GLOBAL CROP PRODUCTION REVIEW, 2007

Prepared by USDA's Joint Agricultural Weather Facility

The following is an annual review of regional crop production, comparing 2007 with the previous year. For both the northern and southern hemisphere, these summaries reflect growing season weather for crops that were harvested in the calendar year of 2007. For most countries, changes in production for 2007 are based on crop estimates released by the United States Department of Agriculture in February 2008.

Wheat and Coarse Grain Summary: In 2007, global wheat production increased 2 percent from 2006. Production increased in the United States, Russia, Kazakhstan, China, Iran, India, Pakistan, Argentina, Brazil, and Australia. Wheat production declined in Canada, most of the major producing countries in the European Union, Ukraine, Turkey, and Morocco. The country-level changes in 2007 wheat production from 2006 are shown in Figure 1. Global coarse grain production increased over 7 percent in 2007. Production increases in the United States, Canada, India, Mexico, Argentina, Brazil, and South Africa offset production declines in Russia, Ukraine, major producing countries in the European Union, China, Turkey, and Australia.

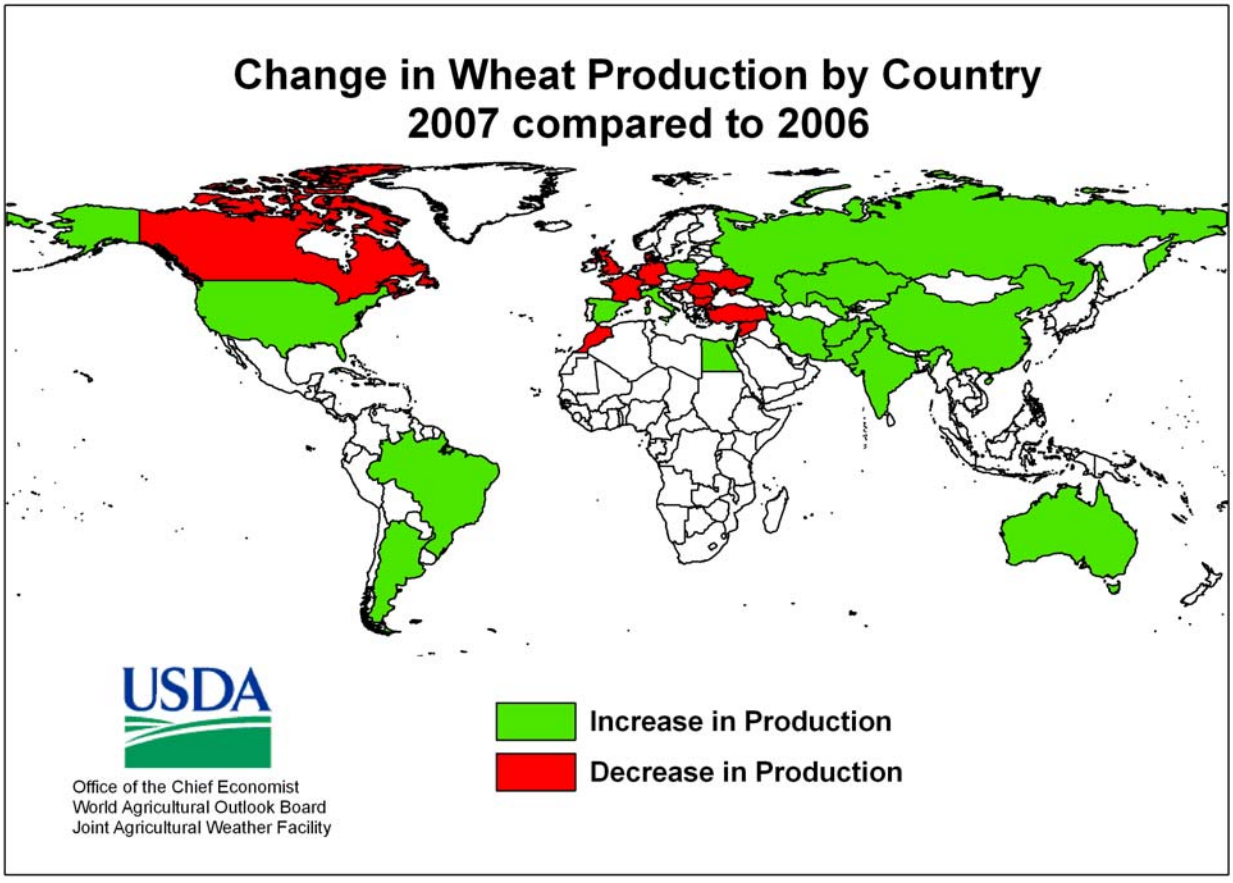

Figure 1. Change in wheat production by country (2007 versus 2006).

In the United States, wheat production increased 14 percent from 2006, with production totals up for all major classes of wheat (winter, spring, and durum). Durum production was up 34 percent from 2006 due to much more favorable growing conditions on the northern Plains. Spring wheat production was up 4 percent from the previous year, despite a 7 percent decline in harvested area. Growing conditions for winter wheat were overall markedly improved (production was up 17 percent from 2006), despite an April freeze across southern growing areas, drought in the Northwest, and excessive wetness around harvest time on the central and southern Plains. Hard Red Winter (HRW) wheat production was up 41 percent from 2006, largely due to much wetter conditions on the previously drought-stricken southern Plains. The April freeze damaged a portion of the Soft Red Winter (SRW) wheat crop, resulting in production falling 8 percent from last year. Farther west, White Winter wheat production was down 13 percent from 2006, partly due to untimely heat and dryness during the growing season. Meanwhile, U.S. corn production was up 24 percent from 2006, in part due to the nation's largest planted acreage since 1944 and largest harvested acreage since 1933. U.S. corn production was a record high, while yield attained its second-highest level on record (3.84 metric tons per hectare versus 4.07 in 2004).

