

# The Man Who Named the Clouds:

*Luke Howard FRS,  
a Tottenham local hero*



**A**ll over the world, people talk about the weather. It not only affects all our daily lives but also colours our different languages. Through phrases and metaphors, we connect the weather with our moods and emotions, good fortune or bad luck or the description of personalities. For some perhaps there is 'a cloud on the horizon'. For others 'every cloud has a silver lining'.

For just over 200 years there has been a scientific language to describe the weather. Even the different shapes of clouds have a name.

Who gave the clouds their names?

The man who named the clouds lived in Tottenham. He was **Luke Howard FRS** (1772 – 1864). This exhibition celebrates his achievements as a local hero, a member of the Royal Society and the first weatherman.

# Studying the Clouds

**I**n 1802 a gathering of scientific thinkers met in London to hear a lecture. This group of scientists was the Askesian Society, a club set up by the Quaker and chemist William Allen. The paper they heard was all about the clouds.

The speaker was Luke Howard, a friend and fellow chemist of William Allen. His presentation was called *On The Modifications of Clouds* and was the result of his study of the skies and weather.

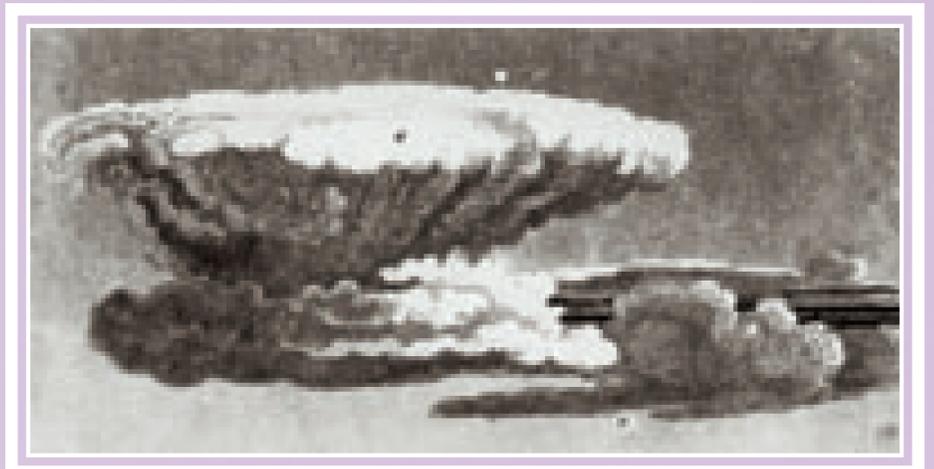
Luke understood that people had always observed and read the clouds. For farmers and sea-farers they had practical knowledge of the relationships between the appearance of the sky and the weather.



Luke Howard



Cloud by Luke Howard



Cloud by Luke Howard



Cloud by Luke Howard

In this study Luke Howard presented to his fellow scientists the first attempt to classify the different types of clouds and to give them names.

This was the beginning of a journey for Luke Howard. He was a man of many distinctions - a chemist by profession, a philanthropist and a Quaker. But he is chiefly remembered because of his hobby - *meteorology* - or the study of the weather.

It was for this work that Luke Howard was recognised and celebrated amongst the scientific community, and became known as the Father of Meteorology.

# Early Days

**L**uke Howard was born in Red Cross Street, London on 28th November 1772. He went to a school run by a 'Friend' or Quaker near Oxford.

As a schoolboy, Luke was fascinated by the sky, clouds and the weather. One of his recollections was seeing the 'Aurora Borealis' in the skies. This was a rare sighting in this country of what is known as the Northern Lights. He also remembered the 'great haze of 1783', an event when the sun was hidden for weeks because of volcanic eruptions in Iceland. On 18th August 1783, Luke even witnessed the 'Great Meteor', a spectacular comet.

