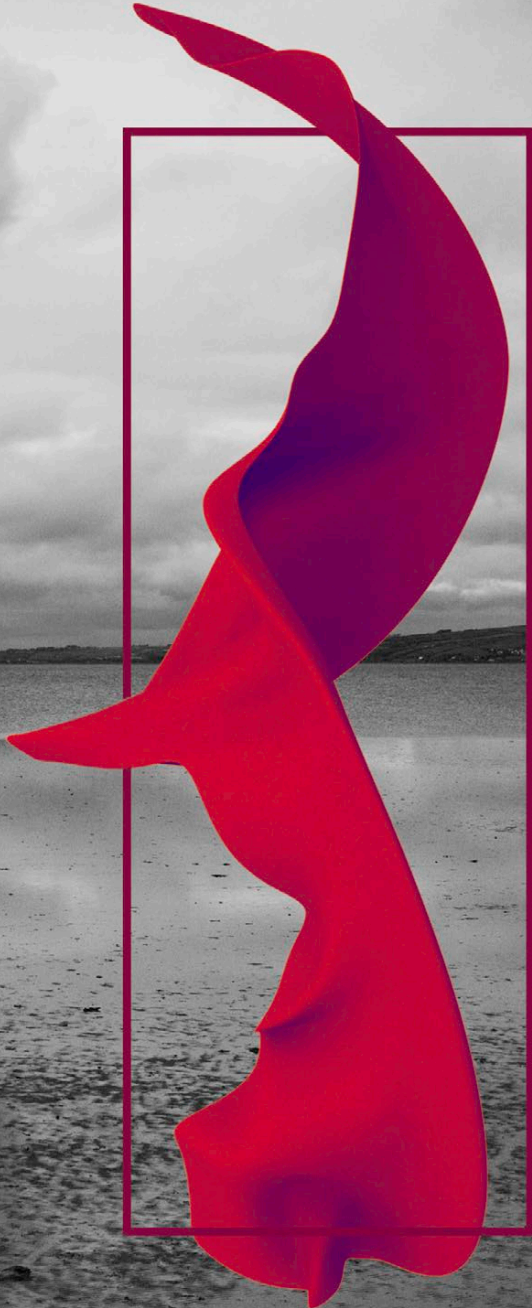


FOLLOW THE TIDE

THE TANGIBLE POTENTIAL OF MUDFLATS AREA



EWELINA WERONIKA PAWLIK

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mudflats area.

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des akademischen Grades
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ABSTRACT

The Master Thesis draws attention to mudflats areas which due to the increasing population are transformed for expanding cities. The problem of reclamation of these areas is not negative itself, but the scale of habitat's destruction it brings is large enough to stop this process immediately. It touches directly Asia, expecting currently to have around 2 billions people more. The reclamation of mudflats is one of the operations in preparing the countries for next, bigger generations.

That's why, the chosen area is located in Chinese province, which as a conglomeration of hundreds of fishing villages has a huge impact on world aquaculture. The place became well known because of its environmental beauty and old traditional Chinese lifestyle, thus flourishing as a hot spot for world wide photographers. First studies of chosen location made me aware of many problems fishing villages are facing, which turned out to be also a part of #global issues. Suddenly the beauty of this place, juxtaposed to harshness of daily life, overwhelms and reveals how idealized landscape is being sold rather than the reality of this place. Struggling with the subjects as #wetlands #reclamation #climate change #fishing village and #migration the thesis began to focus on the potential of mudflat area, which used to be the daily workspace for all locals. Those areas, most photographed places throughout Xiapu County, being documented can contribute to spreading ideas and making people more aware of certain issues. All existing photographic spots, considered as channels, could be turned into communication platform, and by using geotags via social media, Xiapu landscape might interlock with design proposal manifesting the value of wetlands.