In Canada, wheat production fell 20 percent due to a combination of lower area and yields. Unseasonable dryness and a late-spring frost impacted winter wheat in Ontario's southern growing areas but conditions reportedly allowed timely nutrient applications and treatment for diseases and pests, helping to mitigate potential losses. On the Prairies, nearly ideal spring weather gave way to stressful periods of heat and dryness during the summer, particularly in western growing areas, resulting in disappointing spring wheat yields after an overall favorable start to the season. In contrast, coarse grain production was 20 percentage points higher than in 2006 due to a significant increase in acreage, especially in the Ontario corn belt, where yields rose from the previous year despite summer dryness. Barley production rose nearly 15 percent as and increase in Prairie acreage offset declining yields.

In the European Union (EU-27), wheat production gains in Poland and Spain were more than offset by reductions in central and southeastern Europe (total production down 4 percent). One of the warmest winters on record provided generally favorable conditions for most crops and promoted faster-than-normal winter wheat development. Consequently, a pair of late-spring freezes arrived as wheat was entering reproduction (up to a month ahead of the long-term average), although most growing areas reported little widespread damage. However, protracted dryness settled over central and northern Europe during the spring, depleting moisture supplies for reproductive winter crops. The weather pattern changed dramatically in early June, when unrelenting rainfall hampered harvesting and reduced grain quality. Consequently, wheat production in France, the EU's leading producer, dropped over 7 percent, while reductions of more than 6 and 10 percent were noted in Germany and the United Kingdom, respectively. Of more significance, however, was

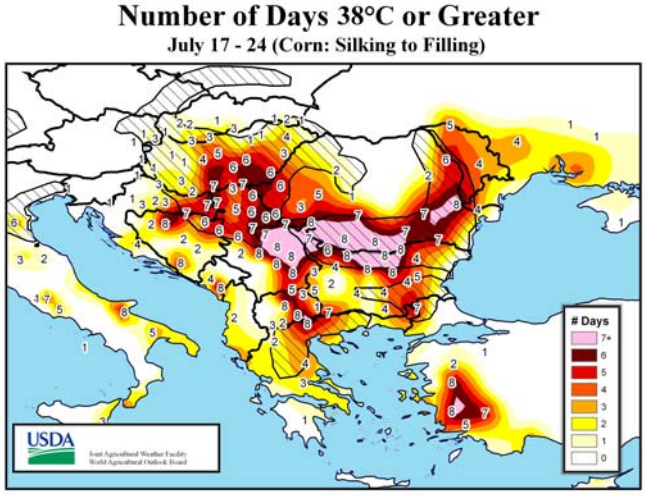

Figure 2. Map depicting the number of days with high temperatures at or above the heat damage threshold for reproductive to filling corn (38° C) during the period July 17-24, 2007. Primary corn growing areas are denoted by the cross hatching.