On leaving school, he became an apprentice to a chemist in Stockport. Luke's father had recommended the study of chemistry to him saying:

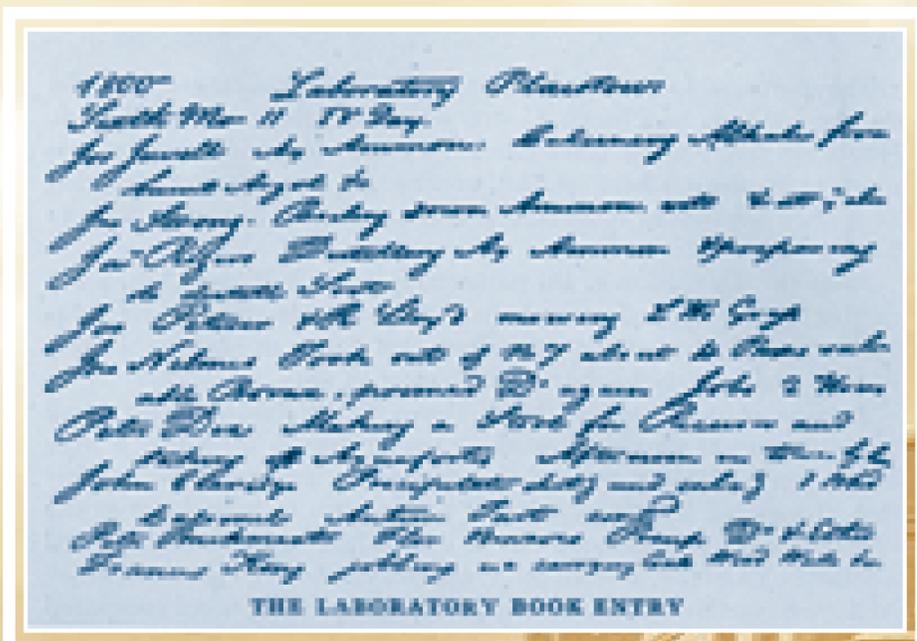
*'Chemistry is a noble science and becomes useful in many sorts of businesses as well as a lasting source of amusement.'*

Luke returned to London aged 22 and in 1795 was set up in business by his father as a retail pharmacist in Fleet Street.

In 1796 Luke married Mariabella Eliot from a prominent Quaker family. The young couple began their married life together in Fleet Street.

By 1798 Luke had become a partner of William Allen in a chemical business with laboratories and manufacturing facilities at Plaistow. They made chemicals for 'Pharmacy and the Arts'.

London No 179  
*Bought of Luke Howard.*



Fleet Street 1795

# The Clouds

**O**n regular journeys by horse and carriage to and from work, Luke Howard had time to muse on the nature and different shapes of the clouds.

He presented his first paper about the naming and classing of clouds to the Askesian Society in 1802 and it was published the following year. This paper was included in the first volume of his masterpiece *The Climate of London*.

Luke's observations gave three basic classifications of cloud. He gave each a Latin name, a convenient abbreviation (shown in brackets) and the following descriptions:

**Cirrus.**( \ ). *Parallel, flexuous, or diverging fibres, extensible by increase in any or in all directions.*

**Cumulus.**( n ). *Convex or conical heaps, increasing upward from a horizontal base.*

**Stratus.**( \_ ). *A widely extended, continuous, horizontal sheet, increasing from below upward.*

He also noted two other characteristics of cloud shapes::

**Cirro-cumulus.** ( \ n ). *Small, well rounded masses, in close horizontal arrangement or contact.*

**Cirro-stratus.**( \\_ ). *Horizontal or slightly inclined masses attenuated towards a part or the whole of their circumference, bent downwards, or undulated; separate, or in groups consisting of small clouds having these characters.*

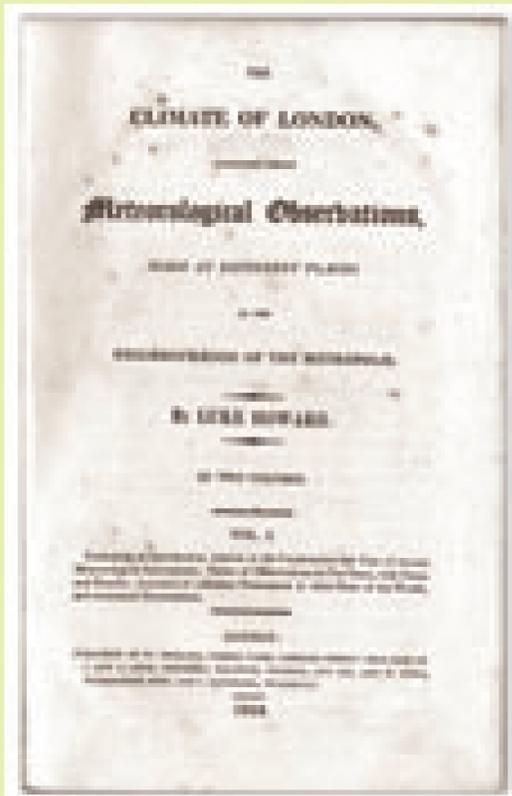
And a further two combinations of cloud types:

**Cumulo-stratus.**( n\_ ). *The Cirro-stratus blended with the Cumulus, and either appearing intermixed with the heaps of the latter or superadding a widespread structure to its base.*

**Cumulo-cirro-stratus vel Nimbus.**( \ n\_ ). *The Rain cloud. A cloud or system of clouds from which rain is falling. It is a horizontal sheet, above which the Cirrus spreads, while the Cumulus enters it laterally and from beneath.*

This list was the first generally accepted system of cloud classification. Luke described how the clouds moved between these different 'Modifications'. He was able to connect their appearance and behaviour to a range of weather conditions.

This basic system is still in use today.



# The Weather in Tottenham

**L**uke moved with his young family of six children to Tottenham in 1813 to be near his mother who lived in Bruce Grove. Tottenham at this time was a fashionable out-of-town residential area. The magnificent row of Georgian houses in Bruce Grove had been built and owned by Quaker families in the area.

The Howard family lived in a new house near Tottenham Green built in 1810 by another local Quaker, William Forster. It was at this house that Luke studied the weather in his garden.

Most days Luke travelled into London on business or Friends' work. In his absence Mariabella helped to record the weather conditions, reading the weather instruments set up by Luke in the garden. On 8th October 1813 she wrote to Luke, who was on business in Pontefract:

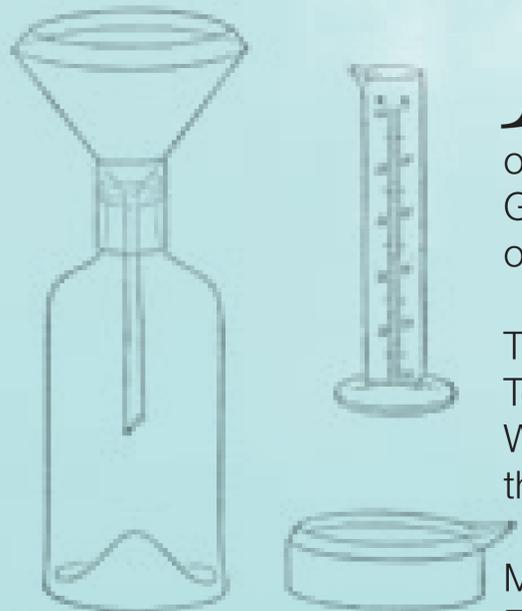
*"I intend to do my best respecting the rain gauge and thermometer. The barometer I have already attended to. We have had very changeable weather, third day very fine and lightning in the night; yesterday very wet, fine this morning, now very wet."*

The Howards had a daily pattern for recording their observations. All readings were recorded and entered into a log. From the Climate of London we can find out for the middle of January 1814 that the weather that winter was particularly cold. The River Lea was solid ice and the Thames was frozen too:

