



Jeni: This week we are talking about being honest about climate change, accepting responsibility and taking action.

Pray



**Jeni: We've already established that this is God's world, not ours.
Today, we need to think about why God's world is changing so rapidly
and the dangers that imposes to us and the rest of God's Creation.**

Review

- **Since the industrial revolution we have:**
 - **Dumped heat trapping gasses into the air faster than any time in the history of the planet.**
 - **Raising global temperatures**
 - **Increasing ocean acidity**
 - **Melting ice sheets faster**



Jeni: Once we developed the combustible engine, we started releasing heat trapping gases into our atmosphere much faster. Then, we added all kinds of inventions and industries at an exponential rate, resulting in a rapidly warming globe.

The industrial revolution improved our lifestyle in many ways, but the uncurtailed waste wasn't initially considered. In fact, we didn't really know the impact of our new technology.

Now that we do understand what is happening, and once we are honest about it...we can do something to correct it.

***We are conducting an
unprecedented experiment with
the only home that we have.***

--Dr. Katharine Hayhoe—Climate Scientist,
Texas Tech University

Jeni: Dr. Katherine Hayhoe is a climate scientist who works and teaches at Texas Tech. She is the daughter of missionaries and the wife of a Christian pastor. By the way, she was featured last night on an NBC news program called “Inspiring America.”

She speaks to groups around the world about climate change, in a way that is easy to understand, relatable, and she is especially good at speaking with Christians and to churches.

She recently spoke about a report released in parts from the Intergovernmental Panel on Climate Change, IPCC.

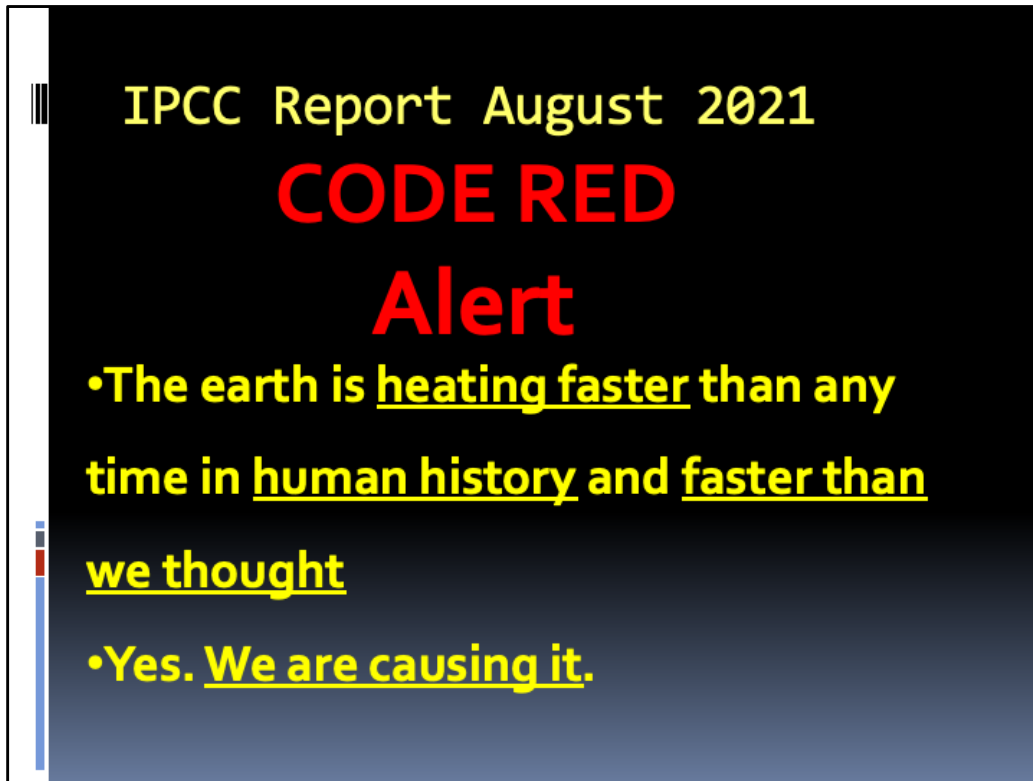
IPCC

- **The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change.**
- **IPCC provides regular assessments of the scientific basis of climate change.**
- **195 countries and thousands of people contribute to the work**
- **2021, 2022 released latest assessment**

Jeni: The IPCC is the United Nations body that assesses the science related to global climate change.

