

Southeast Asia, 2023: El Niño Likely to Impact Rice Production

Rice production in every Southeast Asian country will be impacted by too much rain, too little rain, or both in the next six months. All impacts will be exacerbated by high temperatures. Indonesia, Vietnam, and the Philippines will be the hardest hit.



High-magnitude drought impacts forecast for rice production in Indonesia, similar to El Niño 2015/16, which will increase reliance on imports.



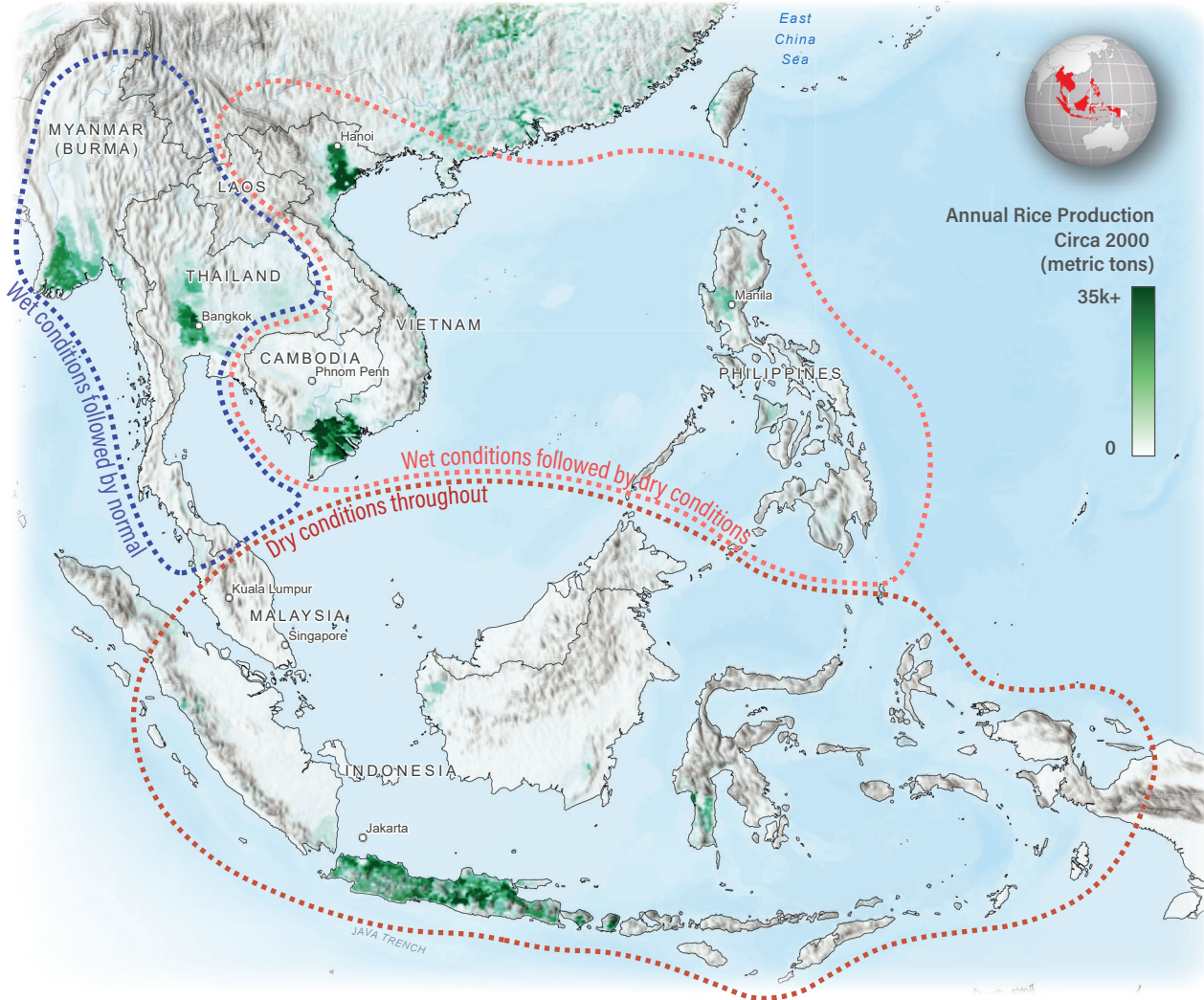
Moderate drought impacts forecast for Vietnam and the Philippines as dry conditions hit in October.



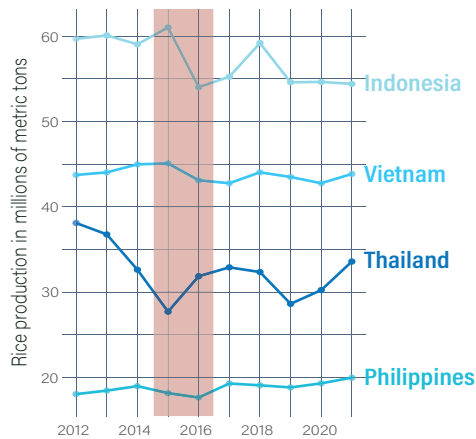
Thailand's production impacts from earlier drought are likely to be mitigated by rain through September.



