



Our ref: 13/0107

15 02 2013

Dear

**Freedom of information request: Cloud seeding**

Thank you for your email dated 18 January 2013 (received by this Department on 21 January 2013). Your request has been considered under the Environmental Information Regulations 2004. Under the EIRs you have the right to:

- know whether we hold the information you have requested; and
- be provided with that information (subject to any exceptions under the EIRs which may apply).

A search of our paper and electronic records has returned the following information relevant to your request:

**1. Please define cloud seeding.**

We have considered this item as an inquiry, rather than a request for information held. Whilst the government does not have an official definition of cloud seeding, our understanding is that it is a weather modification technique for changing the amount, type or distribution of precipitation falling from clouds. We also refer you to a statement by the World Meteorological Organisation Expert Team on Weather Modification Research<sup>1</sup> for a more technical description of cloud seeding.

**2. Please explain by what means cloud seeding is achieved ie. via UAVs (unmanned airborne vehicles) or other- please specify. Please also reveal if UAVs or other aircraft by what means these are powered ie. rocket or jet or other- please specify if other.**

Cloud seeding typically might involve injecting into the atmosphere chemicals, usually from aircraft as described in 1. DECC does not undertake any cloud seeding activities and so has no further information on the means by which cloud seeding is performed.

**3. Please state what chemicals are used in the cloud seeds past, present and planned for future.**

According to various publications chemicals such dry ice or silver iodide have been used in cloud seeding. DECC does not undertake any cloud seeding activities and so does not hold information on chemicals used in past, present or future cloud seeding operations.

<sup>1</sup> [http://www.wmo.int/pages/prog/arep/wwrp/new/documents/WMR\\_documents.final\\_27\\_April\\_1.FINAL.pdf](http://www.wmo.int/pages/prog/arep/wwrp/new/documents/WMR_documents.final_27_April_1.FINAL.pdf)



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**4. Please disclose when cloud seeding began, date of first spraying.**

DECC does not hold information on when the first attempts at cloud seeding began, but the statement by the World Meteorological Organisation Expert Team on Weather Modification Research referred to above contains information on early weather modification attempts. Also, the House of Commons Science and Technology Select Committee report 'The Regulation of Geoengineering'<sup>2</sup> (page 15) says that 'cloud seeding was first scientifically demonstrated in 1946'.

**5. Please reveal where the first cloud seeding experiments were done.**

DECC does not hold information on where the first cloud seeding experiments were done.

**6. Please reveal when first cloud seeding was first implemented over the UK.**

The UK government funded cloud seeding experiments in the 1950s, but DECC does not hold information on these experiments.

**7. Re: chemicals: Please reveal how much of each chemical has been sprayed annually since onset date. a) in UK b) rest of world.**

DECC does not hold information on the amount of chemicals used annually for cloud seeding purposes.

**8. Please reveal what are the 'effects of a transient nature' mentioned paragraph four of govt response above.**

The direct effects of cloud seeding (i.e. enhancement or suppression of precipitation) only last for the lifetime of the cloud, which is typically a few hours, and can be considered transient.

**9. Please provide details of legislation EU/UK under which provision for cloud seeding was made/enacted.**

DECC does not hold information on legislation regarding cloud seeding, although further information on this may be found in the House of Commons Science and Technology Select Committee report 'The Regulation of Geoengineering' (page 16).

**10. At what height, if UAVs or other airborne vehicle, is cloud seeding effected.**

DECC does not undertake any cloud seeding activities and so does not hold any information on the heights at which cloud seeding is carried out.

If you are dissatisfied with the handling of your request, you have the right to ask for an internal review. Internal review requests should be submitted within two months of the date of receipt of the response to your original letter and should be addressed to: [foi@decc.gsi.gov.uk](mailto:foi@decc.gsi.gov.uk)

Please remember to quote the reference number above in any future communications.

If you are not content with the outcome of the internal review, you have the right to apply directly to the Information Commissioner for a decision. The Information Commissioner can be

<sup>2</sup> <http://www.publications.parliament.uk/pa/cm200910/cmselect/cmsctech/221/221.pdf>



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contacted at: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow,  
Cheshire SK9 5AF.

Yours faithfully,

Climate and Energy: Science and Analysis  
Department of Energy and Climate Change

