

# **Illegal Aerosol Spraying Operations over United Kingdom Airspace**

**An Informal Report**

**And**

**Request for Immediate, Serious  
and Candid Study**

**by**

**Department of Environment,  
Civil Aviation Authority,  
Royal Air Force**

**and any other bodies with expertise or interest.**

**V1.1 June 2007**

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## 1. Introduction

### 1.1 Background to this Submission

For the last 2 years, since photographing the scene shown below, from my study room's window, I have become increasingly concerned about persistent aircraft trails in the skies over the UK. It seems to be the case that official denial surrounds this very important issue - which affects all of us.



Borrowash, 10th June 2005

I have supplied a selection of information in this document, and I freely admit that I am not an expert in climatology, chemistry or meteorology. However, I do have a Bachelor's degree in Computer Science and Physics and have a background in Software Engineering and education, which has involved a considerable amount of technical analysis in several different fields of work. In summary, I'm not stupid, nor am I given to jumping to conclusions, without analysing available evidence.

No pretences are made, however, about the nature of this submission: it is not a detailed scientific analysis, nor is it particularly comprehensive. This is because it has been produced quickly and with the limited resources of one

person. This should not detract, however, from the important discussion of basic evidence which it is designed to initiate and encourage.

### 1.2 Notes About Possible Responses To This Submission

I am not the first to notice or write about this phenomenon, nor am I the first to challenge official bodies about it, so in this section I have included some responses given to challenges made in the USA.

I may be one of the first to submit a "challenge" to official bodies in the UK and I have provided these sample responses as ones which can be classed as inadequate and unacceptable - i.e. these responses are not worth the paper they are written on. If you should choose to respond in a manner similar to that of the responses given below, there is little point in responding at all – it will achieve nothing and will not address the facts and evidence presented here.

The key point is this – just because I cannot clearly say why someone is deliberately spraying substances into our atmosphere does not mean it is not happening. To make a comparison, if there are road works going on outside my house, I may not easily be able to determine whether they are laying cables, doing maintenance, laying a new pipeline or doing some exploratory digging. For me to then say "well, I do not know what the purpose of these road works is, therefore they must not be happening" is illogical and denies the reality of the evidence.

## 1.2.1 EPA in the USA

Clifford E Carnicom is perhaps the foremost investigator of the Chemtrailing programme. He has written to the US Environmental Protection Agency on several occasions, and even sent them samples of material he has collected. The EPA simply claims to be “unaware” of any spraying activity, despite the submission of photo, video, and material evidence. Clearly this response is demonstrably inappropriate and does not address the facts.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

DEC 21 2000

Clifford Carnicom  
P.O. Box 4653  
Santa Fe, NM 87502

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Dear Mr. Carnicom:

This letter responds to the many identical letters dated October 31, 2000, and addressed to Carol M. Browner, Administrator of the Environmental Protection Agency, and others regarding the issue of “aerial sprayings occurring over the United States.” As you know, these letters were generated from your website [www.carnicom.com/contrails.htm](http://www.carnicom.com/contrails.htm). The Administrator asked that I respond to these letters for her.

These letters and information on the above website claim that aircrafts are spraying chemical, biological or other toxic substances from high altitudes over the U.S. and harming people. As you are aware, the Agency’s Office of Air and Radiation (February 22 and 25 and June 2000) and the Office of Pesticide Programs (December 9, 1999) have responded to prior correspondence from you about these same claims.

EPA is not involved in or aware of any application or aerial spraying of chemical, biological, or toxic substances as claimed by your past correspondence or on the above or other websites. The Agency takes very seriously its mission to protect human health and the environment from toxic substances and to carry out and enforce laws pertaining to this mission. The activity described in your communications is obviously contrary to our mission and responsibilities. Illegal applications or releases of toxic substances are investigated by enforcement authorities at the federal and/or state level(s) and enforcement action is taken, if appropriate, according to the evidence and investigation. Since you believe the aerial contrails are a result of illegal releases of chemicals or biological substances, you may wish to contact the appropriate state regulatory agency for their consideration.

The Agency tries to respond to all correspondence however, to conserve resources I suggest that you post my response on the above website as a means to more efficiently respond to the many individuals who sent your form letter.

Sincerely,

Jay Ellenberger, Associate Director  
Field and External Affairs Division  
Office of Pesticide Programs

## 1.2.2 US Air Force

When Carnicom wrote to the US Air force, via his congressman, an even more brazen response was received – they claimed the issue was all an “Internet Hoax” - this response was again inappropriate and does not address the facts.



**DEPARTMENT OF THE AIR FORCE**  
WASHINGTON, DC

Office of the Secretary

23 August 2000

The Honorable Mark Green  
United States House of Representatives  
Washington DC 20515

Dear Mr. Green

This responds to your inquiry concerning “chemtrails.”

The term “chemtrail” is a hoax that began circulating approximately three years ago which asserts the government is involved in a joint federal program of covert spraying of the public. The “chemtrails” are most often described as “unusual contrails or contrail patterns” seen coming from military and civilian aircraft. The “chemtrail” hoax has been investigated and refuted by many established and accredited universities, scientific organizations, and major media publications.

There has been an increase in the number of contrails observed due to the significant civil aviation growth in the past decade, and the patterns observed are directly correlated to the grid pattern formed by aircraft flying north/south and east/west routes designated by the Federal Aviation Administration (FAA). The FAA manages the National Airspace System (NAS) and controls both civilian and military aircraft using the NAS. The National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA) are the agencies charged with conducting atmospheric and climate experiments and are investigating the effects of contrail formation and dissipation on the climate.

Aircraft and their engines can produce a variety of condensation patterns (“contrails”), exhaust plumes, and vapor trails. Furthermore, the Air Force performs missions during which, exhaust is released into the atmosphere. The exhaust emissions produced by aircraft and space launch vehicles can produce contrails that look very similar to clouds which can last for only a few seconds or as long as several hours. Vapor trails are formed only under certain atmospheric conditions and create a visible atmospheric wake similar to a boat propeller in water and usually dissipate very rapidly.

Contrails consist of ice particles that form or nucleate around the small soot or aerosol particles in the exhaust gases. The contrails are formed when the relative humidity increases because of the mixing of warm and moist exhaust gas with colder and less humid ambient air of the atmosphere. Contrails become visible roughly about a wingspan distance behind the aircraft. Contrails can be formed by propeller or jet turbine powered aircraft.

The contrails formed by the exhaust at high altitude are typically white and very similar to cirrus clouds. As the exhaust gases expand and mix with the atmosphere, the contrail diffuses and spreads. At sunsets, these contrails can be visibly eye-catching and striking as they reflect the blue, yellow, and red spectrum of the reflected sunlight. Due to horizontal wind shear and a minimum vertical wind component, contrails tend to become wider and remain thin. It is very difficult to distinguish aged contrails from cirrus clouds.

### 1.2.3 US Greenpeace

Carnicom also wrote to the US Greenpeace Organisation, and received this response:

Thank you for contacting Greenpeace for assistance with this problem. While we would like to be able to help you, Greenpeace focuses its resources on global environmental problems including global warming, ancient forest destruction and commercial whaling. Unfortunately, we do not have local chapters that could help you with your situation.

For further assistance, you may want to contact the following organizations which focus specifically on helping people with toxic-related issues:

CENTER FOR HEALTH, ENVIRONMENT AND JUSTICE.....703-237-2249  
 CHEMICAL INJURY INFORMATION NETWORK.....773 278 4800 x299

If you have any further questions or comments, please do not hesitate to contact our Supporter Services at 1-800-326-0959, visit our Web site at <http://www.greenpeaceusa.org>, or write to us at 564 Mission Street, Box 416, San Francisco, CA 94105.

For a green and peaceful planet,

Supporter Services

Carnicom notes that “None of those sources responded” and that:

The mission statement of Greenpeace is stated as follows on [www.greenpeace.org](http://www.greenpeace.org):

"An independent campaigning organization which uses non-violent - creative confrontation to expose global environmental problems for a peaceful future"

### 1.3 Urgent Need for Review and analysis and Appeal for a Resistance of Denial

The evidence shows that, whatever its purpose, the Chemtrailing programme has been ongoing for perhaps as long as 15 years, though it seems to have become more intense around 1996 or 1997. Readers should therefore be behooved to do their own investigations and make their own observations of the phenomenon. The data is clear and unequivocal – someone is spraying our skies with unknown substances for an unknown purpose and it is likely it threatens our present and future wellbeing. To deny this evidence is folly, and those who do this will have to account for their actions at some future point in time. I therefore appeal to any individuals reading this document to look at this evidence dispassionately and thoroughly investigate any attempts to block, ridicule or compromise your attempts at official investigation using any data, contacts, or facilities at your disposal. In summary, consider carefully, “who are you serving”? If you ignore this data, how can it be considered that your agency is carrying out its function competently and comprehensively?

## 2. Analysis Of Phenomenon

### 2.1 History

The history of this secret programme is unclear, although instances of spraying the population with substances is not without precedent. For example, between 1953 and 1964 top secret trials were carried out using a chemical concoction of zinc cadmium sulphide to simulate how a cloud would disperse biological agents. The unsuspecting population was sprayed covertly with the poisonous compound at least 76 times. ([http://www.bbc.co.uk/insideout/east/series10/week9\\_extra.shtml?subject=taxis](http://www.bbc.co.uk/insideout/east/series10/week9_extra.shtml?subject=taxis))

A story in the UK Guardian (<http://politics.guardian.co.uk/news/story/0,9174,688098,00.html>) from April 2002, discusses a "60-pagereport [which] reveals new information about more than 100 covert experiments. The report reveals that military personnel were briefed to tell any 'inquisitive inquirer' the trials were part of research projects into weather and air pollution."

In the USA, one instance where spraying of "biologically inert" gases into the air was disclosed in Okalahoma city 2003, in what could be called a "bio-terror simulation experiment" (<http://ju2003.pnl.gov/pdfs/J-URBAN-Q&A-sheet6-10-03.pdf>). This experiment was conducted using a "combined budget from the U.S. Department of Energy, the U.S. Department of Homeland Security and the U.S. Department of Defense - Defense Threat Reduction Agency and other participating federal agencies" of \$6.5M.