Rice production is likely to be average for Myanmar, Laos, Cambodia, and Malaysia.



Overview of rice production and forecast precipitation patterns from August 2023 through January 2024



Drought caused rice production to drop in Indonesia, Thailand, the Philippines, and Vietnam during the last strong El Niño (2015/16).

Mitigating Factors

IRRIGATION: 70-90% of rice production in Indonesia, Vietnam, and the Philippines is irrigated. Reservoirs are at or below levels in 2015/16. Abnormally high temperatures over the next six months will limit irrigation capacity to mitigate production impacts, particularly in Indonesia.

HARVESTED AREA: Production relies on both area and yield. USDA Rice Outlook projects increases in production from Southeast Asian countries based on expansions in harvest area. Extreme conditions brought on by El Niño are likely to reduce yields, which would reduce total production.

TRADE: 20% of global rice production occurs in Southeast Asia. Global rice prices have risen because of war in Ukraine, 2022 floods in Pakistan, and India's rice export ban. El Niño-related production impacts in Southeast Asia could increase price volatility.

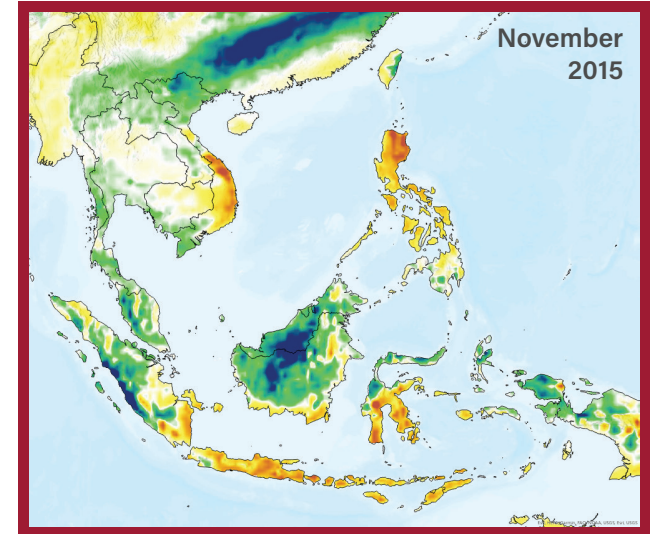
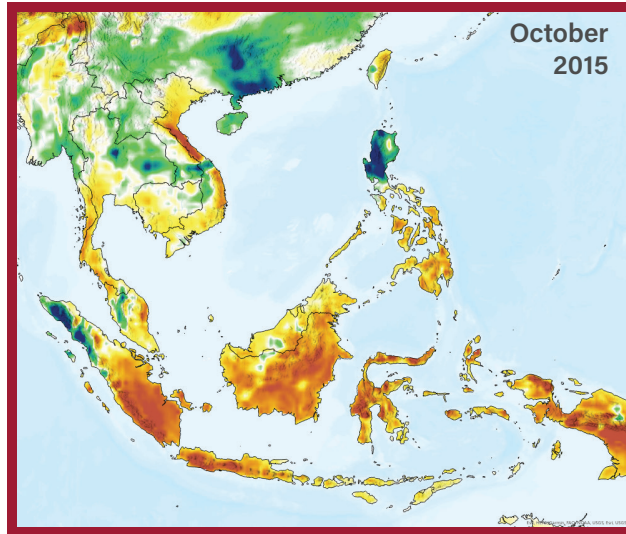
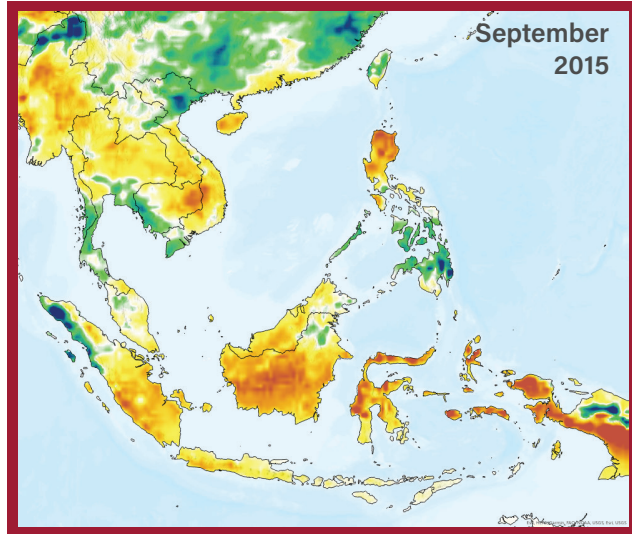
Southeast Asia, 2023: Supplemental Information

The El Niño forecast for 2023 is not as extreme as the 2015 El Niño, however, strong parallels exist between the very dry El Niño 2015/16 and the current forecast. The 2015/16 El Niño brought severe drought and reduced rice production in Indonesia, Vietnam, Thailand, and the Philippines.