It is composed of 195 countries and thousands of people gathering and assessing data.

It's most recent report has been released in 3 parts, starting in August of last year and the final volume was just released last month, April 2022.

A graphic with a black background and a blue gradient at the bottom. On the left side, there is a vertical bar with a white top section, a blue middle section, and a red bottom section. The text is centered and reads: "IPCC Report August 2021" in yellow, "CODE RED" in large red letters, "Alert" in large red letters, and two bullet points in yellow: "•The earth is heating faster than any time in human history and faster than we thought" and "•Yes. We are causing it."

IPCC Report August 2021

CODE RED

Alert

- The earth is heating faster than any time in human history and faster than we thought
- Yes. We are causing it.

Jeni: Dr. Hayhoe calls the first release the “Code Red Alert.” It revealed that not only is the earth heating faster than any time in human history, but it also heating faster than we previously thought.

You know that you’ve heard reports *before* last year that made the situation sound dire, indeed.

But in August 2021, we learned that it is worse than those previous reports stated, and there is no question about why it is happening.

Humans are causing it.

IPCC Report December 2021

HOUSE ON FIRE

- Affecting all Life
- Everywhere
- Health
- Economy
- Increased income disparity



Ray:

The second part of the 2021 IPCC report was released in December. Dr. Hayhoe calls it the “House on Fire” report. The entire house. It demonstrates clearly that CC is affecting all of life, in all parts of the globe.

It significantly contributes to poorer health, economic decline, and certainly increased income disparity between the ultra rich and the desperately poor.

IPCC Report April 2022

**FIRE EXTINGUISHER
MANUAL**

- **Tells us what we need to do now**
- **Doesn't fix it for us**



Ray:

Finally, the 3rd part of the IPCC report was released just last month. Dr. Hayhoe calls it the “Manual for the fire extinguisher.”

The report, of course, does not FIX our CC problems, it only tells us how we might try to resolve it.

It puts the fire extinguisher in our hands and tells us how to use it. But we have to decide whether or not we will squeeze the handle and use it as directed.

The IPCC report says we need to do it NOW. Why is NOW so important?

The Science in the 60s

- 1965 White House Science Advisors warned LBJ that by 2000,
 - CO₂ would increase 25%
 - Cause significant climate changes



Ray:

Texas' own LBJ was alerted about the problems of the changing climate in 1965.

They told him that by 2000, CO₂ would increase in our atmosphere by 25% and cause significant climate problems.

Can you imagine where we might be today if a decision had been made almost 60 years ago to mitigate CO₂, even slightly at that time?

Internal Report to Oil Co.

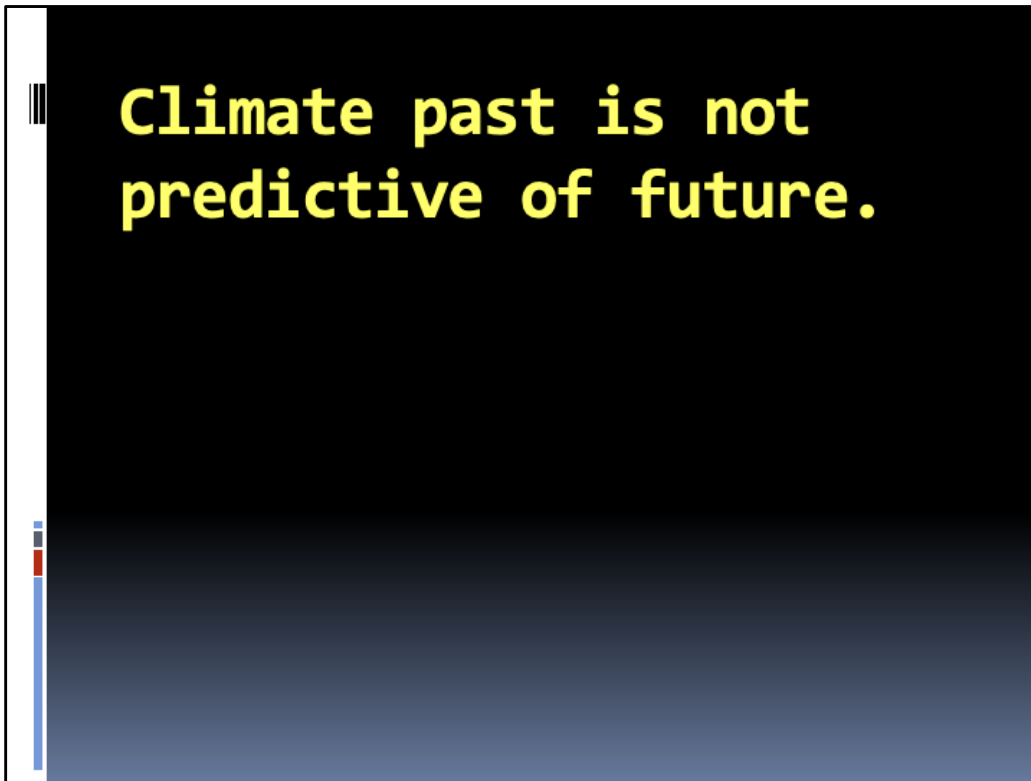
- July 1977 Exxon Science Advisor James F. Black presented his findings to the Exxon Corporation Management Committee
 - CO₂ would double by 2075
 - Raise the temperature by 3.6°F to 5.4°F
 - Change rainfall patterns
 - Polar regions impacted 2-3 times more
 - Window of 5 to 10 years to make changes in energy strategies.

