

History of Weather Forecasting

650 BC - Babylonians predicted weather from cloud patterns

- 350 BC - Aristotle described weather patterns in his work called Meteorologica

300 BC - Chinese and Indian astronomers develop weather prediction methods

904 AD - Aramaic work describes signs of rain based on lunar phases and weather forecasts based on winds

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First Rain Gauge

1441 - Developed during the Joseon Dynasty of Korea

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William Dampier

Pirate, explorer, naturalist, inventor of words, and first person to record experiencing a hurricane

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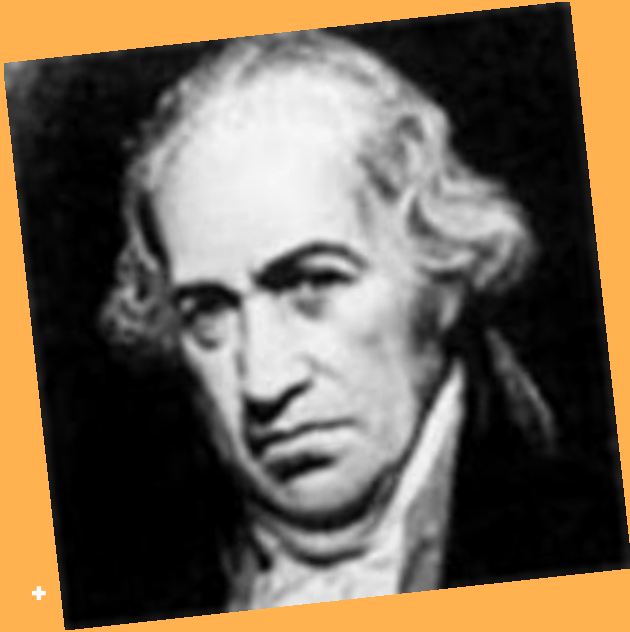
Great article on him [here](#)

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Daniel Gabriel Fahrenheit

First reliable thermometer
using mercury instead of just
water in 1714
(And came up with the temperature
scale)

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Admiral Robert FitzRoy

Founder of the Met Office and invented
“forecasts” in 1854 to help save lives

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 1860

Sept. 3rd

WEATHER REPORT.

At 00.00 A.M.

	B.	E.	M.	D.	F.	C.	I.
Aberdeen							
Greenock	30.07	55	52	WSW	2	1	6
Berwick							
Copenhagen							
Portsmouth							
Hull	30.06	54	52	W	2	6	0
Liverpool							
Queenstown							
Helder							
Yarmouth	30.06	63	59	NW	2	5	2
London	30.13	50	54	W	2	2	6
Dunkirk	30.15	59	52	WSW	0	1	6
Dover							
Portsmouth	29.96	59	50	SW	3	3	6c.
Plymouth	30.06	60	—	NNW	2	0	oc.
Cherbourg	30.11	61	55	NNW	—	2	6c.
Pennance		57	—	—	—	—	—
Harve							
Jersey	30.15	59	56	NNW	2	2	6c.
Brest	30.07	52	—	NW	0	9	oc.
Bayonne							
Lisbon							

EXPLANATION.

B.—Barometer corrected and reduced to 32° at sea-level (mean). E.—Exposed (but shaded) thermometer.

M.—Moistened bulb (for evaporation and dew point). D.—Direction of wind (true). F.—Force (0 to 12).

C.—Cloud (1 to 9) proportion. I.—Initial letters: b.—blue sky; c.—clouds (detached); f.—fog; h.—hail;

l.—lightning; m.—misty (hazy); o.—overcast (dull); r.—rain; s.—snow; t.—thunder.

NOTE.—A letter repeated augments—thus, r r much rain.

First known report
from a station is from
September 3rd 1860

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Based on
telegraph
reports

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EXAMPLES.

ABERDEEN TO LONDON, 25th July, 1862, 8 A.M., received at 10.

South-west — very strong wind.*

06041

93453

94663

21072

60420

05628

CONVERSION IN REPORT.

1862 Friday, 25th July, 8 A.M. Aberdeen	B	E	D	W	F	X	C	I	H	R	S
	29.39†	60	6	SW.	5	8	6	r	6	0.46†	8

Key

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B - Barometer

Exposed thermometer in shade

D - Difference of wet bulb
direction

F - Force (on Admiral Beaufort's Scale)
report

C - Cloud (1-9)

E -

W - Wind

X - Extreme force since last

I -

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July 31st
8 to 9 a.m.