◀ 1. Terrain of Xiapu County, Fujian Province, East Coast China

The project's main mission is to emphasize the importance of the fishing villages not only because of the threaten of its ecological security but also because of the authenticity and history of the area. Using the potential of tidal area as well as a potential of fishing farm, the research phase works out the way of implementing new functions and developing the relationship between inhabitants and visitors, which might cause the quality improvement of locals' life. The activation strategy of this mudflats might be possible desirable through transformation of the #sea walk experience.

Besides, the Master Thesis investigates also ways of perceiving differently places like Xiapu County, not only as a beautiful landscape worth to see but also as a workplace and environment open for innovative spaces rousing interesting emotional and esthetic experience.

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part I

RESEARCH



01

GLOBAL ISSUES

In the world we live in today, all the people contribute to a big, global network, divided into billions of local communities. Events occurring within the local scale, often extrapolate to much larger niveaus, both creating the impact, as well as recieving it in a form of global reaction. As we moved from the strategy of thinking global and acting local - to slightly modernized thinking global and acting global - we might be facing brand new trend: thinking local while acting global. It addresses not only the possibilities of modern - and super fast - connectivity, but also underlines urgent need of taking a closer look to the most primal element of our society - local communities. This being said, the best way to understand #global issues is to realize, what is occurring to the smaller cities and communities. This allows us to address the issues at the core and solve them at the local level, which will eventually tackle the global problems.

With one fourth of the global population, China has much less farmland - only 7% of the total world area. It is impossible to significantly expand it, due to natural conditions. Chinese inland waters [6.75mln ha], shallow sea waters and mudflats [2.6mln ha] - suitable for aquaculture, sum up to around 10% of the total agriculture cultivated land. With increasing population - exploitation of these waters, through radical reclamation, became a prrome objective for the national strategy. Analysing each #global issue separately, as well as all of them together, gives an insightful new perspective, on how small coastal communities has transformed into a victim of advancement. This thesis highlights the problems of one particular area along the eastern Chinese coast - Xiapu.

◀ 2. Azimuthal map projection of Asia, centered on Taipei

wetlands

Enormous in size and character,
the most spectacular places on Earth.

Unnoticed. Undervalued. Wetlands ecosystems, bogs, fens, swamps, marsches and open water cover at least 6% of the Earth and hosts about 40% of all the world's species including 12% of all animals. They are an extremely important places not only because of the variety of wildlife, but also for the communities living outside of the wetland area.

As the most biologically productive ecosystems in the world, they provide a wealth of services to humans, such as food (rice, fish), fresh water, medicinal plants or even reeds (used for making mats and baskets).

But besides these functions, the most significant social and economic benefits that they provide is the protection of coastal area against disastrous consequences of flooding. That issue concerns around 400 millions of people - and this number will increase in next decades because of growing population.



▲ 1. Mudflats during the low tide

Shorelines serve as zones of sand, mud, pebbles and vegetation, that help to slow and break the action of waves. Beaches tame ocean waves and provide safe places for adjacent villages, towns, cities and harbours. In turn, healthy strand vegetation, sea grass beds, algal beds and mangroves provide significant shelter in the face of typhoons, storms, and against the tsunamis, that are frequent in a zone prone to devastating earthquakes.

#Wetlands grant also a livelihood to a large number of fishermen - both in chinese coast, as well as in the other parts of the world. Mudflats' agriculture shapes the life of locals and their main daily activities: these habitats provide nurseries for countless aquatic species, on which coastal fisheries depend [1]. As the result, fishing and farming industry developes and gives a huge economic potential, due to icreased consciousness about health benefits from eating seafood, rising from the beginning of XXI century.

