January 27, 2014

Afghanistan MY2014/15 Winter Grains Northern Rain-fed Region Concern Due to Low Precipitation

Adequate precipitation is needed early in the winter grains season (October through December) to allow for good stand establishment before the onset of winter dormancy. Wheat is the dominant winter grains and in most years falls short of demand for total consumption by nearly 2 million metric tons (MMT). Under normal conditions, approximately 70 percent of the total Afghanistan winter wheat crop is irrigated. In market year (MY) 2007/08 and MY2010/11, prevailing dry conditions significantly decreased total wheat production in the rain-fed regions (Fig. 1). The last two years (MY2013/14 and MY2012/13) were favorable for winter grains production in Afghanistan because of timely precipitation and mild temperatures. The USDA will publish its first estimate of the MY2014/15 World Agricultural Supply and Demand Estimates on May 9, 2014 which will include Afghanistan winter grain production (6).

Wheat and barley production by province are shown in Figure 2. The MY2014/15 crop is currently dormant and should break dormancy by early to mid March. The high producing states in the southwest depend mainly on irrigation from the Helmand and Arghandab Rivers and to a lesser extent on precipitation. The high producing wheat region that ranges across the north has both an irrigated and rain-fed crop (Fig. 3). In 2013, from October through November, dry weather allowed for timely planting. However, dry conditions persisted through November and December for a large part of the northern winter grains area and may have been detrimental towards good winter grains crop establishment (Figs. 4 and 5). During planting and establishment in MY2010/11, early season dry weather effectively eliminated the northern rain-fed crop. The MY2014/15 northern rain-fed area will need to be monitored closely – specifically the provinces of Badghis, Faryab, Sar-e-Pol, and Balkh (Figs. 5 and 6). The winter grains crop growth generally peaks around early April. MODIS satellite observations over the northern area, specifically normalized vegetation index values which are a measure of active plant biomass, near this peak growth period will be available then and should offer more definitive information regarding the condition of this crop.

Presently, satellite imagery indicates much of the higher elevations to be snow covered (Fig 7). The snow assessment reported by U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory (ERCD/CRREL) indicated that snow accumulations in all of the major water sheds were at normal levels (3). While the snow depths are normal for early December, continued snow accumulations until the end of March are important to help build snow pack that supplies irrigation river sources important to major crop areas.

Figure 1. Barley and wheat production in metric tons (MT) from 1960 to 2013 (5).