Ray: 17 years later, Exxon Research scientist James Black was an early expert to record and report the effects of fossil fuel emissions.

In July 1977, he presented to Exxon management that CO₂ could double, temperature could rise to 5.4 degrees, rainfall patterns might change, the poles would be more affected and melt faster than other parts of the globe, and that the nation had a 10-year window before it would need to look for new energy sources. Black advocated that more research needed to confirm his findings but as far as we know, Exxon did nothing.

No company wants to disrupt their income streams. He expected the worst was 10 years off; they thought they had time. Gas prices were going up, margins were increasing, why bother with theories?

Can you imagine if we had started making such changes 45 years ago?



Jeni: Here's what we now know and may be the most frightening.

READ

Here's why

Climate Change is like playing with changing dice

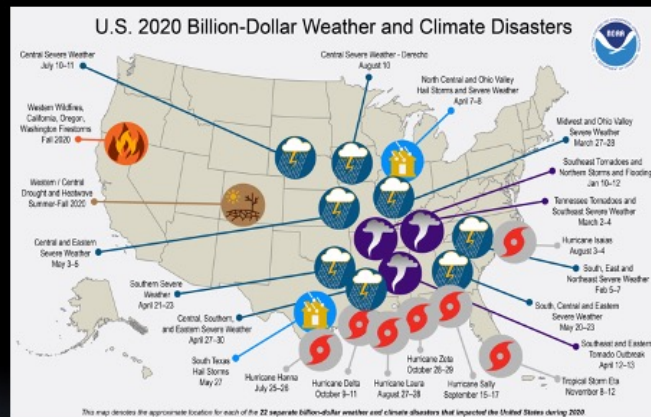


Jeni:

The odds of, say a hurricane, used to be similar to rolling a pair of die. We could calculate how often a hurricane might hit a certain place at a certain time, and how severe it would be, kind of like the odds of rolling a double six.

However, as we wait to do anything about Climate Change, we are continually adding dots to dice. We are compounding the climate disasters. So a five on the die becomes a six and soon a four will become a five. We are increasing the odds of rolling, and coming up with a 12. Weather that once occurred every 100 or 500 years is now happening a lot more often and becoming less surprising.

Texas Climate Change Costs



- 5- billion dollar weather events in 2020
- Leads US in most billion dollar events
- 3- 500-year floods in 3 years

Jeni:

In 2020, the nation had 22 separate billion-dollar weather and climate disasters.

Texas has the distinction of leading the nation with the most billion dollar weather events.

In 2020 Texas had 5 billion dollar weather disasters, including hurricanes, hail storms and dangerous thunderstorms.

Houston had 3/ 500-year floods in just 3 years.

