

**Aerosol Properties,
Processes And
Influences on the Earth's
climate (APPRAISE)**

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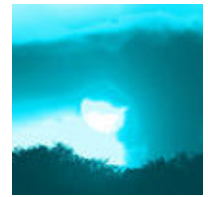
**NERC programme - Aerosol Properties,
Processes And Influences on the Earth's
climate (APPRAISE)**

**Announcement of Opportunity (AO) for
funding – Consortia Proposals
Closing date for proposals: 26 September
2006**

APPRAISE is a new £4M NERC-funded directed programme, running from 2005-2010/11.

Details of APPRAISE can be found on:

- The [main programme website](#)
- The [summary website](#)
- The programme's [Science Plan](#)
- [AO for Core Programme activities](#) – deadline 21 April 2006



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Background

The main purpose of the APPRAISE programme is to provide major advances in understanding the nature and lifecycle of aerosols in the atmosphere thereby reducing the uncertainty connected with global and regional climate change predictions. APPRAISE will provide key information on aerosol and cloud properties, processes and effects on climate, which will be used to further develop climate models. APPRAISE will seek to tackle key research challenges that include understanding and quantifying:

- The direct effect of aerosols on the Earth's radiation budget, via scattering and/or absorption of radiation;
- The influence of aerosols on cloud properties and hence indirect effect on climate and influence on the hydrological cycle;
- The role of aerosols in feedback processes between land, the biosphere and climate.

This will be carried out through an integrated hierarchy of laboratory studies, field and global observations, process models, regional models and global/climate models. The effort needs to be driven by both top-down and bottom-up methodologies.

The APPRAISE programme will provide funding via one round of **Consortia Grants** (ie collaborative, multi-institutional proposals), supported by a **Core Programme** of key strategic activities (one funding round, deadline 21 April 2006) **This AO is for the funding of the Consortia Grants.**

Note: As APPRAISE is an integrated programme of activities, the AO for consortia proposals is running concurrently with the Core Programme AO but with a deadline of 26 September 2006. This later deadline for the consortia bids is designed to enable potential applicants to plan ahead and to co-ordinate and integrate with the funded core activities resulting from this AO.

APPRAISE Consortia

APPRAISE seeks to employ a single consortium in each of the **three** areas below. Details of the science rationale and approach of each of these areas can be found in the [APPRAISE Science Plan](#) Applicants should read this carefully and understand how the programme works as a whole.

The key objectives of each consortium are outlined below:

- **The Direct Impacts of Aerosol on Climate Objectives:**
 - To quantify better the key parameters controlling the evolution of the single scattering albedo and radiative effect of key aerosol types
 - To assess the relative contributions of primary and secondary aerosol to the global aerosol budget and their effects on the radiative budget
 - To assess the regional variabilities in aerosol and their effects
 - To provide an initial framework for assessing the climatic impacts of air quality regulation of particulate material.
- **Aerosol Cloud Interactions and Climate Objectives:**
 - To assess the relative importance of the key processes by which aerosol
 - control cloud microphysics in mixed phase clouds
 - To determine the properties and role of ice nuclei and their interaction with mixed phase clouds
 - To assess the role of absorbing material above, below and within clouds
 - To reduce the uncertainty in the contribution of indirect radiative forcing
- **Aerosol coupling in the Earth System Objectives:**
 - To provide quantitative descriptions of key biogenic surface flux processes between aerosol and their precursor gases.
 - To quantify biogenic volatile organic compound chemistry and aerosol formation in and above vegetation canopies through integrated field studies
 - To assess the impact of such processes on regional aerosol burden and precipitation.
 - To assess the impact of land use changes on aerosol emission and deposition and develop predictive capability

Application Procedure

There is no Outline Proposal stage for this funding round. Full Proposals must be costed on a full economic cost (FEC) basis. The maximum amount of funding originally allocated for this announcement of opportunity prior to the introduction of FEC was £2.7M (to be split 3 ways). Applicants should propose the same volume of research that they would have done on this pre-FEC basis, but cost the proposal according to FEC. Additional uplift funding to cover the extra cost of the research under FEC costings will be available, to allow an equivalent amount of research to be supported, but at 80% FEC.

More information on Full Economic Costing is available in the

NERC Research Grants Handbook for Full Economic Cost Grants.

Full Proposals must be submitted electronically using the Research Councils Joint Electronic Submission (JeS) system.

The FEC Research Grant Application form (Je-SRP1 NERC) must be used and will be available from 1st March 2006. The closing date for receipt of full proposals is the 26th September 2006 (please note this is an extension from the original 22nd August deadline)..

Potential applicants are reminded that their institution must be registered with JeS in order to submit applications. As the registration process takes several weeks, institutions that are not registered should register with JeS as soon as possible.

As this funding round is for collaborative, multi-institutional proposals (consortia) each institution requesting funds must complete a separate Je-SPR1 NERC form. However, only the lead institution needs to supply the project description component of the Case for Support. There is no limit to the number of institutions that can be involved in a proposal.