Depending on the location in the world, clean, beautiful shorelines may have also historical, cultural, religious or recreational significance. By offering wonderful and inspiring recreational opportunities they contribute to the development of important local economies. For example, in China, wetlands are used to conduct initiation rites or just be the place where the residents can watch traditional methods of shrimp cultivation [Hong Kong -the Mai Poi marshes]. Another lands, for instance Germany and the Netherlands, are famous for organizing wandering through mudflats area in order to experience wetland community during the low tides. These tidal flat trips, as well as boat tours with wildlife watching, are popular among adults and kids. Among others they provide also some leisure facilities as canoeing and fishing, snorkelling, shell collecting or just birds watching. [2]

Due to The World Wildlife Fund, economic value of wetlands is estimated to reach \$70 bilion per year. But the present rate of mudflats' destruction is high and still increasing. Especially in China, where coastal regions are suffering from a shortage of land and the reclamation of wetlands became a solution to satisfy necessities for population growth and economic delevopment. The solution, that appeared to bring benefits in the short term, can cause ecological disaster in the long term.

Promise of open space, public facilities
and .. assurance of misery in ecosystem

reclamation

China has a vast territory with a large population but less farmland. The Chinese population makes up one fourth of the world total, but the farmland is only 7% of the world total area. It's impossible to expand farmland area by a big margin due to the limitations of natural conditions.

The problem of wetlands reclamation has already started with the population growth and the consequences it provides. China, as the largest world's economy power, is increasing due to its rapid economic and population growth, especially in the coastal regions, which are centres of economic activities and motors for national prosperity.

These tidal lands compose of only 13% of China total area, but contributes to 60% of the gross domestic product. Insufficient understanding of the values of wetland profits conducted to a large-scale land reclamation. That is why expanding urban shoreline has become an ever more popular solution to the problem, especially in countries facing land scarcity. The process of transforming mudflats into urban areas create an extra space for industries and future generations, but in the same time destroy the biological diversity. It's not well known, but those 13% are livelihood for fishing communities and provide around 30 million tons of fishery products, what is about 20% of global production. The Chinese government planned to build a new Great Wall, a seawall which will cover around 60% of the total length of Chinese coastline. Developing glittering metropolis as Shanghai or Hong Kong will

not cause a dramatic impoverishment in internationally shared biodiversity, as much as reclamation activities in Yellow Sea or Taiwan Strait areas. The problem of mentioned areas touches directly the fishing villages and their inhabitants, what became the backbone of this thesis.

The negative results of reclamation are already huge and are still increasing. Firstly, this process worsens drought. The first symptoms were already noticed, especially in North China that suffer from very dry weather in recent years. It is related to many water areas that have already dried or have been built up. Diminishing water areas, including wetlands as well, mean less evaporation and as a result reduction in rainfall. Secondly, reclaiming land areas lead to the loss of biodiversity and fisheries. Coastal shallows, swamps, mangrove forests and intertidal zones are the point, where the land meets the sea. Creating some artificial separator between natural land and sea will block nutrients flow into coastal waters. That, in turn, will threaten crabs, shrimps, clams and other organisms, which rely on this source of food. This has an impact on the ocean food chain and the fishing industry as well as some land-dwelling animals. Third, land reclamation along the shoreline increases the tidal range and the risk of flooding in these areas. Since always, wetlands have been a buffer zone between the ocean and the land - absorbing much of the ocean's forces. The decay of this natural buffer can have potentially harmful consequences, including loss of human life and livestock. Fourth, reduction of the tides intensify also the so-called phenomenon of harmful "red tides". The

