

# The impacts of extreme weather events on people, society and nature: heat waves, droughts and forest fires

**Last day of application: 2pm, 29/11/2018**

**Day of decision: 07/02/2019**

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## Description of the call

Formas welcomes researchers from any discipline to design research projects that focus on extreme weather impacts on people, society and nature. We encourage interdisciplinary, collaborative projects that bring together researchers from different scientific fields and foster collaboration with other societal stakeholders. The projects are expected to contribute new knowledge that strengthens the Swedish society's ability to manage and prepare for a future where extreme weather events are more common.

## Background and focus

The summer of 2018 in Sweden saw sustained heat waves that not only caused significant disturbances to societal functions such as health care, infrastructure and food production, but caused droughts with severe consequences for agriculture, forestry and water supplies. The droughts also brought with them a heightened fire risk in many areas throughout the country. Overall, wildfires burned through bigger swaths of forest land that summer than they did in Västmanland in 2014, for example, which was then considered the worst forest fire in modern Swedish times. In light of these events, Formas sees a great need for research efforts that collect and analyse materials and lessons learned from the weather events of the past summer, not least because all indications point towards that they will become increasingly common features of our future climate.

## Purpose

Extreme weather affects a wide range of groups throughout society and can be understood, managed and analysed on the basis of all sustainability dimensions – environmental, economic and social. Formas is therefore funding research projects on topics that are clearly linked to different aspects of extreme weather, especially those arising from heat waves, droughts and forest fires. Examples of relevant issues are those that in different ways affect (1) people's experiences, (2) society's preparedness and crisis management capabilities, and (3) the impact of extreme weather on nature. Specific topics a project can examine include:

- (1) Reactions, behaviours, and thought and memory processes in individuals and communities affected by extreme weather in their environment (e.g., from the perspective of gender, class, ethnicity or other social perspectives).
- (2) Norms and values that affect various societal functions and the work of affected stakeholders with regard to preventive measures, preparedness and crisis management. Affected stakeholders can be found at all levels of society, from the governmental to the local level. Examples include health care operators, schools and care facilities, managers of critical infrastructure, and companies operating in areas like forestry, water use, agriculture and the food industry.
- (3) The effects of extreme weather on species and nature, for example how droughts and heat waves affect agriculture, forestry, land and water use, and the resilience of ecosystems, biodiversity and individual species in forests, soils and waters.

Although last summer's extreme weather events in Sweden are the focus of this call, applications can also study international cases if they make use of a comparative perspective or similar, that can generate knowledge that supports Sweden's ability to manage and prepare for a future where extreme weather events are more common.

The call encourages projects that use an interdisciplinary approach, so applicants who do not take such an approach should justify their reasons with regard to the topic they propose. One way – but not the only way – to achieve an interdisciplinary approach is to link together two or three of the above-mentioned areas (humans, society, nature) in applications involving a cross-disciplinary constellation of researchers. The topic's breadth and the interdisciplinary perspectives requested in the call were also explored in a

seminar given by Formas that posed the question, “When extreme weather comes, do we have the knowledge we need?” [Watch this inspiring seminar \(Swedish only\)](#).

Formas will not offer any informational meeting or other occasion for obtaining more information, but our research officers will respond to questions by email and phone.

## Target groups

Researchers from any discipline can apply under this call. However, Formas wishes to encourage researchers in the humanities and social sciences to apply for funding by proposing projects that, for example, apply cultural, institutional, political, business, historical, psychological, theological, philosophical and artistic perspectives on extreme weather events.

Given how extreme weather causes disruptions in society that are hard to manage, involving many citizens and stakeholders, the call intends to fund research projects whose results have practical applications for society. The proposed research projects are therefore encouraged to foster collaboration with stakeholders from the public sector, private industry and civil society. In addition, the call encourages creative forms of communication that can successfully transfer knowledge from the research findings to different stakeholders including the general public.

## Your application

### Application deadline:

The call closes on 29 November 2018 at 14.00 Central European Time.

Please create your application in Prisma in good time so that you can get help if problems arise. You can preview your application at any time during the process. Up until the call closes, you can de-register your application and make changes. Note that it is not possible to add or change information in your application after the call is closed. It is recommended to write the application in English since the review panel consists of international experts.