extreme summertime heat and drought in southeastern Europe (Figure 2), which slashed wheat production by more than 30 percent in the new EU-member countries of Romania and Bulgaria. In contrast, wheat production improved for a second consecutive year in Spain, while irrigated winter wheat in Italy (up almost 10 percent) was spared the excessive heat and dryness observed in the Balkans.

The mid-summer heat and dryness in southeastern Europe also caused EU-27 total coarse grain production to slip. Coarse grain production plunged 44 and 55 percent in Hungary and Romania, respectively, as crops withered under stressful heat (highs reaching 38 degrees C) during late July and again in late August (see Figure 2), at a time when corn had reached the temperature- and moisture-sensitive silking to filling stages of development. The large crop losses in southeastern growing areas were nearly offset (total EU-27 production was down 1 percent) by gains of almost 30 percent in Poland and Spain, both of which were spared from excessive heat and protracted dry spells during the summer. Corn production fell over 13 percent, with considerable crop losses noted in Romania (58 percent) and Hungary (51 percent). However, the summertime wetness across central and northern Europe was favorable for corn, with gains noted in Poland (35 percent) and France (18 percent). Barley production was mixed across the EU-27, with reductions of 10 percent or greater in France, Germany, and Austria, while production increased over 25 percent in Spain, Poland, and Sweden.

In Russia, wheat production rose 10 percent in 2007 due to below-average winterkill in winter wheat areas and favorable weather in areas where spring wheat is grown. (Winter wheat is mostly grown in the Southern District and southern areas of the Central and Volga Districts, while spring wheat is grown from the Volga District eastward through the Siberia District). In the autumn of 2006, dry weather limited topsoil moisture for crop emergence and establishment in major winter wheat producing areas. However, mild weather and adequate moisture in October and November improved conditions for winter wheat establishment, alleviating prior concerns about a lack of planting moisture. A mild winter provided favorable overwintering conditions for winter grains. Winterkill was below average and much less than the previous year. As a result, winter wheat broke dormancy in the spring in much better condition than the previous year. As the spring progressed, weather conditions became progressively worse for winter grain development. Hot, dry weather developed during the middle of May and persisted through early June, stressing winter wheat as it advanced through the reproductive phase of crop development. Although these unfavorable weather conditions reduced yield prospects, winter wheat production increased 20 percent due to unusually low winterkill that resulted in a substantial increase in area.

In May, above-normal precipitation slowed planting progress of spring wheat in the Urals and Siberia Districts, but provided abundant to locally excessive moisture for spring wheat emergence and early establishment. During the remainder of the growing season, timely rains at key stages of crop development were followed by favorable harvest weather, boosting yield prospects. Despite lower area, spring wheat production remained close to the above-average level of the previous year. Russian coarse grain production declined 3 percent, mainly due to a 14 percent decline in spring barley production that offset increases in oats, rye, and corn production. The decline in spring barley production was mainly due to excessive heat and dryness in southern Russia in May and June.

In Ukraine, where most of the wheat consists of winter varieties, wet weather in August 2006 provided generous planting moisture across most of the country. Although warm, dry weather in September reduced topsoil moisture in western and southeastern growing areas, above-normal precipitation and mild weather in October reversed September's dry weather pattern, boosting soil

moisture and improving conditions for crop establishment. Winter wheat entered dormancy in late November and early December in much better condition than the previous year, when fall drought hampered crop emergence and establishment. During the winter, unseasonably mild weather provided generally favorable overwintering conditions for winter wheat and winterkill was below average. Drought conditions developed in the spring and were accompanied by extremely hot weather from May 20-June 2, adversely affecting winter wheat in the highly weather-sensitive reproductive phase of development and resulting in a 9 percent decline in yield. Overall, wheat production declined only slightly from the previous year, mainly due to a 9 percent increase in area. Coarse grain production fell 24 percent from 2006, mainly due to a 51 percent decline in spring barley production caused by drought and periodic heat in May and June. Corn production increased 16 percent due to higher area and yield.