▼ 3. Hong Kong in 1984 and in 2015

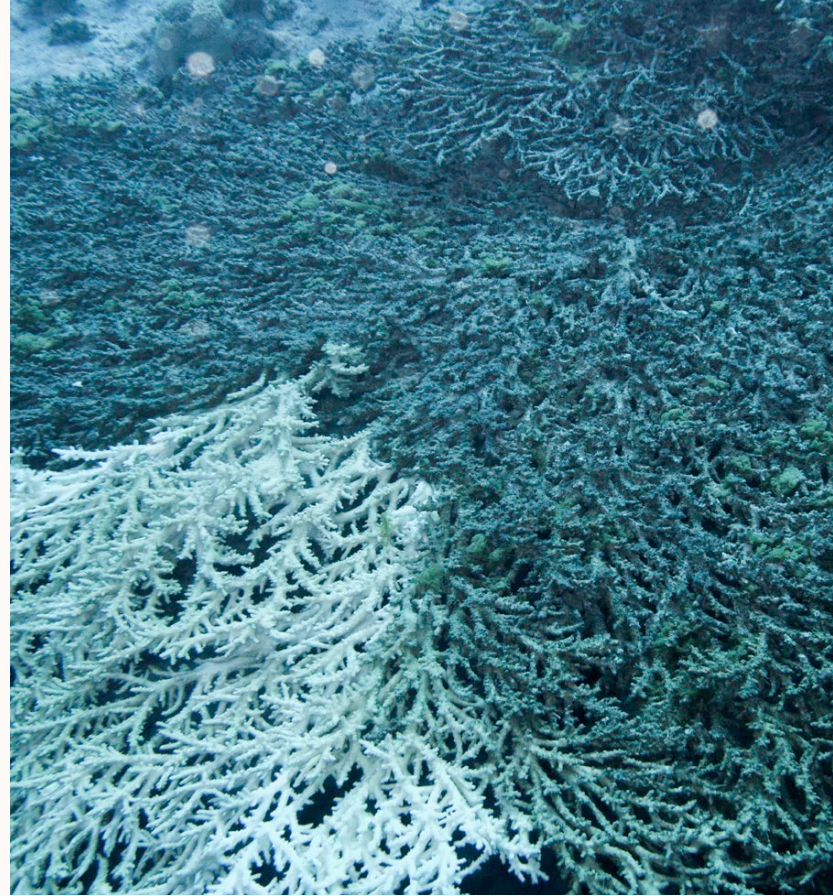


artificial barrier, that is built up during this process, pertract between land and sea and accelerate the flow of the nutrients from river deltas into the sea. In turn, on the coastal areas, where the wetlands were used for aquaculture before reclamation, the tides carry too large quantities of organic matter. And as a result trigger enormous algal blooms, producing toxic or harmful effects on people, birds and marine habitat. And fifth - the process of reclamation destroys natural landscapes. In the course of time, land is shaped and reshaped, and eventually reclaimed by movement of ocean waters. In that case, this is a slow process, so nature has time to adapt to the changes in environment. But if the changes take place too quickly, the process can cause huge damages and threaten not only the marine habitat but especially people living in coastal areas [3].

Situated from the coasts, over the continental shelf to the open ocean and deep sea. Interdependent and incredibly diverse # marine habitats

As an important part of marine ecosystem, they determine home for hundreds of marine species, like seaweeds, sea grasses, coral, jellies, sea anemones, plankton, fishes and birds. Depending partially on the saltwater, the marine environment supplies many kinds of habitats, that support marine life.

Marine habitats can be modified by their inhabitants. Some marine organisms like kelp, mangroves or corals, are ecosystem engineers and can reshape the marine environment, creating habitats for many other organisms.



Δ2. Bleaching coral reef

But despite the considerable importance of marine ecosystems, the conditions necessary to survive for plants and animals are all the time significantly encroaching, with destruction slowly occurring within the habitats. Unfortunately it happens in many regions of the ocean, but it is the coastal area that is suffering disproportionately the most from human stresses. Polluting the air, overfishing and developing coastal spaces are the first factors, that contribute to habitat loss, and this in turn has much stronger impact on the entire ocean's biodiversity. Dredging and filling the wetlands areas in order to accommodate urban, industrial and agricultural developments, as well as creating waste, pollution and chemical effluent and runoff by factories and farms, are wreaking damage on reefs, sea grasses, birds and fish. Increased number of hurricanes, typhoons and tsunamis can cause massive, though usually temporary, disruptions in the life cycles of ocean communities. However, human excessive exploitation of natural resources turned out to be incomparably more impactful and persistent.