WEATHER REPORT. 1861.

Wednesday	B.	F.	M.	D.	P.	C.	I.	S.
Nairn	29.54	57	56	WSW	6	9	o	3
Aberdeen	29.60	59	54	SSW	5	1	h	3
Leith	29.70	61	55	W	3	5	c	2
Berwick	29.69	59	55	WSW	4	4	c	2
Arbroath	29.73	57	55	W	5	4	c	5
Portrush	29.72	57	54	SW	2	2	h	2
Shields	29.80	59	54	WSW	4	5	o	3
Galway	29.83	65	62	W	5	4	c	4
Scarborough	29.86	59	56	W	3	6	c	2
Liverpool	29.91	61	56	SW	2	8	c	2
Valentia	29.87	62	60	SW	2	5	o	3
Queensdown	29.88	61	59	W	3	5	c	2
Yarmouth	30.05	61	59	W	5	2	c	3
London	30.02	62	56	SW	3	2	h	—
Dover	30.04	70	64	SW	3	7	o	2
Portsmouth	30.01	61	59	W	3	6	o	2
Portland	30.03	63	59	SW	3	2	c	3
Plymouth	30.00	62	59	W	5	1	h	4
Penzance	30.04	61	60	SW	2	6	c	3

General
Weather probable next day or two in the
North Moderate West wind - fine
West Moderate South westerly - fine
South Fresh West wind - fine

EXPLANATION.

B.—Barometer corrected and reduced to 32° at mean sea level: each ten feet, of vertical rise, causing about one hundredth of an inch diminution; and each ten degrees, above 32°, causing nearly three hundredths increase. E.—Exposed thermometer in shade. M.—Moistened bulb (for evaporation and dew point). D.—Direction of wind (true—two points left of magnetic). F.—Force (1 to 12—estimated). C.—Cloud (1 to 9). I.—Initials: h.—blue sky; c.—clouds (detached); f.—fog; h.—hail; l.—lightning; m.—misty (hazy); o.—overcast (dull); r.—rain; s.—snow; t.—thunder. S.—Sea disturbance (1 to 9).

It is submitted that the above may be advantageously added: and, if approved, will be continued by the same principles.

First public weather forecast July 31st 1861

THE WEATHER.

METEOROLOGICAL REPORTS.

Wednesday, July 31, 8 to 9 a.m.	B.	F.	M.	D.	P.	C.	I.	S.
Nairn	29.54	57	56	W.S.W.	6	9	o	3
Aberdeen	29.60	59	54	S.S.W.	5	1	h	3
Leith	29.70	61	55	W.	3	5	c	2
Berwick	29.69	59	55	W.S.W.	4	4	c	2
Arbroath	29.73	57	55	W.	5	4	c	5
Portrush	29.72	57	54	S.W.	2	2	h	2
Shields	29.80	59	54	W.S.W.	4	5	o	3
Galway	29.83	65	62	W.	5	4	c	4
Scarborough	29.86	59	56	W.	3	6	c	2
Liverpool	29.91	61	56	S.W.	2	8	c	2
Valentia	29.87	62	60	S.W.	2	5	o	3
Queensdown	29.88	61	59	W.	3	5	c	2
Yarmouth	30.05	61	59	W.	5	2	c	3
London	30.02	62	56	S.W.	3	2	h	—
Dover	30.04	70	61	S.W.	3	7	o	2
Portsmouth	30.01	61	59	W.	3	6	o	2
Portland	30.03	63	59	S.W.	3	2	c	3
Plymouth	30.00	62	59	W.	5	1	h	4
Penzance	30.04	61	60	S.W.	2	6	c	3
Copenhagen	29.94	64	—	W.S.W.	2	6	c	3
Helder	29.99	63	—	W.S.W.	6	5	c	3
Brest	30.09	60	—	S.W.	2	6	c	5
Bayonne	30.13	68	—	—	—	9	m	5
Lisbon	30.18	70	—	N.N.W.	4	3	h	2

General weather probable during next two days in the—
North—Moderate westerly wind; fine.
West—Moderate south-westerly; fine.
South—Fresh westerly; fine.

