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Stories *that changed the* WORLD



Three decades of measuring, monitoring
and protecting the world's forests

**GLOBAL
FOREST
WATCH**

“Global Forest Watch almost didn’t happen,”

says Craig Hanson, WRI’s Global Director of Programs. “It was June 2011, I was in Germany for a conference, and I got the phone call from a donor. They said no. So that night I walked the dark cobblestone streets of Munich with drizzle in my hair, thinking to myself that this bold idea was not going to see the light of day.”

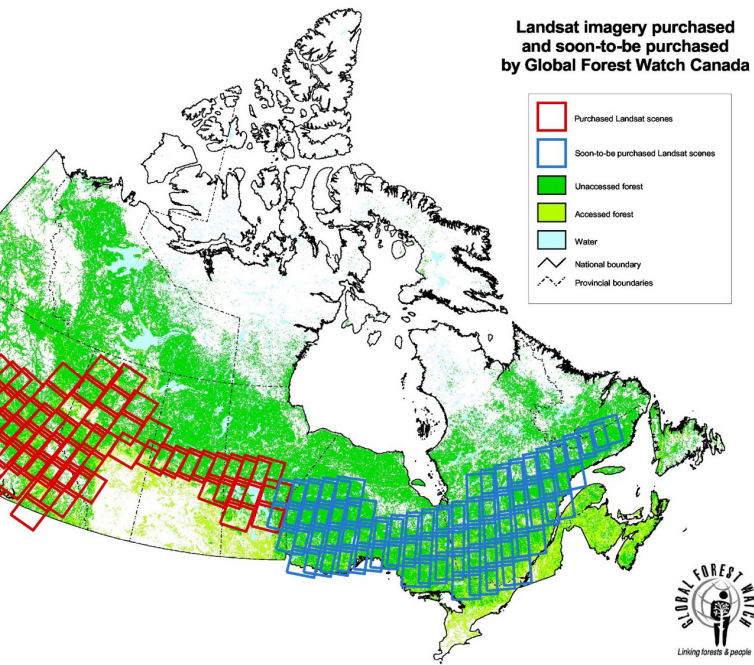
A decade and a half later, Craig's bold idea did not just see the light of day. It has revolutionized our ability to protect the world's forests.

Like all game changing ideas, Global Forest Watch was built on a simple premise. “You take all the satellite data, you run it through cloud computing, and you put it on the internet. And with that,” explains Craig, “anyone, at any time, can find deforestation anywhere on the planet.”

This was a transformative idea. Before GFW nobody knew for certain where trees were being cut down and on whose land. With GFW the world could see. As Craig says, “Companies, ranging from Cargill to Unilever to Nestle to banks, are now using GFW to ensure that deforestation is out of their supply chain for beef, soy, palm oil, or cocoa.”

The story begins well before 2011, back in a world of limited data, contradictory information, and paper maps. “GFW 1.0 started in 1997,” says Duclair Mouna, the project’s national coordinator for Cameroon. “It produced reports about the state of forests in four pilot countries: Cameroon, Gabon, Indonesia, and Canada.”

It was laborious work. Data were gathered from maps, official documents of forest titles and decrees, and from satellite images. Researchers went out into the field and took measurements by hand. Susan Minnemeyer was part of the team mapping boundaries of logging concessions in Cameroon and Gabon. “Sometimes there



Original Global Forest Watch Landsat coverage map



were just text descriptions of boundaries, like ‘it starts at this point, you follow the river for X kilometres and then head north for X distance,’ she remembers. “Sometimes parks and protected areas existed only on paper but not on the ground in reality. People couldn’t just pull up Google Maps and find them. It was a huge learning curve.” All these data were then put onto paper maps, digitized, and later these were distributed via CD-ROMs.

Straightaway the possibilities became obvious. “WRI was able to show that the Republic of Congo’s government had granted concessions for logging and mining concessions and community protected areas, all on the same spot,” says James Anderson, who joined later to work on communications for GFW 2.0. “Simply visualizing these conflicts and showing they existed helped governments be able to fix them.”

“We were looking at the progression of illegal logging roads,” adds Susan. Back then such roads could be cut into a forest and swathes of trees cut down without anybody knowing about it or being able to stop it. “Now everyone expects that if you build a road in the middle of a tropical rainforest, people are going to know about it.”

However useful GFW 1.0 was, its limitations were also clear. “A lot of information was out there,” says Nigel Sizer, WRI’s former Global Forests Program Director. “By the time it was published and is accessible it might be out of date. Years and years out of date.” But what was also clear was that technology was advancing rapidly, and that held the promise of completely changing what Global Forest Watch could achieve.

But when would that happen?