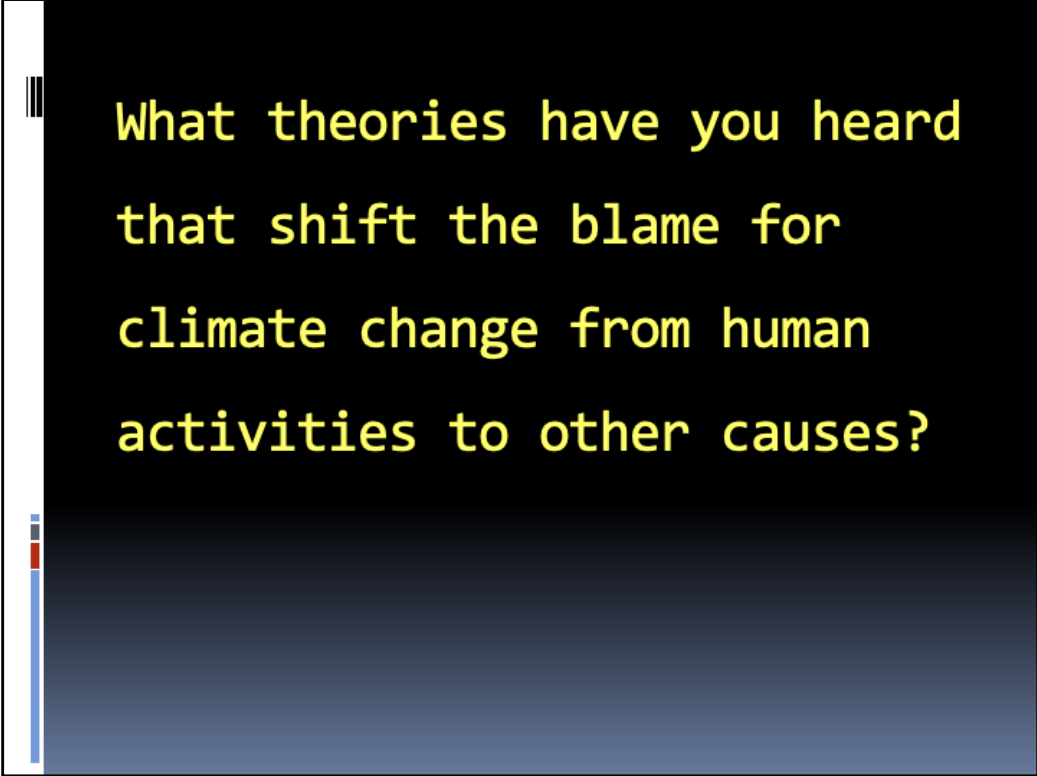


Ray:

Furthermore, as we mentioned last week, the climate isn't just changing, it is "strangling." Remember last summer in Portland, during the Olympic trials, we heard the temperature there was 118 degrees?

In the Pacific Northwest, where you've learned it is usually rainy and cool? It was a 1000-year event that cooked Oregon, Washington, Northern California, Nevada, Idaho and Canada. Then, in October 2021, after Sacramento, CA had endured 212 days of relentless drought, a deluge soaked the area in just 24 hours, causing run-off flooding. The same storm dumped 16.5 inches down the road in San Francisco within 48 hours.

Massive firestorms in the western and northwestern states were so intense. that coupled with the wind direction and speed, the smoke from those fires reached and impacted people living on the east coast. We have to admit that all of this is not normal. It's very strange.



What theories have you heard
that shift the blame for
climate change from human
activities to other causes?

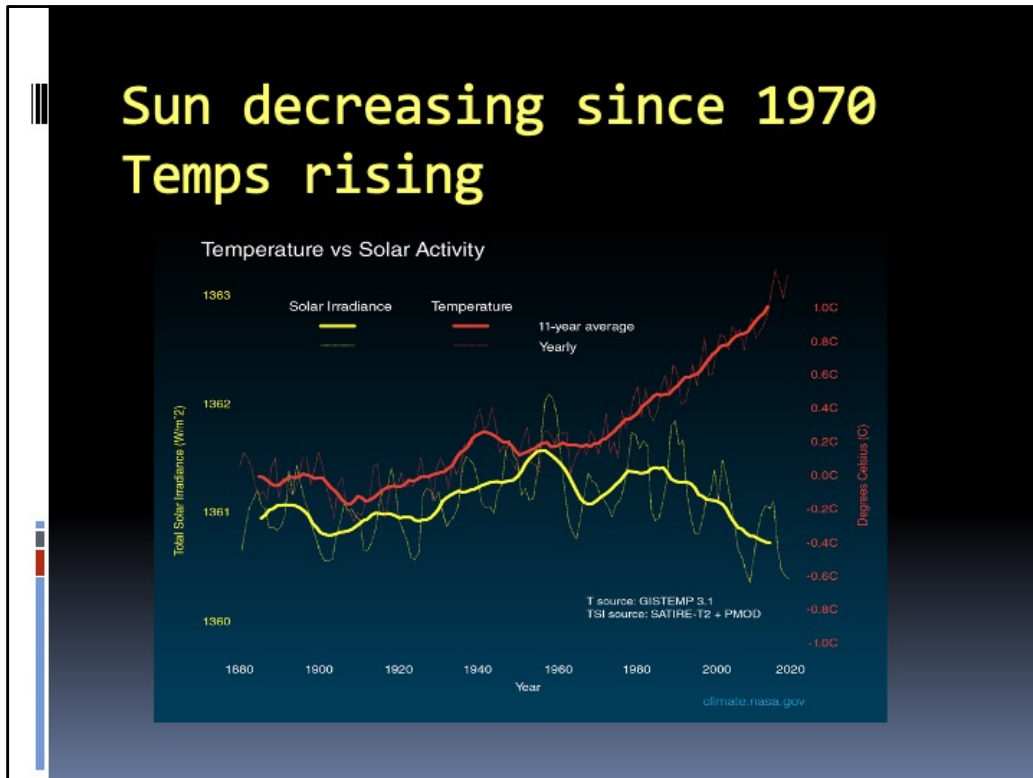
Ray: None of us really wants to make changes when things seem to be going well for us. Most decision-makers in industry and government are pretty comfortable in their business delivery procedures and their lifestyles.

