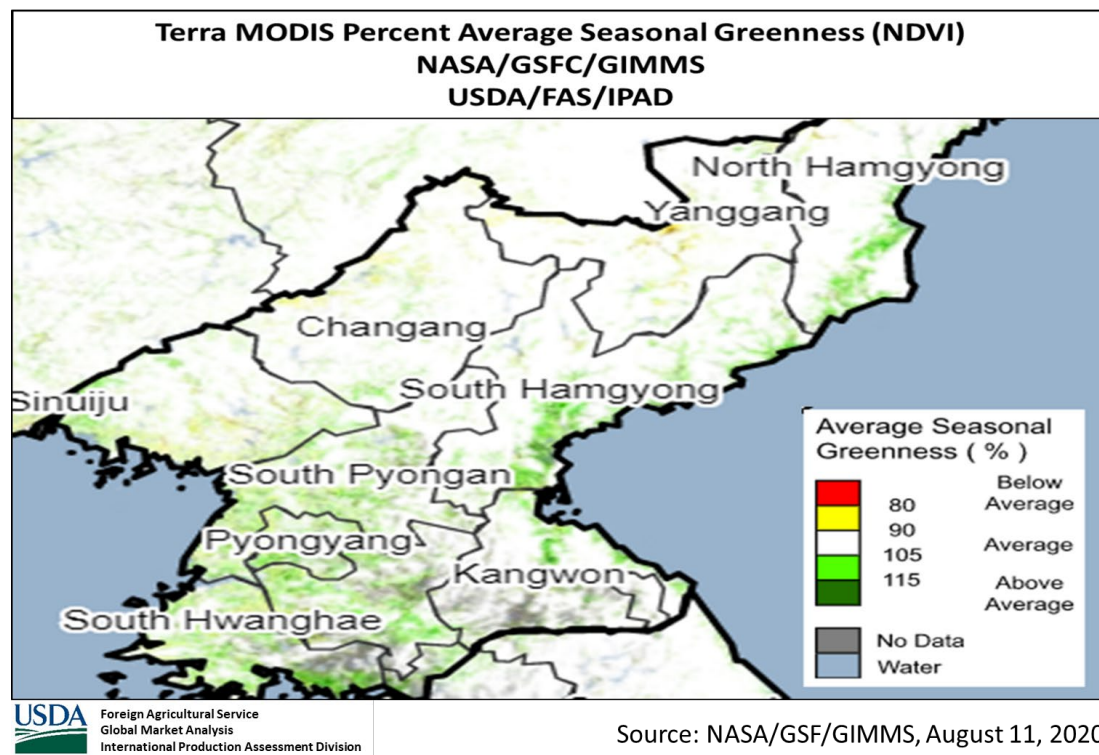


Figure 9. Spatial NDVI patterns indicate favorable crop conditions occurred widely across the major rice and corn growing regions in the western provinces. North Pyongyang, South Pyongyang, and South Hwanghae benefitted most from the above-average rainfall and surface soil moisture conditions. Source NASA USDA GLAM.

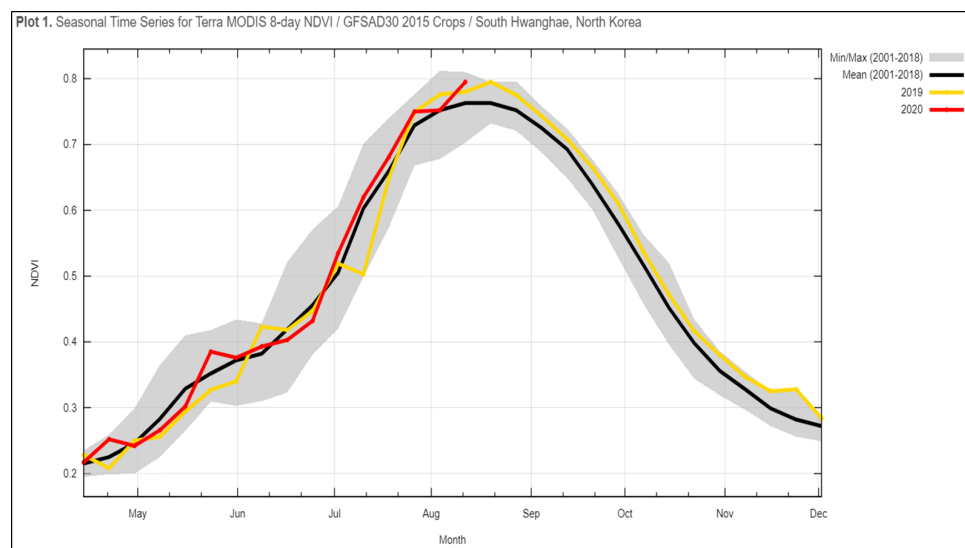


Figure 10. South Hwanghae NDVI (normalized difference vegetation index) indicate favorable crop conditions occurred widely across the major rice and corn growing regions. Source NASA USDA GLAM.