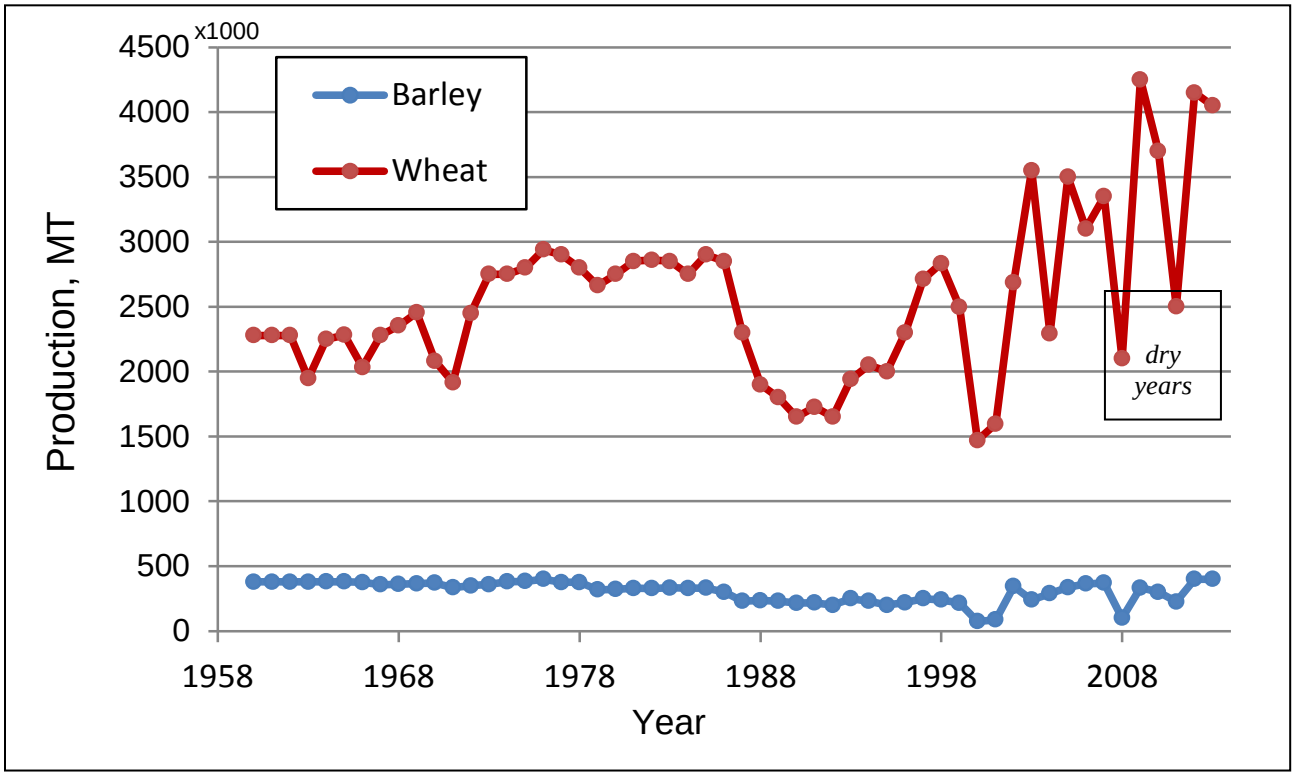
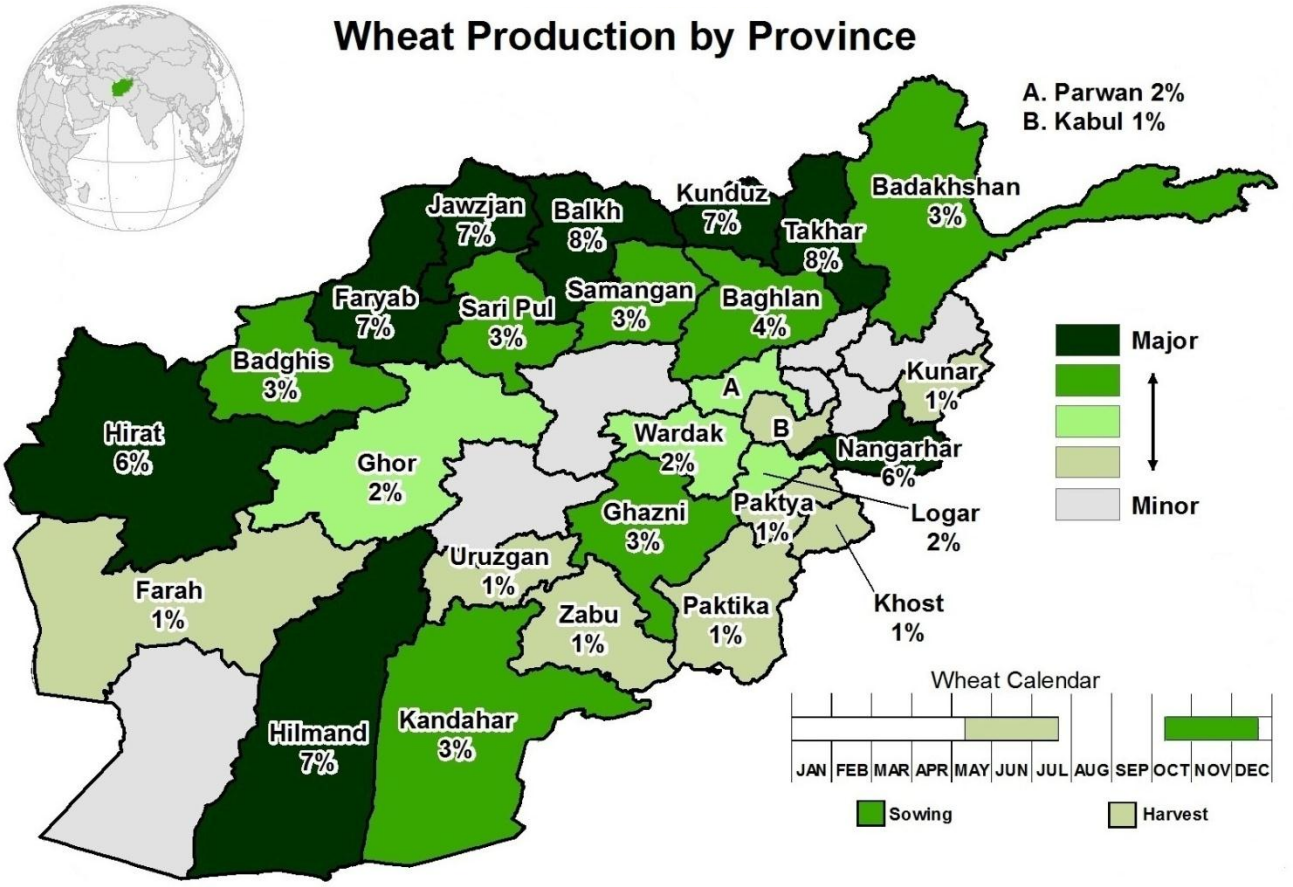