Photographs of trails, like the ones shown in this document, date back roughly to 1997, although there may be photographs dating back to 1984.

#### 2.1.1 Project Cloverleaf

There is some discussion that civilian airlines were involved in a secret project code named "Cloverleaf", which had been in operation for some time, but information about this is difficult to obtain. <http://www.carnicom.com/mgr1.htm> has some information allegedly supplied by an Airline official, but his identity remains secret, as do a number of details pertaining to the story.

About twenty employees in our office were briefed along with my by two officials from some government agency. They didn't tell us which one. They told us that the government was going to pay our airline, along with others, to release special chemicals from commercial aircraft. When asked what the chemicals were and why we were going to spray them, they told us that information was given on a need-to-know basis and we weren't cleared for it. They then went on to state that the chemicals were harmless, but the program was of such importance that it needed to be done at all costs. When we asked them why didn't they just rig military aircraft to spray these chemicals, they stated that there weren't enough military aircraft available to release chemicals on such a large basis as needs to be done. That's why Project Cloverleaf was initiated, to allow commercial airlines to assist in releasing these chemicals into the atmosphere.

### 2.2 General Observations – How is a CONTRAIL formed?

If one studies the Physics of the vapour trails of aircraft, the basics would seem to be fairly straightforward. In fact, the basics are something we often personally experience, at least in the United Kingdom, on every cold winter's day.

On such days, when we breathe out, we can see our breath. It's one of those signs that "winter is really here". What causes our breath to become visible? Very simply, it is that our breath is warm and the winter air is cold. Tiny droplets of water vapour condense out of the warm air to form "clouds of visible breath", before the warm air quickly cools and the "clouds" disappear again.

It is a very similar process that is happening about 30,000 feet in the air, when hot exhaust gases from jet engines heat the air. Water droplets condense out of the cooler surrounding air and form a

*contrail* – an abbreviation of *condensation trail*. I used to watch aircraft trails when I was a child and I remember seeing how the almost solid-looking lines of “stuff” would slowly fade into wispy curls, then disappear completely.

Looking at more recent aircraft trails, there seems to be a general trend that many of the trails no longer disappear in such a short time period. Indeed, in researching a little into these aircraft trails, I came across an observational study, which was done in 2002, by Amy Foy at Lancaster University (UK) (<http://www.es.lancs.ac.uk/hazelrigg/amy/Home.htm>). Here, a classification of the type of Aircraft Trails observed was used:

1. “Persistent and Dispersed” (they hang around and spread out).
2. “Persistent and Non Dispersed” (they hang around but don’t spread out).
3. “Non Persistent and Dispersed” (they don’t hang around, but they do spread out).
4. “Non Persistent and Non Dispersed” (they don’t hang around and they don’t spread out).

The Lancaster study does not attempt to explain why some trails should be persistent or seen when dispersed, but it does show that someone else has observed these trails enough to see that some of them do persist for more than 5 minutes.

### 2.2.1 Further Analysis of Formation of Contrails

Before we explore some of the chemistry of the burning of Kerosene (aircraft fuel), let us stop and think for a moment. If, on a cold day, we breathed out, and our clouds of breath hung around for several 10’s of seconds or even minutes, would we regard this as unusual?

If aircraft trails are visible for several minutes, there must either be some component in them that is visible when cool or some visible compound must be forming in the atmosphere, following a chemical reaction of some kind. Let us explore this idea.

Kerosene is classed as a “Hydrocarbon” – it mainly contains alkanes – which are made up of carbon (approximately 85%) and hydrogen (approximately 12%). There are some other compounds in kerosene which contain nitrogen and sulphur (approximately 1% or 2% each respectively). When Kerosene burns, therefore, it can only form compounds that contain elements that were originally in the Kerosene, or in the air it burns in. Not surprisingly, then, the main compounds that form when Kerosene burns are:

- Carbon Dioxide (the infamous “greenhouse gas”, which we all breathe out)
- Sulphur Dioxide (in small quantities – a toxic, greenhouse gas, which mixes with water to form acid rain – sulphurous and sulphuric acid)
- Carbon Monoxide – a toxic, flammable gas, responsible for some deaths which happen when gas heating equipment is faulty.
- Water.

When we look at each of these compounds in turn, we find that they are *all* colourless. So, when kerosene burns, it would seem that the only visible thing we should see in the sky is the condensation – which, like our breath, should disappear in a few tens-of-seconds. Indeed, when a jet takes off, we can see that only colourless compounds come out of the back – all that we see is “*hot air*”. There are no sooty or reflective compounds coming out as the jet races down the runway. Whilst these observations may not be true of all the jet engines that are currently flying, it should be true of all those used on regular flights, otherwise they are faulty.

So, whenever we see a contrail lasting for more than a few 10’s of seconds, we should, at the very least, be curious, and wonder what is causing this to happen? When we see a lot of these trails together, we should become very concerned. They should not be there in the first place, but accepting the fact they are, we should realise they are a very visible form of pollution, which few people seem to be paying attention to.



## 2.3 Carnicom's Analysis of Contrail Formation

<http://www.carnicom.com/model2.htm>

Apr 12 2001

A preliminary model has now been developed which can be used to predict whether contrails will form or not under reported meteorological conditions at flight altitude. Analytical models for contrail prediction appear to be difficult to acquire publicly, and this model is therefore offered for investigative purposes. This is an original development that results from a variety of sources and methods, including unclassified aerographic manuals, meteorological theory, least squares analysis and regression analysis. It is to be interpreted as an empirical model, and it is subject to further refinement depending on the results that are obtained from its use.

The model offered is as follows:

$$RH_{min} = \frac{c + (.02c - .41)t}{(.003c - .14)}$$

where  $c = e^{(151 - alt) / 19.5}$

and  $t$  = temperature of the atmosphere at flight altitude in degrees centigrade

and  $alt$  = altitude of the jet aircraft in thousands of feet.

$RH_{min}$  is the minimum relative humidity (with respect to water per conventional standard) that is required at flight altitude for contrails to form. The contrails referred to are those classically and conventionally defined as condensation trails, i.e., composed of water vapor. A standard atmospheric model is assumed within the development. The model is intended to be used only within the range of 30,000 to 40,000 ft. MSL. The model is quite sensitive to small changes in temperature, and consequently, any errors in temperature.

Commercial flight traffic usually ranges between 35 and 37 thousand feet MSL. A representative case may be considered, therefore, at approximately 36,000 ft. MSL. Standard temperature at 36,000 ft. MSL is approximately -53.5 deg. centigrade.

This model can and will now be evaluated with actual observations in an effort to test it for reliability. Citizens are welcome to submit their own observations for inclusion if they so desire. The value of this model is to identify those meteorological conditions which are supportive of conventional contrail formation. Anomalous persistent contrails and subsequent "cloud" decks that result from frequent aerosol operations can also be examined in conjunction with this model.

Contrail formation/dissipation and cloud formation are to be recognized as two separate physical processes resulting from differing conditions and variables for each. It is important that any analysis of these two processes be appropriately and separately understood before any mutual connection is to be made.

A history of observations is available on the [aerosol report page](#).

This model is in addition to that [previously developed](#) that predicts contrail dissipation times, as well as a model to [predict the distance](#) behind the engines that the contrail is expected to form.

The model presented will be modified, revised or further developed as circumstances require.

## 2.4 Frequency of Trails and Why This Factor Alone Should Raise Suspicion.

From my observations, it seems that spraying seems to take place on 3 or 4 days per week. Though its pattern varies somewhat, aircraft often seem to follow the same flight path (a South-East to North West path is often repeated over my own house).

Even just considering this factor should raise suspicion. For example in a run of 3 days, with the same weather conditions at ground level, there may be significant trailing on one day and then little or none on the other 2 days. If the trails are caused by civilian air traffic, as most people tend to assume, then this does not make any sense, because the amount of civilian air traffic over a given area on any given day should be relatively constant, or at least will be similar on each subsequent Monday, Tuesday etc.

## 2.5 Possible Health Effects

As already mentioned, Clifford Carnicom, a self-employed Computer Consultant, has published voluminous data at <http://www.carnicom.com>. His previous employment as a research scientist for the US Department of Defense, the Bureau of Land Management and the U.S. Forest Service, coupled with his technical background in the fields of advanced mathematics and the physical sciences would seem to give him very strong credentials for undertaking such tasks. This seems to be evident on his Website. His analyses have shown that Chemtrails contain particles of Barium (<http://www.carnicom.com/flame1.htm>) and that samples of air from Los Angeles, for example, contain increased levels of Potassium and Calcium (<http://www.carnicom.com/labtest.htm>). Carnicom tries to establish the purpose of the presence of these ions and notes, among other things, the effect of metal ions on human health. Barium, Potassium and Calcium are, in their elemental state, fairly reactive metals, and form compounds easily. Another component of the trails that Carnicom has identified is biological (it grows on agar jelly) – and resembles human red blood cells (erythrocytes - see <http://www.carnicom.com/bio11.htm>).

Some people feel that the new and little understood condition of Morgellon's Disease could be linked to Chemtrails – see <http://rense.com/Datapages/morgdat.htm>

It has many disturbing characteristics, largely ignored by most people who should take the issue more seriously.

