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Climate Change

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Abstract: *This is an investigation into the way the UK's climate is changing and what causes it to happen. A phenomena has been identified that **MAY** be affecting the way the weather changes on occasions and the way it has altered the seasons over the years. This means the climate will continue to change and get worse over the coming years. This is a completely new idea and has not been investigated before as it has never been considered possible. The phenomena that is causing problems and can be used to forecast a change in the weather patterns is Rocket Launches and Rocket or Orbital re-entries. There is a minimum height the rocket has to achieve before it causes an effect on the climate which is 130 miles altitude. This happens over the entire world but this paper refers mainly to the UK.*

Keywords: *Climate / Climate Change / Weather / Rocket Launches / Temperature.*

I. Introduction.

This paper introduces a new way of looking at what is causing Earth's Climate Change. In 1995 with the introduction of the Internet it was possible to foretell the weather with reasonable accuracy not just days ahead but weeks, months and a year at a time and be right every time. This was not using conventional forecasting methods; it was accomplished by using NASA's Launch Schedule.

II. Time Period 1960-1980

In the 1960's and 1970's, the Climate was changing very slowly and it wasn't noticed what was happening with the subtle changes that were occurring. In those early years, the world had two main space agencies, NASA and the Russian Space Administration. When the investigation started into this phenomena; the UK had thunderstorms, sometimes very severe and it rained. The temperature dropped by 2ºC and lasted roughly two days then the weather reverted to previous forecasts.

Up to this time, it was still mainly Russia and NASA that were going into space. Later, other countries built their own rockets to put their own satellites into orbit. World governments knew they had to get into the space race at some time or else America and Russia would have supremacy between them. As the French, European, Japan, India and other space agencies started to launch their own rockets the climate was changing more rapidly. However, it was only slowly being noted that there was a change in the climate.

4.4 Return Journeys

Although a great deal of research was carried out on the rockets going into orbit, it was not until 2006 that the return journey from space was also seen to have an effect on the climate. As the space shuttle descended into the upper atmosphere, it was noted that after the shuttle had landed, three days later the UK had rain when it was not forecast. Looking again at the data, it was discovered that on every occasion the Space Shuttle or other object re-entered the atmosphere, it had the same effect on the climate as it did when the when rocket was launched.

Further research was carried out on previous launches to see if the same change was happening on other return journeys and it was shown to be the same alterations to the climate as it was when the rocket went up. This data was checked with UK Met Office. (Reference 1)

III. Materials Used.

A standard computer using Windows 95, 98, 2000, Vista, Windows 7 and Windows 8.1.from 1995 to 2014 inclusive.

All weather records were collected from the UK Met Office downloaded from their site. Reference 1.

All Rocket Launch Dates were got primarily from NASA's own website at their Mission Schedule, (Reference 2). During this time it was mainly launches from Cape Canaveral, Wallops Island and Vandenberg Air Force Base that were checked. In 2007 launch sites from Baikonur Cosmodrome and Kourou were also investigated.

The main rockets which could easily be checked were the Space Shuttle as it was launching almost every month and a number of satellites launched from Kourou. More rockets were lifting off from Kazakhstan and were easy to check.

The main sites used were NASA's Vandenberg, Wallops Island, Cape Canaveral, Baikonur and ESA Kourou French Guiana. Another base which was investigated was Plesetsk in Russia.

Everything from the Internet was available for anyone to see and download. All the information used and read has been public records.

IV. Limits.

A rocket has to achieve at least 130 miles altitude, to have an effect on the world's weather. Above 130 miles altitude something happens which has an effect on the weather. That something is still unknown and it will need to be investigated to discover what exactly happens.

In February 2008 the US Aegis warship USS Lake Erie was ordered to shoot down a large satellite. A modified tactical Standard Missile-3 was launched and subsequently destroyed the satellite while it was in orbit. It was later discovered that this rocket and the incoming remains of the satellite had an effect on the UK's weather. It lowered the air temperature by 2ºC and three days after the launch and explosion, it rained in the southwest of the UK. A day later the weather reverted to its normal forecast.

