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INTERNATIONAL

Climate Change and Fairtrade Coffee



A recent published [scientific study commissioned by Fairtrade with EU funding](#) shows how climate change is expected to impact the agricultural production of different crops, including coffee, in different regions. While impacts are not distributed evenly, when production is threatened, its effect has implications for the entire value chain, from producers to traders and even consumers.

The researchers, from Vrije University Amsterdam and Bern University of Applied Sciences, used three indicators of climate change impact: warm spell duration index (heatwave, heat stress risk), consecutive dry days (drought risk) and heavy precipitation days (water damage, erosion, pest risk). They also looked at tropical cyclones and depleted water basins. The researchers used a moderate (low-emissions) and an extreme (high-emissions) scenario to calculate a lower and upper range of potential climate impacts for each crop.



Production of coffee is expected to be severely impacted by climate change. Small scale producers are specially at a higher risk due to lack of technology and capacity to keep up with increasing change in the climate potentially leading to shortages in supply of coffees with different profiles. With considerable increases in days with extreme temperatures due to climate change and varying microclimates across regions, coffee farmers across the world are expected to be severely affected. Fairtrade calls for action to all supply chain actors, including brands to support producers in setting up projects to adapt to and mitigate climate change risks.

The facts on Fairtrade coffee production worldwide

- Up to 50% of global coffee farming area is at threat to become uncultivable in the coming decades.
- Longer periods of temperatures over 30 degrees Celsius are predicted to result in the abortion of coffee flowers in the coming years.
- Coffee yields will suffer from hampered growth in many locations, due to climate change and, because of the increasing pesticide application, the spread of coffee pollinators, for example bees, will change.
- Periods of high temperatures will result in increased incidence of pests and faster berry ripening, leading to lower yield and quality.

Impact on Fairtrade coffee production

Certain Fairtrade coffee producing areas are expected to be severely impacted in face of climate change, mainly due to increased number of hotter and drier days.



More warm spells:

Under the rapid climate change scenario, the increase in the number of warm days will range from 18 to 56 days per year, with an average increase of 38.6 days. Areas most affected by this change, as can also be seen in Figure 1, include:



Caribbean and Central America: Dominican Republic, Mexico, Guatemala, EL Salvador, Honduras, Nicaragua

South America: Ecuador, Bolivia, northern Peru and Inland Brazil

(e.g. Bahia, Minas Gerais, Espirito Santo, Rio de Janeiro, São Paulo, Paraná)

West Africa: Guinea, Sao Tome & Principe

Central and East Africa: Democratic Republic of Congo, Southwest Ethiopia, Tanzania, Rwanda, Uganda

South and East Asia: India (e.g. Kerala, Karnataka, Tamil Nadu), Sri Lanka, Vietnam, Indonesia