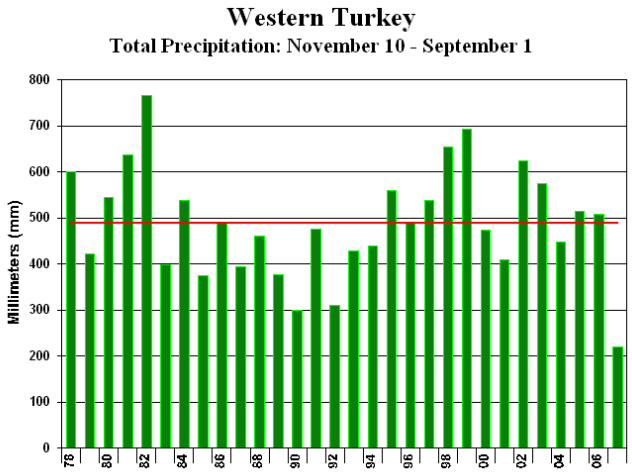

Figure 3. Annual comparisons of total precipitation for the period November 10 to September 1 depicting the 2006-07 drought in Western Turkey.

In Kazakhstan, spring grains (mostly spring wheat and spring barley) historically account for about 90 percent of total grain production. Furthermore, most of the wheat grown in the country is of a spring variety; spring barley typically accounts for about 80 percent of Kazakhstan's coarse grain production. Wheat production rose 23 percent in 2007, while coarse grain production rose 25 percent. The combination of timely rain and a lack of stressful heat during the growing season boosted yield prospects. Mostly dry weather in the fall favored harvest activities.

In Turkey, winter wheat production dropped 11 percent from 2006, as heat and dryness in southeastern Europe gradually spread into western portions of the Middle East. Turkey's barley production also suffered from the drought, with a decrease of more than 13 percent. As depicted by Figure 3, November 10, 2006 through September 1, 2007 was the driest such period over the past 30 years in western Turkey. Consequently, both winter and summer crops suffered significant losses, including not only wheat and barley but cotton and corn as well. In contrast, wheat and barley production increased (1 and 3 percent, respectively) in Iran, as favorable weather boosted crop yields.

In northwestern Africa, extreme drought slashed Moroccan wheat production by more than 76 percent over last year, with barley production down almost 79 percent. The sharp contrast between successive rainy seasons is illustrated in Figure 4, notably the dryness which began in November, 2006. Meanwhile, timely rain maintained favorable moisture supplies for winter wheat and barley in Algeria and Tunisia, with winter crop production up slightly in both countries.

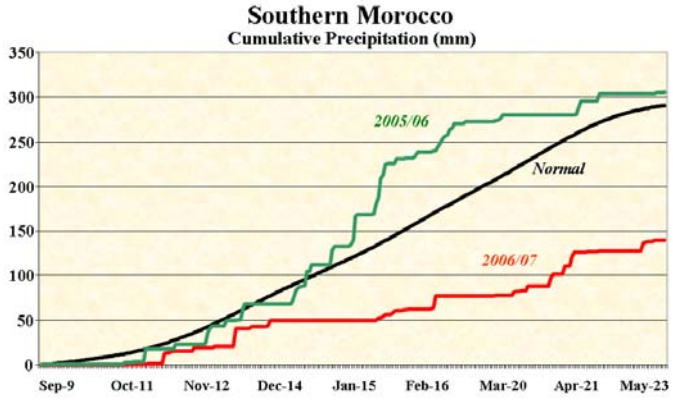

Figure 4. Comparison of seasonal cumulative rainfall during the 2005/06 and 2006/07 winter-spring growing seasons (September to May) in southern Morocco.

