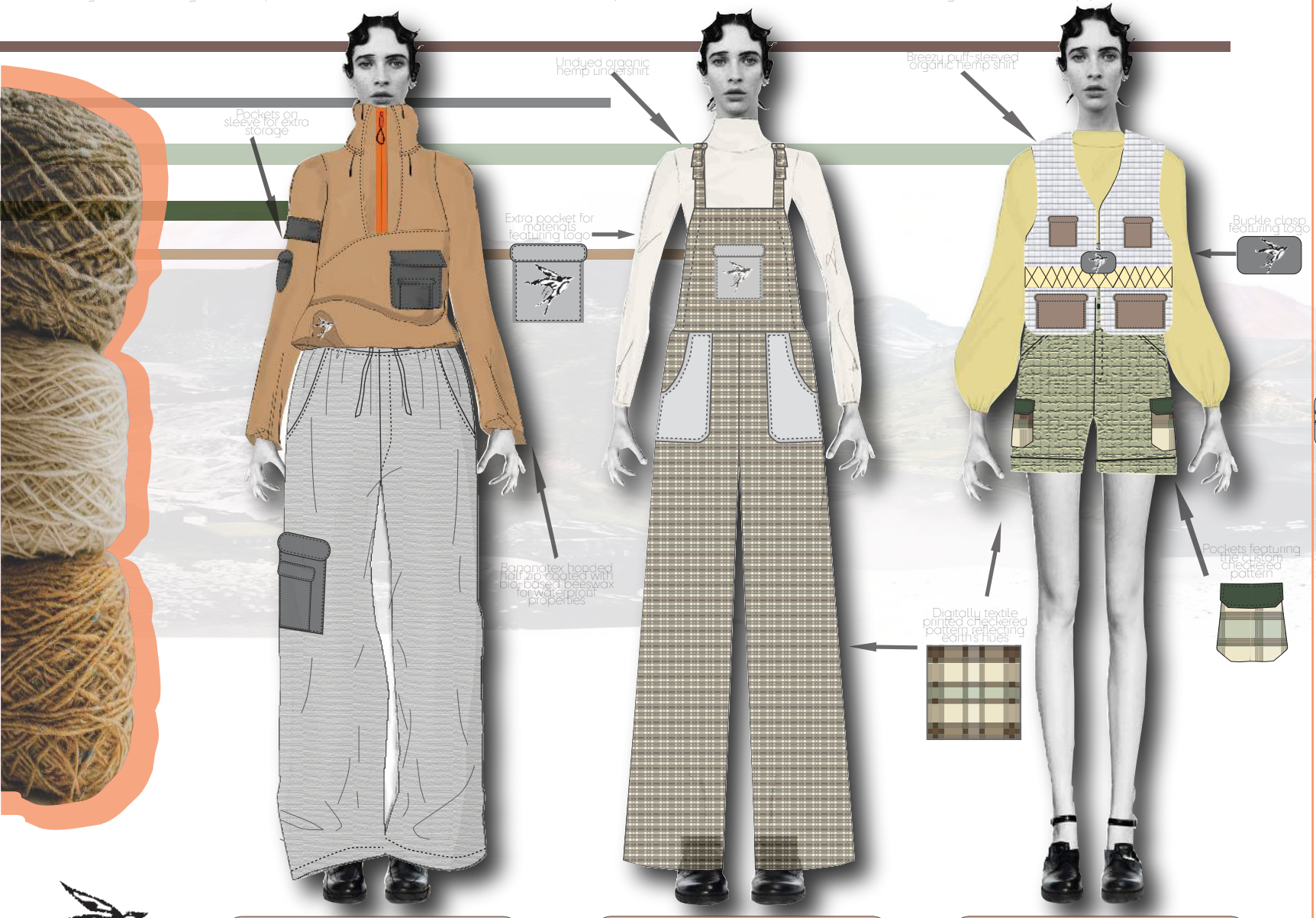
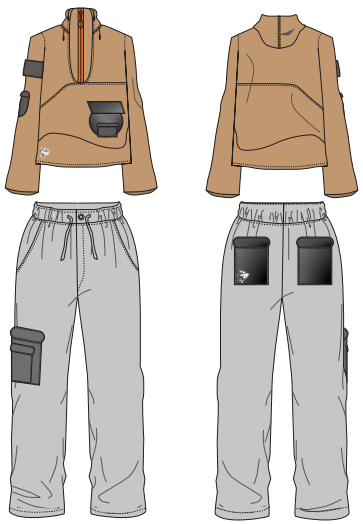
FABRIC FOOTPRINT