6.6 Time Frames.

From Cape Canaveral to the UK it takes three days for the UK's weather to be effected. From French Guiana it takes four to five days, depending on the time of the launch. From Baikonur Space Port it takes five to seven days for the UK's weather to be effected and it affects the East Coast first. From Plesetsk it takes 6 to 8 days and affects the East coast of Scotland and down the East side of the UK.

From other launch sites, it takes much longer or the UK will not be affected at all. However, different launch sites will affect different countries at different times. No other launch sites with time delays of weather changes to other countries have been checked or added to this research.

6.6.6 How are the Time Frames Calculated?

Between Cape Canaveral and the UK lies the Atlantic Ocean, the air travels from the launch site over the ocean with nothing in its way until it hits the west coast of Ireland and then the south west of the UK. This takes three days but Kourou is a little further down and so it takes between another one and two days, depending on the time of day the rocket is launched.

When a rocket is launched from Baikonur Kazakhstan, the weather has to travel over land, high hills and mountain regions. The weather pattern moves more slowly and therefore takes between five to seven days before it hits the South East coast of the UK first. It then travels south west and up the east coast of the UK. By checking the temperature in Kazakhstan at the time of launch, it can be calculated what the exact temperature will be in the UK when the weather is affected.

The rockets that currently lift off from Baikonur and Cape Canaveral are medium types to get a small payload into orbit. To get a heavy payload into orbit, a much larger rocket is used with three stages.

The rockets that launch from Plesetsk are larger rockets to get multiple payloads into high orbit. This changes the weather on the eastern side of the UK from Scotland down to London and has more effect on the weather. The conditions last a day longer.

Although these changes only last two or three days, it has a knock-on effect to alter the climate, as the changes in temperature and conditions give the UK more rain, sleet or snow.

V. Results.

The conclusions are that the weather can be accurately forecast for three days after a launch from Cape Canaveral, Wallops Island is about the same, from Kourou (French Guiana) it's four to five days, Baikonur is five to seven and for Plesetsk six to eight days. The launch schedules are usually posted for up to year in advance so anyone can see when the launches are going to be and work out the exact weather conditions after the dates of the launches for the UK.

For Kourou, Cape Canaveral and Wallops Island, the temperature drops by 2ºC, it rains and the weather gets colder than it was a few days before. For Baikonur and Plesetsk, five to seven days later there will be a drop in temperature by on average 3 to 4ºC and the UK will get stronger winds and much colder weather. This may be heavy rain in the summer and from November to March it will be frost or snow.

It can also be confirmed when ISS missions are returning astronauts to Earth, they land in Kazakhstan as they use a Russian Capsule. When these capsules return to Earth, they always affect the weather and take the same amount of time for the effects to take place. When a supply vehicle re-enters the Earth's atmosphere this also has an effect on the weather, whether it is destroyed in the process or lands using parachutes. It is the same time schedule for the effects to take place.

Hypothesis 1.

When a rocket lifts off, it boils the air around it and as the rocket gains speed, it pulls the air up with it and spins it to make a super tornado that will follow the rocket to orbit. The air is superheated by the fuel and is forced to spin by the rotation and pitch of the rocket itself. When each stage ignites, the falling stage takes part of the superheated, rotating air with it and alters the trajectory of the air below. As the rocket attains orbit, there could well be a form of *"Gravity Well"* that pulls the superheated air back to the surface with tremendous speed, like an elastic band. The remainder of the superheated air is pulled into orbit by the rocket itself, when the rockets arrives at its final altitude, the engines turn off and the air gets cold very fast and the inner air funnel is pulled back to the surface forming the *"Gravity Well"*. When it hits the ocean or land, it then explodes out in all directions pushing the remains of the superheated air north, south, east and west.

The air then rushes forward, as from Cape Canaveral up towards the UK as it is the first land it will hit. The superheated air pulls with it the weather pattern in the region it has just come from and when it hits the UK it gets the weather in the region it moved from plus the water vapour it has picked up crossing the Atlantic Ocean. The air mass also goes south and eventually reaches Antarctica. Further research was carried out with Professor Vaughan and his team, mainly Athena, who was working in Antarctica in 2008 (Reference 4). It was suggested to Professor Vaughan that the reason his theory on the breakup of the Wilkins Ice Shelf could be to do with the American rockets lifting off from Cape Canaveral. This was the first time this part of the phenomenon had been conceived but it made sense as the breakup happened in the same time period as the launches (Reference 5).