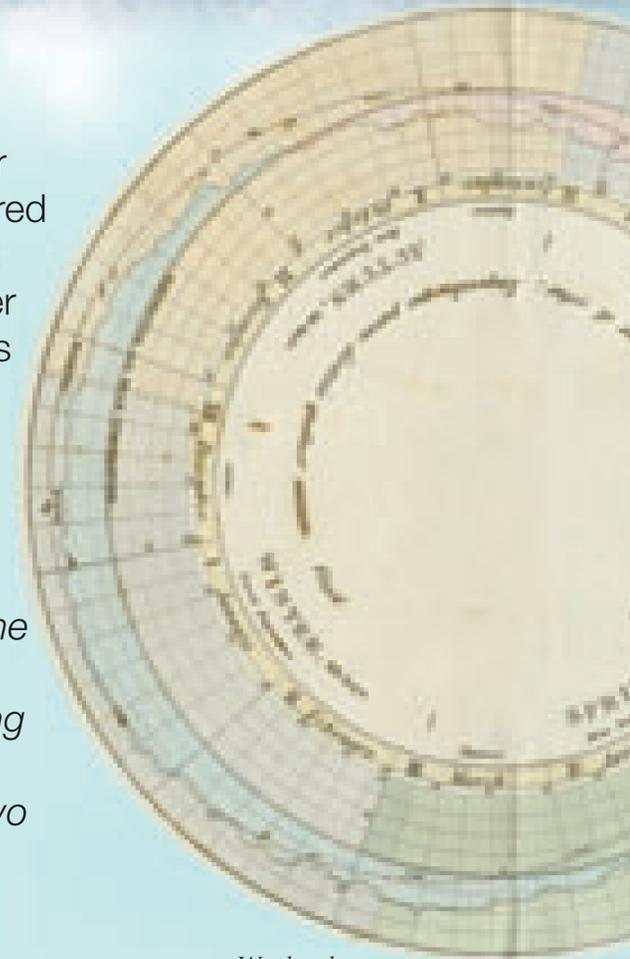
*"First M. 13. Much wind last night; very fine day; cumulus and cirrostratus. 14. Somewhat cloudy a.m. 15. overcast with cirrostratus light breeze. There being no evaporation today, the surface of the snow is a little warmer than the air. 16 Overcast, a slight thaw, from the warmth of the earth, at evening snow and frost again. 17. A clear day: Cirrus and Cirrostratus in the evening with a low Nimbus or two forming ...."*

The diligent work of both Luke and Mariabella was produced over a number of years as the Climate of London. It was first published in 1818 and again in 1833.

Frozen River Lea



Weather equipment



Weather chart published in 1820



Bruce Grove

# The Art of the Clouds

Cloud painting by John Constable



## **L**uke Howard's weather watching had a considerable impact on the arts and literature in Europe of the time.

The artist John Constable was known to Luke. Constable had first been introduced to the Quaker community in Tottenham in 1806 by the local children's book writer and Quaker, Priscilla Wakefield. He had stayed at Markfield House as a guest of the Hobsons, a Quaker family. Inspired by Luke's books on clouds, the painter began a series of cloud paintings. These studies in paint can be seen in the Victoria and Albert Museum, the British Museum and Kenwood House - in nearby Hampstead - today.

Another artist J.M.W. Turner is renowned for his paintings of the skies and would have known about Luke's studies. It is quite likely that Luke would have seen Turner's paintings locally at Tottenham Green, where Benjamin Windus, a wealthy coach-builder lived. By 1835 Windus had amassed more than 200 of Turner's finest watercolours, on display in his Library.

In Germany, the literary giant, poet and scientist Johann van Goethe was stimulated greatly by Luke's work. He was so impressed that he wrote a poem about Luke Howard in his honour, calling him 'master'. The poet wrote to Luke asking for his autobiography. Luke was a modest man and at first thought this was a hoax. In 1822 he wrote to Goethe with an account of his life after the poem was published in London.

It is now thought that the author Jane Austen was influenced by Luke. They may have even met in early 1813 through mutual Quaker friends. Her famous literary 'mistake' in *Emma* – where she describes apple trees in blossom in June – is reflected in entries in Luke's *Climate of London* for the year 1814 where it is recorded it was exceptionally unusual summer weather.

Others within the Romantic Movement who were fascinated by the study of the clouds include the poets Wordsworth, Shelley and Coleridge.