Figure 2. Maps illustrating percent of total wheat and barley production by province for 2012/13 (1).



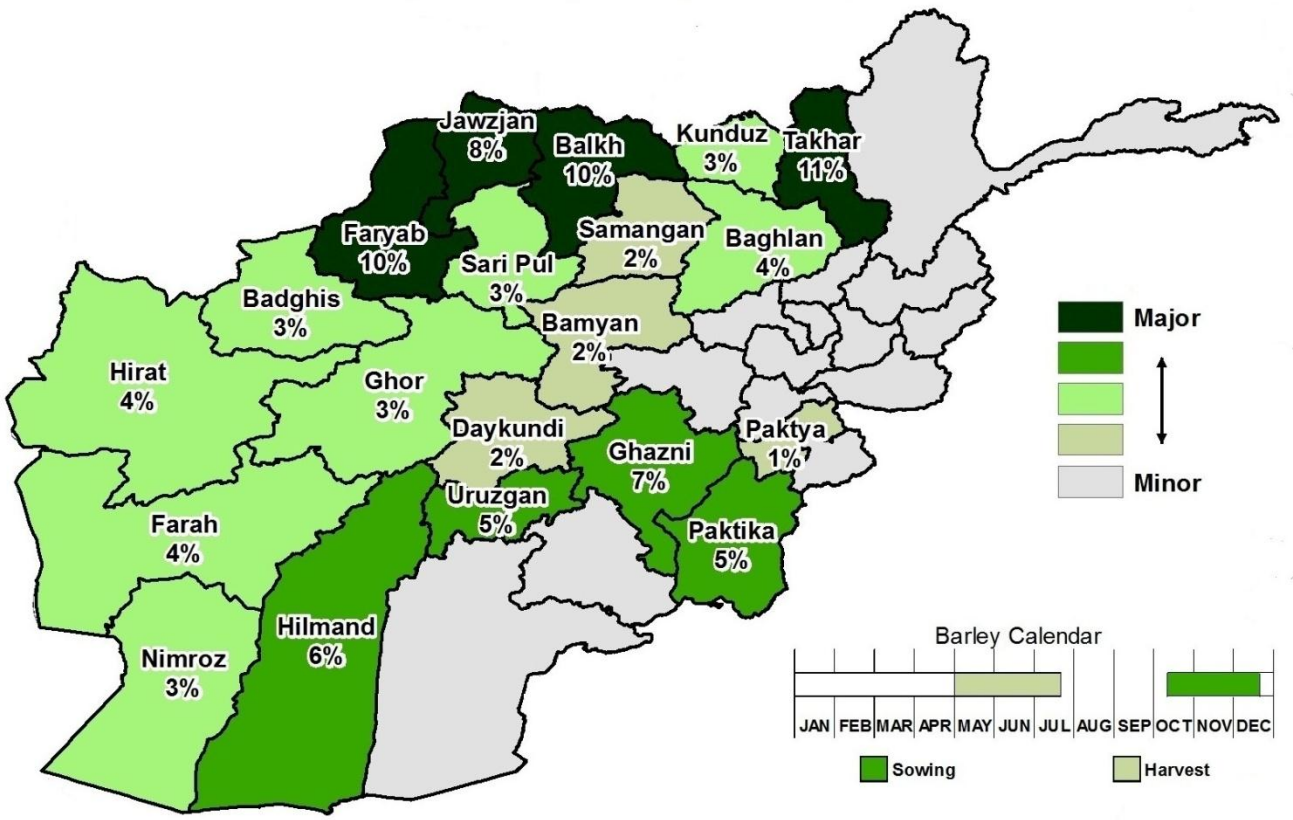


Fig 3. Irrigated and rain-fed wheat production for the northern winter grain growing region (1).