Securing Rights, Combating Climate Change, a WRI Report published in 2014

“When I became program director in the year 2008,” remembers Craig Hanson, “every now and then a colleague would ask when we were going to bring back Global Forest Watch. I said that it’s a good idea, but now is not the right moment. We need to wait for something new to help us take it to the next level.” That ‘something new’ came along within a couple of years.

“The screen showed Indonesia with modest satellite imagery at 250 metres definition. Place by place we would actually see, you know, the popcorn of deforestation happening, you know, every month over the years.” This was the moment Craig knew the technology to take GFW to the next level had arrived. “I leaned over to Fred Stolle and said, ‘Fred, now’s the moment to resurrect GFW.’ And so in 2011 I started writing a proposal to take us to the next generation. We called it GFW 2.0.”

That proposal was the one that was rejected, when Craig walked the rainy cobbled streets of Munich working out what to do next. He was not going to let this bold and transformative idea die. “I called them back, and said, ‘What’s it going to take to get the donor to reconsider?’ And they told me, ‘Get big tech on your side.’ And the name they gave me was Google.”

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Big tech was vital because GFW 2.0 would not just rely upon advances in satellite imagery. It also relied upon cloud computing. There was no other way to bring that enormous volume of data to users and their computers, processing it regularly. There was simply too much information for individual computers to handle. Cloud computing solved this and allowed forests to be monitored online.

“So the question is, how do we get in front of Google with our idea?” remembers Craig. “It just so happened that in September 2011, Fred Stolle was in Indonesia for a summit

on tropical forests, and he stepped into an elevator. In that elevator was Rebecca Moore, the director of Google Earth and Google Earth engine.

“I get on the elevator, and there is Rebecca Moore,” says Fred, now WRI’s Deputy Director of the Forest program. “We have a 15 second elevator ride together, and I give her the GFW pitch. She’s intrigued, and she says, “Come to Mountain View and tell us more.”

Craig flew out to Google’s offices in California with Nigel Sizer and two other colleagues. “We sat in their meeting rooms with a whiteboard and sketched out the vision of what this would look like. And at the end of that meeting, we had a deal.” GFW 2.0 had the green light.

James Anderson was one of the new team members brought on to turn the bold idea into reality. He worked on everything from a communications strategy to the interactive features that users would have available. “This was seen as one of WRI’s first projects that was truly democratic rather than targeted at scientists and experts. Anybody could go on and access the data, see the data. There was this idea that radical transparency was the key to positive change in the world, exposing what was happening and empowering people. The sky was the limit.”

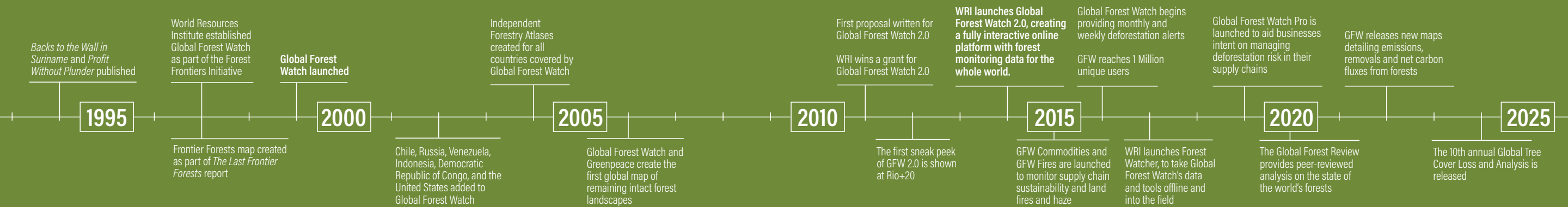


Nigel Sizer speaking to the press at the Global Forest Watch 2.0 Launch in 2014



Matt Hansen speaking at the GFW/UMD Global Forests Event in 2017

A Timeline of Events





Attendees at the 2019 Global Forest Watch Summit in Washington, D.C.



Local communities and authorities using GFW's Forest Watcher app in Peru.

After lot of hard work from the team and their partners, notably Google and Matt Hansen from the University of Maryland, GFW 2.0 was ready. "The technology was all necessary," says Nigel Sizer, "but Matt Hansen did the science on a global scale, and generated the outputs that literally transformed the way people could look at land cover change around the world."

"When I saw the new visual display it blew me out of the water," says Craig Hanson. "Near real time, you could zoom in, zoom out. Things we take for granted today with geospatial data was being invented at that moment."

At the launch in 2014 it fell to Nigel to present it to the world. "I had to take a deep breath because I could feel that the emotion was about to boil over," he says. "And I was like, oh no, I'm going to cry, I can't do that! I took a deep breath, and I went through my presentation. It was an absolutely incredible moment, and it worked perfectly. Rebecca Moore from Google came up and asked if I knew how many people were using it. The number was already in the tens of thousands, and by the next day it was close to a million users. These were very big numbers at that time."

