

Climate Impact Company AG Global Climate ALERT/Sunday Brief

Issued: Sunday, January 7, 2018

Headline: U.S. cold retreat, some Argentina dryness, snow and cold pattern change for Europe and hot/dry eastern Australia

United States: A frigid start to January 2018 in the U.S. with coldest anomalies centered on the eastern Corn Belt (Fig. 1). Many locations experienced record cold in the Midwest and East and preliminarily the cold was considered a 1-in-50 to 1-in-75 year event.

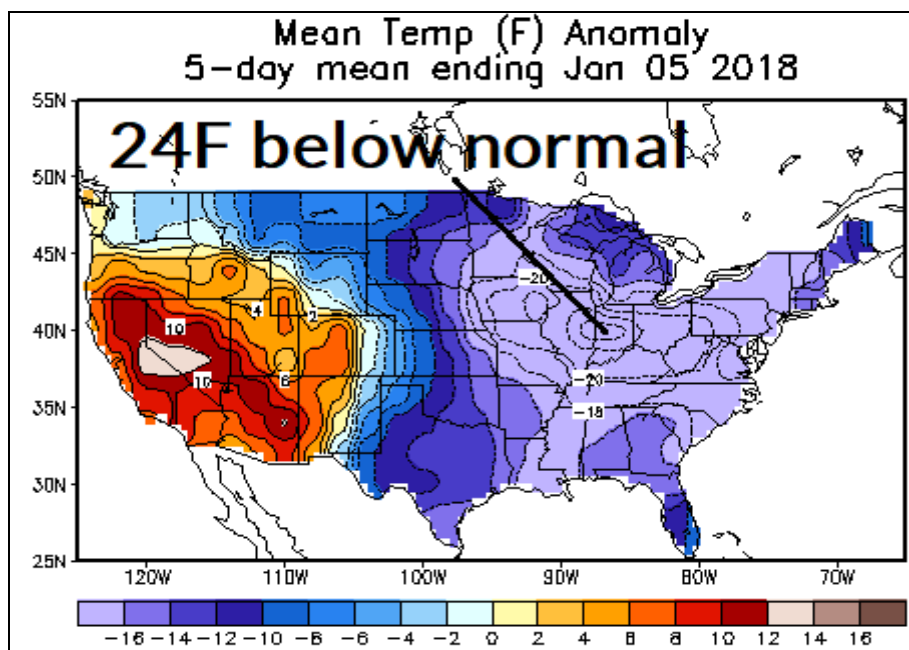


Fig. 1: January 1-5, 2018 U.S. temperature anomalies identify the deep arctic cold across the Central and East U.S.

Forecast models break the cold this week as the arctic air quickly retreats to Canada and is replaced by a milder Pacific influence. The incoming warmer pattern is choppy. A warm spike is indicated this week in Chicago, followed colder temperatures (with snow) into early next week and then mild again Jan. 18-21 (Fig. 2).