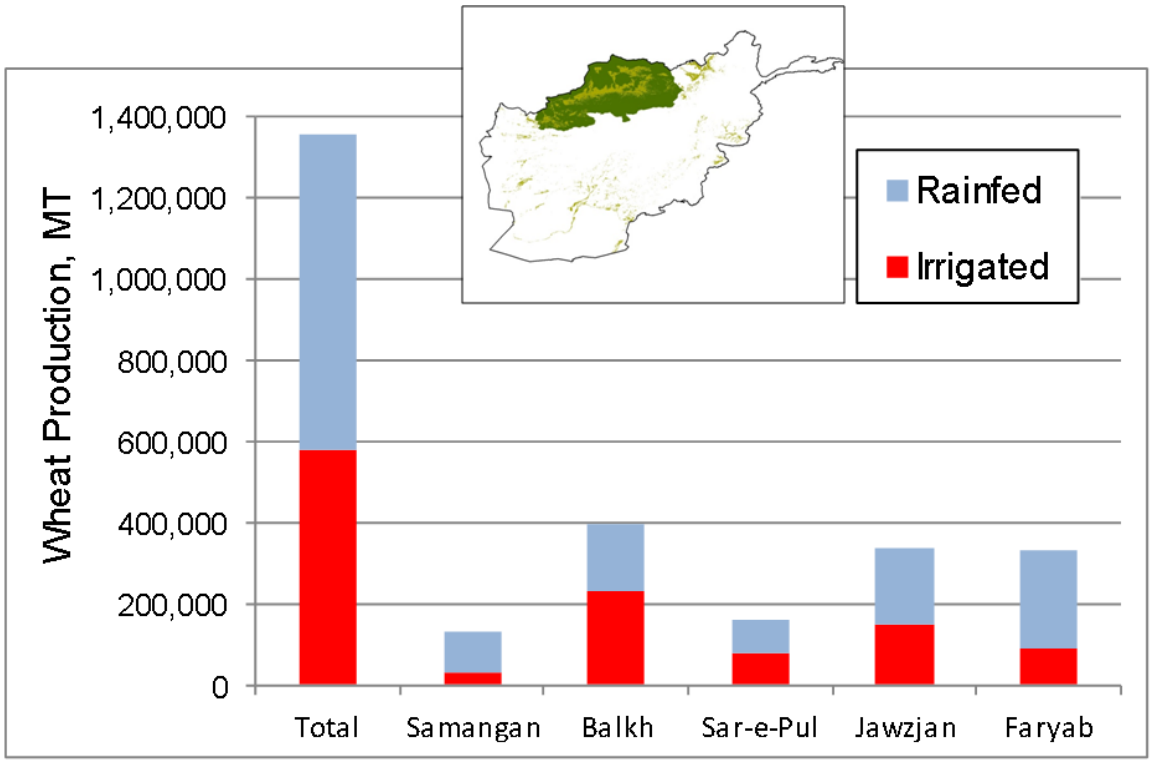


Fig. 4. Map of cumulative precipitation from October 1 to December 31, 2013 (2).