Probably most of us are pretty comfortable in ours too.

So, you may already be hearing from climate deniers a lot of other explanations for why the climate is changing. What excuses have you heard that say: *It must be anything other than our human responsibility.*”?

What other explanations have you heard, that either identify another reason for global increases in annual temperatures, or give a reason why there is no need to make any changes now? **ALLOW CLASS TO ANSWER**

Let’s take a look at the most common theories used to explain away Climate Change as being the result of something other than human activity.



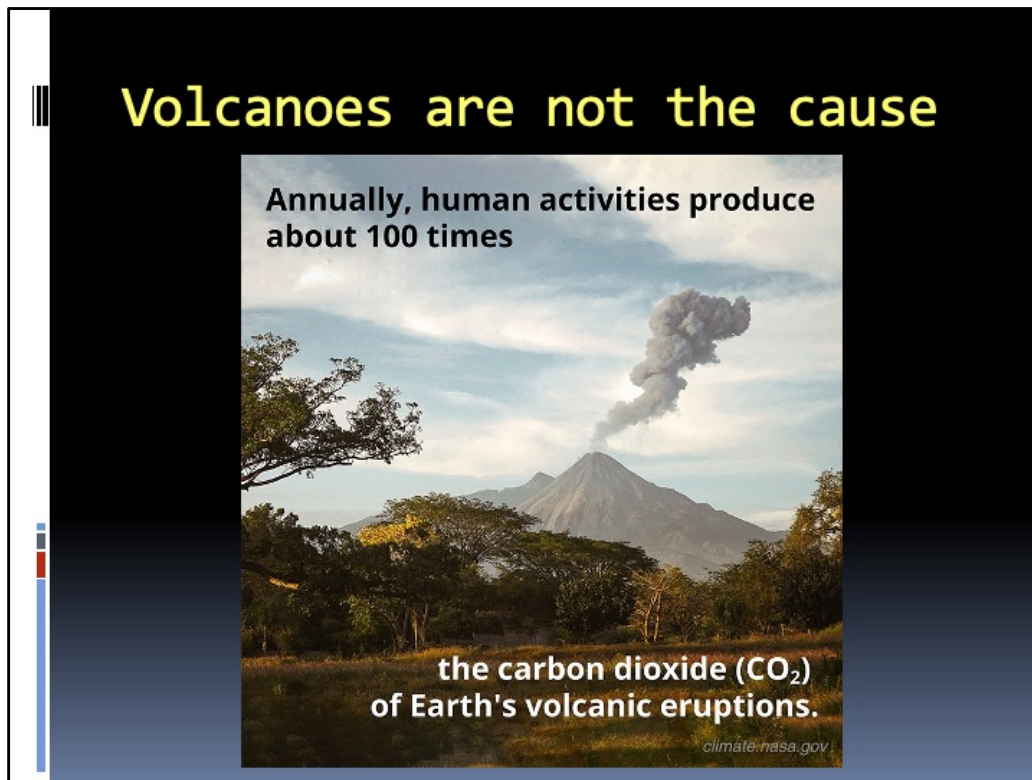
Ray:

There is a myth that the sun is causing rising temperatures.

Since 1970, US satellites have been measuring the sun's rays.