In China, wheat production rose slightly (less than 2 percent) from 2006. Despite a dry spring, soil moisture was adequate due to seasonal irrigation and dry weather in May and June aided harvesting. Corn production remained unchanged as increased area offset a reduction in yields due to inconsistent rains in Manchuria (Figure 5).

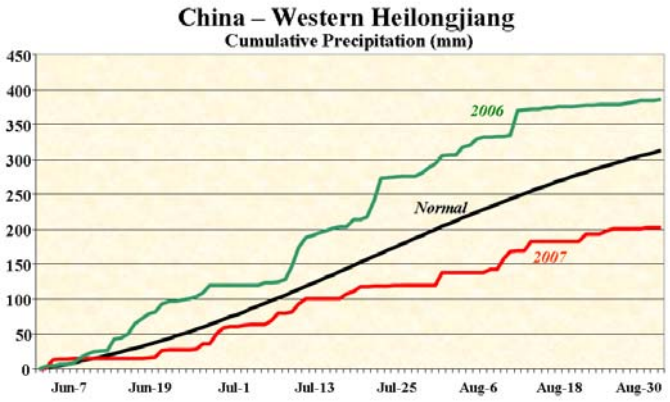

Figure 5. Comparison of seasonal cumulative rainfall (2006 and 2007) for western Heilongjiang state, China.

In India, wheat production increased 8 percent, not only from an increase in planted area, but also courtesy of favorable winter and spring weather. Likewise, Indian coarse grain production increased (5 percent) as a result of timely, abundant monsoon rainfall. In Pakistan, a third straight year of favorable weather coupled with a slight increase in planted acreage resulted in a 6 percent increase in wheat production.

In the Southern Hemisphere, a severe drought plagued much of the Australian wheat belt for the second consecutive year. Nevertheless, pockets of reasonably good weather enabled national wheat and barley production to rebound year-over-year, increasing 22 and 39 percent, respectively, relative to 2006 levels. In the autumn, unseasonably dry weather in Western Australia hampered wheat and barley sowing. During the remainder of the growing season, near-normal rainfall in southern portions of the state aided wheat and barley development. In contrast, below-normal rainfall in northern parts of Western Australia offered little drought relief, limiting winter grain production.

Elsewhere, soaking rains brought much-needed drought relief to southern and eastern Australia during the autumn, encouraging winter grain planting and establishment. Occasional showers continued in central Queensland throughout the growing season, benefiting winter wheat. In southeastern Australia, however, much drier weather overspread the area during the winter and spring (Figure 6). Periodic heat compounded the dryness, causing drought to become reestablished across the region. The unseasonably hot, dry weather was devastating for jointing, reproductive, and filling winter grains, causing wheat and barley yields to fall well short of potential.

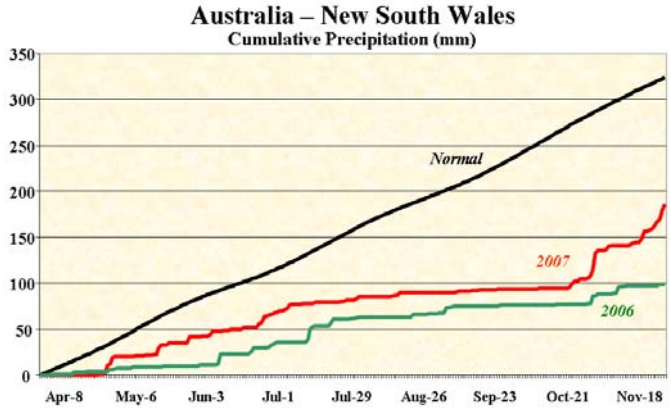

Figure 6. Comparison of cumulative seasonal rainfall (2006 and 2007) for New South Wales, Australia.

In South Africa, corn production rose about 5 percent from the 2005/06 growing season, as a substantial increase in area (2.90 million hectares versus 2.03 last year) offset yield declines caused by untimely summer dryness. Coarse grain production in Argentina rose more than 40 percent due to improved weather from the 2005/06 season. In particular, corn area rose approximately 360,000 hectares, with yields increasing by about 1.5 metric tons per hectare.