Governments increase imports in poor harvest years, but trade partners, like India, will also be impacted by El Niño.

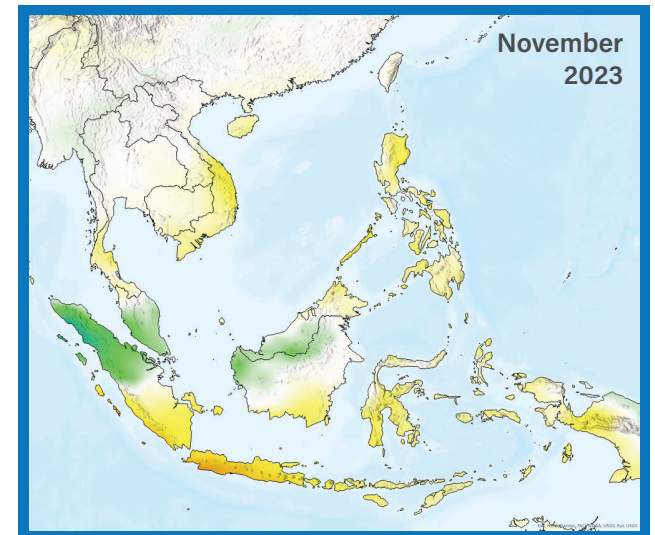
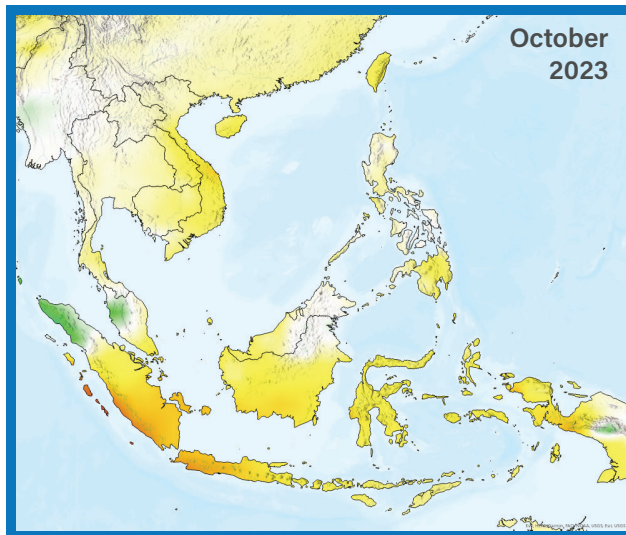
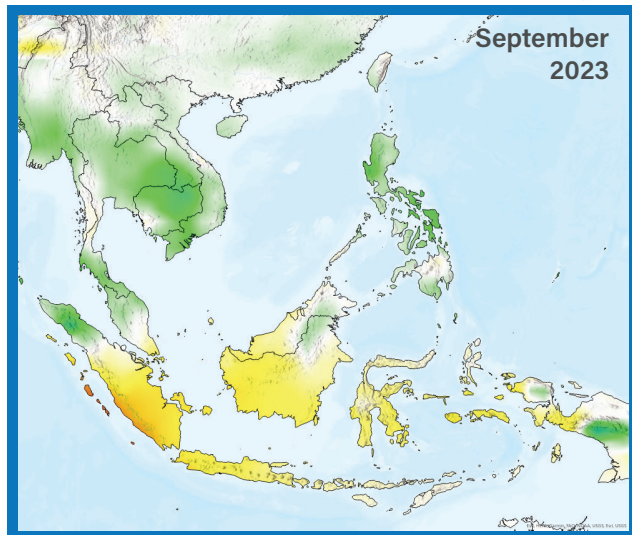
Though the early effects of El Niño will be felt throughout the region by the end of the year, the most severe impacts are likely to occur in 2024.

Historic: El Niño 2015 Precipitation Anomaly



mm/month
-200 +200

Forecast: El Niño 2023 Precipitation Anomaly



Sources:

ECMWF ERA5. Generated using Copernicus Climate Change Service information [2022]

FAO. Crops and livestock products. License: CC BY-NC-SA 3.0 IGO. Extracted from: <https://www.fao.org/faostat/en/#data/QCL>. Data of Access: 18-07-2023.

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Basemap Source:

Esri, USGS, NOAA. Scale Not Given. "World Terrain Base" May, 27, 2020. https://server.arcgisonline.com/ArcGIS/rest/services/World_Terrain_Base/MapServer. (May, 15, 2023).

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap, and the GIS user community. "World Hillshade". February 10, 2022. https://services.arcgisonline.com/arcgis/rest/services/Elevation/World_Hillshade/MapServer. (May, 15, 2023).

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