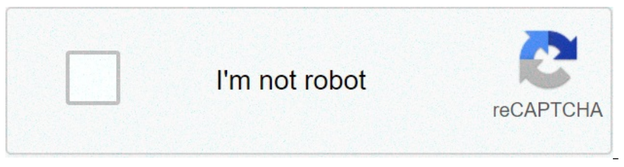

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Ipcc fifth assessment report agriculture

Climate change and food safety IPCC 2014 5th rating in all REGIONS DECLINE ABOVE 1.0C INCRESE WITH TEMPERATURES IN INTEGRATION AND CLIMATE CHANGE Evaluation of AR5 IPCC and future food security IPCC results are very important to understand why it is only the IPCC evaluation that is recognized by policy makers and governments. There are already observed better changes collected, which were all negative for all regions. The results for the future from computer model projections do not capture the extension of many great adverse impacts - including prolonged drought, heat waves, floods, parasite ozone level and climate variability. Chroccant diseases, pests and parasites have always been planned to increase under climate change. They cannot project the effects of adverse impact combinations. These model projections then are certainly what will happen to the minimum, but they do not tell us how quickly and how bad the real world impacts will be. 5th evaluation 2013-2014 The 5th IPCC evaluation 2014 on the most defined food reports on crop productivity decreases at low heating and climate levels, and the biggest risks for the best food production regions in the world in the northern hemisphere. The evaluation assumes that adaptation of climate change has success in the mitigation of crop decreases, but this is difficult to believe when agriculture is not so highly developed today and yieldIn the food production regions of NH and the benefits of "green revolution" seem to slow down and the AR5 reports already decrease in temperate regions. Of course, such a hypothesis on adaptation is not acceptable for risk assessment and risk response. The big difference in AR5 compared to previous evaluations is that models no longer show a food production advantage for Global North. The world's best NH food regions will suffer from crop decline. For example North America ' Climate trends observed in North America include an increase in the occurrence of severe thermal events on most of the United States, decreases in frost days, and increases heavy rainfall on most of North America (high confidence). first flow of snow peak run-off and declines the amount of water stored in snowpack spring in water streams and areas of Western USA and Canada (very high confidence). Many climatic stresses that bring the risk, especially linked to severe heat, heavy rainfall and the snow package in decline, will increase the frequency and/or gravity in North America in the next decades (very high confidence). Global warming of about 2°C (over the pre-industrial base line) is very likely to lead to more frequent extreme thermal events and extreme daily rainfall on most areas of North America, more frequent years of low snow, and moves to the run-off earlier snowed on much of theUSA and Canada. Together with a more intense drought and increased rainfall variability, these changes are projected to lead to increased stress towards water, agriculture, economic activities" (IPCC AR5 WG2 Ch26 Exec. Summary) IPCC AR5 WG2 final science project Ch. 7 Food Exec summary The effects of climate change on crop and food production are evident in different regions of the world. The negative impacts of climate trends have been more common than the positive ones. Without (success) adaptation, the local/global temperature increases excess of 1 °C above pre-industrial is expected to have negative effects on yields for main crops (heating, rice and corn) in both tropical and temperate regions,A 1.0C local and global warming are @ the same.- at higher degrees of local heating is higher than global warming. Without (success) adaptation, negative impacts on average yields become likely from the 2030s with median yield impacts of 0 to -2% per decade projected for the rest of the century and after 2050 increases the risk of more serious impacts. These impacts will occur in the context of increasing crop demand, which is expected to increase by about 14% per decade up to 2050. The studies have documented a great negative sensitivity of crops at extreme day temperatures around 30°C. These sensitivity have been identified for different crops and regions and exist during the growing season (high confidence). Various study reportsTemperature trends are important to determine past and future impacts of climate change on global subcontinental crops. The test as AR4 confirms the stimulating effects of CO2 in most cases and the harmful effects of high-level ozone on crops (high trust). Experimental and modelling tests indicate that interactions between CO2 and ozone, average temperature, extreme, water and nitrogen are non-linear and difficult to predict. Changes in climate and CO2 concentration will increase distribution and increase the competitiveness of agronomicly important and invasive infestants. The increase in CO2 can reduce the effectiveness of certain herbicides. The effects of climate change on the pressure of diseases on food crops are uncertain, All aspects of food security are potentially affected by climate change, including access to food, use and price stability. The nutritional quality of food and forage, including proteins and micronutrients, is negatively affected by a high CO2, climate change will gradually increase the interannual variability of crops in many regions. NOTE AR5 crop models show no increase in yields anywhere without taking a successful adaptation. Underof high heating levels, leading to local average temperature rises of 3-4C (global 2C - 2.7C) or higher, models based on current agricultural systems suggest great negative impacts on agricultural productivity and substantial risks for global food production and safety. These risks will be greater for the tropical countries, in view of the major impacts in these regions, which are beyond projected capacity and higher poverty rates than the temperate regions. Climate trends are affecting the abundance and distribution of aquatic species collected, both freshwater and marine production systems and aquaculture in different parts of the world. It is expected that these continue with negative impacts on nutrition and food safety for particularly vulnerable people, especially in some tropical developing