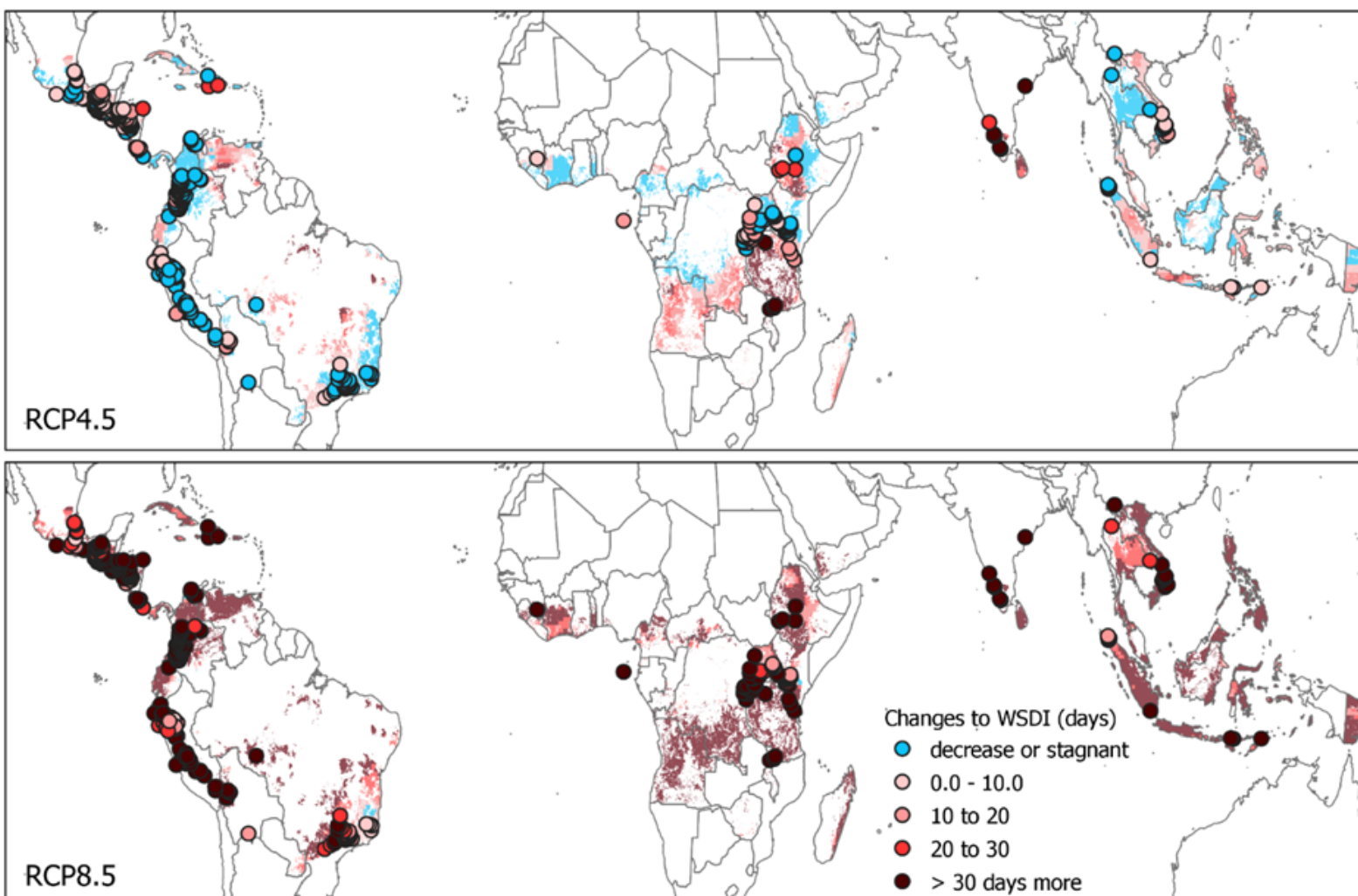


Fig 1: Changes to the warm spell duration index (WSDI, in days) in coffee producing regions (surfaces) and Fairtrade coffee producers (points).



More consecutive dry days:

While fewer drier spells are expected in most important Fairtrade coffee producing regions, more consecutive dry days will be experienced by producers in these areas. As can be seen in Fig. 2, these changes are likely to be more eminent in the following areas:



Caribbean and Central America: Dominican Republic, Mexico, Guatemala, EL Salvador, Honduras, Nicaragua
South America: Bolivia, Southern Peru and Brazil
Central and East Africa: Democratic Republic of Congo, Malawi, Tanzania, Rwanda
South and East Asia: East India, Thailand, Southern China, Indonesia