### 3. A Selection of Data

#### 3.1 Photographs



10<sup>th</sup> June 2005, 21-45, Borrowwash



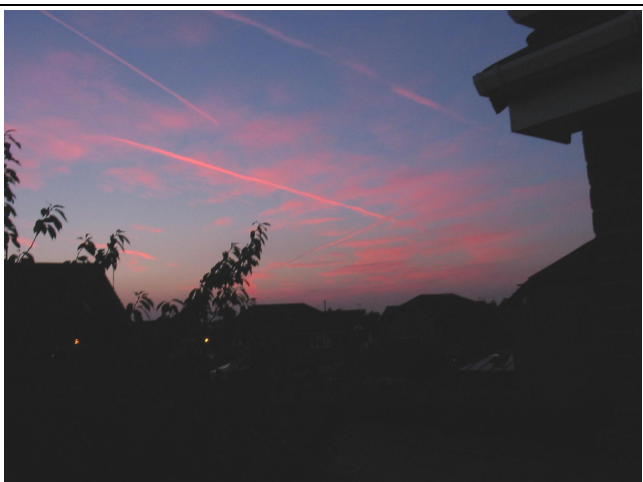
10<sup>th</sup> June 2005, Borrowwash



21<sup>st</sup> August 2005, 16-13 Borrowwash



2<sup>nd</sup> Sept 2005, 19-41, Borrowwash



3<sup>rd</sup> Sept 2005, 10-36 Borrowwash



12<sup>th</sup> Sept 2005, 10-21, Lake District



12<sup>th</sup> Sept 2005, 09-31, Lake District



24<sup>th</sup> Jan 2006, 17-20, Borrowash



24<sup>th</sup> Jan 2006, 17-20, Borrowash



8<sup>th</sup> August, 2005, 13-04 Embsay, Yorkshire



7<sup>th</sup> April 2003, 18-17, Borrowash

23<sup>rd</sup> Jan 2007, 15-52 Yorkshire/Humberside29<sup>th</sup> Oct 2006, 17-09 Borrowwash

Morecambe, May 2007 (Cell phone Camera)



Bognor Regis, May 07, 2007, 18-04

### 3.2 Video

Please view the enclosed DVD and also there are many online videos, some including Time Lapse photography, for example. This video by Phil Morris in Cheshire shows a plane with a contrail passing over a persistent trail:

<http://www.youtube.com/watch?v=j3fSaWFdt9E>

Phil Morris has a selection of videos posted here:

<http://www.youtube.com/profile?user=skywatch>

This video (also included on the DVD) again shows a comparison between contrails and Chemtrails, this time with time-lapse:

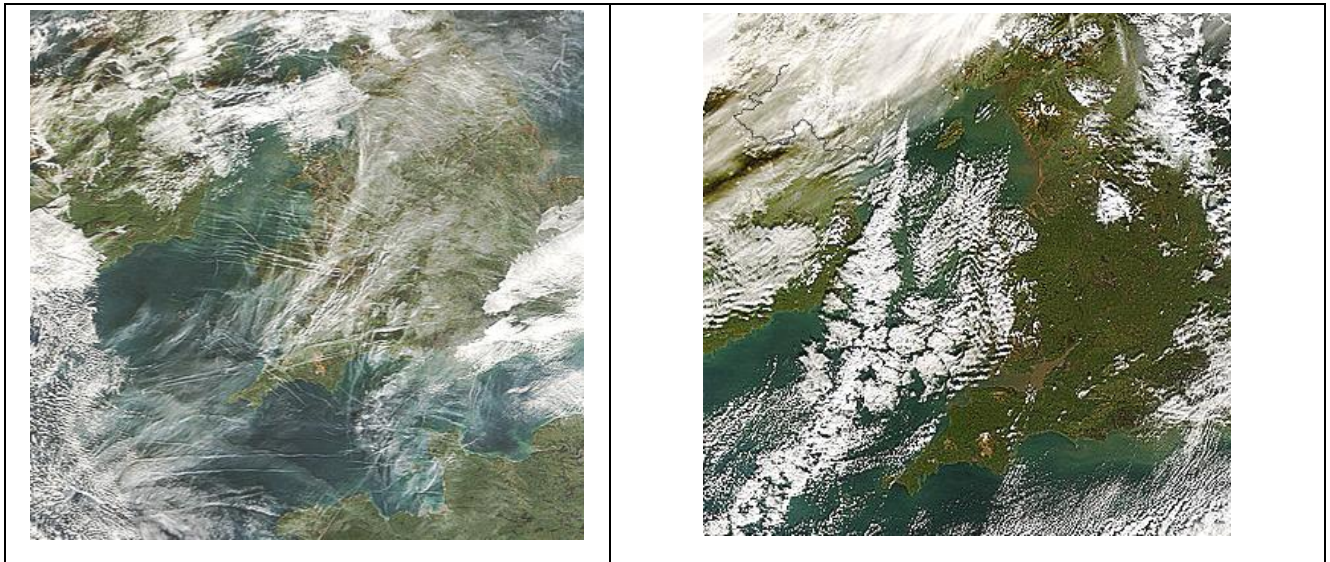
<http://www.checktheevidence.com/ContrailsVsChemtrails.wmv>

## 4. Case Study – Derby 04 Feb 2007

### 4.1 Video of “Event”

On this particular day, I observed and filmed at least **42 different aircraft flying over Derby** during an **afternoon outing lasting about 2½ hours**. There were probably more aircraft than this number, but I actually filmed 42 different ones. The video I took is on the enclosed DVD and can be viewed online too: <http://www.youtube.com/watch?v=nEFNCtPml6U>

Satellite pictures of the UK taken on the same day (shown here [http://rapidfire.sci.gsfc.nasa.gov/subsets/?Europe\\_2\\_01/2007035](http://rapidfire.sci.gsfc.nasa.gov/subsets/?Europe_2_01/2007035)) clearly demonstrate the reality of the phenomenon, as seen from space.



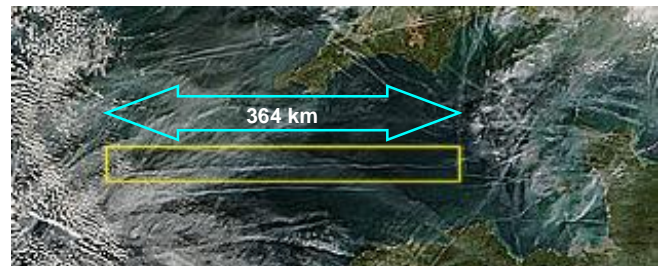
The image on the left comes from:

[http://rapidfire.sci.gsfc.nasa.gov/subsets/?Europe\\_2\\_01/2007035/Europe\\_2\\_01.2007035.terra](http://rapidfire.sci.gsfc.nasa.gov/subsets/?Europe_2_01/2007035/Europe_2_01.2007035.terra)

### 4.2 Note about Trail Length

The photo above begs a simple question. How is it possible for trails to persist for so long that they form long lines? Look at the trail marked in a separate photo.

This trail is 172 pixels long – this means that at 2km per Pixel, the trail is about 364 km long<sup>1</sup>. (A small adjustment may need to be made due to the distances above ground, if the ground resolution is 2km/pixel then at a height of 30,000 feet, the resolution would be maybe 1.9 km per pixel). If we assume it was made by an aircraft similar to a 757 or an Airbus A320, and we assume the plane was travelling at 500 mph for the time the trail was forming, this means that the trail persisted for at least:



$$364 / (500 * 8/5) = 0.455 \text{ hours} = \underline{\underline{27 \text{ minutes!}}}$$

(and it could be longer, since the satellite photo may have been taken AFTER the trail had formed.)

<sup>1</sup> The paper print-out may not be very clear, hence inspection of the online image is encouraged. Colours have been brightened for clearer printout.

## 5. Other Information

### 5.1 Websites

The chemtrailing issue is all but hidden from public discussion and discourse, with only a small amount of media coverage in the USA (for example, a 5 minute story on NBC4 News LA - 16th May 2006). We are therefore left to consult websites, such as the ones listed below, for reasoned analyses and information about the subject.

- <http://www.carnicom.com/>
- <http://www.projectprove.com/Arts/Chmndx/chmndx.php>
- <http://www.weatherwars.info/>

### 5.2 Newspaper coverage (UK)

This section includes 2 instances of UK coverage in the local media.

#### 5.2.1 Northwich Chronicle - (Phil Morris)

##### Man on the trail of skyscape mystery Aug 31 2005

By Anthony Harvison, Northwich Chronicle

( [http://iccheshireonline.icnetwork.co.uk/printable\\_version.cfm?objectid=15914499&siteid=50020](http://iccheshireonline.icnetwork.co.uk/printable_version.cfm?objectid=15914499&siteid=50020) )

ARE the skies being illicitly contaminated with a mysterious substance that may have serious effects on people's health?

One Cuddington man thinks so and is on a mission to find the truth.

Phil Morris, 50, is gravely concerned with what he perceives to be happening to the atmosphere in the North West and across the world.

The phenomena he refers to are known as 'chemtrails' - long-lasting, thick, white, expanding trails left by non-commercial planes, that eventually merge and blanket the skies.

'Ask yourself this,' he said, 'when did you last see clear blue skies over Lancashire and Cheshire with no clouds anywhere - without the pure natural skyscape being polluted by these trails and haze?'

Phil first noticed the phenomena, contrasted with contrails (condensation trails) which are normal water vapour trails left by commercial airliners that usually disappear within a minute, three-and-a-half years ago.

He started videotaping them and has amassed a significant collection of images to support his arguments.

He continued: 'The planes I have video-taped leave large crosses, grids, A and H shapes in the sky that spread out slowly over hours to create fake chemical clouds.

'They fall and thicken quickly leaving the telltale doughnut on a rope shape, they are pure white in daylight, and pale pink as the sun sets, while every other natural cloud had varying shades of white, grey and black plus colours as the sun sets.

'They also drift at around only 5%-10% the speed of normal clouds, often in the opposite direction to all the other clouds.

'When the sky is full of haze left by trails it can get extremely humid, even when there is no visible sun, and air feels stale.'

'I counted up to 50 planes last summer in one morning from sunrise to noon, and this happened on many occasions.'

Phil claims his health and his family's have been affected in some way by the chemtrails, tallying with reports from around the globe. Symptoms include head pains, severe ear-ache, stiff neck and shoulders, dizziness, sinus infections, lack of concentration and all-year-round flu symptoms.

In Phil's case, the symptoms got so bad that he went to hospital, fearing he had a brain tumour.

He said: 'I had a brain scan at the Countess of Chester Hospital, but it showed no problems and the doctors said I was fine. The problem now is my eight-year-old son also has the same 'brain ache' on the day or day after our skies are clogged with this haze, but on no other days.

'I met a woman from Delamere Park, less than one mile away, with exactly the same head pains.'

