

How to Talk to a Climate Skeptic: Responses to the most common skeptical arguments on global warming A Grist Special Series

Below is a complete listing of the articles in “How to Talk to a Climate Skeptic,” a series by Coby Beck containing responses to the most common skeptical arguments on global warming. There are four separate taxonomies; arguments are divided by:

- [Stages of Denial](#),
- [Scientific Topics](#),
- [Types of Argument](#), and
- [Levels of Sophistication](#).



Individual articles will appear under multiple headings and may even appear in multiple subcategories in the same heading.

Stages of Denial

1. **There's nothing happening**

a. Inadequate evidence

- [There is no evidence](#)
- [One record year is not global warming](#)
- [The temperature record is simply unreliable](#)
- [One hundred years is not enough](#)
- [Glaciers have always grown and receded](#)
- [Warming is due to the Urban Heat Island effect](#)
- [Mauna Loa is a volcano](#)
- [The scientists aren't even sure](#)

b. Contradictory evidence

- [It's cold today in Wagga Wagga](#)
- [Antarctic ice is growing](#)
- [The satellites show cooling](#)
- [What about mid-century cooling?](#)
- [Global warming stopped in 1998](#)
- [But the glaciers are not melting](#)
- [Antarctic sea ice is increasing](#)
- [Observations show climate sensitivity is not very high](#)
- [Sea level in the Arctic is falling](#)

- Some sites show cooling

c. No consensus

- Global warming is a hoax
- There is no consensus
- Position statements hide debate
- Consensus is collusion
- Peiser refuted Oreskes

2. We don't know why it's happening

a. Models don't work

- We cannot trust unproven computer models
- The models don't have clouds
- If aerosols are blocking the sun, the south should warm faster
- Observations show climate sensitivity is not very high

b. Prediction is impossible

- We can't even predict the weather next week
- Chaotic systems are not predictable

c. We can't be sure

- Hansen has been wrong before
- If we can't understand the past, how can we understand the present?
- The scientists aren't even sure
- They predicted global cooling in the 1970s

3. Climate change is natural

a. It happened before

- It was warmer during the Holocene Climatic Optimum
- The medieval warm period was just as warm as today
- Greenland used to be green
- Global warming is nothing new!
- The hockey stick is broken
- Vineland was full of grapes

b. It's part of a natural change

- Current global warming is just part of a natural cycle
- Mars and Pluto are warming too
- CO₂ in the air comes mostly from volcanoes
- The null hypothesis says global warming is natural
- Climate is always changing
- Natural emissions dwarf human emissions

- The CO2 rise is natural
- We are just recovering from the LIA

c. It's not caused by CO2

- Climate scientists dodge the subject of water vapor
- Water vapor accounts for almost all of the greenhouse effect
- There is no proof that CO2 is causing global warming
- Mars and Pluto are warming too
- CO2 doesn't lead, it lags
- What about mid-century cooling?
- Geological history does not support CO2's importance
- Historically, CO2 never caused temperature change
- It's the sun, stupid

4. Climate change is not bad

a. The effects are good

- What's wrong with warmer weather?

5. Climate change can't be stopped

a. Too late

- Kyoto is a big effort for almost nothing

b. It's someone else's problem

- Why should the U.S. join Kyoto when China and India haven't?
- The U.S. is a net CO2 sink

c. Economically infeasible

- Climate change mitigation would lead to disaster

Scientific Topics

1. Temperature

- There is no evidence
- The temperature record is simply unreliable
- One hundred years is not enough
- Current global warming is just part of a natural cycle
- What's wrong with warmer weather?
- It's cold today in Wagga Wagga
- Warming is due to the Urban Heat Island effect
- The satellites show cooling
- Global warming stopped in 1998
- They predicted global cooling in the 1970s
- One record year is not global warming

- Some sites show cooling

2. Cryosphere

a. Glaciers

- Glaciers have always grown and receded
- But the glaciers are not melting

b. Sea ice

- Antarctic sea ice is increasing

c. Ice sheets

- Antarctic ice is growing
- Greenland used to be green

3. Oceans

- Sea level in the Arctic is falling

4. Modeling

a. Scenarios

- Kyoto is a big effort for almost nothing
- Hansen has been wrong before

b. Uncertainties

- We can't even predict the weather next week
- Chaotic systems are not predictable
- We cannot trust unproven computer models
- The models don't have clouds