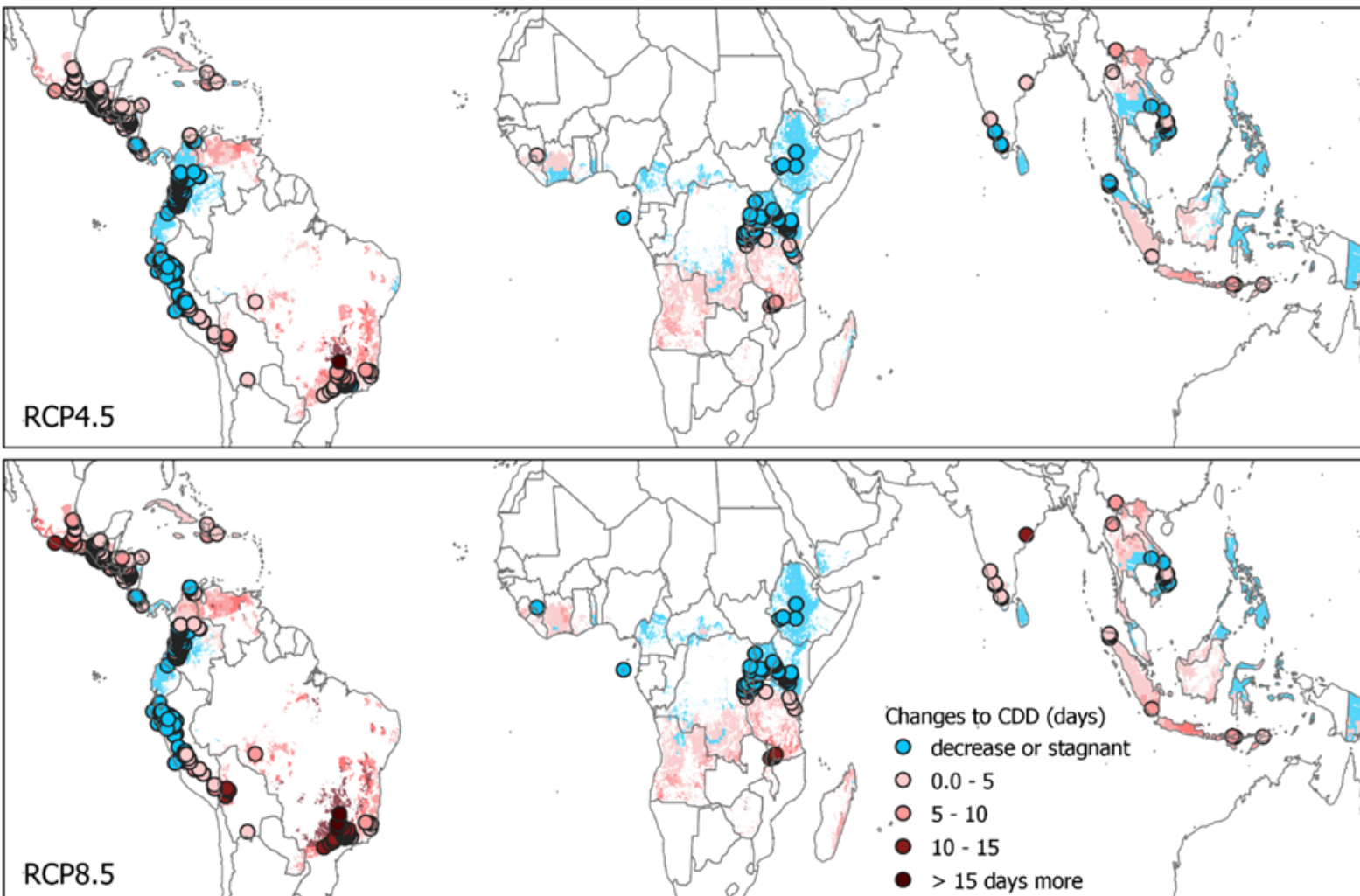


Fig 2: Changes to consecutive dry days (CDD, in days) in coffee producing regions (surfaces) and Fairtrade coffee producers (points).

Most of these areas will experience a combination of both more heatwaves and more consecutive dry days severely impacting Fairtrade coffee producers.



Where most volumes are at risk:

Areas of significant production volumes of Fairtrade coffee that will be most impacted by future heating and drought:



Caribbean and Central America: Costa Rica, Honduras, Mexico, Nicaragua,
South America: central-southeastern Brazil, northern Colombia, southern Peru



Where most most producers will be affected:

In terms of the number of farmers producing coffee, the following regions will be heavily impacted:



Central and East Africa: Tanzania, Uganda
South and South East Asia: Timor Leste, India (east and southwest India)
Caribbean and Central America: Nicaragua
South America: southern Peru

Fairtrade's contribution to addressing climate change

Fairtrade has implemented projects to support producers and farmers in adapting to and becoming more resilient to climate change and is generating donor funding for additional projects. The focus of such projects is determined locally, involving the producer networks and farmers to assure projects correspond to local needs. Fairtrade has for example prompted the following projects to steer action against climate change within coffee producing organizations:

Climate Academy: This project trained more than 8,000 Kenyan coffee farmers, including one third women, on sustainable agricultural practices to better adapt to climate change. This included diversified and production methods aiming at more resilience, including agro-forestry and conservation agriculture on 410 hectares of land, use of biogas digesters and the distribution of 300 improved cookstoves which used 60% less firewood.

Dignity4All: With the expectation to reach about 52,000 Ethiopian farmers and their families, the objective of the project is to improve the sustainability of the Ethiopian coffee value chain by increasing the volume and quality of crops, enhancing marketing opportunities, reducing land degradation and environmental pollution from coffee production and processing and by strengthening the capacity of smallholder producer organisations. It included promoting organic agricultural and agroforestry practices to protect crops from prolonged heat or rain and from pests and diseases, inter-cropping of coffee with other nutrient conserving crops and tree planting to reduce deforestation and reducing water use in coffee washing stations and establishing wastewater treatment facilities (vetiver grass wetlands and eco-pulpers).

[Exchange: Project for Advocacy and Leadership on Climate Change in the Latin American region](#): This project stimulated increased knowledge and awareness of climate change related topics, and attempted at extending small-scale farmers' capabilities in adapting to the effects of climate change. This was done by forming a school of 100 young leaders focused on advocacy, training and communications around climate change, including manuals of good practices for climate change adaptation.