Explanation.
B. Barometer, corrected and reduced to 32° at mean sea level: each 10 feet of vertical rise causing about one-hundredth of an inch diminution, and each 10° above 32° causing nearly three-hundredths increase. E. Exposed thermometer in shade. M. Moistened bulb (for evaporation and dew-point). D. Direction of wind (true—two points left of magnetic). F. Force (1 to 12—estimated). C. Cloud (1 to 9). I. Initials: h.—blue sky; c.—clouds (detached); f.—fog; h.—hail; l.—lightning; m.—misty (hazy); o.—overcast (dull); r.—rain; s.—snow; t.—thunder. S.—Sea disturbance (1 to 9).



Research More into Robert FitzRoy

Radio interview

A BBC interview about
the “Victorian
Weather Experiment”

Article

Great article about
how weather
forecasting started

Charts

Great pictures of the
early versions of
weather reports.

And a documentary about him [here](#)

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FitzRoy's legacy continues with
the US Weather Bureau (National
Weather Service today) being
signed into law in 1890

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Modern Forecasting

Surface Weather Observations

- Temperature
- Wind speeds and directions
- Air pressure

Upper-Air Weather Observations

- Satellites
- Aircraft
- Radiosondes on weather balloons

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125 stations
every 12 hours

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How We Get Weather Forecasting

Observations

Using all of those tools, we can make accurate observations about what is happen in the atmosphere at any exact time

Predictions

Using the observations and combining them with laws of nature and past events, we can predict what is likely to happen

More to Explore!

- History of weather forecasting here
- Descriptions of weather forecasting methods here
- National Weather Service history here

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What information can we
know from weather maps?

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FORECAST

SAT 11:00 AM

ORIGINATOR
FAMILY

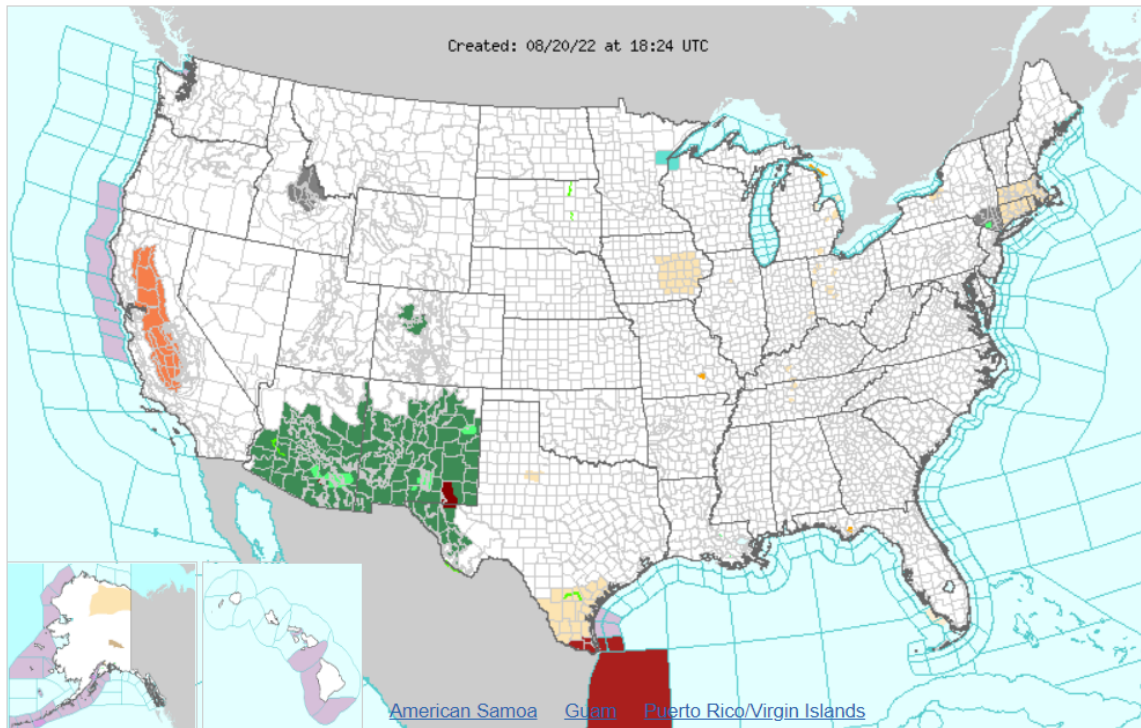
FIRST ALERT
WEATHER

RAIN MIXED SNOW



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Created: 08/20/22 at 18:24 UTC



Click on the map above for detailed alerts or

Warnings By State

Go

[Public Alerts in XML/CAP v1.1 and ATOM Formats](#)

Severe Thunderstorm
Warning
Flash Flood Warning
Special Marine Warning
Tropical Storm Warning
Flood Warning

Flash Flood Watch
Gale Warning
Hurricane Local
Statement
Heat Advisory
Flood Advisory

Small Craft Advisory
Wind Advisory
Rip Current Statement
Beach Hazards
Statement
Flood Watch

Special Weather
Statement
Marine Weather
Statement
Air Quality Alert

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SAN DIEGO WEATHER FORECAST MAPS



Coastal 7-Day Forecast



Inland 7-Day Forecast



Mountain 7-Day Forecast

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What are some tools
meteorologists use in
creating weather forecasts?