You can see from this graph, that while the sun does have some effect on rising temperatures, since the late 1980s, total solar radiance has and still is on the decline (yellow line), while global temperatures are significantly rising (red line).

So no. The sun is not heating our planet up to dangerous levels. If someone makes this claim, you can tell them that NASA produced this graph.



Ray: Another myth you might see or hear is that one volcano produces 10 times more CO₂ than 8 billion humans.

But the truth is, soon after eruptions, volcanoes actually cool the earth. Volcanoes release sulfur dioxide that become aerosols and reflect the sun's heat, acting like an umbrella to cool the Earth.

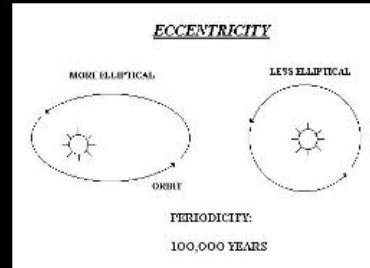
All studies to date of global volcanic CO₂ emissions indicate that present-day volcanoes release less than one percent of the carbon dioxide released currently by human activities.

When the Indonesia volcano, Mt Tambora erupted in 1815 in Indonesia—it was the largest eruption in recorded human history. That year, there was no summer in Indonesia. For 3 years the earth's temperature declined. Crops failed, typhus and cholera outbreaks occurred. But, there was no rise in temperature.

In fact, all geologic emissions, including geysers like Old Faithful, together total less than humans emissions in just 3 states: Virginia, OK and Tenn.

What about global cycles?

- Do cause severe temperature changes—even ice ages
- 100,000 year cycles
- Gravity from other planets pull us farther from the sun making the globe cooler
- Earth's current warming has taken place over decades



Ray: Global cycles do affect earth's temperature when the orbit of the earth changes due to gravitational pull from other planets. The earth actually wobbles like a spinning top. These predictable 100,000 year cycles depend on where we are in the earth's rotation around the sun.

These cycles operate on long time scales, ranging from tens of thousands to hundreds of thousands of years.

In contrast, Earth's current warming has taken place over time scales of decades to centuries.

NASA says that over the last 150 years, Milankovitch or orbital cycles have not changed the amount of solar energy absorbed by Earth very much.

Further explanations about other possible causes are discussed on the website on your handout by climate scientists.

The Facts are Clear

- *But...the facts make some people defensive*
- 10 % of US dismisses CC as a **hoax**
- 76% believe Climate Change is **real/happening now**
- Of the 76 %, 70% are **worried**
- 50 % feel **hopeless**

Jeni: Let's talk about how Americans react differently to the topic of climate change.

The percentage of people who think that climate change is a hoax has remained at about 10 percent since 2008 when Yale researchers began following public opinion on the subject.

The overwhelming view of Americans, 76 percent say CC is occurring. A full 70 percent of them are worried, with most of these being moms and young people.

Unfortunately, 50 percent of Americans feel hopeless. They do not know what can be done, if anything.

WE are a people of hope

- The Christian faith is based on hope-Our mission is to take that hope to the world
- Woodland's motto: "We are a People of Hope"
- IPCC report:
 - *Every action matters, every bit of warming matters, every year matters, every choice matters...*
- The apostle Paul wrote:

"I can do all things through Christ who gives me strength." (Philippians 4:13).

Faith, hope and love I Cor. 13:13

Jeni: But as Christians, hope is our specialty. We are a people of hope. It is our church motto, in fact. We are called to take hope to the world. The IPCC statement says...READ. And each of us can do our part. We know that Christ will give us strength.

However, the world has postponed action for more than 60 years, and we are finally in a stage that we have to do a lot of big things and do them NOW. Sadly, most of the opposition to acting on Climate change is coming from people who describe themselves as evangelical Christians. In fact, many Christians deny the very scriptures that call us to be Godly stewards of God's planet. We need to speak to our brothers and sisters in Christ and remind them that we can follow God's scriptural commands and Christ will help us. As we act out of our faith, and remember that our hope is in Christ, we love more and more. Jesus said that Christians will be known by their love. In addition to loving each other, we need to love God's world.

Then Why Aren't We Doing Something?

- Have we failed to recognize our sin?
- Are we self-centered, greedy, materialistic, apathetic and comfortable?



Ray: As a nation...are we self-centered, greedy, and materialistic...???

Americans make up 5 percent of the world's population but we consume 24 percent of the world's energy.