Also increasing fishing efforts, as well as unsustainable fishing practices - including bottom trawling, bycatch and ghost fishing - are pushing many fish stocks to the point of collapse and devastate the entire marine environment [5]. Catching as many fish as possible at first sight look innocent and seem to be a profitable practice, but the scale of this activity leads to serious consequences. Perilous low levels of fish stocks caused actually by #overfishing process, affect not only ocean's life, but also the social and economic well-being of the coastal communities, that depend on fish for their way of life. Manmade activities contributed also to some modifications in climate. Perhaps, it is actually the #climate change, that devastates marine habitats the most - from all mentioned factors - and oceans take the brunt of these changes. Absorbing the extra heat and atmospheric carbon dioxide have extensive consequences on the life cycles of marine animals, from corals to whales. Rising public consciousness on global warming converted into numerous ongoing efforts to protect ocean habitats, including laws banning the dumping of sewage and chemicals into the ocean, with policies that foster better safety of wetlands. However, the process of revertibility of the ocean crisis might take hundreds of years.

climate change

as the biggest humanity challenge ever

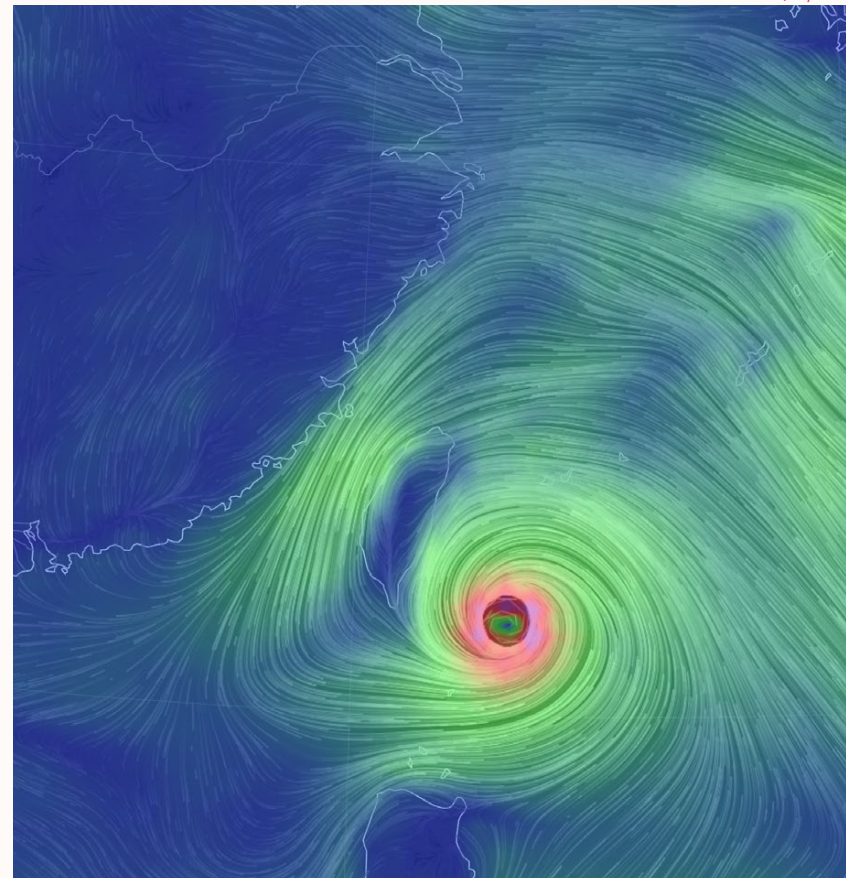
Extreme weather, historic droughts, temperature records, rising seas, melting glaciers, coastal erosion, storm surges, forest fires, ruined crops, food riots, dried river beds, forced migration and refugees.