The weather patterns were also checked with Antarctica manned and unmanned weather stations on Antarctica and in the sea close to the Ice Shelf (Reference 6 and 7). It was discovered that on each occasion a rocket was launched from Cape Canaveral, three days later the weather changed for between one and two days very close to and on the Ice Self of Antarctica. This could be the reason for the earlier breakup of the Wilkins Ice Shelf on 25th March 2008 when it was formerly predicted by Professor Vaughan of the BAS (British Antarctic Survey) in 1993 to breakup in 2023. This means that climate change is having a much bigger effect on the world than has been imagined. It is not just changing the climate, but the Ice Shelf in Antarctica and the Ice Flows in North Polar regions.

With Baikonur Spaceport the air has to travel over uneven ground, hills, mountain ranges and various other obstacles between the UK and the spaceport, hence it takes a little longer to arrive at the UK.

When a Rocket or capsule descends through the upper atmosphere, it also forms a "Gravity Well" and does the same as lift off only in reverse and the same thing happens again, the UK gets wet with colder weather for a few days. However, there is a slight difference here as it is the south east which gets hit first and not the south west. This is why during the November and December launches and landings, London and the south east get snow and ice much earlier than normal. Snow does not normal fall in the UK until after December from mid January onwards.

8.8. The Investigation

This phenomenon has been investigated for the past 18 years using the Internet where it is possible to get up to date weather results from Britain's Met Office to compare it with the launch dates from various spaceports around the globe. So why haven't the Met Office seen this phenomena? They haven't been looking for it. They have never seen the link between a rocket launch and a change in the weather three days later. If there can be no effect from Rocket Launches to the weather, then why can the weather patterns be predicted for up to year in advance when linked to Rocket Launches from specific spaceports?

Hypothesis 2.

This phenomenon does not just happen in relation to the UK but launches from all over the world have an effect on the weather and thus change the weather patterns for different countries which lie in the path of a Rocket Launch Site. As for the world's weather in 2013, there have been massive floods, dry seasons, heavy snow, hurricanes, tornadoes and any number of heavy rainstorms that pass very quickly which happens throughout the world. The climate is changing very rapidly and it is not just getting worse, it is getting very bad. This phenomena needs to be investigated properly and urgently. It needs to be seen either not happening or happening and this must carried out very quickly to understand how it happens and passes the effects to the weather. If this can be achieved, it will be possible to predict what areas are likely to be hit by unpredicted weather patterns or heavy rain storms. It may also be possible to use rocket launches to control the weather. If the UK was in a dry spell and the farmers needed rain, then a rocket could be sent into orbit from the South Atlantic and three days later the UK would get rain.

VI. How Is This Research To Be Carried Out?

A rocket has to be launched with detectors on the side of the rocket at different intervals measuring the wind speed, wind temperature, air speed and air temperature. Moisture measuring devices that will measure the amount of water moisture around the rocket as it lifts off. Record each stage of the lift into orbit and when the rocket enters orbit, on the nose comb there should be pressure detectors that measure the density of air, air pressure, density of air molecules, number of molecules and the area of pressure against the nose comb as it travels into orbit. The pressure against the nose comb of the rocket as it attains orbit and travels through the 130 mile high threshold should also be checked.

As each rocket stage returns to Earth, the air pressure and number of air molecules around the returning parts until they reach the ground or ocean should also be measured. Video cameras which use HD pictures, infrared, ultraviolet and thermal imaging needs to follow the lift off and into orbit. It would help if GEOS could follow the launch vehicle all the way into orbit and follow the way the atmosphere moves and is heated up by the rocket engines. The other way all this information could be collected as it is happening is by collecting the data from an overhead satellite which will record the data as the rocket goes up including the film and send it direct to the ground stations where scientists will analyse the data as it comes in.

