



Strengthening International Cooperation on climatE change Research

Work Package 3

2nd April 2020:

Webinar report: Q&A's



Webinar 2nd April, 2020 - Climate data and climate services for the finance sector: challenges, opportunities and experiences

Webinar summarized by Ingrid Coninx, Wageningen Environmental Research

During the webinar, questions were asked by participants.

Q&A on ClimInvest

Q: Which assets are taken into account and how does vulnerability determine climate impact? Does the tool look at asset level or portfolio level?

This depends what focus the financial actor has, and the more specific asset information the more targeted the hazard consideration can be. The ClimINVEST projects look at assets in all sectors but we have selected a series of case studies (railway in Norway, agriculture in eastern Europe and real estate in the Netherlands). We determine exposure using climate indicators (quantitative) and vulnerability is assessed based on the specific cases (both quantitative and qualitative measures).

Q: How can funding programmes help to make sure that climate data is tailored to the needs of the finance sector?

Close communication with financial actors (and other relevant stakeholders) is needed to ensure that the information and data we create in climate service projects is relevant to them. In ClimINVEST, we have developed this information with input from our stakeholders through what we call science practice labs (SPLs). SPLs were essentially workshops where climate scientists and financial actors discussed specific research questions and identified information and data needs.

Q: Can you elaborate on the probability function related to exposure used by the different organizations/providers? Is this probability function quantitative or qualitative?

The probability of a hazard occurring typically reflects an expert judgement as to the expectations on frequency and intensity of hazards in a region projected for a climate scenario. The information can be quantitative, but usually contains a range of estimates, or where there is no good data it can represent expert judgement based on the likelihood of increasing hazards. Exposure refers to how much of an asset or portfolio may be subject to the hazard as a function of location.

Q: Did any investor ask for data on probability? For example 200 year floods or similar?

Some investors have asked for indications of trends of hazard probability. Uncertainties are important to underline when discussing probability. Forecasting tools for extreme events exist but such forecasts have better skills in some regions than others or in different seasons. Stakeholders would like to have accurate forecasts for the next years, but it is very important to stress that long-term forecasts (more than a few days ahead) are actually not very accurate and more research is needed to improve these. The period for forecasting depends on the region. In some regions, it is possible to forecast weather up to about 2 weeks. In other regions, extremes can be forecasted for longer periods.

Q: How do you deal with uncertainties in climate models?

There are different types of uncertainties in climate models: due to limited knowledge on the climate system or on socio-economic developments, or due to natural variability. At



the website of PRIMAVERA there are some factsheets on these types of uncertainties, how they are quantified and how one can deal with them (<https://uip.primavera-h2020.eu/climate-factsheets>). A report on climate data for the current and future climate from the ROADAPT project gives suggestions on how one can deal with uncertainties in climate data. In the User Learning Service of the Copernicus Climate Change Services, there are also some modules with information on uncertainties and how one can deal with them (<https://uls.climate.copernicus.eu/>).

Q: Global data are often inaccurate for assessments on local/regional scales - how is that handled?

Yes, and we will have a factsheet on modelling coming out shortly that reflects the uncertainty in different time periods and describes in more detail how the models approach uncertainty and regional trends. The factsheet also illustrates how to deal with uncertainty. The modelling factsheet which will be published shortly on our project website: <https://www.cicero.oslo.no/en/climinvest>.

Q: Do you also take into account losses for society (incl cascading effects) because of failure of an asset. These losses could potentially help prioritize investments.

This is an important point, but societal losses are beyond the scope of this project, and different investors can take this into account in different ways.

Q: The climate modelling Community is putting a lot of effort right now to produce high resolution data (ex. 10-30km horizontal res). What is your view on this?

High resolution data can be helpful for specific regional projections and can be useful for specific asset mapping. In ClimINVEST we use 10km resolution over Europe. Some investors would prefer even finer resolutions over very specific areas, which can be calculated with downscaling methods, but we found that this resolution is sufficient for most investor needs. Lower resolutions (e.g. 100km) can also be useful though. Many investors have assets across the globe and sometimes they are not aware of the specific location of those assets. Since high resolution data is space and time expensive, a good balance must be found so that the data used fits the specific investors' needs.

Q&A on Acclimatise's climate services

Q: How can funding programmes help to make sure that climate data is tailored to the needs of the finance sector?

By financing pilots where research organisations can collaborate with finance sector. It is important that they get familiar to each other and that knowledge exchange can take place via dialogue and community building.

Q: Can you elaborate how to work with uncertainties in the data sources for both the chronic and acute situations for the different types of hazards?