The page limit for the project description within the Case for Support is dependent on the number of institutions involved in the application. For proposals which involve investigators from one or two institutions the page limit is 8 pages. For each additional institution involved in a proposal (at a Co-Investigator level) an additional 2 pages may be used, up to a maximum project description length of 16 pages (3 institutions = 10 pages, 4 institutions = 12 pages etc.).

Proposals requesting funds for more than one institution must also attach an additional page to the case for support, summarizing for all institutions in the application, the individuals involved and the resources requested. This is to help reviewers of collaborative proposals identify precisely which institutions and individuals will be performing which functions and the respective resources requested. This summary should be no more than 1 page long.

Applicants may provide up to 2 pages per institution for the track record section of the Case for Support.

Requests for any associated Tied Studentship should be made using form RS1a available from the NERC Forms and Handbooks page. The RS1a form should be submitted at the same time as the Je-SRP1 form, as part of the Joint Electronic Submission process. CASE applicants should complete the CASE section of the RS1a form. All CASE studentship applications must, like Tied Studentships, be linked to specific projects. Applicants are reminded that, as for all NERC studentship schemes, tied and CASE studentship projects should provide strong training elements and scope for innovation. Furthermore, the success of other parts of the grant proposal should not depend on studentship results.

NERC rules for institutional and investigator eligibility will apply. For example, submissions must be made via UK universities or NERC-recognised bodies. An individual may only be lead Principal Investigator on one proposal, plus be involved on one further proposal as Co-Investigator (or be involved in two proposals as Co-Investigator). Linkages with research users and other non-academic organisations (as Project Partners) are strongly encouraged.

The outcome of the assessment of full proposals is expected to be known by January 2007. The earliest practical start-date for projects is therefore 1st March 2007. The duration of awards should be no greater than 3 years.

Prospective applicants wishing to informally discuss their

ideas for involvement in the programme should contact the Science Coordinator [Dr Keith Bower](#).

Further Information

The following general principles should be noted in the preparation of proposals:

Total funds requested must include management costs and any costs associated with Services and Facilities, for example; HPC or aircraft costs (but excluding science flying hours). Please see contacts list below.

Consortia must clearly demonstrate how they will coordinate and integrate with the [Core programme](#) of activities and how they will engage with the Science Coordinator to achieve a management and reporting structure commensurate with the scope and complexity of the project.

All proposals should ensure that they address [NERC's knowledge transfer policy](#). Links with research users and other non-academic organisations (as Project Partners) are encouraged. Applicants should note the integration of the [UK Atmospheric Aerosols Network \(UKAAN\)](#) into the programme.

Consortia should demonstrate collaboration with existing and future national and international activities where possible. Applicants should note the links with activities in the US and China as outlined in the [APPRAISE Science Plan](#).

All proposals must adhere to the APPRAISE philosophy of integrating laboratory, in situ and satellite field- and modelling-studies.

All proposals will undergo full peer-review and assessment of proposals will be made by a moderating panel of independent experts and appropriate members of the NERC Peer Review College.

Useful Contacts

To discuss HPC costs, please contact Dr Andy Parsons at NERC: andy.parsons@nerc.ac.uk

To discuss use and costs of the BAe Research aircraft and/or the NERC ARSF aircraft facility, please contact Mr Pete Purcell at NERC: ppu@nerc.ac.uk

If use of the BAe Research aircraft is required, please read carefully the "Using FAAM" section of the [FAAM website](#) to find out how to apply. Please also consult the BAe flying programme on the FAAM website when considering scheduling and costs (for example; configuration costs and sharing campaigns).

To discuss use of instruments in the [UFAM](#) (Universities Facility for Atmospheric Measurements) equipment pool, please contact Professor Alan Blyth: blyth@env.leeds.ac.uk

The NERC Molecular Spectroscopy Facility (MSF) has expertise and experimental equipment for the generation, characterization and spectroscopic measurement of a variety of aerosol types, e.g. liquid, ice, mineral, etc. The MSF may be accessed through a simple application procedure and doing so does not normally add any additional cost to NERC grant applications*. Deadlines for MSF applications are 1 March and 1 October each year. Further information including application forms and contact

details can be found at www.msf.rl.ac.uk.

Other Funding Routes

Potential applicants are reminded that research funding for projects during the lifetime of APPRAISE can also be obtained via the normal NERC "blue-skies" mechanisms: The 1 July and 1 December closing dates for Standard Grants and Consortium Grants and the 15 September Small Grants closing date.

Further Information

Prospective applicants requiring further information should contact:

Dr Keith Bower (APPRAISE Science Coordinator)

Claudia Hawke (APPRAISE Programme Administrator)

Dominique Butt (APPRAISE Programme Administrator)

*Occasionally where large volumes of consumables or substantial modifications to MSF equipment are required it may be necessary to include an exceptional cost on grant applications. Please make sure you discuss your requirements fully with the MSF Manager prior to submission.