These are the consequences of global warming, well known already for years. The human consciousness and actions are growing stronger year by year. But.. do conventional fearfull, shocking representations of #climatechange affect intensifying individual engagement with that challenge? They might be memorable and initially attract public attention, however in many cases, they can be counter-productive and disempower human engagement with the issue. Any negative representations must be partnered with those, that enable to create a sense of personal connection with the causes and consequences of climate change - in a positive manner. This way they can see the relevance of climate change for their locality and life, and see that there are ways, in which they (and others) can positively respond. [e1]

Shifting the global change conversation from despair to optimism - from apathy to action - can enable to celebrate many opportunities (economic, environmental and health), to be gained from transitioning this challenge to a 100% renewable energy solutions. But at the base of any positive transformational work - has to be an understanding of the relationship between one's awareness and actions. Through that, an impact on our world is possible. A change in our environment, systems, cultures - is a long lasting change. Therefore, we have to implement these methods, that shift our awareness and feelings to a deeper level.[6]

All humans inhabit the same planet and are bound together by the same challenges and interests. And all human societies and ecosystems around the world will response to all potential adverse impacts of climate change. [7] This proces will affect numerous habitats, still flourishing with various fish types. On the one side warmer temperatures will influence the abundance, migratory patterns and mortality rates of marine communities, and will determine what species can be farmed in certain regions.

▼ 4. Typhoon Nepartak heading for Taiwan and China Mainland in July 2016



On the other hand, high levels of atmospheric carbon dioxide, caused mainly by burning of fossil fuels, are absorbed by the oceans. This elevated acidity inhibits the ability of marine organisms, including plankton, to create shells - disrupt life within the very foundation of the ocean's food chain. [5] These climatic effect on fish, will have social and economic consequences for people dependent on fisheries and aquaculture - and what is well known - from workers, through coastal communities, to consumers of fish. Fishery industry is a very developed enterprise and absorbs a varied range of livelihood activities, from production and processing to marketing and additional functions. This contains enterprises, varying from small to those with a relatively big scale. The majority of people engaged in these activities are relatively poor and vulnerable fishermen, living in coastal fishing villages, that depend on fishing for their living. #climatchange contributes also to more frequent typhoons, causing great damages, often resulting in the loss of billions of dollars, infrastructure and human life.

seeking a better life as a primary
reason for

migration

About 1.3 billion people around the world are economically active in the broad agriculture sector. The 4,4% of that amount, namely 58,3 milion people, are engaged in the primary sector of fishing and aquaculture [4].

China hosts approximately 84% of all the people employed in the fisheries and aquaculture all around the world - with over total output over 12mln tones (data 2003). For that number of people - the sustainable fishing is a necessity, not luxury. The alternative is unemployment, poverty, hunger or... migration[5]. The last option is executed too often. There is less and less fishers, which combined with growing global population, could be an enormous #challenge to feed our planet.

As Fujian is a coastal province, fishing industry is an important aspect of its economy and employment. Statistics show, that Fujian Province along with Xiapu County, is the area with the highest amount of #emigration from generations. Today's migrants leave for the same reason as their forbears - to find a better life. But the risks they are prepared to take and the price they are willing to pay are getting higher and higher.[6] To understand the problem it is necessary to know, that Fujian is inhabited by 37mln of people and the number of Fujian natives residing abroad has reached already 8,8mln. They live in more than 90 countries and regions across the world, mainly in South-East Asia. According to statistics, 80% of Taiwan population - more than 20mln - consists of people from Fujian. [7]



▲ 3. Fisherman starting work in the early morning

The sea is a way of life for many Fujianese, simply because of its location on the southeastern coast of China, as well as the the history and folklore being deeply rooted within the fishing activities. By being familiar with life at sea, they are not afraid of its difficult conditions. Mr. Chen, a fisherman in Fujian, said: *“There is a risk of not being able to return for every fishing trip. But how can you catch fish without going to the sea? For me, going to America is just like another fishing trip.”* [8] This unique way of life and culture helps the Fujianese overcome the fear of several-month voyage, as well as enduring the conditions that would perhaps be unbearable for most non-Fujianese. United States of America published a special report about Fujianese Chinatown in New York City, where the business is conducted in the