### Projects that qualify for funding

- Funding can be awarded to projects that are within Formas’ areas of responsibility and within the framework of the call. Grants can be sought to cover costs associated with the project’s implementation, such as salary funding for researchers, doctoral students or technical staff.
- The total amount of the salary for a single researcher, student or other staff must not exceed 100 percent of a full-time employment. This means that additional salary funding cannot be granted to researchers, doctoral students or other staff who already receive grants or contributions with full salary funding. Formas does not allow annual salary increases for project participants.
- Grants can be sought to fund operating expenses, such as travel, collaborative activities, conferences and workshops, data or material purchases, analyses, premises and other related costs (though not for scholarships or educational grants for graduate students).
- Grants can be sought for costs related to publication in open access journals. Note that researchers who receive funding from Formas must ensure that their research findings are available via open access within six months of publication.

### Funding amounts and project duration

- Funding can be requested for a maximum of three years (36 months in total).

- A research project can be granted a maximum total of 3 million SEK, divided into an average of 1 million SEK per project year. If the total amount applied for exceeds the average annual amount of 1 million SEK, the application will be rejected.
- The start date for all projects is preselected in Prisma and cannot be edited. Project funding for the first 12 months of the project will be paid in 2019. The funds for research projects may be disposed one year after the end of the project period.
- Financial statements must be submitted each year for projects longer than 18 months. Financial and scientific final reporting will take place at the latest three months after the end of the disposal period.
- Although no co-financing is required in this call, it is welcomed.

## Who can apply

- To be able to apply for funding, main applicant and participating researchers must have completed a doctoral degree.
- Other staff involved in the project, such as graduate students, partners or technical staff, do not need to have a doctoral degree.
- Grants may be administrated by a Swedish university, college, research institute, government agency commissioned to conduct research or other public-sector organisation that meet Formas' criteria for [administrating organisations](#). Read more about administrating organisations below.
- It is possible to include other individuals/functions in the project without including them as participating researcher (or 'co-applicants') in Prisma. This can be done through a description in the project description and/or in the budget. These individuals will not be linked to the application form in Prisma, and will therefore not contribute with data from their CV. This may include, for example, administrative personnel, research students, technical personnel or other partners, and they do not need to have completed a doctoral degree.
- There is no age limit for applicants or participating researchers, but fully retired researchers cannot obtain funding for their salary.
- Main applicants may submit no more than one project application to this call.
- Note that it is possible to apply for funding under this call even if you have already been granted funding for an ongoing project under Formas' annual open call. However, the total salary from Formas must never exceed 100 percent of full-time employment.

## How to apply

Submit your grant application using the application system Prisma. To create an application in Prisma, you need a personal account. A user account is required for the main applicant, but also for participating researchers. It is recommended to create an account and an application as early as possible, and to contact Formas with any questions in good time. You can preview your application at any time during the process. Up until the call closes, you can de-register your application and make changes. Note that it is not possible to add or change information in your application after the call is closed.

[Link to Prisma](#)

## Language

You may write your application in Swedish or English, but Formas recommends that you use English.

This is because the review panel is composed of international members, so applications entirely written in Swedish must be translated into English by a professional translation agency before they are submitted to Formas' review panel for review. It is not possible to make changes to the translation. The popular science report must be written in Swedish, while the abstract should be in both Swedish and English. Please note that you should always write the budget specification in English; any Swedish budget specification will not be translated but will instead be reviewed as is by the international review panel.

## Information your application must contain

### Basic information

- Number of months for which funding is requested and estimated project duration
- Project title in Swedish and English (max. 200 characters)
- Popular science report in Swedish (max. 4,500 characters)
- Abstract in Swedish and English (max. 1,500 characters each)

### The research project

- Specific aims and objectives of the proposed project and a background description containing an overview of the research area. Describe the specific aims, objectives and originality of the proposed project. This section should also include a background description containing an overview of the research area as well as a description on how the goals and objectives of the project relate to the aim of the call and, if applicable, other relevant objectives and strategies (max 7 000 characters).
- Project description, including project design, theory, methods, implementation and a plan for scientific publication (max 15 000 characters).
- Description of the potential societal value of the research questions and planned communication with stakeholders/end users. You should also describe planned targeted communication activities and interaction with stakeholders. Describe how results from the project will be communicated and how the potential impact of the research may affect different groups in the society (max. 8 000 characters).
- References included in running text under the items above is specified in a separate field (max. 4 000 characters).