Similarly, Brazilian corn production rose 22 percent, fueled by increases of both yield and area. Conditions were especially favorable in southern Brazil, which had been affected by drought at various stages during the previous 3 summer growing seasons (Figure 7). Argentine winter

wheat production rose slightly, as larger area helped to offset the effects of a late spring freeze in primary production areas of Buenos Aires. Wheat production rebounded in Brazil, which was hit by a severe freeze last year.

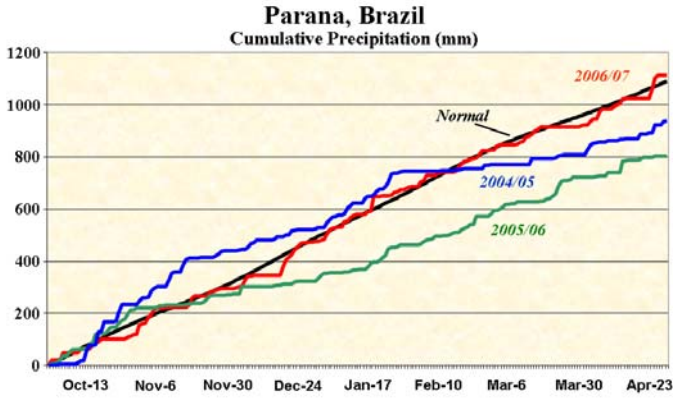

Figure 7. Comparison of seasonal cumulative rainfall (2004/05, 2005/06, and 2006/07) for Parana, Brazil.

Oilseed Summary: Global oilseed production declined 4 percent in 2007. Production increased in India, Brazil, and Argentina, and declined in the United States, Russia, Ukraine, China, Indonesia, Turkey, Pakistan, Canada, and most countries in the European Union.

In North America, United States soybean production was 19 percent below the record high established in 2006. Yield was down less than 4 percent from last year, but a 16 percent decrease in harvested acreage contributed significantly to the drop in production. The greatest threat to U.S. soybean production was the drought and excessively high temperatures that affected southern growing areas. Production of major Canadian oilseeds fell 8 percent from 2006 despite a 10 percent increase in total area. Ontario soybean production was hit by summer drought, as were canola and other summer-grown oilseeds in western sections of the Prairies.

In the European Union, oilseed reductions in the drought-stricken countries of Romania (down 52 percent) and Hungary (down 16 percent) were mostly offset by gains across the remainder of Europe, with a net total decrease of less than 1 percent in the EU-27. In particular, production increases of 7 percent were noted in France and the United Kingdom, with even larger gains in the Czech Republic (up 13 percent). Rapeseed production improved nearly region-wide for the second straight year, reflecting a continued expansion of area planted to rapeseed. Of the largest European rapeseed producers, only Germany reported a slight decrease (less than 1 percent) due to unfavorably wet summer harvest weather.

In Russia and Ukraine, sunflower production fell 16 percent and 21 percent, respectively in 2007. Excessive heat and dryness prevailed across major sunflower producing areas in southern Russia and Ukraine during July and August, reducing yield prospects for sunflowers advancing through the flowering and filling stages of development. Sunflower area also declined in both countries.

In China, soybean area declined sharply due to increased corn planting. Additionally, yields were down from inconsistent rains and prolonged periods of dryness in Manchuria and especially Heilongjiang (Figure 5). The combined effects of reduced area and yield led to a 10 percent decrease in soybean production. Rapeseed production fell by nearly 9 percent in response to area and yield reductions. Despite seemingly favorable weather and adequate soil moisture through irrigation, above-normal temperatures during reproduction likely contributed to the yield reductions.

In India, total oilseed production shot up 12 percent from 2006, reflecting an increase in acreage as well as higher yields. Winter rapeseed production was down 5 percent from last year, although this was attributed to a significant decrease in area. Summer oilseed production increased substantially due to the wettest Indian monsoon since 1981 as well as an increase in area planted. In particular, double-digit gains were reported for sunflowers (29 percent), soybeans (20 percent), and peanuts (11 percent).

Improved weather in 2007 led to significant increases in South American oilseed production. In Brazil, soybean production reached a record 59 million metric tons despite a 7 percent reduction in acreage, mainly due to improved growing season weather in drought-prone southern farming areas (see Figure 7). Argentina harvested a record 47 million metric tons of soybeans in 2007 due to increases in both area and yield.

