#### By Andrew Owen and Drew Lerner

Kansas City, April 18 (World Weather Inc.) – Below average precipitation in portions of Europe over the past few weeks has brought on déjà vu. Last year at this time parts of Europe's upper air wind flow became highly disjointed and because of that rainfall became lighter and much more erratic than usual. Temperatures trended warmer at the same time rainfall became erratic and before long a large part of northern Europe entered one of its more severe droughts in modern times. *Recent below average precipitation in Europe has evolved from the same disjointed upper air wind flow pattern that evolved last year and the situation will prevail for another couple of weeks allowing more of the continent to dry down. The good news is that temperatures have been cool and that has slowed the decline in soil conditions. However, warming is expected through the balance of April and dryness is expected to become more significant in "some" areas.* 



Europe is normally a wet place especially in late winter and early spring, but that has certainly not been the case recently. Precipitation over the 30-day period ending April 17 was less than half of normal in parts of the United Kingdom and France as well as from eastern Germany and Czech Republic to the Baltic States, parts of Belarus and western Ukraine. Within this region, there are many areas reporting less than 25% of normal precipitation with a few areas nearly dry. Cooler-than-usual temperatures occurred over this past week and readings prior to that were seasonable to slightly warmer biased. At this time of year slightly warmer biased temperatures are not warm enough to induce rapid drying and

that has conserved soil moisture and protected winter crops that have only been greening and developing for a few weeks.



Early season crop prospects are still favorable in much of Europe despite the drier bias in recent weeks, but change must occur soon. Several areas from the United Kingdom into Poland and the Baltic States reported little to no rain in the most recent seven-day period. Scandinavia was also mostly dry along with northwestern portions of the Commonwealth of Independent States (CIS). Rainfall during the past week was greatest from Croatia to Greece, Bulgaria, Romania and portions of Ukraine where moisture totals varied from 0.50 to 2.00 inches with a few locations reporting 2.00 to 3.50 inches. Some of the precipitation in southeastern Europe, including Ukraine, brought on significant relief to weeks of drying and improved topsoil moisture for a burst of improved planting and early season winter and spring crop development.

France and northern Spain received a trace to 0.79 inch of rain during the past week while several pockets from Germany into western Ukraine and southern Belarus only received a trace to 0.28 inch. Most of the Baltic States were dry.

<u>Average temperatures during this past week were a little cooler biased with nightly</u> frost and freezes in many of the drier areas. <u>The cool weather helped to put early wheat</u>, barley and rye development on hold. Some of the early vegetative growth of winter crops was likely burned back by the frost and freezes, but no permanent harm came to production potentials.

Prior to this week's precipitation dryness was most serious in Spain, Hungary, portions of Serbia and Romania as well as southern and eastern Ukraine. The week's precipitation brought significant relief to eastern and southern Ukraine with the ground now saturated once again. <u>However, relief from dryness was incomplete from Hungary into</u> Romania and areas to the north were already beginning to show firming conditions in the

topsoil as a result of the past four weeks of below average precipitation. Spain, in the meantime, remains quite dry with the largest need for moisture in the east.



Europe's normal rainy pattern usually results in short root systems. That results in production issues every time a short term bout of dryness evolves especially if it occurs while temperatures are well above average. In this particular case, temperatures have been cool limiting evaporation and conserving soil moisture. However, <u>a week or two of warmer than usual weather in late April and especially May can quickly accelerate the region's drying to the point of stressing winter and early planted spring crops. *There must be significant rainfall soon to prevent a more significant threat to crops from developing.*</u>

Europe's cooler biased conditions in the past week dropped soil temperatures below optimum development levels resulting in the stoppage of significant crop development. The areas still warm enough for crop growth were in France, Spain, Portugal, Italy and portions of both Hungary and the Balkan region. Eastern and southern Ukraine was also warm enough for crop development.

Warming is needed to restore a more favorable environment for crop development. Slow crop growth rates and low moisture demand will prevail over this coming week because of the recent cooler conditions. However, a warming trend is expected and temperatures will reach above average levels by early next week. Crop moisture demand and evaporation rates will increase as a result of the warmer weather. High temperatures will not likely rise above the 60s and lower 70s in the afternoons with low temperatures at night in the 30s and 40s.

Early season planting advanced favorably earlier this month when temperatures were warmer. This week's more significant growth became confined to southwestern parts of the continent; including France, Spain, Portugal and Italy. Some development occurred in the Balkan Countries, but not much growth occurred farther to the north.



Rainfall through the weekend and into early next week is not likely to be very great in many parts of Europe. Daily rainfall is expected in Spain with a few showers in Portugal, Morocco, France, and Italy. Eastern Spain will be wettest with 1.00 to 3.00 inches in eastcentral parts of the nation. Rainfall in most other areas will vary from 0.30 to 1.00 inch with portions of both Portugal and southern France getting less than 0.50 inch. A few other showers will impact Eastern Europe, but that moisture is also expected to be quite limited.

Over time next week, rain in southwestern Europe is expected to expand more significantly into France and northern Italy. Sufficient moisture will occur in these areas to bolster topsoil moisture and reduce crop moisture stress in unirrigated production areas of Spain. Northeastern parts of Europe will not receive much precipitation through the end of next week, but some erratically distributed showers are expected. Net drying will continue and may accelerate as temperatures begin to rise to above average levels.

Some of the computer forecast models have suggested Europe's wetter bias in the west will slowly shift and expand to the east during the last week of April. *Confidence in the outlook is low*, but some precipitation is expected. Areas from Scandinavia into the northwestern CIS and Poland will not likely receive much moisture for a while and a much closer watch is warranted for the region until greater rainfall evolves.

World Weather, Inc. does not anticipate a repeat of last year's serious drought in Europe. However, dryness will remain in portions of Scandinavia, northeastern Poland, the Baltic States Belarus and northwestern Russia for a while this spring. Rain elsewhere should be sufficient to support crops. Dryness in the northeast may become an issue later this spring, but not until temperatures become consistently warm which is unlikely for a while.

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