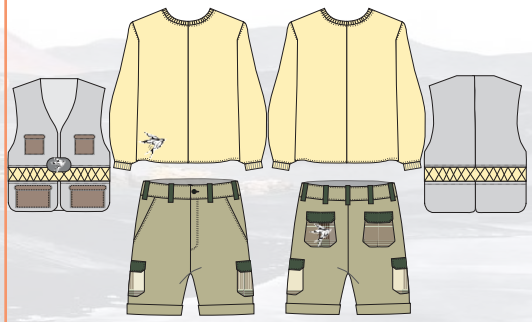
TECHNICAL GEAR FOR THE CLIMATE RESEARCHER

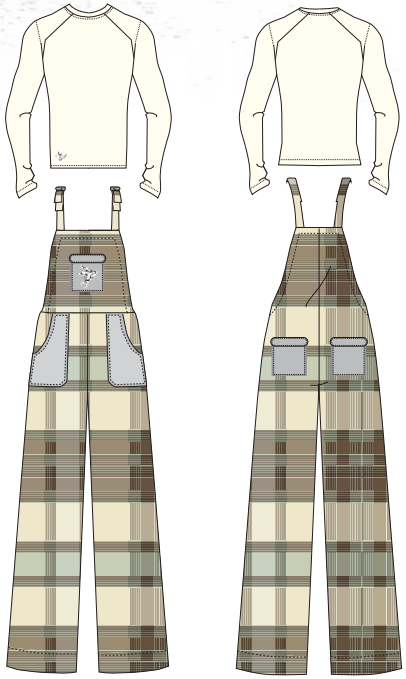
ARCHROMA 216-120 | ARCHROMA 217-320 | ARCHROMA 218-610 | ARCHROMA 659-110 | ARCHROMA 218-430 | ARCHROMA 544-731 | ARCHROMA 659-740

"Fabric Footprint" is a gender-neutral three-look collection dedicated to researchers and their efforts in combatting climate change and its devastating effects on our earth's future. Each of these looks consists of field research gear garments, designed for movement with ease and extra added components for material storage and accessibility. The advantage in these pieces lies in the fabric and finish choices, which are proven to be less water intensive, and even managed in a closed loop process.









"Migrations" is a two-piece look that combats harsh conditions such as rain, and cold weather while still remaining technical and functional. The hooded half-zip pullover and outsider pants utilize Bananatex, a durable fabric made purely from banana plants. To make these garments waterproof, they are treated with all-natural, bio-based beeswax clothing, offering a smooth and distinct hand. At a closer look, both the pullover and pants feature numerous pockets on the sleeves, front, and inside, offering extra storage and easy accessibility.

"Eunice" is a two-piece look named after Eunice Newton Foote, the first scientist to confirm a phenomenon now referred to as the greenhouse effect. Eunice consists of a checkered bib and a tight-fitting top, designed for land work primarily in forest, desert, and mountain terrains. The checkered bibs are made of TENCEL Lyocell, created by dissolving wood pulp, and it has moisture-wicking and anti-bacterial properties, making it a perfect alternative to polyester. The checkered print is made up of natural colors, corresponding to colors within nature and the undyed fabrics in this collection. The pattern is added through digital textile printing, which uses water-based inks and minimal water. The undershirt is constructed of organic undyed hemp, one of the oldest fibers in the world, keeping the wearer cool in the summer and warm in the winter.

"Renewal" is a thoughtfully designed three-piece ensemble, perfect for warm environments. It features a breezy puff-sleeved organic hemp shirt, multi-pocketed organic hemp shorts, and a versatile TENCEL Lyocell equipment vest, combining comfort with practicality. Each piece is expertly crafted to provide a lightweight, airy feel while offering ample storage for research materials. Designed with sustainability in mind, Renewal merges functionality and style for the modern, conscious explorer.

Birds are often associated with renewal and positive change and this look serves as a call to action, inspiring sustainability efforts and environmental stewardship.

FABRIC FOOTPRINT

TECHNICAL GEAR FOR THE CLIMATE RESEARCHER

COMPETITIVE ADVANTAGE

The competitive advantage of "Fabric Footprint" lies in its unique blend of functionality, sustainability, and purpose-driven design. By utilizing undyed and naturally dyed fabrics, standardized pocket styles, and low-impact finishing techniques, this line actively reduces waste and pollution while maintaining high functionality. The fabric choices--Bananatex, TENCEL Lyocell, and organic hemp--are fabrics proven to be less water intensive, and even managed in a closed loop process. Additionally, this collection is not just meant for fashion–it serves a real-world purpose. By incorporating storage-friendly components, ease of movement, and durable, research-friendly design, these garments cater to an underserved niche: researchers who need both style and utility. This line is not just another eco-friendly brand–it is a solution for those who actively work to protect the planet.