Official sources - including Defra (the Department for Environment, Food and Rural Affairs), the Ministry of Defence, the Met Office and NASA - have played down Phil's concerns, stating the trails are nothing more than ice particles from water vapour at altitudes of 20,000-35,000ft.

'But they are patently not,' said Phil, 'as these trails often go right through and below much lower, wispy, normal clouds at 5,000-10,000ft only.'

So what could be the explanation?

There are hundreds of websites with photos from the US and Europe of chemtrails, with guesses, based on rainwater and soil samples, at the material being sprayed.

'Many websites in the US are convinced that US Air Force planes are spraying aluminium powder in a fibrous, expanding, spider-like mesh based on the thesis of H-Bomb inventor Ed Teller to trap Co2, deflect the sun's rays and reduce global warming, and barium for 3D topography radar imaging purposes for the military,' said Phil.

He admits there are lot of 'weird and wacky' conspiracy theorists out there but with the BBC and Guardian newspaper interested in following up his story, if hard evidence including actual trail samples can be obtained, it seems this is one trail that isn't going to go cold in a hurry.

## 5.2.2 Derby Telegraph (Andrew Johnson)

26 DERBY EVENING TELEGRAPH, Friday, June 24, 2005

OpinionExtra

**BY LETTER:** Write to Opinion, Derby Evening Telegraph, Northcliffe House, Meadow Road, Derby, DE1 2DW.  
**BY FAX:** Derby (01332) 253027.  
**BY PHONE:** Call Derby 253026 between 1pm and 7am to dictate your letter. Speak slowly, leaving your name, address and telephone number. Spell names wherever necessary.  
**BY E-MAIL:** [opinion@derbytelegraph.co.uk](mailto:opinion@derbytelegraph.co.uk)

### Charmed life in air raid years

I READ the account of Jean Willett's wartime experiences in Derby's fire service and would take issue with the second paragraph, which said: "In the midst of the worst of Derby's wartime raids..." I do not think that these are Ms Willett's words but those of your reporter.

I have lived in Derby all my life, apart from 12 months in 1939-40 and, from November 1942, for five years in the RAF.

To my knowledge, the worst air raid Derby experienced was when the canopy of Midland Station was destroyed and a number of people in nearby streets were killed.

Amongst other raids were the destruction of one house in Jackson Avenue, Mickleover, a bomb in Kenilworth Avenue and the attack on Rolls-Royce by a single plane in 1942. Derby had a charmed life

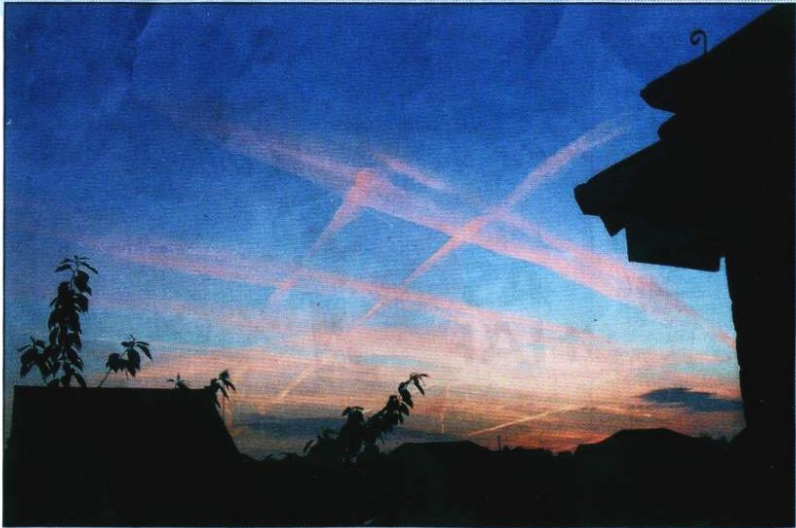
**ON THE TRAIL:** One of the areas I have been researching recently is related to the pollution caused by aircraft. There are some quite controversial aspects to this subject.

In recent weeks and months, I have been noticing more and more persistent aircraft trails and these are not generally discussed in the media anywhere, except in passing.

It is therefore surprising to find that few, if any, people seem to have noticed the cross/X patterns which can sometimes be seen when these aircraft trails intersect. However, these crossing trails were glaringly illustrated to me at 9.45pm on Friday, June 10, as I took this photograph, looking west-north-west towards the setting sun.

I think I know what the explanation for these trails is, but few are prepared to entertain the idea.

**Andrew Johnson,**  
Near Drive,  
Borrowash.



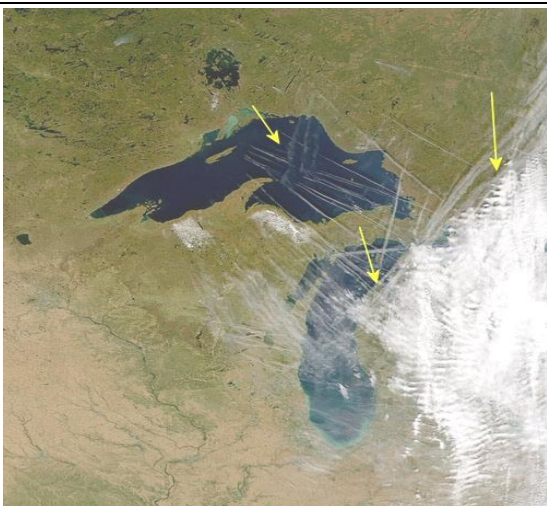


## 6. Conclusions

### 6.1 Reasons Why this is NOT a Contrail Phenomenon

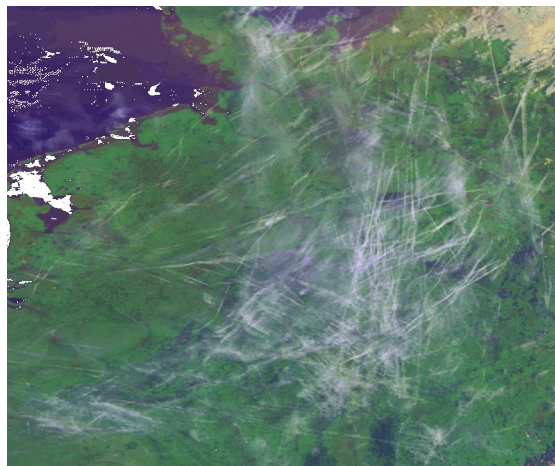
#### 6.1.1 Visibility of Trails on Satellite Photos

The mass of water vapour contained in a standard Contrail would be tiny, and certainly not observable from 150 miles up in space, and yet as Jeff Challender observes, we can see the trails on many satellite photographs, such as these additional ones shown below



Originally from:

<http://www.weatherwars.info/chemtrails.htm>



<http://www.projectprove.com/Arts/Chm1/chm1.php>

#### 6.1.2 Time of Trail Persistence

Vapour trails from aircraft should NEVER persist for more than about 2 minutes – even in ideal conditions. This can easily and clearly be demonstrated from the time lapse footage included on the DVD. A chemtrail does not even behave like a cloud formation – it does not “billow” – it forms, spreads out and then “fades away”.

#### 6.1.3 Irregular Pattern of Appearance

The frequency of appearance of trails does not bear any noticeable relationship to levels of civilian air traffic.

#### 6.1.4 Height of Appearance of Trails

With repeated observation, some chemtrails can be seen at much lower altitudes than any *persistent* contrails should ever appear at – this can be observed from the apparent size of the plane in the sky. For example, contrails are normally seen to form when planes are so high in the sky that it is difficult to make out the colour or any salient features the aircraft may have. I have observed *persistent* trails from aircraft perhaps as low as an estimated 15,000 feet, but I have been unable to photograph them at such times.

#### 6.1.5 Number of Trails Seen simultaneously at a Given Time

As demonstrated in the Case Study (see enclosed DVD), it is not possible to have such a high level of civilian or, for that matter, military air traffic (even during an exercise) which would generate the observed number of trails (42 planes flying over a small area in 2½ hours).

### 6.1.6 “Broken” Trails

In many cases, instances of “broken” trails are seen – and these “breaks” are also persistent. If the trail was a contrail, a break in it would indicate that the engine had momentarily stopped burning fuel – and clearly this would not make sense. In some cases, the breaks in these trails seem to be deliberate – perhaps to form some kind of grid or arrangement of the spray pattern.



### 6.2 “Climate Change”

Clearly, when we accept the reality of this phenomena – and realise the sheer scale of it, ALL serious discussion of the reasons for “Global Warming” is called into question. (All interested people should study carefully NASA data which indicates all other planets in the solar system are undergoing changes too).

Quite recently, “Global Dimming” has also been discussed by some people - and I cannot think of a more likely cause than the massive covert Chemtrailing program, which could easily have caused the 22% reduction of sunlight reaching the Earth’s surface, if the frequently observed increase in haze levels at the horizon are anything to go by.

### 6.3 Difficulties in Accepting this Reality

It is very difficult to accept the reality of this phenomenon – doing so is an affront to many of our dearly held views. There is also the dark realization, as with many issues like this one, that we could have missed something so obvious going on for so long, when the evidence is right before us. I know this from experience. All you need to do, however, is watch the sky for one week (providing it is not completely overcast) – you will see the trails being laid at some point.