10.10 A New Phenomenon.

This is a new phenomenon that has not been recognised before and needs to be investigated to try and understand what is happening when a rocket is launched into orbit or returns to Earth.

At the time when a rocket or descending spacecraft enters the upper atmosphere the same tests should be carried out to follow the descending rocket or spacecraft. Detectors which can send their data to a satellite and then to Earth will have to be fitted to the returning vehicles and this could be done at the ISS if needed. The astronauts on the ISS could also help in following the vehicle down by filming it from the ISS and taking readouts of the vehicle as it re-enters the Earth's upper atmosphere.

This research will do one of two things, either confirm this phenomenon exists or it is something else. If this does confirm this phenomenon happens, then it will be possible to learn a great deal from it and how it may alter the way rockets are launched into orbit. If this phenomenon is happening and it is causing climate change, it may mean that rockets have to be launched into space using other methods, like the new space planes, the futuristic Space Elevator or the British Skylon craft, which does not use such volatile energy and forces to get the payload into orbit.

This does not mean it is impossible to put payloads in excess of ten or even twenty tons into orbit; they just have to get there using a different method which is not beyond the current space agencies capabilities. The data that will be collected from the experiments may save the world from going into a self-destructive climate change.

VII. Launches & Landings.

The following data is taken from launch dates, returning vehicles and UK Met Office weather results.

The following data is an extract of launches and landings with the weather which was collected from the UK Met Office. The Launch dates were known worldwide and were also on NASA's website. The launches here are mainly from Cape Canaveral and follow on from 2006 to 2008. These dates include launches and landings and the weather is from before and after the launches. This should help explain the consistency over two years of launches of the vehicle from the same launch site and the same launch pad.

11.11 Weather Data.

Note. Please use 3 days after a launch or landing from Cape Canaveral and 5 to 7 days for Baikonur. STS = Space Shuttle and number. Not all launches were in numerical order as they all had different missions.

The following data is an extract of launches and landings with the weather which was collected from the UK Met Office (Reference 7and 8).

The Following pages are for Space Shuttle Launch Dates with Combined
UK Weather for 3 to 4 days after the launch & Landing date.
The weather remarks are copied and pasted from the Met Office on the Internet.

LAUNCH STS-120 October 23rd 2007 Cape Canaveral

18th to 26th: High pressure again reasserted itself. After a couple of sunny days but with overnight frost, the skies turned cloudy again. It was very quiet with just light winds, though a brisk south-easterly wind developed across the south on the 23rd. The 25th was a rather dull and damp day across the south.

27th to 28th: The high pressure gave way to allow rain to edge south-eastwards and some of this rain was heavy with 40 to 50 mm for the Cumbrian Fells especially. The rain became lighter and more patchy as it cleared south-eastwards on the 28th. It was very mild in the rain with temperatures of 15-17 °C.

LANDING November 7th 2007 Cape Canaveral

1st to 7th: Pressure was fairly high to the south of England with most fronts restricted to north-western parts, though even here, no spectacular rainfall amounts were recorded. Temperatures reached 18.8 °C at Wiggonholt (Sussex) on 1st and 18.2 °C at Portland (Dorset) on the 2nd and although there were some chilly nights in the first week, it was generally too mild for frost.

8th to 14th: A more unsettled spell of weather across many parts with fronts and rain followed by showers, spreading south from time to time across most of the country. It was often windy, with a significant surge blown down the North Sea coast on the night of the 8th and early morning on the 9th in conjunction with a deep area of low pressure and associated strong winds. With northerly winds quite frequent in this period, temperatures were lower with -7.4 °C recorded at Newton Rigg (Cumbria) on the night of the 11/12th.