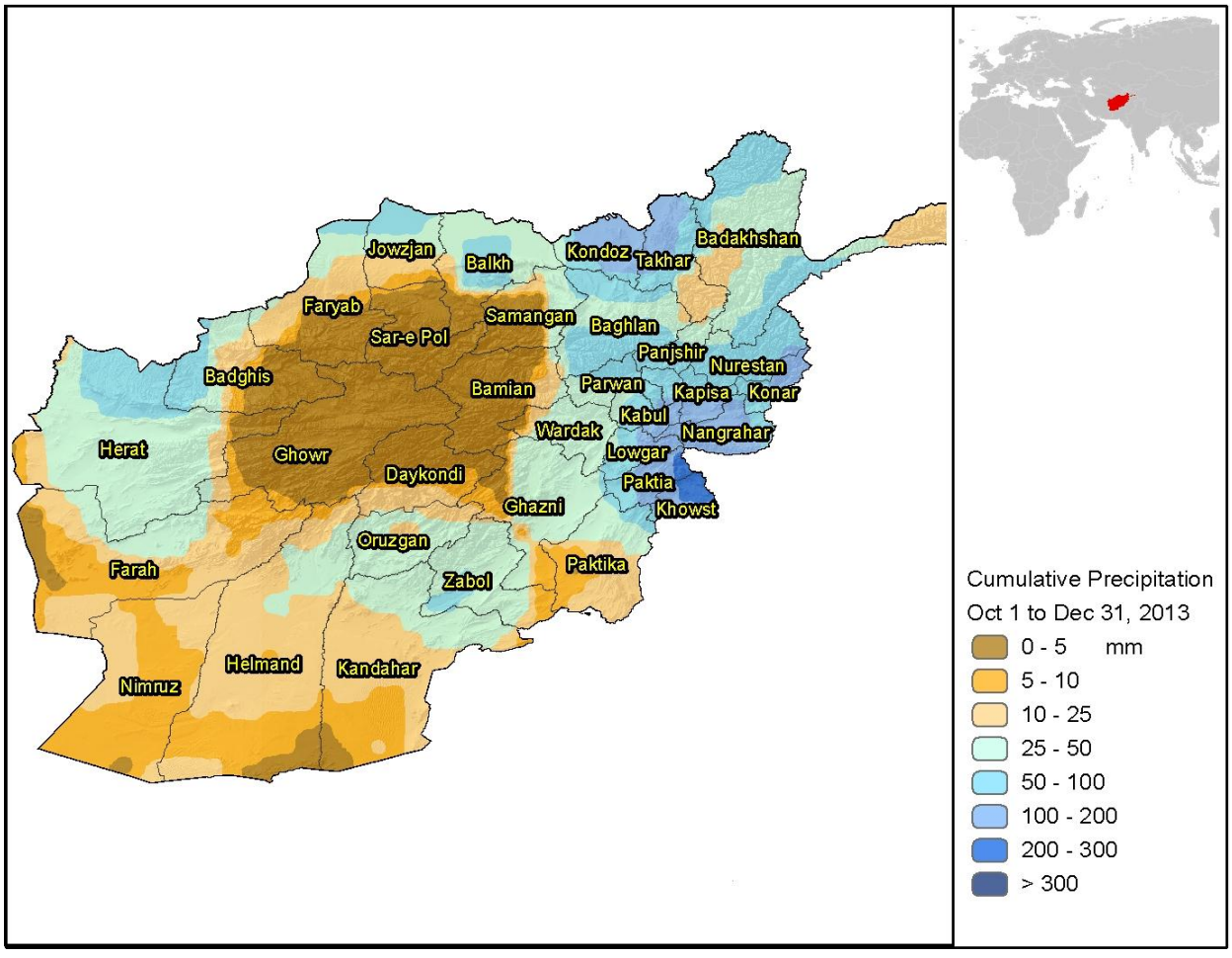


Figure 5. Map of cumulative precipitation over the northern winter grains area (light green shaded area) from October 1 to December 31, 2013 (2).