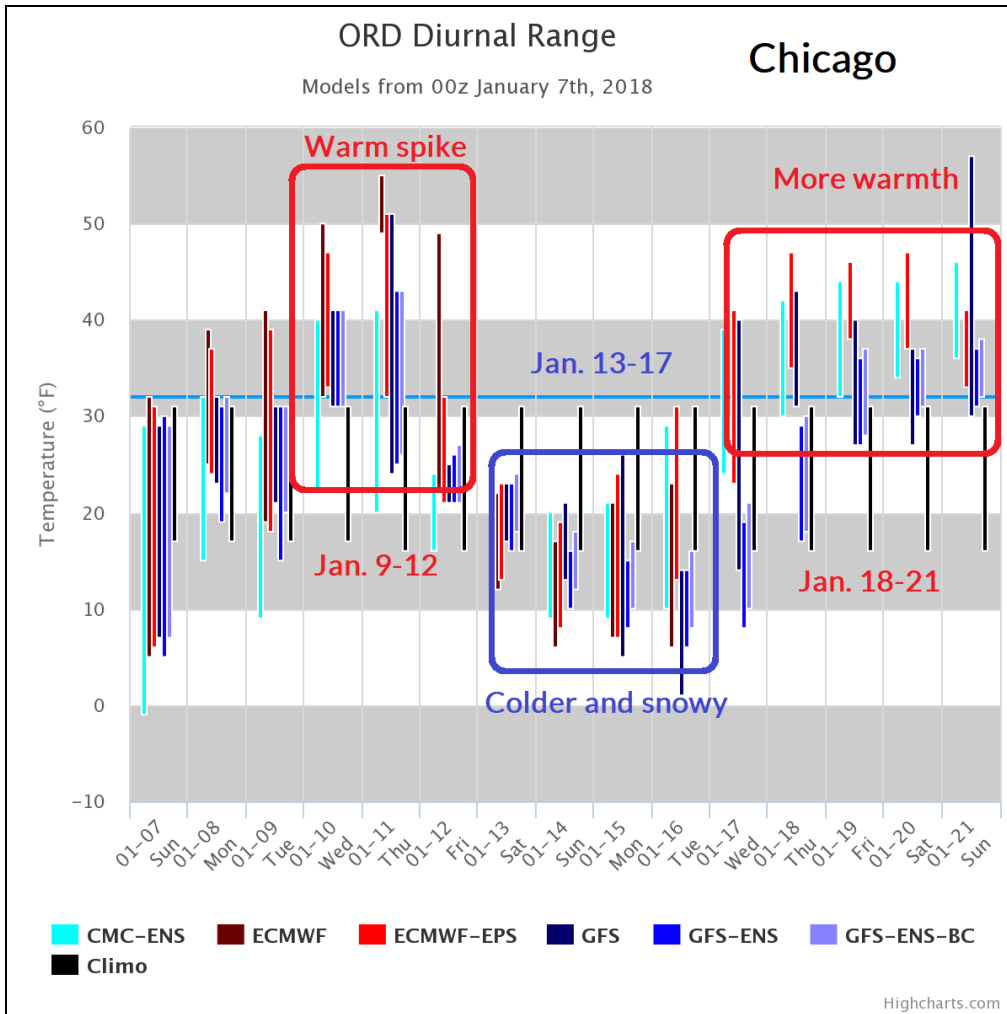


Fig. 2: Using all models the max/min forecasts for Chicago the next 15 days indicates a choppy thermal pattern.

Interest is increasing in potential U.S. drought departing the cold season. Currently, soil moisture deficits are present for many regions of the U.S. including the East-Central U.S. centered on the Missouri Valley (**Fig. 3**). However, signs of above normal precipitation due to the warmer pattern change are increasing. The GFS ensemble projects above normal precipitation across the West and Central U.S. the next 15 days (**Fig. 4**). Much of this precipitation will be snowfall.