5. Climate forcings

a. Solar influences

- Mars and Pluto are warming too
- It's the sun, stupid

b. Greenhouse gases

- Climate scientists dodge the subject of water vapor
- Water vapor accounts for almost all of the greenhouse effect
- There is no proof that CO₂ is causing global warming
- CO₂ doesn't lead, it lags
- CO₂ in the air comes mostly from volcanoes
- What about mid-century cooling?
- Geological history does not support CO₂'s importance
- Natural emissions dwarf human emissions
- Mauna Loa is a volcano
- The CO₂ rise is natural

- Historically, CO2 never caused temperature change
- The US is a net CO2 sink
- Observations show climate sensitivity is not very high

c. Aerosols

- What about mid-century cooling?
- If aerosols are blocking the sun, the south should warm faster

6. Paleo climate

a. Holocene

- It was warmer during the Holocene Climatic Optimum
- The medieval warm period was just as warm as today
- Greenland used to be green
- The hockey stick is broken
- Vineland was full of grapes
- We are just recovering from the LIA

b. Ice ages

- CO2 doesn't lead, it lags
- Global warming is nothing new!

c. Geologic history

- What's wrong with warmer weather?
- Geological history does not support CO2's importance
- Climate is always changing
- Historically, CO2 never caused temperature change
- If we can't understand the past, how can we understand the present?

7. Scientific process

- Global warming is a hoax
- There is no proof that CO2 is causing global warming
- There is no consensus
- The null hypothesis says global warming is natural
- Position statements hide debate
- If we can't understand the past, how can we understand the present?
- The scientists aren't even sure
- Consensus is collusion
- Peiser refuted Oreskes

Types of Argument

1. Uninformed

- There is no evidence

- One record year is not global warming
- One hundred years is not enough
- There is no proof that CO2 is causing global warming
- What's wrong with warmer weather?
- Climate change mitigation would lead to disaster
- There is no consensus
- We cannot trust unproven computer models

2. Misinformed

- It was warmer during the Holocene Climatic Optimum
- The medieval warm period was just as warm as today
- Antarctic ice is growing
- CO2 in the air comes mostly from volcanoes
- Greenland used to be green
- The satellites show cooling
- Natural emissions dwarf human emissions
- It's the sun, stupid
- The U.S. is a net CO2 sink
- But the glaciers are not melting
- Antarctic sea ice is increasing
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3. Cherry Picking

- It's cold today in Wagga Wagga
- Antarctic sea ice is growing
- The satellites show cooling
- Global warming stopped in 1998
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- Observations show climate sensitivity is not very high
- The sea level in the Arctic is falling
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4. Urban Myths

- The medieval warm period was just as warm as today
- CO2 in the air comes mostly from volcanoes
- Greenland used to be green
- Hansen has been wrong before

- They predicted global cooling in the 1970s
- Vineland was full of grapes

5. FUD

- The temperature record is simply unreliable
- Glaciers have always grown and receded
- Climate scientists dodge the subject of water vapor
- Water vapor accounts for almost all of the greenhouse effect
- Current global warming is just part of a natural cycle
- Kyoto is a big effort for almost nothing
- Mars and Pluto are warming too
- It's cold today in Wagga Wagga
- CO2 doesn't lead, it lags
- There is no consensus
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- Observations show climate sensitivity is not very high

- Sea level in the Arctic is falling
- We are just recovering from the LIA

6. **Non Scientific**

- Global warming is a hoax
- Kyoto is a big effort for almost nothing
- Why should the U.S. join Kyoto when China and India haven't?
- Hansen has been wrong before
- Position statements hide debate
- The scientists aren't even sure
- Consensus is collusion
- They predicted global cooling in the 1970s

Levels of Sophistication

1. **Silly**

- There is no evidence
- Global warming is a hoax
- One record year is not global warming
- Climate change mitigation would lead to disaster
- Mars and Pluto are warming too
- Mauna Loa is a volcano

2. **Naive**

- One hundred years is not enough
- Glaciers have always grown and receded
- Why should the U.S. join Kyoto when China and India haven't?
- It's cold today in Wagga Wagga
- CO₂ in the air comes mostly from volcanoes
- We can't even predict the weather next week
- We can not trust unproven computer models
- The satellites show cooling
- Natural emissions dwarf human emissions
- The models don't have clouds
- Global warming stopped in 1998
- It's the sun, stupid
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3. Specious

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4. Scientific

- Water vapor accounts for almost all of the greenhouse effect
- Chaotic systems are not predictable
- The hockey stick is broken
- Observations show climate sensitivity is not very high
- Sea level in the Arctic is falling

- We are just recovering from the LIA