# Charity and Campaigning

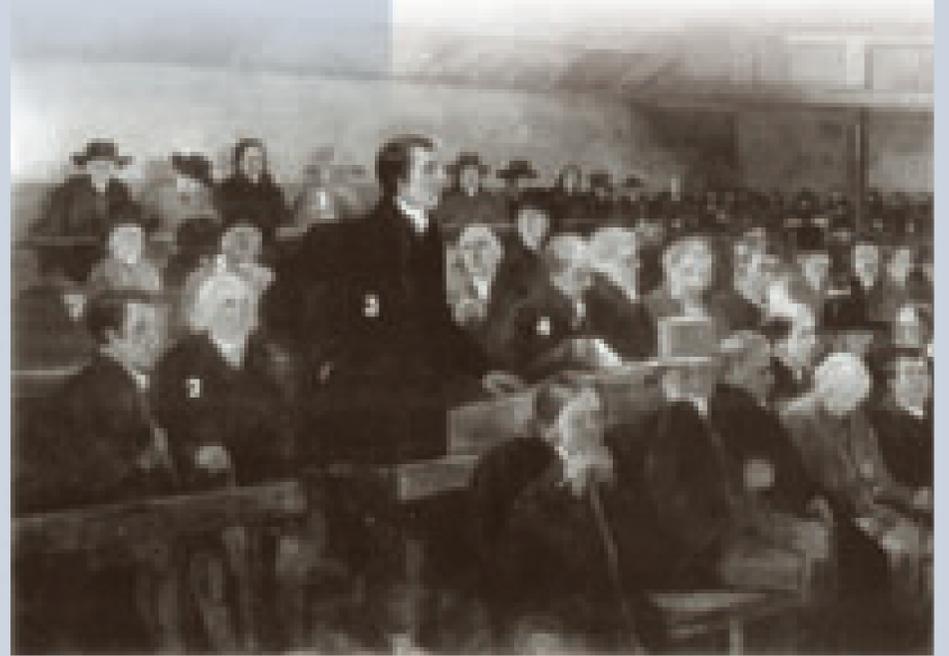
London yearly Quaker meeting c. 1840  
Key: 1, Thomas Shillitoe. 2, William Allen. 3, Josiah Forster. 4, George Stacy. 5, William Forster. 6, Luke Howard.

**L**uke Howard was a member of the **Tottenham Meeting before the family had actually moved to Tottenham.** He was acknowledged as a minister of the Meeting in 1815. As well as holding offices amongst the Friends' various Meetings, he also attended the Tottenham Vestry and was elected Overseer of the Poor within the Parish of Tottenham in 1820.

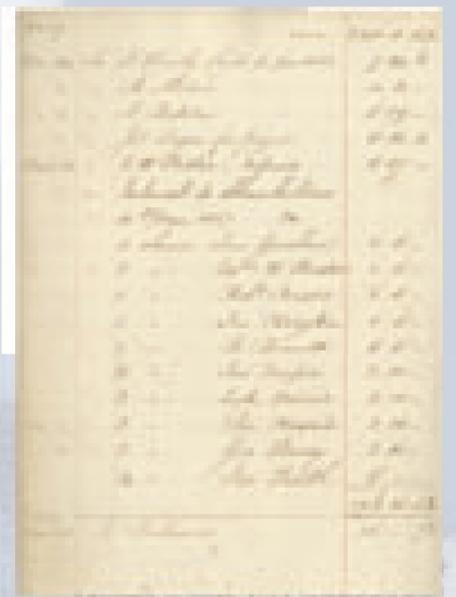
As a Quaker, Luke was committed to many campaigns and philanthropic causes. Amongst these was his work within the *Anti-Slavery Movement*. He was a prominent member of the *Society Against Capital Punishment* and the *Society Against Cruelty to Animals*, as well as being on the Committee of the Lancasterian School in Tottenham and on the Committee to help the Greeks in their War of Independence.

Following the 1807 Abolition Act of the British Slave Trade, the Quakers' interest in the anti-slavery cause moved on. With his business partner William Allen, Luke was amongst the founding members of the *African Institution*. This group wanted to remedy the terrible effects slavery had produced. It recognised slavery had destroyed the whole basis of African society. The Institution sought to improve the lives of African people both with Christianity and education.

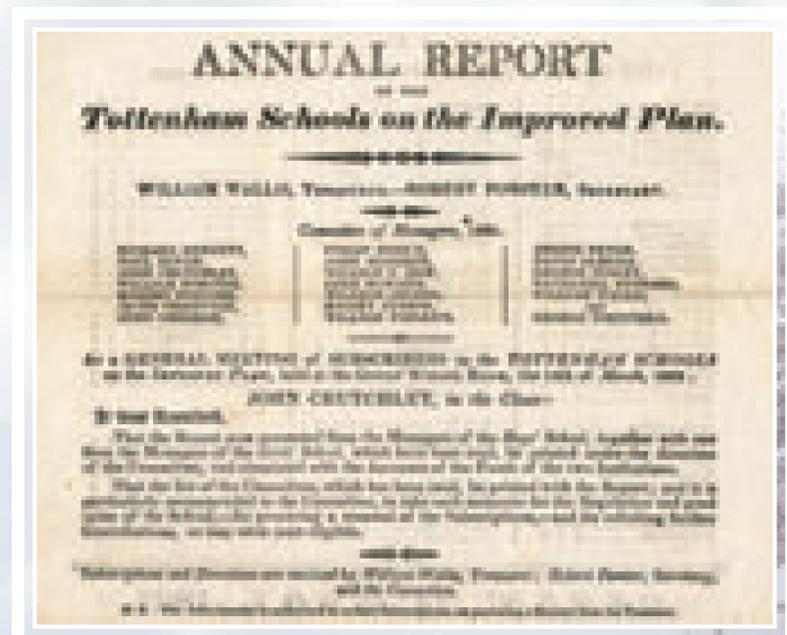
After the devastation of the Napoleonic Wars (1799-1815), Luke Howard organised a collection of over