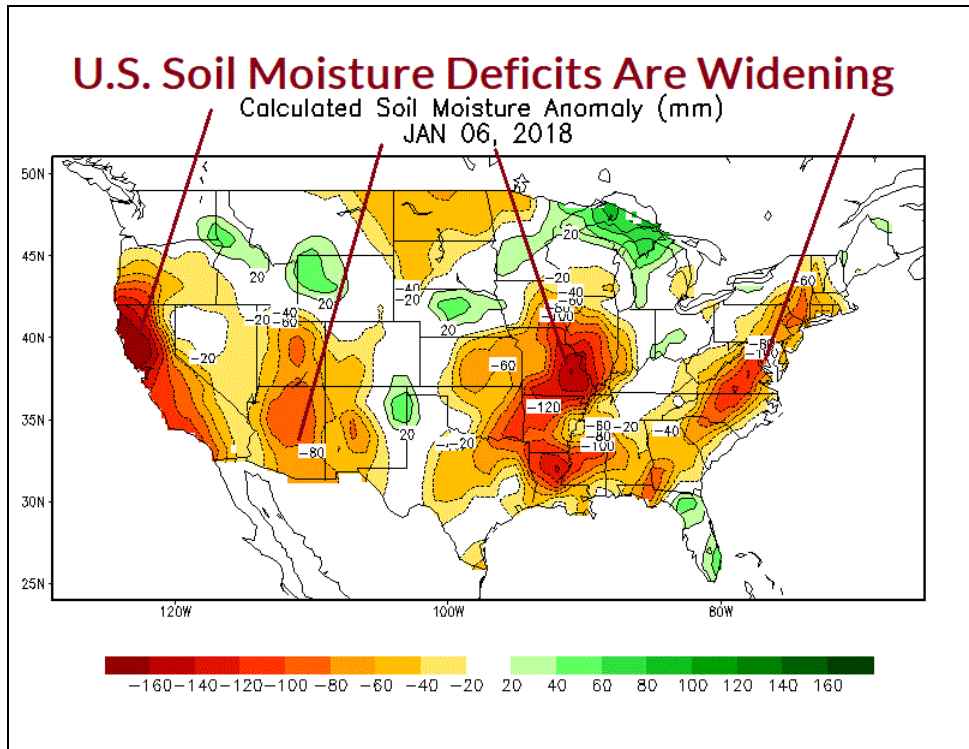


Fig. 3: U.S. soil moisture anomaly observations indicate widening dryness.

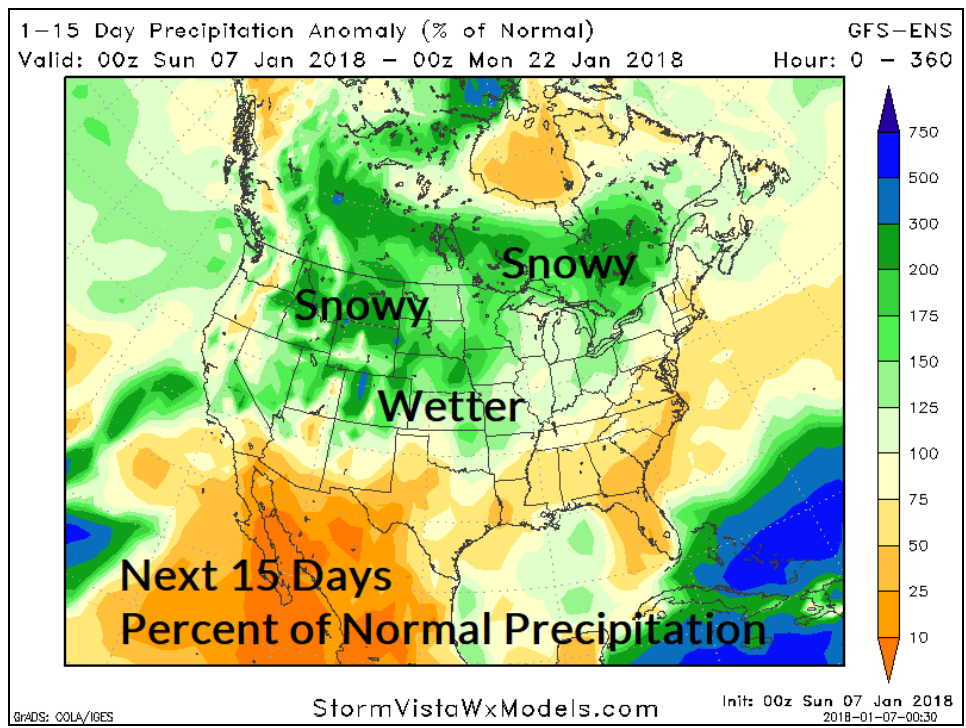


Fig. 4: The GFS ENS 15-day precipitation forecast indicates above normal amount West and Central U.S.