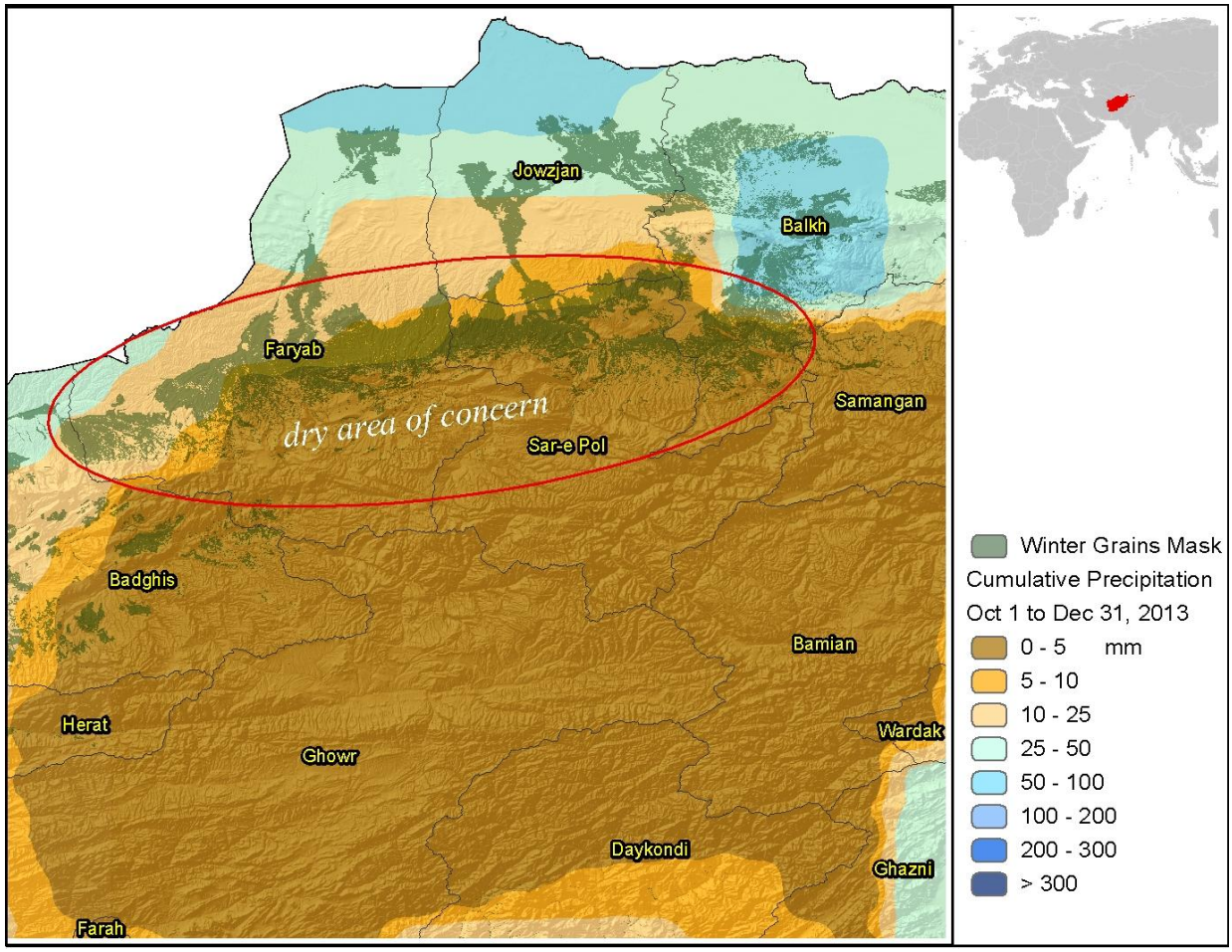


Figure 6. Time series of cumulative precipitation from October 1 to December 31, 2013 for the northern winter grains region (light blue highlighted squares from Air Force Weather Agency Land Information System – each grid is 22 km on a side) (2).