Americans eat 815 billion calories of food each day - that's roughly 200 billion more than we need and enough to feed 80 million people.

We throw out 200,000 tons of edible food daily.

Can't we do better than that? If we love God's people and God's world?

Then Why Aren't We Doing Something?

- Jesus says, "If we confess our sins, he is faithful & just to forgive our sins and to cleanse us from all unrighteousness. 1 Jn 1:9
- We know that: if we truly repent, we are forgiven, and then...we change our behavior

Ray: Jesus taught us how to deal with our sin. He said, READ

Then Why Aren't We Doing Something?

- *God won't let us destroy the earth*
- *Jesus will return soon, there is no need for us to act*
- **Let's be Honest: To oppose taking action on climate change cannot be justified by scripture.**

Ray: Many Christians argue that God's sovereignty will protect the earth from destruction—God won't let us destroy the earth.

Other Christians argue that since Jesus will return soon, there is no need for us to act

Let's be Honest: To oppose taking action on climate change cannot be justified by scripture.

God created the earth and put us in charge as stewards.

Excuses about what WE expect GOD to do for us does not alleviate us from the responsibility God has assigned to us.

We Begin to Take Action by Talking about it

- *For you, for me, for every single person reading or listening to this book, there is one simple thing that we can all do: Talk about it.*



Katharine Hayhoe

- Talk about it anywhere, anytime, with anyone

Jeni: Only 35% of people discuss climate change with others, even once in awhile. So if we don't talk about it, why would anyone around us know that we care, or even care about climate change themselves?

And if they don't care, why would they act?

Communications research shows that most people need to hear a message about 7 times before they take action. It's almost impossible to become a broken record on this topic.

Prepare Personal “Testimony”

- Pick several things (as many as you can think of) that you feel passionate about
- Identify how climate change connects to each one
- When you can connect with someone over one of these passions, you can relate how climate change impacts them also

Jeni: Christians know that when it’s difficult to address a topic with others, it helps to prepare a “personal testimony.” Arguments about controversial topics never help. People back into their corners, become defensive and more hardened in their positions. It helps to start with something that unites us rather than a subject that might divide us.

If we can connect with them first about something we both LOVE, then we can connect that with how it is changing because of the climate. If we are able to accomplish that, perhaps we can create an ally after-all.

The Power of Talking

- Conversations
- Keeping Track of your conversations
- Learn from them & improve
- Soon the conversations result in changes to groups, organizations, work sites, cities, districts, states, etc.



Jeni Dr. Hayhoe tells a story about being at a meeting in London when a man approached her and said he had previously watched her TED-talk on climate change. He said that TED-talk had inspired him to discuss climate change with strangers, and he started by simply asking them-on a scale from 1 to 10, how important the issue of climate change was. Most were eager to talk with him. So any of us could start a conversation with just that question.

Another man who had seen her TED-talk, started keeping a record of all the people in his town he had conversations with about climate change. He asked Dr. Hayhoe if she would like to see the list. She said yes, hoping for as many as 60. In fact, his list was over 10,000 names. She's kept in touch with him, and by last year, it was 12,000. His online group has organized and lobbied their city related to climate change. The city has now divested from fossil fuels, invested in renewables, and created a sustainability plan.

How Might I Begin?

1. LISTEN for a common interest/passion

- A lot of people we interact with are Christian, so faith is an easy place to start with believers
- With anyone, or people we don't know well: hobbies, exercise, vacations, family, work, cost of food, etc



Jeni: That all sounds good, right? But talking with strangers isn't as easy as that sounds.

Here are Dr. Hayhoe's suggestions: First, you start by listening or observing. You have to know something about what your conversation partner enjoys or values. You use that to bond with them. If it's another Christian, you may have an easy place to start.

But, there are a thousand casual conversations in which we can talk about climate change in a natural way.

People like to talk about where they live, their jobs, their families, vacations, their kids' schools and their own alma maters. Everybody talks about the current weather conditions or high food and gas prices. These can all be used to discuss your concerns about climate change. I could start a conversation today by saying "After church we are going to look at the new Ford F150 all electric pickup truck at the Pearl. I can say anytime, both our kids drive EVs.

How Might I Begin?

2. CONNECT with them over something you both feel passionate about



Jeni: So, first you just listen carefully and identify a shared value. It's something that unites you, and you're both interested in. Now you can **CONNECT** what you love to climate change. For example, you love outdoor activities and you need clean air to enjoy them. If the heat is excessive, it prevents your enjoyment outside and requires you to move indoors.