### 6.4 Appeal

I repeat the appeal made in Section 1 – this matter should be the subject of serious, honest and dispassionate investigation without recourse to denial of evidence, ridicule, stonewalling or any combination of these things. It demands a most vigorous application of energy and time to uncover the purpose and intended outcome of this secret project – which, as the evidence shows clearly, is real. Anything less than this is tantamount to a contravention of human rights and puts our future at risk. Perhaps readers should bear in mind President Eisenhower’s warning, from 1961:

*"In the counsels of Government, we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the Military Industrial Complex. The potential for the disastrous rise of misplaced power exists, and will persist. We must never let the weight of this combination endanger our liberties or democratic processes. We should take nothing for granted. Only an alert and knowledgeable citizenry can compel the proper meshing of the huge industrial and military machinery of defense with our peaceful methods and goals so that security and liberty may prosper together."*

I also now very much agree with what Martin Luther King once said:

*"A time comes when silence is betrayal."*

## 7. Action Required

As mentioned in Section 6.4:

**We hereby call for this matter to be the subject of serious, honest and dispassionate investigation without recourse to denial of evidence, ridicule, stonewalling or any combination of these things. It demands a most vigorous application of energy and time to uncover the purpose and intended outcome of this secret project.**

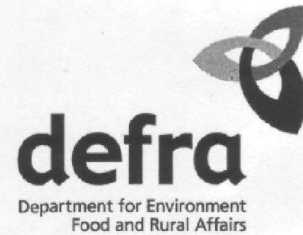
Signatories		
Andrew Johnson, BSc 22 Mear Drive Borrowash Derbyshire DE72 3QW Tel: 01332 674271 e-mail: <a href="mailto:ad.johnson@ntlworld.com">ad.johnson@ntlworld.com</a>	Paul Wright 24 James Street Allerton Bradford BD15 7RB Tel: 07901782271 e-mail: <a href="mailto:wy911@goowy.com">wy911@goowy.com</a>	Frank Da Silva 30 St. Lukes Road 2nd Floor London W11 1DJ Tel: 020 7229 7943 e-mail: <a href="mailto:crystaleagle@gmail.com">crystaleagle@gmail.com</a>
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David Griffin, MSc. 23, Noel St Nottingham NG7 6AQ e-mail: <a href="mailto:davidgriffin23@gmail.com">davidgriffin23@gmail.com</a>	Nick Buchanan, BA, Cert. Ed. 3 Wilne Road Wallasey CH45 5HW Tel: 0151 630 4217 e-mail: <a href="mailto:n.buchanan@hotmail.co.uk">n.buchanan@hotmail.co.uk</a>	Adrian Connock Bristol Tel: 07971 836689 e-mail: <a href="mailto:aconnock@gmail.com">aconnock@gmail.com</a>
Penny Pullen High Meadows, 91 Kirkhead Road Grange Over Sands Cumbria LA11 7DD Tel: 015395 33880 e-mail: <a href="mailto:peacepals@tesco.net">peacepals@tesco.net</a>	Anthony Beckett, MSc 6 Halsteads Way Steeton Keighley West Yorks BD20 6SN Tel: 07733 323841 e-mail: <a href="mailto:anthony.m.beckett@googlemail.com">anthony.m.beckett@googlemail.com</a>	Belinda M. McKenzie, MA 83 Priory Gardens Highgate London N6 5QU Tel: 020 8340 6779 e-mail: <a href="mailto:b.mckenzie@btinternet.com">b.mckenzie@btinternet.com</a>
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Website: [www.defra.gov.uk](http://www.defra.gov.uk)

Mr Andrew Johnson  
22 Mear Drive  
Borrowash  
Derbyshire  
DE72 3QW



**CCU Ref:** DWO25242

25 May 2007

Dear Mr Johnson,

#### **PERSISTENT AIRCRAFT TRAILS**

Thank you for your letter of 17 May enclosing your report on aircraft trails. I have been asked to reply.

As you state in your letter contrails (vapour or condensation trails) can form whenever an aircraft flies through sufficiently cold air. Water vapour and small particles are emitted in the aircraft exhaust and at cold temperatures water vapour condenses on the particles and then freezes to form contrails. The process is most common in the upper troposphere where it is cold, but contrails can also form at lower altitudes.

Contrails can be persistent and, in some cases, can lead to the formation of cirrus clouds. Indeed, the high volume of air traffic over the UK has undoubtedly led to increased cloudiness.

I have also forwarded a copy of your letter to policy officials here for their information.

Yours sincerely,



Defra - Customer Contact Unit



**[ This response was kind of “harsh”, but was written as a reaction to the flat denial of the evidence and because they did not follow my request to NOT send a response like this. ]**

Dear \_\_\_\_\_

Thank you for your response which I received some time ago. I was somewhat surprised to receive it – for the following reason. In my report, I stated I was not interested in receiving a reply which was a flat denial of the evidence presented. The letter which was signed by you (but you may not have written it) represented a denial of the data presented in my report. I stated in the report this was unacceptable and such a response should not be sent to me. This, then, is a waste of time and money and will be noted as such.

However, seeing as you did respond, I must point out that history has now recorded your name as being someone who supports a denial of basic evidence. This evidence was put together in a careful and reasoned manner. Your response did not offer any specific counter arguments of science or analysis to those that were presented to you. I need not point out that this goes against the way in which an organisation like DEFRA should operate – it should operate based on the principles of scientific truth.

Now, if I had submitted a basic letter with a few comments, your response might be considered adequate (from a certain, limited, point of view). However, I submitted an 18-page (approx.) report, backed by over 20 signatories, along with a DVD containing additional video evidence, so this is something more significant. I can also tell you that I received a number of messages of support following the publication of my press release and report - many people are now waking up to this issue. This means that your agency is going to have to deal with this issue at some point in the future.

Your denial of evidence and the implied support of illegal black operations is now noted and recorded for future generations to look back on. You can, of course, at any point, revisit what I presented – I have included a draft copy here for you, in case you personally didn't see it – and you can consider what the evidence means for us both - and what some group of people seem to be doing to the air that we breath. You can send me your personal response as to why you think the report is wrong, if you like – what specific elements of data do you disagree with? Or, you can walk down the street and look up at the aircraft that seem to be involved in re-engineering the atmosphere for some undisclosed purpose - and then wonder how so many other people (like you) can possibly be ignoring the issue. Yes, it's probably due to fear. So the way to overcome that fear is to seek knowledge and seek the truth – in doing so, we may find a way to mitigate the effects of what this secret project is trying to achieve. For now though, I would like you to pass on this message to your line manager and for them to pass it on up the ranks: “*We know*” and “*We're watching you.*”

I urge you to carefully review this data – in a personal if not professional capacity. I am not just a “customer”, I am a *person* - someone who knows when official agencies are denying evidence to protect another person or group. I know when someone has been told to put out an “official response” because the issue is too big or too sensitive to present an honest response.

On the next page, I include some of the messages I have received in response to the publication of my report and press release.

Yours Sincerely,

**Andrew Johnson**

{Enclosed another copy of original Report}

## Responses received by e-mail from Chemtrailing Dossier and Associated Press Release

Hello Andrew

Just received your PR web release and am reading the report.

I have been following this issue for some time and have been videoing our local skies for 3months.

Thank you so much and I have sent it everywhere.

I think the Greens really need to look at this but so far here it has fallen on deaf ears and the other parties deny it.

If I can Help let me know

John, Australia

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Dear Mr. Johnson,

A friend sent me your PR report about chemtrails in the U.K. I have tracked them here in northern Arizona for the past two years, where skies are normally a bright, clear blue (or at least they used to be) for most days of the year.

The chemtrails have increased and become far worse over the past several years, along with extreme changes in local climate and environment. Respiratory problems are virtually epidemic and long-lasting.

Earlier this week, after a barrage of heavy spraying, I decided to e-mail NOAA through their website (unfortunately their form does not allow the addition of pictures) and received the response as indicated below.

Susan, Arizona

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Dear Andrew Johnson,

Have just read your excellent article on chemtrails, and agree 100% with your views and conclusions. I live near Exeter in the South-west, and have been concerned for some time about these aircraft sprayings, having a huge amount of air traffic here at times, and as you say, the sky ends up completely milky white. I have taken digital camera pictures of these unmarked aircraft spraying overhead, sometimes as many as thirty or more aircraft in a very short time, spraying in a grid pattern it seems, and have looked up some mornings to find an X marks the spot in the sky overhead..... looks like a St.Andrews cross. I'm quite interested in astronomy , and have a large pair of binoculars 80 x 20's , but even with these there are no markings on these aircraft. I have seen a couple of aircraft with what look like extra tanks under the fuselage. With these binos I have also seen an aircraft that was spraying from the tailplane, the trails were not coming from anywhere near the engines..... quite offset from the engine positions. So, yes we are being sprayed. Where do these aircraft come from? Surely someone must see this amount of air-traffic taking off and landing! It makes me so angry that these pilots could be doing this to us all.....and presumably to their own families. Perhaps these pilots don't have the full story on what they are doing, or are paid huge amounts of money, or maybe they are flown remotely from a base somewhere.

Anyway, if I can help in any way to get to the bottom of this, please let me know, I'm so pleased to see someone in this country voicing the concerns I've had for a while now.

We need a lot of us to make a dent in this thing.....and I don't think the Gov't will have a word of it..... tried that. We need to know where these aircraft are based, who runs them, and who's paying for all this.

James M.

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Hi Andrew,

I have just been looking over your chemtrail dossier and I think think it is an excellent peice of work.

Chemtrails first caught my attention after reading an article in nexus magazine around about 1998/99, and to be honest at that time in the UK I was not seeing any, so I just dismissed the idea as something that was happening in the US, if indeed it was happening at all, but still I decided to keep my eyes open just in case.

But then back in 2002 I was leaving my nephews house in North Shields Tyne & Wear to come home to Kelso just over the Scottish border.

From the main road near the tyne tunnel you can just see the cheviot hills that mark the border with Scotland and England, and amongst those hills is Otterburn military training camp.

Now back then and reaching the rise on the main road I could see in the distance the cheviot hills, except this time I could make out a huge X in the sky, so all the way home I kept my eye on this X to try to discover it's exact location and upon reaching wooler I could see that the X was amost above my head but to the left and which would have been directly over otterburn training camp and ever since that day these trails have been persistent over and near my home which is only about 20 miles from the training camp.

Now if you note, I first noticed this at the end of the summer in 2002 just as the case for the war in Iraq was being ramped up, any connection?

I have since taken many photos and videos of this phenomenon and also believe that last years spate of noctilucent clouds here in the UK may also be connected.

Keep up the good work Andrew.

Your's sincerely,

John C

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Dear Mr. Johnson:

I am interested in your report and would like to communicate with you about some of the information that two of us have been researching since 1998. We believe, however, that the program here in Northern California and Arizona dates back to 1988 or 1989, when the American taxpayer funding was made available for a wide variety of programs...which include the making of persistent jet contrails. We believe that there may have been experiments prior to this date...however, technology and funding became available on a massive scale in the late 1980s.