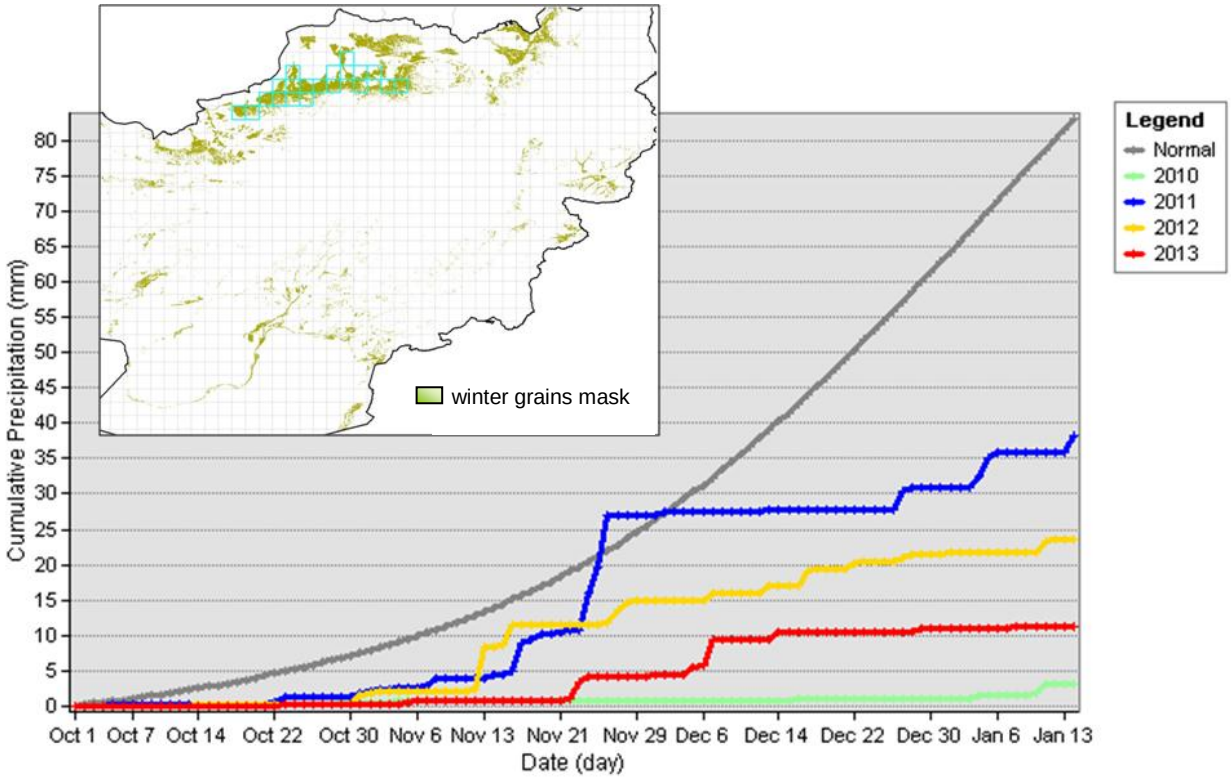
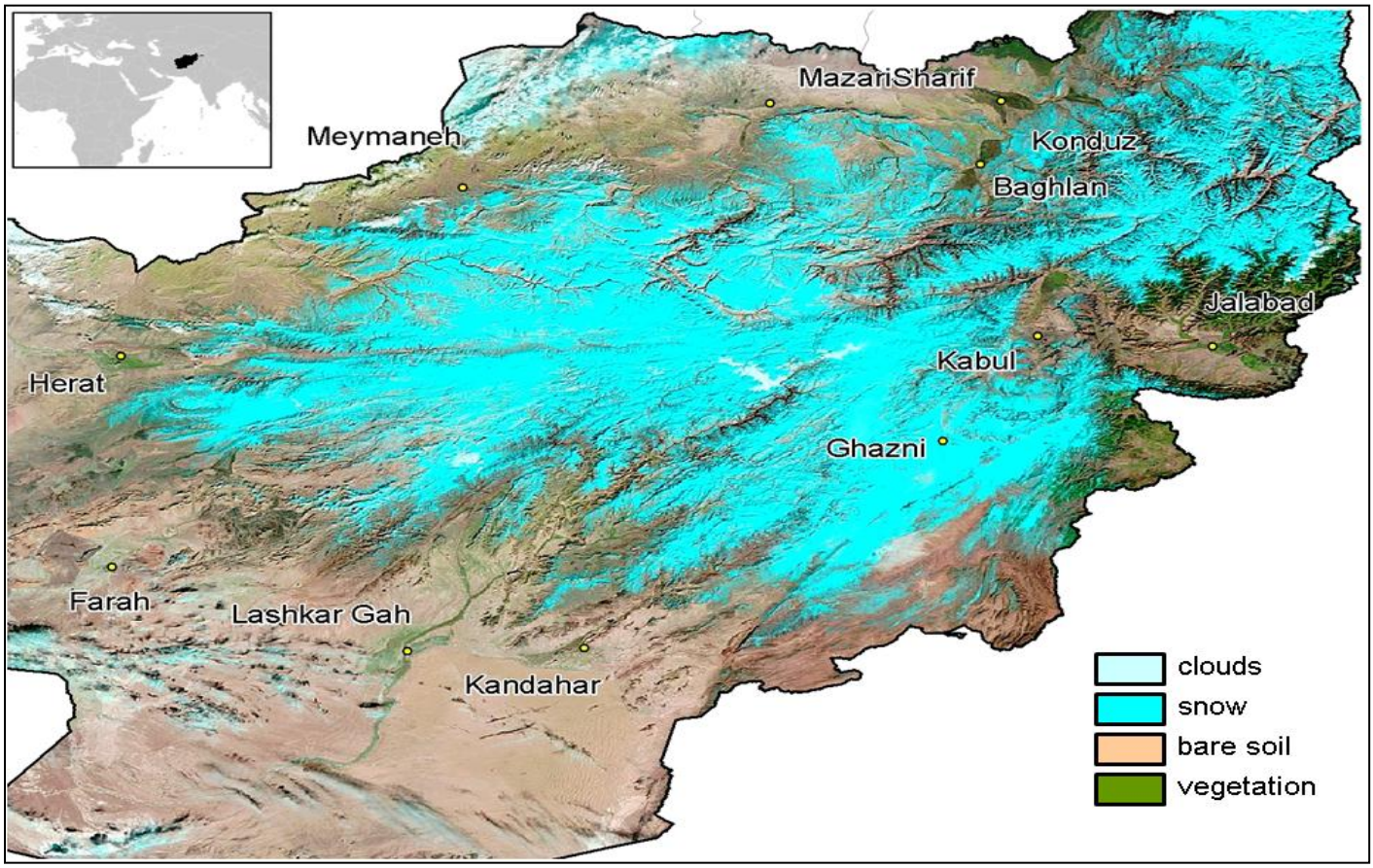


Figure 7. MODIS satellite image (bands 7,2,1) of Afghanistan for January 15, 2014 (4).



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