A whole of modelling chain has to happen, requiring a translation along the way, that comes with uncertainty issues. Acclimatise tools use multi-model ensembles of more than 15 climate models to produce the climate variables that represent chronic and acute hazards. For each variable, uncertainties are included in the analysis by providing statistics of the whole projected distribution. For example, for temperature increase, we typically provide the median of the multi-model projection (at least 50% of model agree) and the 20th percentile (80% of models agree that the temperature increase would be at



least the value provided). Same type of analysis applies when we look at acute situations. We conduct a standard Peak Over Threshold statistical analysis with the projections of each of the models and present the results as the mean and a certain percentile.

Q: The climate modelling community is putting a lot of effort right now to produce high resolution data (ex. 10-30km horizontal res). What is your view on this?

High resolution data is really important for many applications, such as impact studies. Acclimatise is an assiduous user of this type of data and really appreciates the tremendous efforts that the scientific community is putting into this. The heatmapping tool that was presented, focuses on country-scale and regional-scale (e.g. large provinces) analysis of financial portfolios, where averages and percentile analysis are done across large geographies. That is the reason why this specific Acclimatise tool is based on ~ 100 km resolution data. Other Acclimatise's tools that focus on asset-level locational data, are based on high-resolution reanalysis data to represent present day conditions and on statistically and dynamically downscaled datasets to characterize a future climate.

Q: Global data are often inaccurate for assessments on local/regional scales - how is that handled?

The heatmapping tool that was presented, focuses on country-scale and regional-scale (e.g. large provinces) analysis of financial portfolios, where averages and percentile analysis are done across large geographies. That is the reason why this specific Acclimatise tool is based on ~ 100 km resolution data. Other Acclimatise tools that focus on asset-level locational data, are based on high-resolution reanalysis data to represent present day conditions and on statistically and dynamically downscaled datasets to characterize a future climate.

Q: What collaborations between research and financial sector would you encourage? What collaborations would be very much needed?

Acclimatise has co-authored the report: Navigating a new climate, which included future directions in chapter 5.

Q&A to Rabobank

Q: What capacity are you lacking to assess physical risks and the viability of adaptation actions?

Rabobank has made an overview of existing methods and data and is talking with universities, NGO's and others to find the lacking capacities. There is a lot of inhouse capacity with regard to mitigation risks but for adaptation risks, capacity is still to be found in the networks. Rabobank is very much willing to share knowledge and networks.

Q: How deeply rooted are climate services within the financial industry?

Climate services are in the initial and explorative phase. Financial institutions in the Netherlands are collaborating and sharing good practices. They jointly have signed up for the Dutch Climate Pact and have committed to reduce greenhouse gas emissions.

Q: Do you assess the potential financial benefits of different adaptation options that can reduce the impacts of potential future risks?

Rabobank is doing this, but in a qualitative way. The ambition is to make use of quantitative assessment methods but data is not reliable at the moment. Another



bottleneck is that risk models currently make use of historic data but there is a need for data on projected climate change impacts. We have difficulties to get access to that data.

Q: To what extent and under what conditions actors from the financial sectors are willing to share information when one goes further down the value chain of climate services.

Financial institutions are disclosing more and more information, in line with the recommendations of the TFCF. In particular sector related information can be publicly shared. However, when it comes to information at the level of clients, financial institutions are not sharing information due to privacy protection of their clients.

Q: What is the kind of data that is collected under 'sustainable data'?

This mainly relates to the environmental footprint of clients, including their greenhouse gas emissions. The dataset to assess climate risks is in full development and is most advanced for the agricultural sector, one of the key sectors of Rabobank. This sector is used to work with meteorological data, which ease the risk assessment due to climate change.

Q: What are the biggest challenges that you face in your modelling approaches when it comes to data availability?

Data availability, the resolution of the data, reliability of data and comparability of data and assessment results.

Q: In order to have the best data set, on which sources do you rely?

Dataset from Global Facility for Disaster Reduction and Recovery, UNEP UNISDR risk data platform, Copernicus climate data store.

Q: Does the Green mortgage (GroenHypotheek) also focus on financing private climate adaptation measures on a house level (e.g. rain storage beneath a house, green roofs, turning 'grey' gardens into 'green' gardens)? Or is the main focus on climate mitigation actions (e.g. solar panels, house insulation etc).

The main focus is on mitigation.

Q: The climate modelling community is putting a lot of effort right now to produce high resolution data (ex. 10-30km horizontal res). What is your view on this?

Both a top down and bottom up approach are needed. When performing a top down approach, there is often no need for high resolution data. But when we advise clients, high resolution data is better.

Q: Global data are often inaccurate for assessments on local/regional scales - how is that handled?

This is a global issue and we would encourage a process of harmonisation on risk assessments.

Q: Do you see institutional fragmentation in global climate finance as a threat or chance?

The fragmentation is typical characteristic of this initial and explorative stage. The next stage is to scale climate services in the sector. Then, harmonisation will be needed. Would be good to have a central database to rely on and standardization of assessment methods. Rabobank will publish a new climate report in September 2020 – to be found on the company's website: rabobank.com