### Budget

Specify the following information:

- Salaries, including social-security contributions for each project participant. For existing employment positions, the current salary at the time of application (including social-security contributions) must be used for all subsequent years. For new employment positions the starting salary at the grant administrating organisation must be used for all subsequent year. Note that Formas does not grant funding for annual salary increase.
- Activity level/dedicated time in the project for all project participants. Also include activity level for project participants who contribute with time in-kind or have funding for participating in the project from other sources.
- Running costs are specified in accordance with the practice used at the grant administrating organisation.
- Depreciation costs for equipment is specified if relevant to the application.

- Premises costs are specified in accordance with the practice used at the grant administrating organisation (unless included in the overhead costs). In the total amount requested for the project budget, specify any indirect costs in accordance with practices at the administrating organisation. Indirect costs relate to overhead costs. Formas does not allow overhead for equipment depreciation costs or costs of premises.
- Budget specification. In the budget specification, a brief motivation for all salary costs and other costs is required. A description of the total budget for the project, including finance from other sources, must also be included. Clear justification must be specified for all other costs, such as participation in conferences, purchasing data, publication via Open Access, etc.

### Ethical considerations

Applicants should always specify whether there are special ethical aspects in the project. If so, the ethical issues in question and how they are to be handled in the context of the research project must be described. This may, for example, involve research that make use of personal data or involves experiments on humans or animals. Find out more about ethics in Formas' [general instructions](#).

### Classifications

- Select at least one, and at the most three, subject areas.
- Select at least one, and at the most three, SCB codes.
- Select at least one, and at the most three, of the 17 Global Sustainable Development Goals that best apply to the project. If more than one goal is considered relevant, the goals should be indicated in order of priority. The most relevant goal should be indicated in the first box. For more information on the Sustainable Development Goals, click [here](#).
- State at least one, and at the most five, key word(s) that describe the project.

### Appendices

The following appendix may be uploaded if relevant to the application:

- Appendix J. Illustrations. If figures, tables or images are needed to describe the proposed project, an appendix may be enclosed. A maximum of one 4 MB appendix in PDF format can be uploaded.

The following appendix is mandatory for all applications:

- Appendix K. – Research Data. Appendix K should be filled out and uploaded for all project applications. If data collection is not part of the project or if it is not possible to make the data available through open sources this should be stated in the Research Data form. Please note that Swedish universities, university colleges and other authorities are responsible for the safe storage of data collected as part of their activities. Funding to enable data storage that can be regarded to be within the responsibility of these authorities must not be included in the application. Formas recommend that scientific data is published within a reasonable period of time and made accessible via relevant national and/or international organisations for data publication. Use [this](#) template for appendix K. The appendix will not be reviewed but will be used in Formas' forthcoming development work on open data. Find out more about the [Formas policy for open access to research data](#) (in Swedish).

### Grant administrating organisation

- Select your grant administrating organisation and add the project department or unit where the project is based. Read more about Formas requirements for grant administrating organisations [here](#).

- Approved grant administrating organisations are listed in Prisma. If your research organisation is not included in the list, contact your organisation as it must create an organisation account in Prisma.
- A registered application is automatically sent to the grant administering organisation for approval, once the call closes. The administrating organisation has seven calendar days to sign the application.

## Review panels

- Select the review panel 1867.

## Participants

- The main applicant invites “participating researchers” (the participants who are intended to be co-applicants for the) and participating administrators (not part of the project, but persons that help you fill out the application form).
- Participating researcher must themselves be registered and have their own personal account in Prisma. The main applicant invites participants by searching their name and e-mail in Prisma (note that correct spelling of names and e-mails is required).
- Other participants, such as municipalities and representatives from different stakeholders.

## CV

The applicant retrieves information relevant to the application from their personal profile in Prisma. “Participating researchers” themselves add CV information from their profile to the application and should ensure that their CV in Prisma is complete and up to date. This information should include:

- **Education:** Post-graduate (doctoral) education, undergraduate and graduate education.
- **Professional history:** Current employment and relevant previous longer-term positions, postdocs, research exchange visits relevant to the described research project, as well as any extended period of interruption to the research (for example parental leave, illness, military or public service).
- **Merits and awards:**

### **Associate professorship**

**Supervision:** doctoral students, post-doctoral students, and exam project students; state the total number in each respective category and provide the names of the most relevant supervisions (max. 10).

