

## COMMUNITY

# The Role of the Weather, Water, and Climate Enterprise in the Proposed SEC Rule on Climate-Related Disclosures

John E. Ten Hoeve

The Securities and Exchange Commission (SEC) recently proposed a new rule requiring routine climate change disclosures from all publicly traded companies, beginning in fiscal year 2023 for the largest filers ([www.sec.gov/rules/proposed/2022/33-11042.pdf](http://www.sec.gov/rules/proposed/2022/33-11042.pdf)). Similar to other disclosures required by the SEC, the purpose of the rule is to ensure companies are transparent about climate risks and other information that are “material” to their business. A matter is material if there is a substantial likelihood that a reasonable investor would consider it important when determining whether to buy or sell securities or how to vote.

This proposed rule would compel climate-related disclosures and set standards for how climate-related disclosures are calculated. It would require registrants to disclose a wide range of information including “physical” and “transition” risks, financial impacts due to climate change and extreme weather, and current and projected direct and indirect greenhouse gas emissions. “Physical risks” are defined as acute and chronic risks to a company’s assets, operations, and costs due to extreme weather, whereas “transition risks” are risks to a company’s business model due to transitions to lower carbon products, practices, and services. More specifically, the proposed rule requires detailed information about the properties, processes, or operations subject to physical risks over the short, medium, and long term, in some cases down to the zip code, and requires the use of scenario analyses to assess quantitatively and qualitatively how possible future climate scenarios may impact a registrant’s operations, business strategy, and financial statements over time.

Many companies already disclose some climate-related risks voluntarily through the Task Force on Climate Related Financial Disclosures (TCFD; [www.fsb-tcfid.org/](http://www.fsb-tcfid.org/)) or through existing SEC rules that require disclosures of all material risks. Yet, existing guidance through the SEC and TCFD is quite broad and is often inconsistently applied across companies. A mandate of the proposed SEC rule is to improve the “consistency, comparability, and reliability” of climate-related disclosures across companies by standardizing requirements, approaches, and method-

ologies. The climate consulting industry is projected to dramatically expand in part due to these new disclosure requirements. For instance, Deloitte recently announced a \$1 billion investment in their sustainability and climate practice ([www2.deloitte.com/id/en/pages/about-deloitte/articles/deloitte-announces-1-billion-investment-in-global-sustainability-climate-practice.html](http://www2.deloitte.com/id/en/pages/about-deloitte/articles/deloitte-announces-1-billion-investment-in-global-sustainability-climate-practice.html)), and many climate services firms have been acquired in the last few years by larger companies.

This proposed rule provides an opportunity for the Weather, Water, and Climate Enterprise (the Enterprise), supported by professional societies like the American Meteorological Society (AMS), to offer expertise and guidance to registrants. In fact, the challenge of creating “comparable, consistent, and reliable disclosures” was a primary reason cited in SEC Commissioner Hester M. Peirce’s lone dissenting opinion. She writes, “Disclosures on the physical risk side will require companies to select a climate model and adapt it to assess the effects of climate change on the specific physical locations of their operations, as well as on the locations of their suppliers and customers...It will require reliance on third-parties and an array of experts who will employ their own assumptions, speculations, and models. How

#### AFFILIATIONS:

TEN HOEVE\*—Weather Program Office, National Oceanic and Atmospheric Administration, Silver Spring, Maryland

\* Ten Hoeve is a member of the American Meteorological Society’s Board on Economic Enterprise Development.

#### CORRESPONDING AUTHOR:

John E. Ten Hoeve, [john.tenhoeve@noaa.gov](mailto:john.tenhoeve@noaa.gov)

<https://doi.org/10.1175/BAMS-D-22-0184.1>

In final form 15 August 2022

©2022 American Meteorological Society

For information regarding reuse of this content and general copyright information, consult the [AMS Copyright Policy](#).

could the results of such an exercise be reliable, let alone comparable across companies or even consistent over time within the same company?” As described below, the Enterprise can help companies address these technical challenges while creating more consistent disclosures across the board.

The federal government, through agencies such as the National Oceanic and Atmospheric Administration, might explore providing 30-year regional predictions for some essential climate variables, along with authoritative uncertainty estimates, as guidance for SEC registrants. Why 30 years? Organizations typically focus on physical risks within the lifetimes of their assets and liabilities, which often do not extend beyond 30–50 years. Furthermore, many leading companies have set net zero targets aligned with 2050 and are creating transition plans against that timeline. Climate impacts are largely driven by historical emissions on these time scales, mitigating concerns that the choice of emissions scenario will cause inconsistent reporting. Agencies could leverage data and results from the National Climate Assessment, the Intergovernmental Panel on Climate Change, and their own observing and modeling capabilities to provide these authoritative estimates. This would substantially improve the “consistency, comparability, and reliability” of the climate assumptions going into each disclosure and would align with the Government’s role to provide foundational data and predictions as a starting point for more refined analysis.

In accordance with TCFD recommendations, the use of open science approaches and tools by the government and other sectors will also enhance the comparability of disclosures across registrants. The federal government will continue to provide foundational open data and models that underpin the entire Enterprise. Weather and climate firms will amplify the value of this public sector investment by providing tailored products and services to registrants. The initial value of that investment will ultimately be returned back into the public sphere (likely many times over) through the publication of detailed publicly facing disclosures. Weather and climate firms may choose to publish their methodologies and/or explore a combination of non-commercial and commercial data and software licensing to allow for sufficient scrutiny of the disclosures they assist with, while not sacrificing revenue sources. Some organizations have already started moving in this direction, such as

the nonprofit First Street Foundation. First Street Foundation publishes detailed methodologies for their property-level risk assessments of wildfire and flooding (e.g., [https://assets.firststreet.org/uploads/2020/06/FSF\\_Flood\\_Model\\_Technical\\_Documentation.pdf](https://assets.firststreet.org/uploads/2020/06/FSF_Flood_Model_Technical_Documentation.pdf)), has convened an expert panel of scientists to review their methodologies, and utilizes multiple types of data licenses. Similarly, the World Resource Institute provides a publicly available tool called Aquaduct to calculate water risks across the globe.

Last, professional associations such as AMS and the American Geophysical Union (AGU), working with the TCFD, the International Sustainability Standards Board (ISSB), national academies, and other risk management organizations, have the opportunity to promulgate best practices in climate risk analysis. This activity could take place within the AMS Commission on the Weather, Water, and Climate Enterprise, for example. As registrants will need to downscale global and regional predictions to the local level to effectively assess their physical risks, consistent methodologies and best practices should be established to meet the SEC mandate of “consistency, comparability, and reliability.” For example, these best practices may include how to interpret changes in extreme weather from climate projections or how to best quantify a specific risk or impact based on climatic changes. The TCFD already encourages companies to “facilitate information and experience exchanges among themselves; collectively developing tools, datasets, and methodologies; and working to set standards.” (<https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf>) The Enterprise is well positioned to reduce this burden on registrants even further.

All sectors of the Enterprise can play an important role in the successful implementation of this proposed SEC rule. Even if the rule is not ultimately enacted, the steps above would improve the disclosures of the ever-expanding list of companies voluntarily disclosing climate risks. AMS has an opportunity to galvanize the Enterprise around this topic, incorporate new weather and climate organizations working on climate disclosures into the Society, and discuss how to best support this rapidly evolving regulatory environment.

**Acknowledgments.** The conclusions and views or opinions expressed herein are those of the author and do not necessarily reflect the views of NOAA or the Department of Commerce. ●