£1.25 million to distribute to the poor and needy in Eastern Europe. This was an enormous sum of money at the time – the equivalent of many hundreds of millions in today's terms. Accompanied by Josiah Forster, Luke personally took the money to help the people of Germany who were suffering appalling poverty and famine. In 1816 in honour of his services to the German people, Luke received a diamond ring from the King of Prussia and Meissen vases from the King of Saxony.



Lancasterian School accounts



Lancasterian School annual report



Friends' meeting house

# From Tottenham to Yorkshire and Back Again

**S**ome time before 1820 the Howard family moved a short distance from their home to Eagle House on Tottenham Green. The study of the weather of London continued here.

On 8th March 1821 Luke was made a Fellow of the Royal Society – the scientific academy and learned society. Fellows had to be elected. His certificate of election and candidature to the Society read:

*“Luke Howard Esqr. of Stamford Hill Author of the Climate of London and several other Meteorological Papers, being desirous of becoming a Fellow of the Royal Society We the undersigned of our personal knowledge recommend him as deserving that honour and likely to prove a usefull & valuable member.”*

Luke became a founder member of the Society of the Chemical Industry and also the Royal Society of Chemistry. Much later Luke joined the British (now Royal) Meteorological Society on 7th May 1850, only a month after the society was founded.

The Howard family decided to move to Ackworth in Yorkshire in 1828 where they had spent many a summer. They became involved in the running of the local Quaker school.

By 1837 the Howards had returned to Tottenham, a place they had always considered home. At first they lived at number 4 Bruce Grove where Luke continued with his weather observations. In 1842 he published ‘A Cycle of Eighteen Years in the Seasons of Britain from 1824 to 1841’, where he tried to understand why the weather changes from one year to the next. He was able to make comparative studies between his two homes in Tottenham and in Yorkshire.



By the 10th May 1821, Luke had given his first paper to the Society called ‘Some Remarks on Meteorology’, a report on the weather for the year 1820 for the London area. Over the years, Luke went on to give other papers to the Royal Society. His original handwritten notes survive in the archives of the Royal Society today.



# The Namer of Clouds Lived and Died Here

**W**hen Luke's wife **Mariabella died in 1852**, Luke went to live with his eldest son Robert. They resided at number 7 Bruce Grove. Other family members lived nearby, including John Eliot Howard at 'Lordsmeade'.

Following his sons Robert and John Eliot, Luke left the Quakers to become a member of the Plymouth Brethren. The Brethren had begun to meet in Stoneley South in 1838, shortly before a chapel in Brook Street just off Tottenham High Road was opened by the brothers. Guided by the Howards, Brook Street chapel played an important part in the Brethren movement. Luke Howard died in 1864 and is buried with his wife in the Quakers' Burial Ground at Winchmore Hill.

Luke Howard's descendants went on to live in Tottenham for the remainder of the 19th century. They continued Luke's traditions of charitable works and running the chemical works. The family firm of Howard & Sons survived until 1961.

In April 2002 Luke Howard was remembered again in Tottenham as the Father of Meteorology when an English Heritage Blue Plaque was dedicated in his honour at his former home, number 7 Bruce Grove. The plaque was unveiled by the BBC weather broadcaster Michael Fish who said:



*'Weather forecasters use the terms everyday. We are eternally grateful that Luke Howard came up with such an easy and straightforward way of naming the clouds.'*



No.7 Bruce Grove

The family firm of Howard & Sons