CONSUMER PROFILE

DEMOGRAPHICS

"Fabric Footprint" is a gender neutral better to bridge line that was created with the researcher and scientist in mind. Climate scientists and researchers' day-to-day tasks include gathering and analyzing data collected from oceans, lands, and the atmosphere to analyze and identify patterns and trends in the climate system. Additionally, most climatologists conduct fieldwork, collecting samples, conducting surveys, and deploying instruments in the field.

PSYCHOGRAPHICS

Consumers of these pieces care deeply about practicing sustainability and have chosen to take this concern into their clothing choices and are looking for garments that will make their tasks more functional.

BEHAVIORISTICS

They care about comfort, protection against nature's forces, and ease of movement, all of which are crucial when conducting physical work daily. Consumers of Fabric Footprint's products are loyal to the brand and what it stands for, continually coming back for high quality garments that continue to serve them in their career daily.

DISTRIBUTION CHANNEL

PURCHASING

Online stores can potentially have a smaller environmental footprint when compared to brick-and-mortar stores, as they require less energy for operations and transportation, and can reduce waste through optimized inventory management and packaging. "Fabric Footprint" will be offered through an online website dedicated to the brand, making it accessible to purchasers around the world. This allows these garments to reach a wider audience, reducing the need for transportation, and thus decreasing the carbon footprint.

PROMOTION - PARTNER WITH LOCAL NON-PROFITS

Collaborating with local environmental nonprofits to co-host events or initiatives would be a primary event for promotion. Additionally, "Fabric Footprint" would offer a portion of sales to each organization's cause in exchange for promotion to their audience.

PRICE POINT

"Fabric Footprint" will fall into a mid-to-high price point due to the quality of materials and sustainable production practices. "Fabric Footprint" focuses on tracking its carbon and water footprint in its pieces, taking into consideration impacts from most processes in the product's lifecycle. In addition to this, it is 100% carbon neutral and works alongside non-profit organizations to verify that "Fabric Footprint's" brand continues to achieve net-zero carbon emissions. The list goes on, with the brand recycling and composting organic wastes, sourcing electricity offsets from 100% wind power suppliers, and completing local cutting and sewing in the U.S. using sustainable standards and materials.

BRANDING STRATEGY

Fabric Footprint is a water-conscious brand designed to support researchers working in outdoor environments. Rooted in sustainability, our line embraces a neutral color palette inspired by nature, seamlessly blending with the landscapes where research takes place. Featuring earthy tones such as greys, whites, browns, creams, and subtle hints of green, our collection reflects the beauty of the natural world while promoting environmental responsibility. Additionally, I created a logo with a bird, symbolizing hope and action.

Birds are often associated with renewal and positive change, and this logo serves as a call to action, inspiring sustainability efforts and environmental stewardship.

INSPIRATION

"Fabric Footprint" is a gender-neutral three-look collection dedicated to researchers and their efforts in combatting climate change and its devastating effects on our earth's future. Each of these looks consists of field research gear garments, designed for movement with ease and extra added components for storage and accessibility.

From a young age, I was captivated by the natural world–the intricate details of leaves, the rhythmic patterns of water, the way ecosystems function in perfect harmony. This deep appreciation evolved into a concern for the well-being of our planet, inspiring me to merge my passion for fashion with sustainability. Fabric Footprint is a response to the fashion industry's environmental impact, specifically its excessive consumption and pollution of freshwater.

With Fabric Footprint, I aim to challenge the traditional fashion production model and highlight the possibilities of functional, sustainable design. The fashion industry is a main consumer and polluter of fresh water, and this collection works to reduce waste and pollution while benefitting the people attempting to combat it.

DYES, FIBERS, PRODUCTION, AND FINISHES

Less energy use. No pollution. More comfort. Natural dyes have a lower environmental impact than synthetic dyes, which are widely known to contribute to water pollution and chemical waste. Each look in this collection utilizes undyed and natural fabrics, further reducing the negative impact of pollution on our planet. Beyond fabric choice, every piece is crafted using low-impact, sustainable finishes that minimize water and energy consumption. Each look also utilizes the same pocket style, and these standardized pocket patterns allow manufacturers to optimize fabric cutting layouts, reducing leftover fabric waste. Methods such as plant-based dyeing, air drying instead of heat processing, and closed-loop water systems guarantee that no dangerous chemicals or excess waste are discharged into the environment. From breathable organic hemp to durable Bananatex, each garment embraces the beauty of raw, responsibly sourced materials. These finishes enhance the durability and comfort of the clothing and reflect a commitment to a cleaner, more ethical future in fashion.