If you would like to communicate with me this would be great. I do intend to forward your site on the Internet here and in several places in the next couple of days. I have a variety of government documents which might be of interest to you as well.

Your report is very good.

Sincerely,

Rosalind, California



# Department for **Transport**

Andrew Johnson  
22 Mear Drive  
Borrowash  
Derbyshire  
DE72 3QW

Web Site: [www.dft.gov.uk](http://www.dft.gov.uk)

6 June 2007

Dear Mr Johnson,

## **Persistent Aircraft Trails**

Thank you for your various letters of 18 May to DEFRA ministers. They have been passed to this Department as we have policy lead on aviation emissions and I have been asked to reply.

Contrails are ice crystal clouds that form at high altitudes from the exhaust products of aircraft but only when atmospheric conditions of temperature and humidity favour this. They are initiated by exhaust products and the disturbance caused by aircraft. If contrails are long-lasting, they may disperse forming 'contrail-cirrus'. Both contrails and contrail cirrus are thought to affect climate and have an overall warming effect. However, the magnitude of warming is still the subject of intense scientific study and estimates of this warming effect vary almost by a factor of 10.

The Department has sponsored research to reduce these uncertainties and UK scientists are actively engaged in international research into this topic. Currently, it is too early to say whether contrails are worth avoiding because of the uncertainties in the warming effect, and the potential costs on the air traffic management system to avoid them. Moreover, avoidance of contrails may incur a penalty of higher fuel usage such that CO2 warming may be increased. Thus, more study is required. The Department sponsored a major international scientific meeting last year (see <http://www.pa.op.dlr.de/tac/>) which presented significant new research on the subject.

We are not aware of concerns raised by the scientific community about the potential health effects of contrails from aircraft. Contrails are undesirable but there is no credible evidence that they are intentional or that they are contaminated other than by the exhaust gases and particulates. We have an interest in characterising any ultrafine particulates and determining if aircraft engine technology can be developed to reduce the frequency, size and persistence of contrails.

All the serious scientific evidence supports this general view, despite significant scientific uncertainty on the details. There is also good agreement that our priorities lie in reducing NOx emissions and a range of green house gases. This variation in contrails is because they only occur under certain climatic conditions and these are very different to those at ground level. Wind speed and direction at 36000 feet is often different to ground level and will result in trails moving in different directions daily. Aircraft are routed in corridors for air

traffic purposes which explains why contrails follow a similar path. Clearly changes that have occurred to these corridors will result in changes to contrails numbers and positioning.

You comment in paragraph 6.1.1 that the mass of water vapour emitted by an aircraft is so tiny that it wouldn't be visible. The vast majority of the mass of ice and vapour that is visible comes from the ambient air, as opposed to the aircraft. The disturbance and pressure changes around the aircraft and exhaust initiate the formation of the droplets, which then freeze. With air temperatures of -50C and colder they can persist for longer hours.

The following is a link to a good paper on the real science of contrail formation and summarises the specialist work of many eminent scientists.

[http://www.aero-net.org/lib/Schumann/Schumann\\_Contrails\\_COMPTES%20RENDUS%20PHYSIQUE.pdf](http://www.aero-net.org/lib/Schumann/Schumann_Contrails_COMPTES%20RENDUS%20PHYSIQUE.pdf)

This highlights improving engine efficiency as being one of the drivers of increased contrail formation. Page 4 suggests that the thermodynamic efficiency of engines was about 0.2 in 50s, 0.3 for the subsonic fleet in 92 and maybe 0.5 for new engines in 2010. This is good news for fuel efficiency but this report suggests that it is contributing to increased contrail numbers and persistence.

I understand that this might not support the position you hold, but believe that the evidence base offers reassurance about the source and content of these trails.

Yours sincerely,



**e-mail sent: 13<sup>th</sup> June 2006**

Dear \_\_\_\_\_

Many thanks for your kind response and the information you included in it. I am pleased to note that you read my report and were able to comment on it.

I found the paper you referenced, written by Professor Ulrich Schumann, and have studied it in some detail. I have included a more detailed commentary below and I will be e-mailing him separately.

In summary, I would say that there is little or nothing in this report which explains the phenomenon and data I presented in my report:

- 1) It talks about contrail formation being linked to cirrus cloud formation, but states there is no proven link between them.
- 2) It does indeed discuss persistent "contrails" but does not explain why they form and the duration of their persistence is not discussed in detail or with any empirical data.
- 3) In particular, my attention was drawn to 2 figures: the standard contrail duration of maximum 2 minutes (I have no argument with this!) and also the discussion of regions of ice supersaturation. It states that ice supersaturation in the atmosphere may be the cause of persistent contrail formation but no firm link is documented or established. Indeed, a figure of 150 km is quoted for the maximum size of a region of ice supersaturation. If you check my measurement in Section 4 of my report, made directly from known satellite photos, I have measured chemtrails that are over 300 km long.

Some discussion of lidar measurements is included in this report, and this is quite interesting, but inconclusive. I have to ask myself (and maybe you will too) why there are no ordinary (optical) photos in this study? Why are there are no time-lapse studies? These studies can be made with cheap and simple equipment and are useful for gathering quantitative raw data. Coupled with other methods for gaining information about the state of the upper atmosphere, this could form the basis of more useful study. Of course, as I am a private individual without access to research grants and resources, I am not really in a position to progress very far with this.

Below, I include a detailed response to the report.

## Detailed Response to the Schumann Report

### Definition of Cirrus Clouds

There seems to be some confusion that contrails may be Cirrus Clouds, so I want to consider the definition of cirrus clouds. From: <http://www.allstar.fiu.edu/aero/fltenv3.htm>

*Cirrus (Ci). Very high, Thin, wavy sprays of white cloud, made up of slender, delicate curling wisps or fibers. Sometimes takes the form of feathers or ribbons, or delicate fibrous bands. Often called cats' whiskers or meres' tails.(left)*

*Cirrocumulus (Cc). Thin clouds, cotton or flake-like. Often called mackerel sky. Gives little indication of future weather conditions.(right)*

*Cirrostratus (Cs). Very thin high sheet cloud through which the sun or moon is visible, producing a halo effect. Cirrostratus is frequently an indication of an approaching warm front or occlusion and therefore of deteriorating weather. (left\*)*

Also from: [http://www.crh.noaa.gov/lmk/soo/docu/cloud\\_classifications.php](http://www.crh.noaa.gov/lmk/soo/docu/cloud_classifications.php)

*Cirrus clouds are wispy, feathery, and composed entirely of ice crystals. They often are the first sign of an approaching warm front or upper-level jet streak. Unlike cirrus, cirrostratus clouds form more of a widespread, veil-like layer (similar to what stratus clouds do in low levels). When sunlight or moonlight passes through the hexagonal-shaped ice crystals of cirrostratus clouds, the light is dispersed or refracted (similar to light passing through a prism) in such a way that a familiar ring or halo may form. As a warm front approaches, cirrus clouds tend to thicken into cirrostratus, which may, in turn, thicken and lower into altostratus, stratus, and even nimbostratus.*

Looking at the chemtrails, these do not match these descriptions much at all – because they are not water vapour based cloud formations.

I will now go through some sections of the paper “*FORMATION, PROPERTIES AND CLIMATIC EFFECTS OF CONTRAILS (Schumann, 2005)*” and offer a commentary on what each one says.

### Section 7, Page 12

*The formation of **contrail-cirrus is clearly visible to ground observers** and observations by satellites from space [77-79]. However, modelling and prediction of contrail cirrus for observable cases is still in its beginning [88]. Proper models and validation data for such studies, including the state of the atmosphere, at scales comparable to the size of supersaturated regions are still to be provided. **No conclusive observational evidence exists for an impact of aviation aerosol on cirrus properties.***

So, there is no evidence that contrails affect the formation of cirrus clouds.

*It is to be expected that aviation aerosol and aerosol precursor emissions may impact the upper tropospheric aerosol over their entire life cycle, which may last **over a time scale of up to a few weeks** depending on season and altitude.*

We see almost immediate effects of contrails/chemtrails – as documented on 4<sup>th</sup> Feb 2007, for example.

*In particular, soot particles originating from aircraft exhaust may act as efficient heterogeneous ice nuclei [22, 57]. Aviation aerosols **may trigger the formation of clouds long after the emission**, when the background atmosphere has changed to a state allowing cloud formation (supersaturation).*

“May” indicates this is an assumption, and no data is presented to back this up.

*Aircraft-induced aerosols can modify the micro-physical properties of clouds, change cloud particle sizes and forms, and the number of cloud particles [89-90]. The result of such modification may include a change in the precipitation rate, in cloud life time, and in cloud radiative properties. **A quantification of the impact of aviation aerosol on cirrus properties is subject of ongoing research.***

Again, “may” has been used and it is stated the link between aerosols and cirrus formation is “unknown”. No reason is given as to why trails persist.

### **Section 3 Para 2**

*Compared to thermodynamics, the particle emissions play a secondary role in contrail formation. If the atmosphere is cold enough, a contrail will form even for zero particle emissions from the aircraft engines because of condensation nuclei entrained into the exhaust plume from the ambient air.*

This is, just as I put in my report, an explanation of contrails which don’t persist. I have no argument with this.

### **Section 4, Top of Page 8**

*Since contrail persistence requires at least ice saturation, a sky full of contrails but without natural cirrus shows that cases occur with humidity above ice-saturation but below the threshold for cirrus formation.*

This is not an explanation – it is a statement that “something happens”. It says that trails can persist without supersaturation – so, supersaturation *cannot* be the sole explanation for the formation persistent trails. The phrase is really, again, saying “persistent trails form, but we don’t know why.”

### **Section 4, Just under Figure 5**

*Regions with ice supersaturation have been found with horizontal extensions of the order 150 km [53]*

This still doesn’t explain why trails persist. Also, I measure a trail over 300 km long – which presumably would fall into the “unexplainable” category we can deduce from Section 4, top of Page 8.