GFW 2.0 was far more than just a clever toy. Companies immediately could see its value. "A gentleman from Nestlé stands up," remembers Craig Hanson, "and says he hadn't thought it possible to actually get deforestation out of his supply chains, because the data just wasn't there."

'I will never know where deforestation is happening or if I do, it's way too late for my supply chain.' But after seeing GFW 2.0 he

changed his mind. He said Nestlé could now get deforestation out of its supply chains."

The technology was not just useful for big companies. Indigenous communities were able to use it, and incursions into their ancestral lands showed up as alerts on their mobile phones. "Researchers were able to show for the very first time that indigenous people are the best protectors of forests," says Nigel. "They were more effective than protected areas, better than governments, better than environmental groups." Communities in Peru that use GFW have reduced deforestation rates by at least 58%.

In Southeast Asia GFW helped to resolve an international environmental issue. Smoke from land-clearing fires was drifting from Indonesia into Singapore. One young analyst overlaid NASA's daily fire alerts onto GFW's company concession data. "This showed who was accountable for the fires," says James Anderson. "We gave this to a Reuters journalist and it really took off."

Naming individual companies was controversial inside WRI, but Nigel told the companies that if the concession data was wrong, they should give us new data. That was brilliant, pushing companies to be much more transparent."

Duclaire Mbouna says GFW 2.0 has allowed civil society in Cameroon to fight against illegal logging and other environmental crimes, while enabling farmers to avoid deforestation and comply with international agricultural certification and regulations. "You also see it at the top level of global policy," adds Nigel Sizer. "It's fundamentally

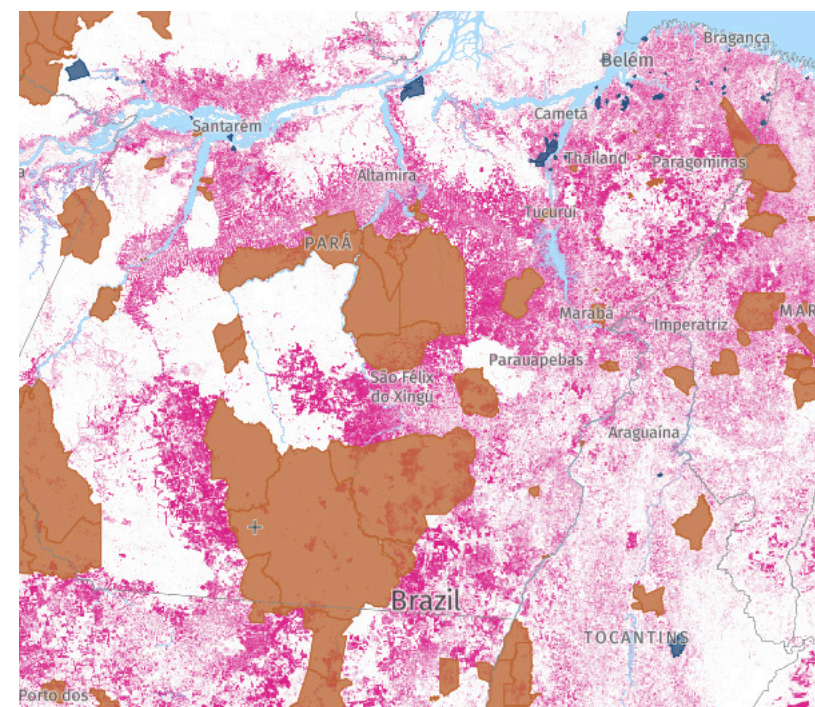
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Crystal Davis, former Director of Global Forest Watch, presents at the 2019 Summit

Tree cover loss vs. indigenous and community lands in the Brazilian Amazon, 2024



On-site training with Forest Watcher In the Republic of Congo, 2018



changed the way governments and thousands of people around the world are using information and making decisions each day."

GFW 2.0 has been transformative, not just for protecting the world's tropical forests, but also for WRI itself. "What have we learned?" asks Craig Hanson. "One, it put WRI at the cutting edge of big tech. Two, it kept us at the forefront of being the convenor of all the relevant players that are needed to drive change. In one room we can have NASA, Google, Nestlé and Unilever, and we can have Greenpeace and representatives of indigenous communities from Brazil and Indonesia. They all rally behind Global Forest Watch because they all get something out of it."

"We need the people who have weird ideas and can make them into reality, says Fred. "And that's for all of us. We all have the ideas; if you can make them real, this is the place to be: WRI."



Instituto Boliviano de Investigación Forestal (IBIF) is empowering bottom-up, community-based monitoring programs.

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