countries, but with benefits in other regions that become more favorable for the production of water food. Increase in weather There is no consistent definition in the scientific literature of what constitutes an extreme climate event, and this complicates comparative global evaluations. (AR5 WG1 FAQ 2.2) All weather extremes are rising from global climate change and are more harmful to crops, but are not caught by crop projection patterns. "The increase in frequency or intensity of ecosystem disturbances such as drought, wind storms, fires and outbreaks of parasites have been detected in many parts of the world and in some cases"According to regional observations, most of the droughts and extreme rainfall events of the 1990s and 2000 were the worst since the 1950s (Arndt et al., 2010), and some trends in total and extreme rainfall are observed." (AR5 WG2 3.2.2)The frequency of heat waves increased during this period (since 1950) in large parts of Europe, Asia and Australia. (IPCC AR5 WG1 Ch2. Extreme Events). The hottest days have increased globally, shows that and more regionally in: N. Western America, Western Europe, S. Mediterranean, N and Western China, Mongolia and S.E. Australia. (AR5 WG1 Box 2.4, Figure 1). Anthropogenic forcing has contributed to changes observed in the frequency and intensity of daily temperature extremes on the global scale since the mid-20th century. The attribution of temperature changes to anthropogenic influence is widely seen in independent analysis using different methods and different data sets. It is likely that human influence has greatly increased the probability of heatwaves onset in some locations. (AR5 WG1 Ch 10 Climate Extremes) Drought: Since 1950 some regions of the world have experienced more intense and longer drought (AR5 WG1 2.6.2.3). Drought has increased in the Mediterranean and West Africa since 1950 For China from 1950 to 2006 longer, droughts of soil moisture more severe and more frequent have been experienced more than 37% ofarea. (ar5 wg2 3.2.2) a sc-PDSI measure with potential evapotranspiration shows an increase in the percentage of land area in drought since 1950. van der schrier et al. (2013) also detects a slight increase in the percentage of land surface in severe drought using the same measure. (ar5 wg1 2.2.3) the decreased trends in flow in low and medium latitudes are consistent with recent drying and heating in western africa, southern Europe, eastern Asia, eastern Australia, Western Canada and United States, and northern southern America. (ar5 wg2 3.2.2). giorgi et al. (2011) indicate that the hydroclimatic intensity, which combines both the length of the dry spell and the intensity of precipitation, has increased in the last part of the xx century in response to a warming climate. they show that positive trends (reflecting an increase in the length of drought events and/or extreme rainfall) are more marked in Europe, india parts of South America and East Asia (ar5 wg1 2.6.2.3). projections of future models regional project decreases in precipitation and soil humidity. heavy precipitation events, anthropogenic forcing has contributed to a global intensification of heavy precipitations in the second half of the xx century. (ar5 ch10. climate Extremes)Since 1950, on land they have increased in more regions than has declined. in the north of America and in Europe the frequency and intensity of the heavyar5 wg1 ch2. extreme events.) the tropical cyclones of n. atlantic have increased in frequency and intensity of the tropical and stronger cyclones of the northern atlantic are increased from the 70s (ipcc ar5 wg1 ch2.) ar5 wg2 ch 7 food tropospheric or zone tests since ar4 confirms the effects of the throught the impacts are most often on india and cynas, but are also evident for soy and corn in the United States(p.493) the negative impacts of climate change on crops and land food production were more common than positive impacts, which are evident in some high-altitude regions (high confidence.) without adaptation (success) local /(globals which is the same) increases the temperature of 1c or more above the pre-industrial levelsdesigned to achieve negative results for the main crops in tropical and temperate regions wg2 ts p. 10,22 crop models lackingipcc ar5 wg2 7.6. research and data projections of crop yield changes are based on patterns that still do not capture many major negative effects of global warming and climate change. many studies do not examine the variability of the performance or do not report it. we expect the environmental thresholds and tipping points, such as high temperatures, drought and flooding, to become more important in the future. important gaps in knowledge continue to be studies of weeds, pests and diseases, including animal diseases, in response to climate change. agronomic yields and other data, in a range of spatial scales, are crucial for the evaluation of development and the improvement of models. the development of the model is currently limited by the lack of data. the data and projections ipcc ar5 show that the world is now (2016) engaged (condemned) to the decline of food production, and that affects all the main regions producing food. ipcc ar5 2014 wg 2 food ch 7 wg2 ch 7 final science report. "without adaptation, the local temperature increases in excess of about 1oc above the preindustrial is expected to have negative effects on yields for the main crops (heat, rice and corn) in both tropical and temperate regions". with or without adaptation, negative impacts on average yields become likely from 2030 with median yield impacts of 0 to -2% perprojected for the rest of the century [also WG2 Table 7.3], and after 2050 increases the risk of more serious impacts (average confection). [Figure 7-5] These impacts will occur in the context of increasing crop demand, which is expected to increase by about 14% per decade up to 2050. [Figure 7-7] Regional chapters 22 (Africa), 23 (Europe), 24 (Asia), 27 (Central and South America) and Box 7-1 show that crop production is constantly and negatively influenced by climate change in the future in low latitude countries Note 2030 climate change is blocked due to the inertia of the climate system. Adaptation will be applied, but it cannot be assumed to succeed under a rapidly evolving climate and increase weather extremes.