LAUNCH STS-124 March 11th 2008 Cape Canaveral

10th to 16th: Many places had severe gales and heavy rain on the 10th, with the south-west of England especially taking the brunt of this storm. There were gusts of wind in excess of 70 M.P.H. and some of the rain and showers were accompanied by thunder. After a brief lull, severe gales were renewed on the night of the 11th and 12th with northern England catching the worst, though some very squally winds were noted further south. Berry Head (Devon) recorded a gust of 82m.p.h. on the 10th and Crosby (Merseyside) recorded a gust of 75m.p.h. on the 12th. Thereafter, it became much less windy and there were frosts across parts of northern England on some nights. However, heavy rain spread north-eastwards during the 15th, and lasted into the 16th, the heaviest of the rain across central and southern England where there were 30 to 50 mm of rain in some localities. Temperatures reached 15.8°C at Wiggonholt (Sussex) on 15th.

17th to 24th: Any remaining rain across southern England cleared southwards with much colder northerly winds spreading southwards. However, there was plenty of sunshine by day but clear skies overnight allowed for some sharp frosts. There were showers of sleet or snow near some North Sea coasts. After a brief milder spell on the 20th and 21st, accompanied by strong winds and rain, much colder and very strong northerly winds spread southwards for the Easter Weekend. For many the Easter Weekend was one of the wintriest weekends of the entire winter with many places seeing snow with an area of significant snowfall giving 5 to 10 cm across some eastern areas on Easter Sunday morning. Following a sharp night frost, Easter Monday was generally fine with some sunshine, though north-west England became cloudy and damp later.

Launch Vehicle: Soyuz TMA-12 April 8th 2008 7:16 EDT

Jule's Verne ATV Launched from Kazakhstan

5th to 16th: During the 5th, a cold front cleared southwards introducing much colder conditions to all parts. Northerly winds brought temperatures down and also some increasingly wintry showers. During the 6th an area of sleet and snow moved across much of the Midlands and SE England with 5 to 10 cm reported fairly widely, causing Heathrow airport to close for a time. The maximum temperature at Kenley (Surrey) was only 2.0°C. In the rest of this period, it remained rather cool and showery, with some heavy downpours at times, though the wintry precipitation become more and more confined to the higher ground of the north. Frosts were fairly widespread by night, with Blencathra (Cumbria) recording a temperature of -7.7°C on the 6th.

17th to 23rd: As high pressure became established to the north, an easterly flow developed, with occasional rain and showers, some of which were heavy. Temperatures were generally around or a little below average, though towards the end of this period, as the easterly wind dropped out, it became warmer with 18.9°C at Middle Wallop (Hampshire) on the 22nd.

There are many more launch dates and landings but these have not been included at the moment due to the amount of data it takes up.

VIII. Discussion.

This is very hard to understand, who would think a rocket launch or a rocket landing could affect the world's weather and alter the climate? Yet anyone can predict what the weather will be like over a year in advance if they have access to rocket launch dates and the space-port from where the rocket is launched.

There must be something that is happening to the weather when a rocket lifts off to be able to make the forecasts for the UK correct within 3 to 4 days after the launch for French Guiana and spaceports on the USA East Coast or 5 to7 days for Kazakhstan and Plesetsk in Russia. Not only can they be predicted but the forecasts are correct.

China is now sending up more rockets as is India, Vietnam and Korea. More countries are using their own rockets to send their satellites into orbit and are making numerous low orbit launches to see if their rockets work and they can achieve a proper way of sending satellites into space. Every government is now sending rockets into orbit and this is altering the world's weather and climate conditions even more.

Results

It is now not just space the worlds' governments wish to get to, there is the Moon and Mars, China is currently investigating the Moon like the Americans are investigating Mars with their own lander. This means more and more rockets will be sent into space, whether to support craft and people who are on the Moon or Mars or to send more materials to the Moon and Mars for future habitation.

Very soon MARS ONE is hoping to send the first astronauts to Mars to live on the planet. This means that MARS ONE will have to send food and materials to Mars on at least a quarterly basis to support the colony it is setting up. The people who go to Mars will be on a one way trip, they will be the first people to live on a new world and for this they will need a very expensive backup operation to keep them alive (Reference 9).

This will in turn mean that MARS ONE will be sending up rocket after rocket and they will be heavy rockets with a third stage to push the payload on its year long voyage to Mars.