Rice Summary: World rice production rose slightly in 2007. Rice production was slightly higher than 2006 levels in most of Southeast Asia, while production trailed last year's pace in Bangladesh and India.

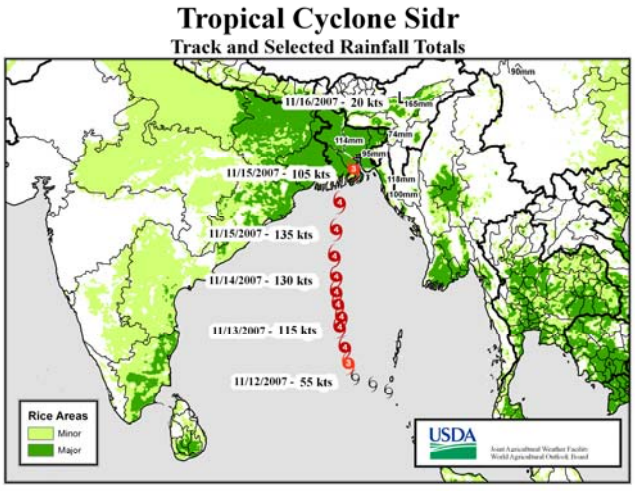

Figure 8. Map showing track and strength of Tropical Cyclone Sidr as it rapidly intensified from tropical storm strength on November 12, 2007 to super-typhoon intensity on November 13. (Cyclone data courtesy of the Joint Typhoon Warning Center via the University of Hawaii; crop area estimates courtesy of the University of Wisconsin SAGE project).

Decreases in rice production were noted across South Asia, where excessive monsoon rainfall in Bangladesh and eastern India caused flooding and necessitated replanting of main-season rice on several occasions. In addition, powerful tropical cyclone Sidr (Figure 8) struck southern and central Bangladesh in mid- November as main-season rice harvesting was underway, further trimming crop expectations. Peak intensity was estimated at 135 knots on November 15, before weakening to category 3 strength (on the Saffir-Simpson scale) at landfall with sustained winds of 105 knots. The cyclone's rapid movement mitigated the impacts somewhat, although damage to crops and infrastructure were reported along and east of the storm path. Elsewhere, favorable monsoon rains and ample irrigation increased rice production slightly throughout Thailand, Vietnam, and China with a slight reduction in the Philippines due to dryness in key northern growing areas.

Cotton Summary: Global cotton production dropped 2 percent in 2007. Production increased in Uzbekistan, India, Argentina, and Brazil and declined in the United States, Turkey, and Pakistan. Production remained unchanged in China and Greece.

In the Northern Hemisphere, United States cotton production was 12 percent below last year, mainly due to an 18 percent decline in harvested acreage. Yield, however, attained a record high, surpassing the 2004 standard. Cotton yields were markedly higher on the southern Plains, where favorably wet conditions replaced last year's drought. In contrast, drought adversely affected some cotton acreage in the Southeast. In Greece and Turkey, cotton areas were hit with scorching heat (temperatures greater than 40 degrees C) as the crop entered reproduction. Consequently, Greek production remained unchanged from the 2006 15-year low, while Turkish production fell 15 percent from last year. In India, cotton production rose 12 percent as planted acreage and yields increased. Production in Pakistan fell 13 percent in response to widespread pest infestations as well as early-season flooding and late-season heat. In Uzbekistan, cotton production rose 3 percent in 2007 due to very favorable weather during the entire growing season and fall harvest period. In China, cotton production remained unchanged compared to last year as a slight decrease in yields due to wet harvest weather on the North China Plain was offset by an increase in area.

In the Southern Hemisphere, 2007 Australian cotton production plunged 52 percent relative to 2006 levels. Below-normal rainfall and drought-reduced reservoirs limited moisture supplies for dryland and irrigated cotton, significantly reducing crop production. In Brazil, cotton production rose nearly 50 percent on substantial increases in both acreage and yield. Argentine production rose nearly 30 percent, due to a similar increase in acreage and stable yields.