Explore About Weather Tools!

1

Measuring Weather with Tools

2

7 Important Weather Instruments

3

Weather instruments

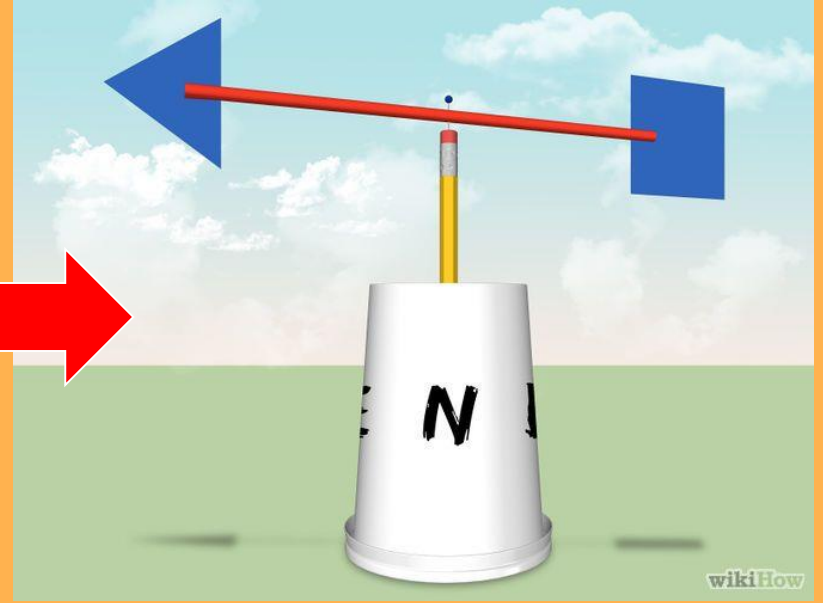
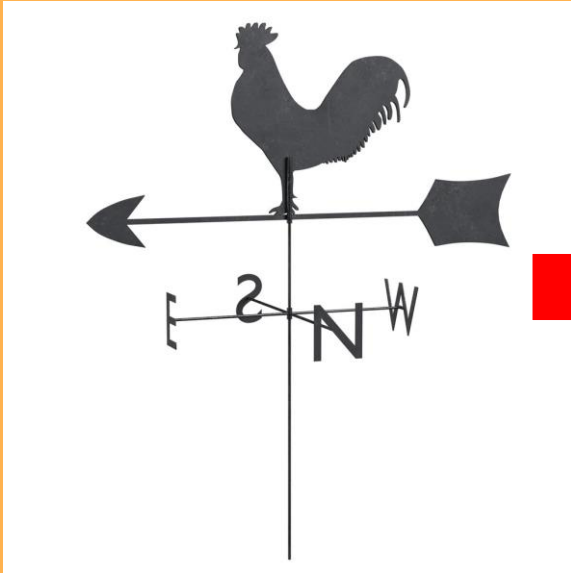
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Meteorological Instruments

Now let's make some!

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Wind Vane - Used to measure wind direction

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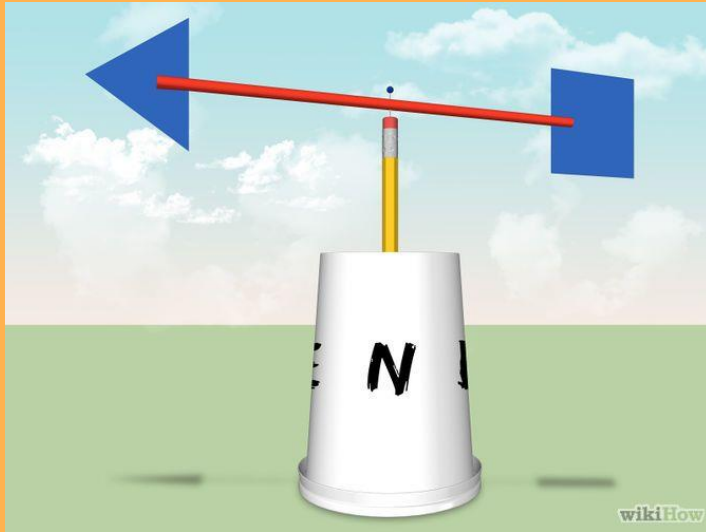


Anemometer - Used to measure wind speed

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Wind Vane

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Anemometer



Don't have any materials? Then work through [this](#) learning module about extreme weather!