Argentina/Brazil: The Madden Julian oscillation is in the far eastern Indian Ocean/far western Pacific Ocean. Down east from this zone the subsidence phase of MJO is present and enhanced by La Nina. The subsidence phase of MJO in the eastern tropical Pacific lends dry support for South America climate. The GFS ensemble indicates no rain in Argentina the next 5 days while east-central Brazil is also quite dry (Fig. 5). Anomalous heat is also forecast across Argentina this week. In the 6-10 day forecast the GFS ensemble indicates minor rainfall affecting both Argentina and Brazil (Fig. 6). The 11-15 day forecast is made with low confidence. The GFS ensemble indicates dryness across Brazil with a mixed wet/dry scenario over central/north Argentina (Fig. 7).

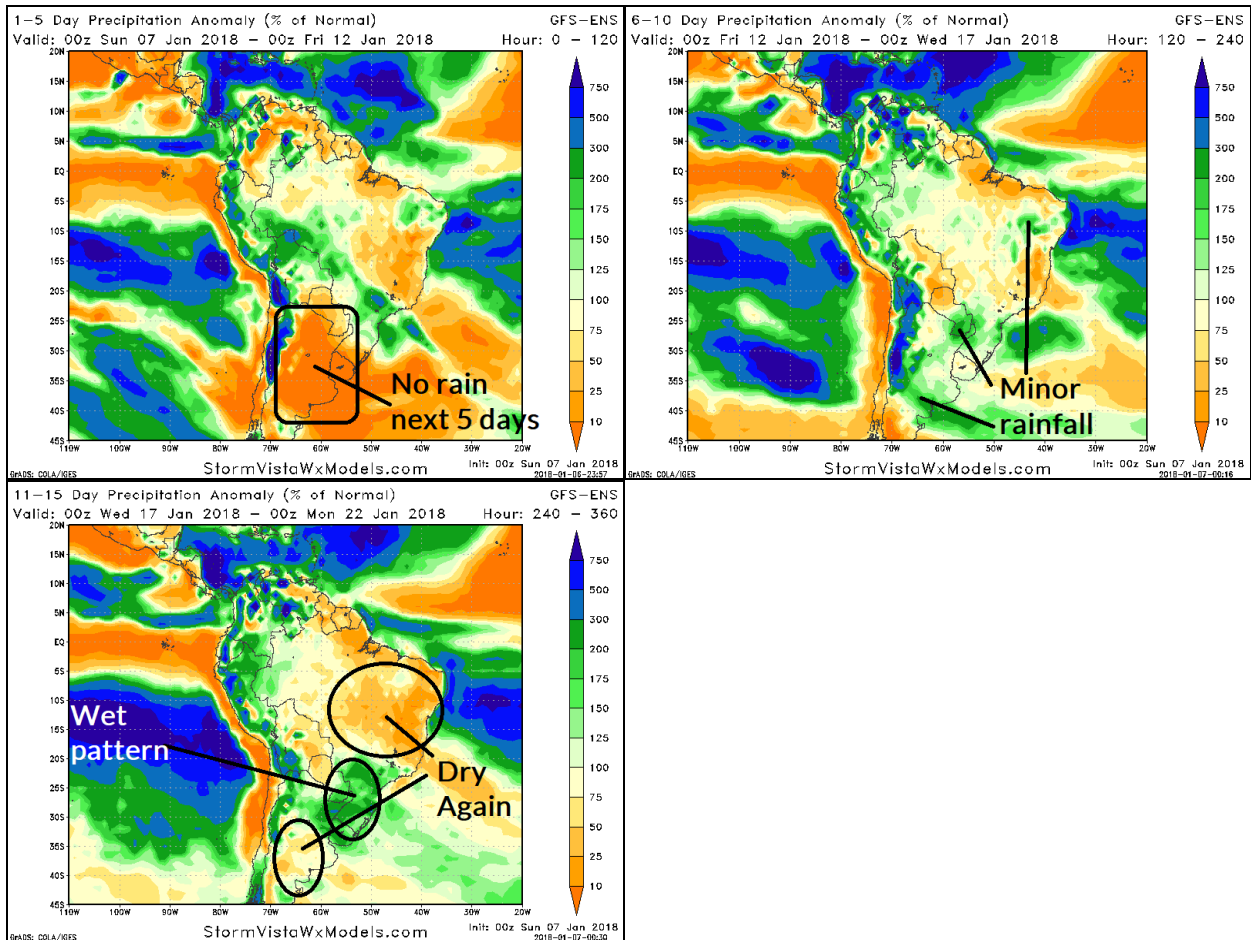


Fig. 5-7: The percent of normal rainfall forecast across South America by the GFS ENS over the day 1-5, 6-10 and 11-15 period.

Europe: The warm early winter pattern while the U.S. has been extremely cold lasts a little longer (Fig. 8). However, in the 6-10 day period cold air in Russia is quickly invited westward to cover much of north and northeast Europe to Western Russia and Ukraine (Fig. 9). Snowfall emerges especially in the 6-10 day period (Fig. 10) enhancing the incoming colder pattern change.