If you both like scuba diving, you can talk about how some of the coral reefs you once saw are bleaching and losing their beauty. Gardening might be an easy conversation to connect with climate due to droughts and deep freezes killing your plants. How both the droughts and freezes are connected to climate change.

Listen, Connect & Inspire

3. Inspire – What actions might I bring up that they could get excited about?

Examples of Solutions to offer: make/save money with Climate action, RepublicEN.org, agricultural ways to put carbon back in soil, organic gardening, volunteer opportunities (to clean up beaches/rivers), recycling trash/clothes, etc., LED light bulbs, plug in cars

Jeni: But if we present people with problems and don't offer solutions, people feel disenfranchised and powerless & they cope by forgetting about it or ignoring the problem.

So the third step is to inspire them to act by discussing steps they might be interested in taking.

The antidote to hopelessness is taking action. There are thousands of actions that we can choose, and everyone of them is helpful. This list is quite abbreviated, and next week, we will offer more ideas that can be tailor-made for individuals and families.

Where Can Your Conversation Make a Bigger Impact?

- Talk about CC with groups/organizations you belong to where your “testimony” might make a bigger impact?
 - Ex. Work site, PTA, at a city council meeting, church, kids’ sports orgs, etc?



Ray:

But talking is not only related to individuals. There are places that our “testimonies” can make even bigger differences.

What groups or organizations do you belong to that can increase the impact of your ideas?

Your church, your work site, your Home Owners Association, a book club, kid’s sports organizations, even city council meetings

Where Can Your Conversation Make a Bigger Impact?

- Solutions you might suggest (recycling programs, utility options, “green spaces,” solar panels, etc.)
- You don’t have to be an expert on each solution. You have ideas to explore



Ray:

There are many ways these groups can improve the environment, like recycling, considering different utility options, green spaces, using less paper, purchasing responsibly for environmental impact, etc.

You don’t have to be an expert of any of these to suggest something.

They will want to research it for themselves.

Where Can Your Conversation Make a Bigger Impact?

- How can you influence your local, state, federal representatives? One letter or phone call is assumed to represent 10 constituents
- Even if you can't change their mind on voting, you might influence them not to speak against it



Ray:

As governor, Arnold Schwarzenegger signed one of the first bills to cap Greenhouse emissions in 2006 when no one else would. Today we have politicians who seem to listen to a small, vocal constituency.

We have to keep banging on their doors, sending letters and emails or making phone calls.

Your congress person is likely to never see your letters, but someone tabulates them.

Some of these people will never change their minds and need to be replaced to reflect the views of the majority. But, even if we can't change their minds, our commitment to the environment might influence them not to speak out against it.

Where Can Your Conversation Make a Bigger Impact?

- The more conversations you have, and the more people talk about it...representatives become concerned it might affect their re-election odds.



Ray:

The more conversations we have, the more people talk about climate change, the more the polls will reflect our environmental concerns.

If they think their jobs are in jeopardy, they might listen more seriously.

Where Might Your Suggestion Lead?



- Early adopters (solar panels) on one house, then influence others to follow example
- This is the way our "testimonies" spread

Ray: In 2015, some geographers noticed solar panels popping up in a community in Connecticut and wanted to know why. They discovered an early adopter had installed solar panels on his home. An early adopter is a person who is interested in the latest technology and wants to try it. Once the solar panels were installed, the neighbors started dropping by and asking questions. Soon, clusters sprang up because people could talk to a real live, happy customer.

In 2020, Forbes did a story on the community of Babcock Ranch where the entire community is solar powered in South west Florida. It was a group of people with the same values who wanted a better, sustainable life for their families. Their testimonies are contagious. Our testimonies in words and actions are contagious, too.

Where Might Your Suggestion Lead?

- This is the way the gospel spread
- This is the gospel of caring for Creation



Ray:

The early church spread the gospel by Christians giving their testimonies about how Christ changed their lives. It is still the most effective way to share the Gospel.

The good news about our problems with Climate Change is that we can make a difference in people's lives. We just need to tell others how.

Next Week We Will Cover

- Other actions that *can be taken* that work for you personally and make the most difference
- How to decide what actions you will take (It's a personal commitment you make with God)

Ray: In our last session next week, we are going to give you specific actions that you can take to make a difference in climate change. You will be inspired and enthused to see the creativity and effectiveness of what the human can-do spirit can achieve.