[Growing Resilient Agricultural Enterprises \(GREAN\)](#): The GREAN project trained over 17,000 smallholder coffee farmers on agroforestry and sustainable agricultural practices, launched a new coffee brand, promoted coffee in local and regional markets and producer participation in the coffee value chain. The project also introduced climate friendly energy solutions and green business opportunities for women and youth through improved cookstoves, which also generated Fairtrade Carbon Credits and the sale of coffee husk briquettes.

[Supporting Indigenous Organic Coffee Producers in Mexico Adapt to Climate Change](#): with Lidl Germany's sponsorship, Fairtrade International supported Mexican coffee producers to adapt to climate change and to implement best practices to increase resilience. The project increases knowledge of producers around climate change risks and effects, build capacity of producers in coffee nursery management, coffee growing, improved soil structure, fertility and health of coffee plants by applying good agricultural practices and included planting of 125000 coffee plants.

[Growing women in Coffee](#): Smallholder women farmers in Kenya were trained on Good Agricultural Practices (GAPs) for coffee, including techniques that support coffee plants to grow in the hotter and drier conditions the areas are now experiencing due to global climate change. 87% of the coffee produced was premium grade Arabica coffee at the end of the project, compared to 25% at the start. The local environment was protected through the establishment of domestic biogas units which are now being used by women farmers as a sustainable alternative to firewood and charcoal.

[Young leaders leading adaptation to climate change in Fairtrade coffee in Bolivia](#): 9 Fairtrade certified small producer organization (SPOs) in Bolivia were reached via this project funded by Lidl with 330 people being trained in climate resilient technologies, 56 hectares of coffee renewed with high-quality varieties resistant to the effects of climate change, and 8 demonstration plots implemented that showed the benefits of adopting Good Agricultural Practices (GAPs).

To read more on Fairtrade's efforts related to climate change, please view the [Learning by Experience report](#).

Moreover, Fairtrade producers receive a Fairtrade Premium and Fairtrade Minimum Price when selling their products as Fairtrade certified, proceeds of which can be used to address priorities which farmers decide to invest in, including climate change measures. At the moment for conventional coffee the Fairtrade Minimum Price is set at 1.4 USD/Pound FOB for Washed Arabica (1.05 USD/Pound for washed Robusta) with a Premium of 0.20 USD/Pound. Beyond projects, Fairtrade tries to promote organic production through Fairtrade Minimum Prices for organic set 0.30 USD/Pound above the conventional price.

Finally, in light of the recent EU draft directive on deforestation-free coffee supply chains, Fairtrade acknowledges European Commission's proposal to create a market for deforestation-free products, but believes that the fight against deforestation must include enabling smallholder farmers by engaging them in the process of constructive climate action rather than banning imports of coffee from smallholder families. Fairtrade encourages efforts needed to build capacities and systems that enable smallholders' cooperatives to play their role in retaining market access to the EU, and intends to build on this by increasing adaptation and mitigation projects further by promoting good agricultural practices (GAPs) (including agro-forestry, agroecologic and organic farming through participatory, farmer-centered approaches.

What more can be done?



Against the major threat of climate change to the future of coffee production, Fairtrade recognizes that more needs to be undertaken and at a larger scale with producers to promote sustainable practices such as agro-forestry and where suitable promoting organic production. This includes reviewing the Standards (especially when it comes to environmental criteria), but also research and more training on locally adapted good agricultural practices, more advocacy and building new partnerships, where partnerships can be most efficient, for example, to address deforestation through remote sensing in the future.

While Fairtrade and the producers are aware of the immense challenge and need to step up existing efforts to address the massive challenges posed by the global problem of climate change, it would not be fair nor realistic to let the burden of costs fall on producers alone. Fairtrade therefore invites commercial partners to join us in supporting Fairtrade projects aiming at adapting to and mitigating climate change impacts to coffee production, building on Fairtrade's extensive network of producer network staff in producer countries. Both financial contributions to existing projects as well as collaborative project development – hand in hand with Fairtrade and the producers – are concrete options that can support producers to reduce negative climate change impacts, which is in the interest of all value chain actors. This could be combined with establishing projects under the Fairtrade Climate Standard which would generate Fairtrade Carbon credits suitable for offsetting carbon emissions along e.g. Fairtrade coffee supply chains.

For more information on how to work with Fairtrade and support farmers in building a more sustainable and fairer future, contact partnerships@fairtrade.net or contact your regular Fairtrade contact.