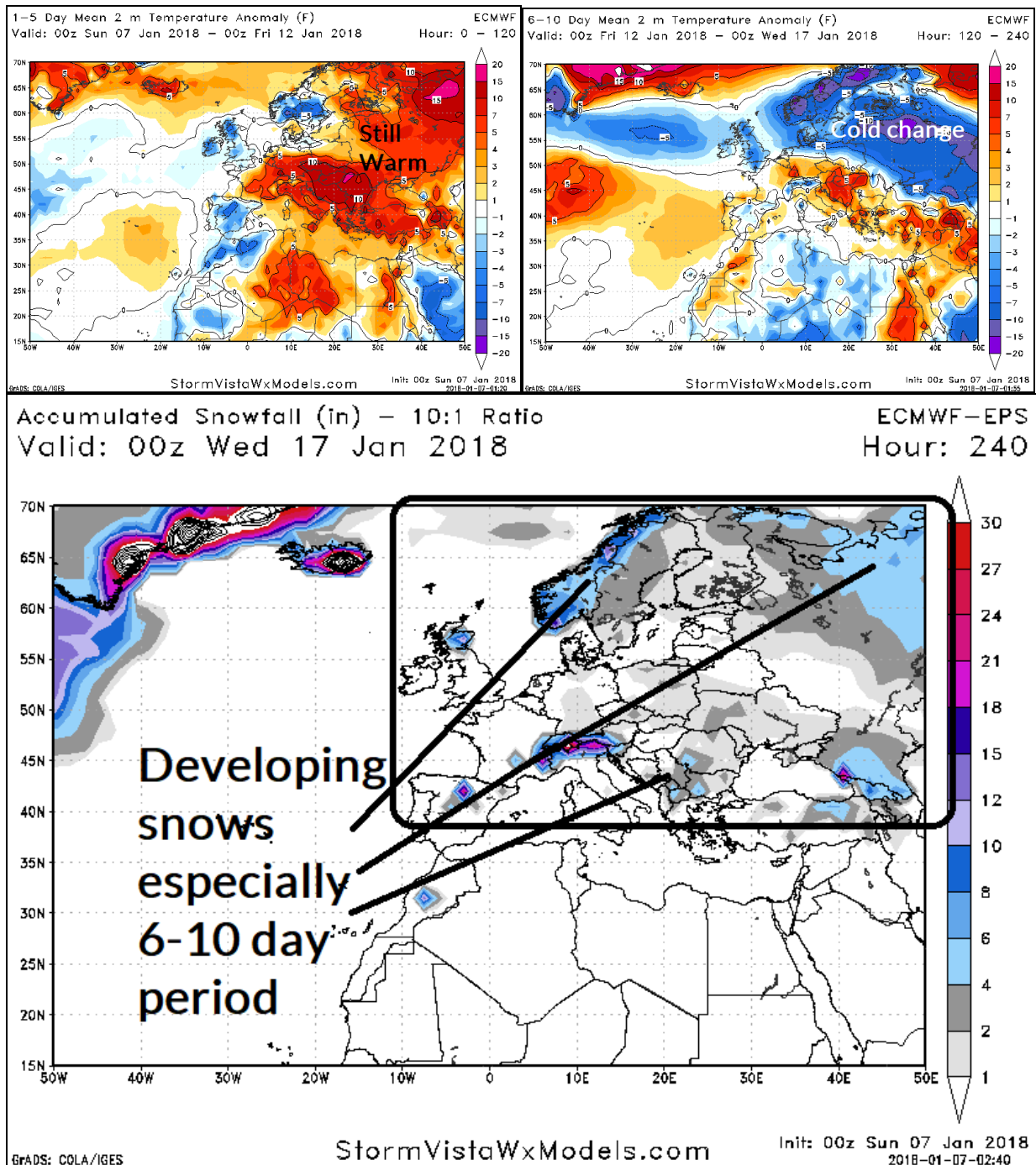


Fig. 8-10: The day 1-5 and 6-10 temperature anomaly forecast across Europe indicates the warm to cold pattern change. With the colder air snowfall increases especially in the 6-10 day period.

Australia: On average the next 15 days average hotter and drier across eastern Australia (**Fig. 