LOOKBOOK

LOOK ONE : Migrations

Migrations is a two-piece look that combats harsh conditions such as rain, and cold weather while still remaining technical and functional. The hooded half-zip pullover and outsider pants utilize Banantex, a durable fabric made purely from banana plants. To make these garments waterproof, they are treated with all-natural, bio-based beeswax clothing, offering a smooth and distinct hand. At a closer look, both the pullover and pants feature numerous pockets on the sleeves, front, and inside, offering extra storage and easy accessibility.

LOOK TWO : Eunice

Eunice is a two-piece look named after Eunice Newton Foote, the first scientist to confirm that certain gases warm when exposed to sunlight, and that therefore rising carbon dioxide levels could increase atmospheric temperature and affect climate–a phenomenon now referred to as the greenhouse effect. Eunice consists of a checkered bib and a tight-fitting top, designed for land work primarily in forest, desert, and mountain terrains. The checkered bibs are made of TENCEL Lyocell, created by dissolving wood pulp, and it has moisture-wicking and anti-bacterial properties, making it a perfect alternative to polyester. The checkered print is made up of natural colors, corresponding to colors within nature and the undyed fabrics in this collection. The pattern is added through digital textile printing, which uses water-based inks and minimal water. The undershirt is constructed of organic undyed hemp, one of the oldest fibers in the world, keeping the wearer cool in the summer and warm in the winter.

LOOK THREE: Renewal

Renewal is a thoughtfully designed three-piece ensemble, perfect for warm environments. It features a breezy puff-sleeved organic hemp shirt, multi-pocketed organic hemp shorts, and a versatile TENCEL Lyocell equipment vest, combining comfort with practicality. Each piece is expertly crafted to provide a lightweight, airy feel while offering ample storage for research materials. Designed with sustainability in mind, Renewal merges functionality and style for the modern, conscious explorer.

AATCC TEST METHODS

Sustainable fabrics with low impact on waterways, undyed fabrics, and natural dyes are a large part of this line's theme, as well as comfort and technicality with the ability to combat earth's forces. On that note, it is still important to check for any major issues with the fabrics and confirm the low water waste contributions through durability and fiber content tests.

AATCC TM111-2023, Weather Resistance of Textiles: Exposure to Daylight and Weather

Since this line is meant for fieldwork, exposure to nature's natural forces and unpredictable weather habits is expected. This test will allow me to test the durability of my fiber choices through direct exposure to natural light and weather.

AAATCC TM097-TM97-TM 97, Test Method for Extractable Content of Textiles

Another important aspect of "Fabric Footprint" is its utilization of water-conscious fabrics to reduce the environmental impact of textile production on water sources like oceans, lakes, and rivers. This test method will determine the amount of water, enzyme, and organic-solvent extractable matter of fibers, yarns, or fabrics containing cellulosic fibers and blends of cellulose and other fiber types in their greige and/or prepared state of processing. By assessing these extractable contents, TM097 helps verify fiber composition and ensures that these textiles marketed as "green" are truly eco-friendly.

FABRIC CHOICES

Bananatex, TENCEL Lyocell, and organic hemp are innovative fabrics that were created with the goal of going greener and decreasing negative environmental effects. While they are known for reducing pollution in waterways, these fibers also provide comfort and breathability to the wearer.

Bananatex is the first durable fabric made entirely from self-sufficient banana plants grown in the Philippines. Free from pesticides, fertilizers, and extra water, it is a sustainable alternative to synthetic fabrics.

TENCEL Lyocell is a sustainable fiber from wood pulp, using a closed-loop process to minimize waste. It is more absorbent than cotton, requires less water use, and wicks moisture–making it a great eco-friendly alternative to polyester.

Organic Hemp is a globally grown, eco-friendly crop needing little water and no pesticides. As one of the oldest fibers, hemp regulates temperature, softens with washing, and is a durable wardrobe staple.

AATCC MEMBERSHIP BENEFITS

Out of all of the benefits of an AATCC membership, my personal favorite would have to be exclusive access to the AATCC Review. As a Fashion Design major with a strong interest in textiles and fibers, this resource provides invaluable insights into industry research, innovations, and trends–helping me expand my knowledge from raw materials to finished products.

AATCC VIRTUAL EVENT

Chemical Applications Interest Group Meeting: This virtual event provided me with a great amount of insight into the latest developments in antimicrobial textile research. The integration of probiotics into textiles is changing the future of fashion by merging sustainability with functionality. Just as ProGel harnesses probiotics to prevent infections, probiotic-infused fabrics offer skin-friendly benefits. This biotech innovation aligns with fashion's shift toward sustainability, demonstrating that nature-inspired materials can enhance wellness and environmental responsibility. As the industry discovers science-driven solutions, the future of fashion is no longer just about aesthetics but also about creating garments that heal, protect, and adapt to our needs.