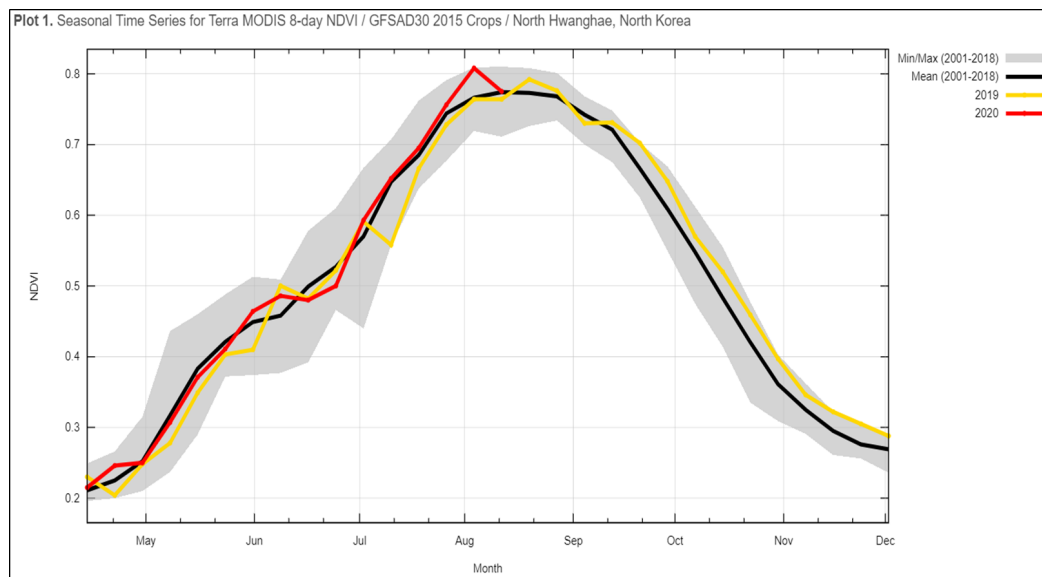


Figure 11. North Hwanghae NDVI (normalized difference vegetation index) indicate favorable crop conditions occurred widely across the major rice and corn growing regions. Source NASA USDA GLAM.

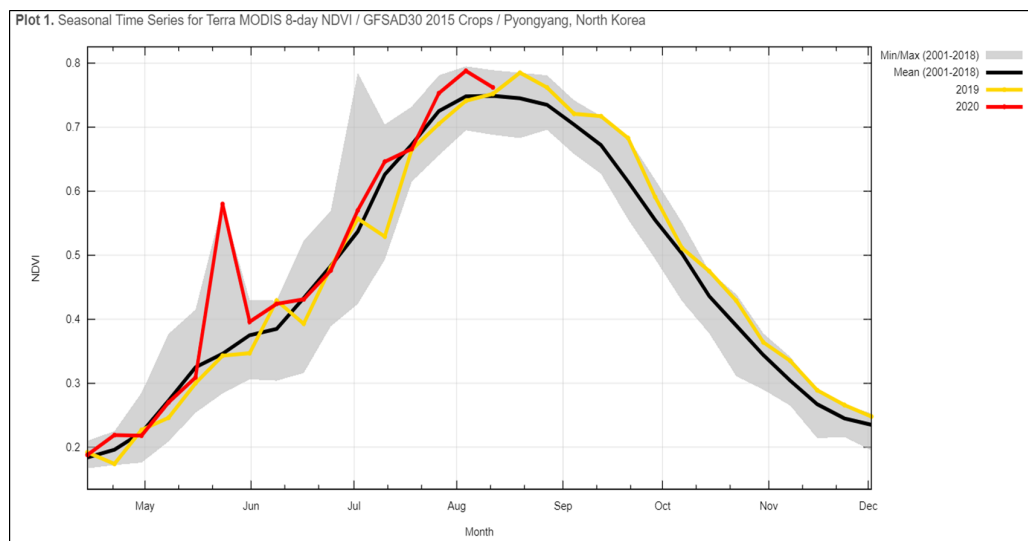


Figure 12. Pyongyang NDVI (normalized difference vegetation index) indicate favorable crop conditions occurred widely across the major rice and corn growing regions. Source NASA USDA GLAM.

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