11-12**). The southeast and south drought have eroded slightly but the July heat and dryness will re-enhance drought concerns. West to central portions of Australia turn showery.

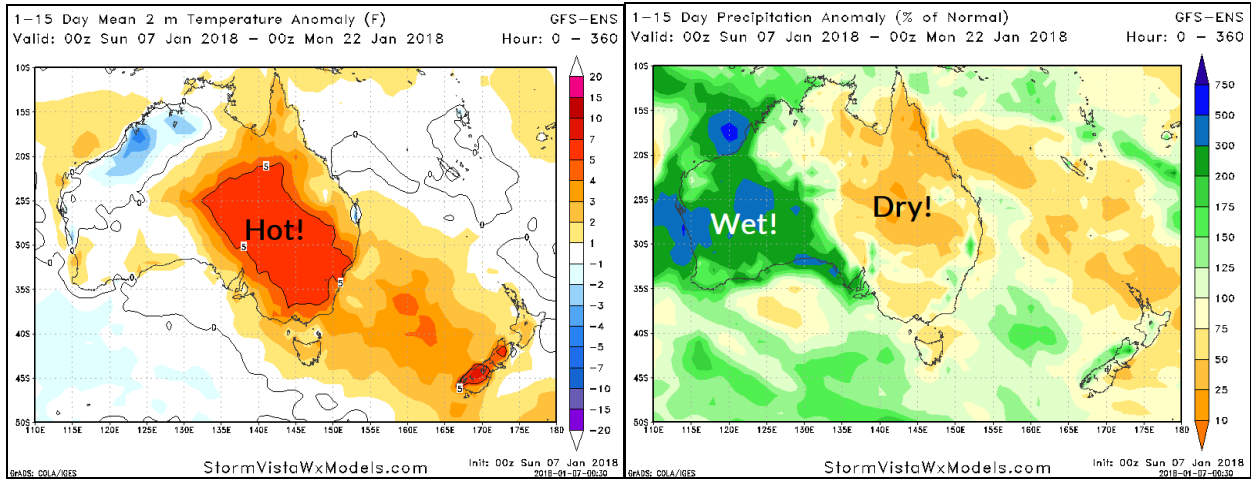


Fig. 11-12: The 15-day temperature anomaly and percent of normal rainfall forecast by the GFS ENS for Australia.