### **Section 5, Paragraph 1**

*Small and large transport aircraft may produce persistent contrails of similar size, even though the fuel consumption may differ by a factor of five [66]. Under subsaturated conditions, contrails of 2-engined aircraft evaporate mostly already during the jet phase (<20 s), contrails of 4-engined aircraft often survive until the end of the vortex phase (**ca. 2 min**) [68]*

This is the only paragraph where specific times for the duration of persistence is mentioned – all these times do not agree with the examples I have documented and provided to you. I am fully aware that ordinary contrails dissipate within 2 minutes.

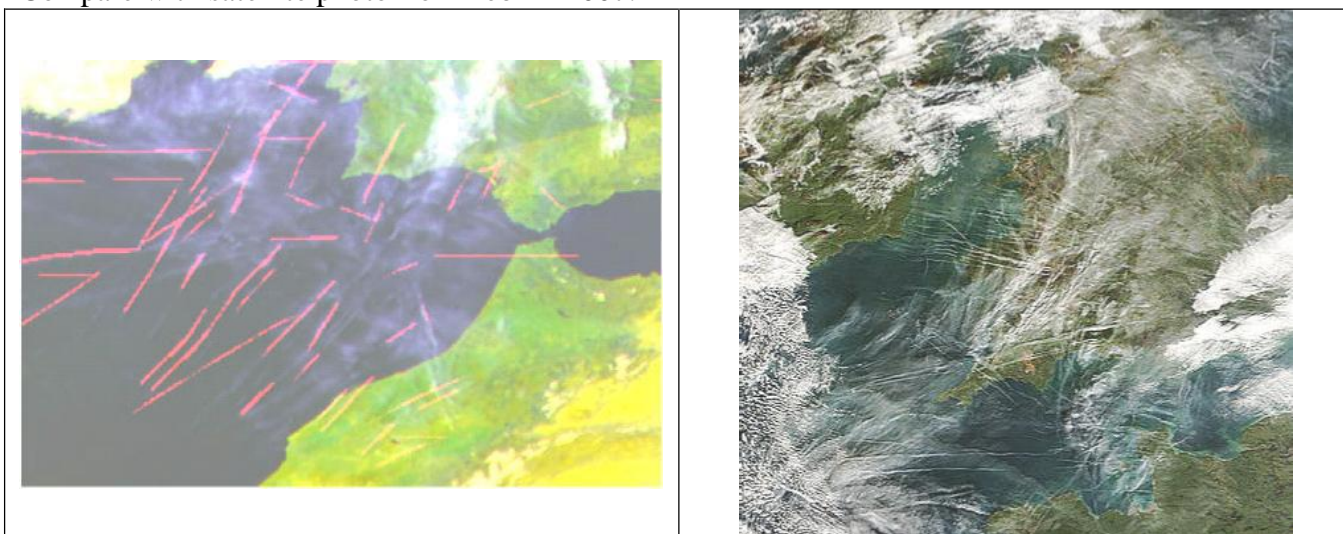
### **Section 5, Paragraph 2**

*At present, only a few exploratory studies have dealt with the later stage of the persistent contrail dynamics which depends on the mesoscale atmospheric flows with rising or sinking motions of turbulent or wavy character and on shear, radiation and ice particle sedimentation. A vertical shear in the wind perpendicular to the contrail causes a contrail spread **which may reach several kilometres within hours** [73-76].*

Again, this is saying, “we don’t know why trails persist”.

### **Section 6, Figure 6**

Compare with satellite photo from Feb 4<sup>th</sup> 2007.



Notice any differences? Right hand photo was from:

[http://rapidfire.sci.gsfc.nasa.gov/subsets/?Europe\\_2\\_01/2007035/Europe\\_2\\_01.2007035.terra](http://rapidfire.sci.gsfc.nasa.gov/subsets/?Europe_2_01/2007035/Europe_2_01.2007035.terra) (4th Feb 2007)

### **Section 7 – Para 3**

Consider the meaning of this paragraph:

*A correlation between aviation soot and cirrus particle concentrations has been observed in cirrus only in one case study, apparently in young persistent contrails [91]. The potential for a connection between aerosols and cirrus has been found in experiments which have shown differences in aerosol and cirrus particle concentration in clean and polluted air masses [20; 92-95]. However, the contribution of aviation emissions to cirrus formation in the atmospheric aerosol has not yet been observed at ages beyond about one hour, nor has the formation of cirrus been documented which forms from aviation aerosol without presence of a contrail. The potential for an impact of aviation aerosol on cirrus has been shown in still tentative numerical simulations of soot concentrations and ice particle formation [96, 97].*

Is this suggesting that the aircraft passes over, with no persistent contrail, then a cirrus cloud forms sometime later? If this is the case then:

- 1) It does not match the observed data I discuss (trails are seen immediately and persist).
- 2) It is likely to be difficult to prove, at many locations, what particulates were responsible for cloud formation – whether those emitted from aircraft, or those from industrial pollution, or those carried from distant location by, say, the jet-stream.

### **Section 7 – Para 5**

*The ice formation processes are very complex and not yet finally understood [5, 6, 92, 98, 99]. The changes in concentrations of ice nuclei (such as aircraft soot) may cause an increased cirrus cover but may also cause a reduced cirrus cover, so even the sign of this effect is presently uncertain [100].*

So, there is no definite link between contrails and cirrus formation anyway!

In the rest of section 7, it discusses the increase in contrails over the long term, but does not explain how specific days can show almost blanket coverage and then, some days later there are virtually no contrails seen – even in the same weather conditions.

### **Section 9, Start**

*“The climatic impact of contrail cirrus is not known.”*

On a global scale and/or long term this may be true, but I have documented the effect, as have others, on short term, localised climate change – where a haze develops and sunlight levels drop. This is a known, observed effect which is repeated and backed by reliable data.

Section 10 is not really relevant to what I have presented discussed, though it may have some bearing on what is being discussed.

### **Section 11**

*“Persistent contrails form in ice-supersaturated air masses.”*

The data presented in this report simply does not support this conclusion. Neither does it support or explain the formation of crosses/grids and almost parallel lines, as shown in many pictures I have and the ones presented to you. So, this conclusion is false – also see Section 4, Page 8 – as mentioned above. What it says there does not support such a conclusion.

It is really saying “Persistent contrails *may* be formed in regions of ice-supersaturation, but we have no real, reliable explanation why Persistent contrails form”. The *correct* conclusion is that unknown aerosols are being covertly introduced into the air – as I said in my report.

## **Conclusion**

The paper lists an impressive number of references, but sadly it completely fails to explain the type of trails that have been documented by hundreds or thousands of people across the world.

The report suggests a maximum length of a trail of 150 km – I showed an example of a trail twice this length (quite a few others can be found on that and other satellite photos). It also mentions a persistence duration of about 2 mins – I have time lapse photography showing trails lasting over 18 minutes – and the 360 km one suggests a duration of at least 27 minutes. So, this report does not explain this data either.

## **Further Remarks**

There is a considerably large volume of evidence which people are ignoring and thus they are drawing incorrect conclusions. I hope I have provided you with enough feedback on the Schumann report to demonstrate that something is seriously wrong and, as I said in my previous letter, deeper and uncompromised investigation is required by you and your agency.

Below, I include some messages that were sent to me from around the world following the posting of my report and press release.

I will be posting a follow-up press release, discussing the essence of your response and my answers that I have included here.

Thank you very much for reading this long response.

Yours Sincerely,

Andrew Johnson

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## **Responses received by e-mail from Chemtrailing Dossier and Associated Press Release**

{As shown above}



# Department for **Transport**

Andrew Johnson  
22 Mear Drive  
Borrowash  
Derbyshire  
DE72 3QW

Web Site: [www.dft.gov.uk](http://www.dft.gov.uk)

20 June 2007

Dear Mr Johnson,

## **Persistent Aircraft Trails**

Thank you for e-mail of 13 June commenting on my earlier letter in response to yours.

We might have to agree to disagree on some of the details but I shall comment on some of the points that you raise or challenge.

You dispute the maximum size of contrails. Whether it's 150 or 300km isn't that relevant. They're long and in certain circumstances persist. Scientists agree that, on balance, with wind and other natural conditions contrails can influence cloud formation.

You dispute the fact that contrails have water vapour in them by saying that they don't accurately reflect the cloud definitions you have located. I suggest that the difference arises because the contrail remains relatively focused and hence visible as a long line. Normal clouds will be a more dispersed and homogenous form. The definition you found probably relates to naturally occurring clouds. Man/machine contrail sourced clouds might be similar, but are unlikely to be identical in formation, shape and scale.

There is no credible evidence to support a non water vapour based contrail content.

'May' does not indicate that it is an assumption. It says that the science supports it as being possible, maybe supported by empirical evidence, but there is not proof beyond reasonable doubt.

And your comments on specific sections:

Section 4 top of page 8

I think you need to accept that aircraft are operating close to the conditions for contrail formation. So sometimes the addition of combustion matter, water vapour and aerodynamic disturbance is enough to trigger contrails.

Section 5

para 1

Again variations will happen due to natural conditions.

Par 2

In dealing with uncertainty peer reviewed scientists and those working on publicly funded research need evidence. If they haven't got the evidence they shouldn't draw definitive conclusions. And with contrails there is currently scientific uncertainty, but that doesn't support any chemtrail conspiracy.

Section 7 para 3 your point 1

I would say that trails sometimes occur immediately, but not always. The text is saying that the emissions may not immediately cause a visible contrail but could have an impact on cirrus later, according to experiments. That doesn't sound unreasonable.

Section 7 Para 5

Once again contrails depend on atmospheric conditions, which vary from day to day.

Section 9

The climate impact of contrail cirrus is not known. It is different to saying sunlight levels have changed. Radiative forcing is the term for the very complicated way that each greenhouse gas has a different climatic effect and indicates the warming effect in watts per square meter. Some warm and some cool and the amount varies according to latitude. Some GHGs have an effect for many years.

Section 11

You appear to dispute the fact that contrails form. I believe the evidence and the science is quite clear; they do form and some persist. And I have previously explained how newer more efficient engines may initiate more contrails than older engines. The crosses and parallels are observed because of how aircraft are routed in corridors.