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# What happened?

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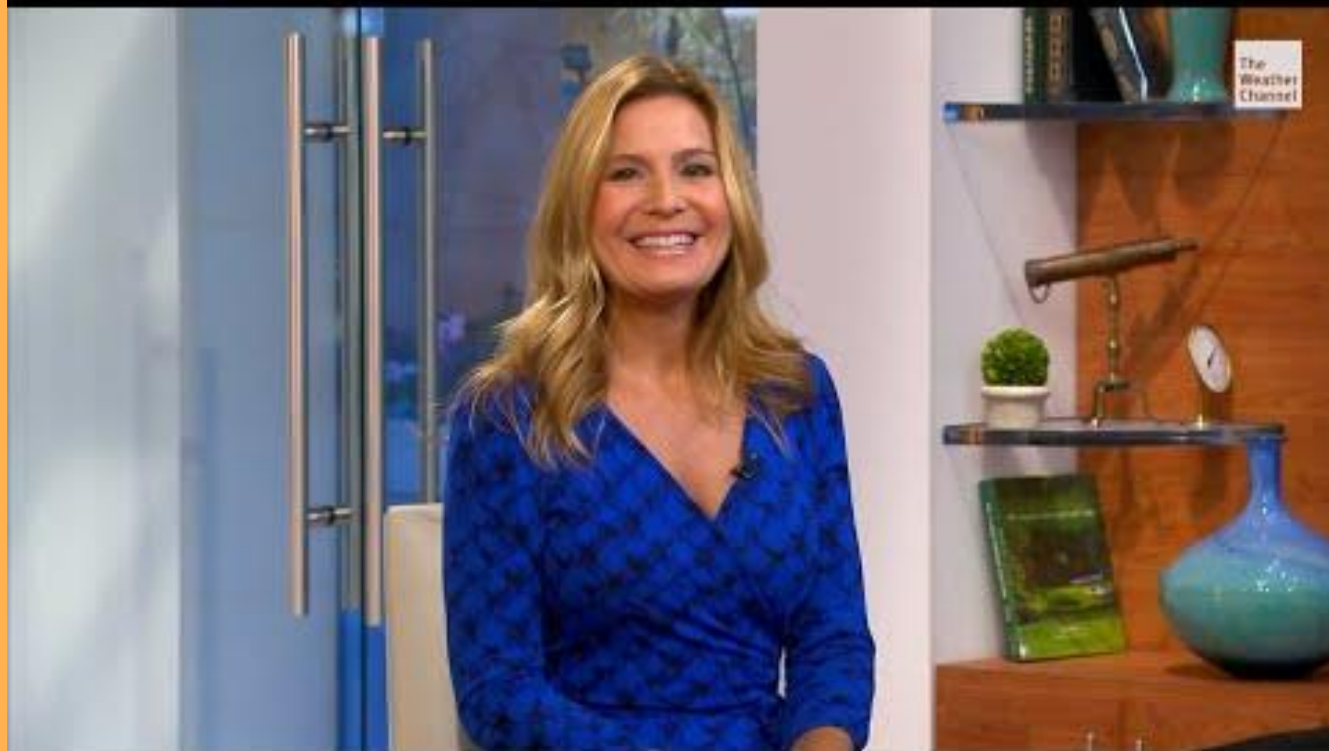
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We see the meteorologists on TV,  
but who else helps us  
understand the weather and  
know about the atmosphere?

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# Research Into Careers Link

01

Pick one of the careers on the website to research into

02

Click on one of the people and read what they say about it

03

Think about if that is something you would wish to do in the future

If you finish with more time, check out the NWS video.

# Weather Career Research

After researching into a weather forecasting career, what are your thoughts on the field?

- What was something weird or cool that you learned about that career?
- What types of things do they do in their daily job?
- What are the current job openings and their salaries?