The reason this information has been included is because the rockets will lift off and change the current climate or weather conditions every launch. It will also add by only very small amounts the amount of CO_2 in the atmosphere. However, these very small amounts will increase drastically because of the number of launches and the fact that a majority of the launches will be from a heavy rocket. A heavy rocket is a rocket that will need extra boosters to get the payload into orbit and have a third stage booster to send the payload onto its long voyage either to the Moon or Mars.

In general, if this phenomenon can be proved beyond all doubt, it will mean that meteorologists will be able to understand how the climate is changing and can be stopped from getting any worse. Unfortunately it may not be possible to repair the damage that has been done at this time.

If things do not alter, then by 2030 the UK in particular will have very hot summers and much colder winters. The increase in CO_2 will increase the summer temperatures and raise the air temperature by quite a few degrees C. This will in turn change the amount of food grown and the way food is produced in the UK. With an increase in temperature, there is a possibility that ice from the North Pole will start to melt and raise the sea level.

Note

This is definitely happening; something is causing the climate to alter every time a rocket is launched. It affects every country in the world from different spaceports as more spaceports open for business, different countries will have their climate altered for one or two days after every launch. This will in turn over time, alter the general format of the world's weather.

If every time there is a launch the climate is altered slightly, then a few days later another rocket is launched from a different spaceport, then the weather is trying to be changed in different areas so that eventually, the met offices around the world will not be able to tell what is happening with the weather if multiple launches continue from different countries. Even America has been hit hard by winter storms and India has had bad floods.

14.14. Future Launches.

On April 9th 2014 there is a launch from Baikonur spaceport

This means there will be a change in the UK's weather, the temperature will drop by 2ºC and it will rain or get much colder.

On April 25/26th 2014, there is a launch from Kourou spaceport. This will mean there will be rain in the UK four days later and a drop in temperature by 2ºC.

On April 27th 2014, there is a Proton launch from Baikonur Cosmodrome which means that the cold air coming from Kazakhstan will try to push away the wet and cold weather from the launch on 25/26th April from Kourou spaceport.

This is only two spaceports and there are many more which are launching rockets next month and the month after that. Most of the launch dates for this year have been worked out which means the weather forecast can be predicted with accuracy after the launch dates, just by knowing where the rocket is launching from and the date. It will be right every time unless the launch is scrubbed. It is the same every time there is a return journey for the astronauts on the ISS, who now land in Kazakhstan.

There are 45 launches set for three spaceports this year, this does not include all the other spaceports in the world and planned test launches. There will also be a lot of satellites being sent into orbit this year alone from America's military launch vehicles and worldwide this could run into over two hundred launches. If each launch is altering the climate, then by the end of this year it will have altered the way the climate should have been had the launches not taken place over 200 times. It will also increase the amount of CO_2 in the atmosphere.

The summers that used to give the UK hot days, good autumns, snow in winter and a proper spring, as it was in the 1950's and 60's are now gone. Now there are no real summers and the UK winters are much different from what they used to be. The reason behind this climate change is the launching of rockets into

space. The only thing that has remained a constant from the 1950's until now, to show that there is a definite increase in the CO_2 levels is the number of rocket launches that take place. By observing the increase in CO_2 levels it shows that something is happening to the atmosphere at an alarming rate.

IX. Final Conclusion

To fully understand what is actually causing Climate Change, this phenomenon needs to be investigated in great detail. For some reason the launch of a rocket that attains an altitude of at 130 miles, does something to the climate. It alters it north, south, east and west and it has a very strong effect on the local climate on the areas the weather hits.

It will take NASA and other space agencies to help investigate what happens when a rocket is launched to understand the full makeup of the atmosphere as something is happening at 130 miles altitude. If this were not happening, then it would not be possible to predict the weather correctly up to a year in advance in relation to a rocket launch.

In the Early 1960's, the UK had thunderstorms in the south west and since then, the climate has been changing very slowly but as more and more rockets are launched into space, the climate is altering at a much faster rate. Therefore a comprehensive study of why this happens should be carried out between the Met Office's all around the globe and the space agencies. The Space Agencies will be able to add cameras and equipment to the rockets to determine how it affects the climate. It may then be possible to understand why the climate is changing and it may be possible to do something to slow it down before it gets completely out of hand.

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