There is simply no evidence of unknown aerosols being covertly introduced and to claim otherwise is distorting the facts.

Yours sincerely,

A large black rectangular redaction box covering the signature and name of the sender.

## e-mail sent: 22nd June 2006

Dear \_\_\_\_\_

Many thanks for your prompt response to my previous e-mail. I appreciate the time you have taken to respond. (Coincidentally, I also received an evidence-denial response to my report from the CAA today.)

I think you may have slightly misunderstood me because I am certainly not disputing the existence of ordinary contrails lasting for a maximum period of 2 minutes. I state this clearly in my report. I also think saying "150km or 300km" (a factor of 2) is rather a loose margin of error to apply to basic data. Additionally, we could argue about the usage of the word "may" if it was especially important here.

The criticisms I raise about the Schumann report are valid and I have presented data which the report cannot explain. I have sent the same comments to Professor Schumann as I did to you, so I am sure he is capable of responding in his own way, should he have the time, interest or inclination to do so.

Also the credibility of data and evidence and conclusion is often a matter of opinion. For example, is a currently employed funded scientist *always* going to produce better analyses and "more credible" conclusions than a retired one? You state "with contrails there is scientific uncertainty but that doesn't support a chemtrail conspiracy". However, the data I provided cannot be explained - it is not explained in that report. I find Clifford Carnicom's scientific data, analyses and conclusions (see [www.carnicom.com](http://www.carnicom.com)) to be *more* credible than the report you kindly linked me to. Additionally "conspiracy" is an emotive word, which I avoid as much as possible, because I prefer to focus on points of evidence.

However, let us assume, for the moment, *your* conclusion is correct. The grid of trails which appeared outside my window on 10th June 2005 must then be the result of ordinary air traffic. Also, the 42 aircraft I counted and filmed on Sunday 4th Feb must be ordinary air traffic. Can you therefore please answer these questions:

- 1) Can you please provide a list of flights which travelled over the Derby area between 9pm and 10pm on 10th July 2005?
- 2) Can you please verify that some of these flight paths crossed at 90 approximately degrees in the same area?
- 3) Can you please provide a list of flights travelling over Markeaton Park Derby between 14:15 and 16:45 and verify that there were at least 42 planes during that period?

For your convenience I have provided the unretouched pictures of the Grid and links to Google Maps of the location of my house...

<http://maps.google.co.uk/maps?ie=UTF8&oe=UTF-8&hl=en&q=&z=15&om=0>

(Lat/Long 52.902891 / -1.378364)

(the grid was seen on bearing of about 280 degrees (i.e. approx West-North-West of my house)

and Markeaton Park, Derby:

<http://maps.google.co.uk/maps?ie=UTF8&oe=UTF-8&hl=en&q=&om=0&ll=52.93519,-1.501265&spn=0.012467,0.056477&z=14> (Lat/Long 52.935129 / -1.505260)

I can provide the unretouched video clips of the aircraft from 4th Feb if this will be of any help.

Thank you for any help you can provide in supplying or pointing me in the direction of this data - if we could find it would clear up these 2 instances of illegal aerosol spraying and *prove* that my description of same is incorrect/inaccurate in these particular cases.

Thanks again.

Yours Sincerely,

Andrew Johnson



Mr Andrew Johnson  
22 Mear Drive  
Borrowash  
Derbyshire  
DE72 3QW

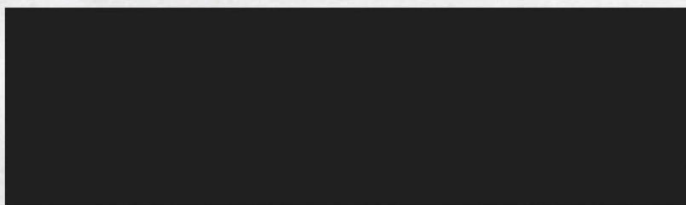
20 June 2007

Dear Mr Johnson

### AIRCRAFT EMISSIONS

1. Thank you for your report entitled 'Illegal Aerosol Spraying Operations over United Kingdom Airspace' dated May 2007.
2. The photographs and satellite images contained within your report all feature contrails that are a by-product of the combustion of kerosene (aviation fuel) under certain meteorological conditions. In summary, when fuel burns it combines with oxygen to form carbon dioxide and water. The water can form ice crystals that appear to observers on the ground as contrails. Dependent on a number of factors including relative humidity, these contrails can dissipate or may persist. You make the comparison of contrails with exhaled breath on a cold winter day and seem suggest that because contrails sometimes persist unlike exhaled breath that the contrails must therefore consist of something other than water. The difference between the two situations is that contrails occur in very cold ambient conditions and the water content forms as ice crystals. Even in the coldest conditions exhaled breath at ground level does not form into ice crystals and the exhaled breath analogy does not form a complete explanation of contrail formation. Furthermore, research has indicated that whether a contrail forms or not is quite sensitive to meteorological conditions. One study produced recently has argued that changing aircraft altitude by a few thousand feet can affect whether a contrail is formed or not.
3. Contrail formation and other aviation emissions are the subject of much ongoing *research by a variety of agencies and academic institutions in the UK and internationally*. It is considered seriously because of the potential impact on climate change.

Yours sincerely



## **e-mail sent: 22nd June 2006**

Dear \_\_\_\_\_

Many thanks for your response to my report regarding illegal aerosol spraying operations which are being carried out in UK Airspace and in many other areas of the world. (For your information, at the end of this message, I include responses from around the world which I have received, following the posting/publishing of my report.)

I appreciate your response, even though your letter clearly disagrees with the conclusion above, as I predicted in my report. I have already considered in some depth (as have many others) this explanation, and found it cannot, by the laws of physics, explain all the data.

However, let us assume your statement is correct. The grid of trails which appeared outside my window on 10th June 2005 must then be the result of ordinary air traffic. Also, the 42 aircraft I counted on Sunday 4th Feb must be ordinary air traffic. Can you therefore please answer these questions:

- 1) Can you please provide a list of flights which travelled over the Derby area between 9pm and 10pm on 10th July 2005?
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I can provide the unretouched video clips of the aircraft from 4th Feb if this will be of any help.

Thank you for any help you can provide in supplying or pointing me in the direction of this data.

Yours Sincerely,

Andrew Johnson  
22 Mear Drive  
Borrowash  
Derbyshire  
DE72 3QW

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## **Responses received by e-mail from Chemtrailing Dossier and Associated Press Release**

{As shown above}

## Response from WWF UK (they have a campaign about Carbon Footprints)

-----Original Message-----

From: Supporterresponse Supporterresponse

[mailto:Supporterresponse@wwf.org.uk]

Sent: 11 June 2007 15:28

To: [ad.johnson@ntlworld.com](mailto:ad.johnson@ntlworld.com) Subject: 512434789/MD

Dear Andrew,

Thank you for your letter concerning climate change.

I appreciate your comments that climate change is natural. Throughout its life the earth has moved from cold periods - ice ages - to warmer periods - interglacials. We are in an interglacial now, the temperature is about 4 degrees centigrade warmer than during the last ice age which ended 20,000 years ago.

However, over the last 150 years or so it has been observed that this warming has accelerated. It is now 0.5 degrees centigrade warmer than it was in 1860 - a huge change for 130 years considering there was only a rise of 4 degrees centigrade in the last 20,000 years.

Furthermore, the last century was the warmest century for 600 years and the last 2 decades of the 20th Century were the warmest on record. The speed at which the change is happening, leads us to the belief that it is not a completely natural change. The current science looking at the issue has concluded that there is a 'discernible human influence on climate change.' This human influence is mainly a result of increases in CO<sub>2</sub> (carbon dioxide) emissions from the burning of fossil fuels to produce energy.

Whilst CO<sub>2</sub> is a naturally occurring gas, during the last 150 years or so (since the Industrial Revolution), there has been a dramatic increase in our emissions of CO<sub>2</sub>, mainly through the burning of fossil fuels to produce energy (i.e. power generation, transport and industry) and it is this increase that is responsible for the accelerated warming.

For more information on this, please see "The Science of Climate Change - A Short Overview", report on [www.panda.org](http://www.panda.org).

WWF believes that each person can take responsibility for their impact on climate change. Especially when one considers the fact that 36% of the UK's CO<sub>2</sub> emissions come from us driving our cars and heating and powering our homes.

By switching to a green electricity supply you can support the development of renewable energy resources within the UK. Renewable energy sources are defined as energy sources which occur naturally and repeatedly in the environment and which can be harnessed for human benefit. There are many forms of renewable energy, including wind, wave and solar power. They can be used for both electricity and heat generation. For example, the burning of biomass produces heat that can be recovered and distributed locally. The main benefit of using wind, solar and wave renewable technology is that the emissions of greenhouse gases (CO<sub>2</sub> in particular) zero compared to those associated with fossil fuel use.

WWF are also looking at how domestic users can reduce their energy use. This includes things such as buying energy saving light bulbs, switching off appliances and lights when not in use, insulating your home properly and buying energy efficient appliances.

The changes in the local and global climate we are seeing is expected to have a number of significant impacts. Ice sheets, already showing signs of retreat will continue to melt, increasing the incidence of avalanches and dramatically changing river flows. This shrinking of the ice sheets will have major impacts on the Arctic and Antarctic habitats, affecting Polar Bears (Arctic) and Penguins (Antarctic). There is also evidence that the Siberian Tiger could be squeezed out of its Tundra habitat. Snow on mountain ranges is melting, the snow line is retreating. Species such as the Ptarmigan in Scotland could simply run out of habitat.

There is also the risk of an increasing number of pests and diseases in the UK as conditions for their survival become more favourable and more unusual weather conditions will be seen - the UK will become more stormy with 10% more rainfall which will lead to more flooding.

I appreciate your comments about climate change and global warming and hope you have found this letter both helpful and informative. Please be assured that these events are already taking place and therefore it is essential that we do everything that we can to conserve energy and the environment for current and future generations.

Thank you for taking the time to contact us and for letting us know your views.

Yours sincerely,

Supporter Relations