**Grants awarded in competition,** state the most relevant grants (max. 10).

**Prizes and awards,** state the most relevant grants (max. 10).

**Additional merits, including information on publications:** Here the main applicant and the participating researchers must state the number of their publications over the past 5-year period and the total number of publications if the applicants have been active within the profession for a period longer than five years (max. 800 characters including spaces). This summary should also include the number of publications of different types (such as articles in peer-reviewed journals, book chapters, books and other monographs, conference contributions, popular science contributions). For participating stakeholders outside academia, previous relevant experience of research and development should be included as well as expertise and experience relevant to the project in question. Under additional merits other merits relevant to the application may also be listed, such as documented experience of collaboration and research communication (max. 10).

**Intellectual property:** For example, patents and public access software programs developed by the applicant (max. 10).

### List of publications

• The main applicant and participating researchers should specify up to ten of their most relevant publications. Please note that the publications should be linked from the applicants' personal profile in Prisma.

## Evaluations of the applications

The applications will be assessed by an international expert panel consisting of active researchers and people (users of research) who are qualified to assess the relevance of research. The application is evaluated on the basis of criteria for scientific quality (research topic, methodology and implementation, as well as scientific excellence) and societal relevance (the topic's potential benefit to society, targeted communication initiatives and interactions with stakeholders). Budget reasonableness is evaluated in relation to the project's structure and expected results.

All criteria must be addressed in applications, and applicants are encouraged to clearly and specifically relate the application to these criteria. The applicant is encouraged to be thorough with the structure and clarity of the application, as the evaluation will be based solely on the information provided in the application.

Please note that the review criteria described below are formulated specifically for this targeted call and therefore differ from the criteria mentioned on Formas' website.

The review process might include selective selection to achieve an increased degree of diversity amongst the research projects. In the case of several submitted applications addressing similar research questions they will be assessed in relation to each other.

## Evaluation criteria for scientific quality

### Research question:

- Possibility of significant scientific results
- Originality and novelty of the purpose, theory and hypotheses
- Objectives consistent with the call

### *Clarifications*

The research question should focus on the impact of extreme weather events on humans, society and nature, as described by the call guidelines.

### Method and performance:

- Specific and realistic work plan
- Specific and realistic plan for scientific publication and dissemination of information
- Coordination of the project and the research group
- Suitability of multidisciplinary and interdisciplinary approach
- Ethical considerations

- Feasibility of the budget in relation to the structure of the project and the anticipated results

#### *Clarifications*

The advantages of the proposed inter- or mono-disciplinary approach should be clearly stated in the application. If relevant, the application can also describe if, and if so how, the project creates a long-term active research environment.

#### **Scientific expertise:**

- Scientific quality of the publications
- Ability to carry out the project according to the project plan
- Experience in supervision of younger researchers (postdoctoral and doctoral students, as well as degree project students for applicants who are themselves young researchers)
- Experience in project leadership
- National and international activities, including projects, networks, commissions, honorary commissions, participation in, or organisation of, workshops or conferences
- Interest, experience and ability to disseminate research and research results to stakeholders/users
- Strength and competitiveness of the research group

#### *Clarifications*

The quality of scientific publications must be assessed with regards to standards in each scientific field. When several researchers and stakeholders collaborate, the competence and expertise of each individual participant as well as the overall expertise and experience of the team, and their ability to implement the project, will be assessed.

## **Evaluation criteria for societal relevance**

#### **Potential societal benefits of the research topic:**

- The research topic addresses important social/sector issues within the focus areas of the call.
- Stakeholder/end-user needs have been considered in the design of the project.

#### **Communication with stakeholders and users:**

- The key areas where impact can be expected are identified
- Clear, realistic and appropriate targets for impact are formulated
- Realistic and appropriate impact goals and initiatives/activities for communication and interaction that contribute to utilisation of the research are well described
- Realistic and appropriate impact goals and initiatives/activities for communication and interaction that contribute to utilisation of the research are well described

#### *Clarifications*

Guiding questions to be answered by the applicant: Which initiatives are planned? For whom? Are there different initiatives for different stakeholders or groups in society? What is the goal of the initiatives? What previous experience does the research team have of communicating research findings and involving

or engaging stakeholders? Are there other planned communication initiatives or resources that the project will provide?

## Funding decisions

Decisions on grant funding will be made by Formas' Scientific Council on the 7th of February 2018. The decisions will be published on Formas' website shortly afterwards. Decisions about funding grants cannot be appealed.

## Support and shortcuts

- [General instructions](#)
- [Ethics policy](#)
- [Criteria for administrating organisations](#)
- [Prisma](#)
- [Prisma support](#)

## Contact details

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