Fuzhou dialect, the most commonly understood dialect of Fujian Province, but one that other Chinese do not speak. Their significant impact on the Manhattan's Chinatown is noticeable. Fujianese-owned businesses, such as driving schools, dating services, service centers for naturalization, and employment agencies have sprouted on East Broadway in Chinatown. With a large influx of Fujianese into New York each year, the Fujianese, as majority in Chinatown, are playing a greater role in the Chinese community. Another thousands of Fujianese, lacking even rudimentary English, went straight into the least visible, low-wage jobs in restaurants and garment factories. [9]

Although there has been little research on undocumented immigration from China, Einhorn (US State Statistical Bureau, 1994) estimated, that as many as 100,000 Fujianese were living in New York in 1994 and an additional 10,000 enter each year. The exact number of Fujianese in New York is, however, difficult to estimate because many of them are undocumented and therefore are not countable in formal surveys or censuses conducted in the United States. To most of illegal immigrants from China seek for a better life - which is the primary reason for coming to the US. But due to the study of Liang and Ye, escaping from poverty is not the one, absolute reason for Fujianese illegal immigrants. The causes of this issue might concern also growing standards of living in Fujian, so that people at the bottom of the income hierarchy feel poorer than they actually are, when they see others getting rich so quickly. Significant income and wages are too low in proportion to hard work, especially for fishermen and their work, which is exposed to effects of more intense and more frequent typhoons. These reasons might motivate the Fujianese to migrate to the United States.

The New York Times

A special report; Within Chinatown Slice of Another China

(...) Since immigrants from Fujian Province began flooding into the United States in the fetid holds of smuggling ships like the notorious Golden Venture, they have built a vibrant refuge for themselves in a grimy corner of Lower Manhattan. There is no fixed border between their neighborhood and the more gentrified Chinatown to the west, where the city's Cantonese-speaking population established a base more than a century ago. Yet the Fujianese Chinatown is as self-contained, and confining, as a rural village. (...)

Fujianese leaders in New York estimate that at least 300,000 Fujianese are now scattered across just about every state. Precise figures do not exist because most of the immigrants entered illegally. Lacking even rudimentary English, they went straight into the least visible, low-wage jobs in restaurants and garment factories. The smuggling business still casts a shadow. Passage can cost \$40,000, a crushing sum in light of the poverty of Fujian Province, a mineral-rich area of farms and fisheries where only 9.8 percent of the 33 million people complete high school and the average yearly income for city dwellers is \$785. It can take five years of unremitting work here to break clear of the debt, leaving parents too little time to raise their children or learn English.

(...)Fujianese Chinatown has created its own coded vocabulary to fit their circumstances. In the neighborhood's storefront job agencies, employers make clear their preference for the hard-working Fujianese. Most job postings include a notation in Chinese that translates as "no north," meaning people from northern provinces need not apply. Here, business is conducted in the Fuzhou dialect, the most commonly understood dialect of Fujian Province but one that other Chinese do not speak.

By SUSAN SACHS July 22, 2001

BBC NEWS

Fujian tightens borders

China's Fujian province has tightened border controls following the deaths of 58 Chinese being smuggled into Britain last month. Officials in Fujian, where the trade in human trafficking is based, have stepped up control on application to leave the eastern province, the official Xinhua news agency said.

Stricter supervision of shipping and fishing vessels off the Fujian coast has also been enforced, it added. Provincial officials have meanwhile called for rapid development of the economy to provide more jobs and improve living standards, Xinhua said. The crackdown on people smugglers comes as police continue to investigate the deaths of 58 Chinese found in the back of a sealed truck in the British port of Dover last month.

*(...) More than 500,000 people try to sneak out of China each year by boat, ship containers or plane, according to a human rights group which obtained internal government estimates on human trafficking.
6 July, 2000*

BBC NEWS

Fujian migrants' centuries-old dream

Most of the illegal migrants leaving China for the west come from the one place; Fujian province on China's south-east coast. People have been leaving Fujian to find a better life elsewhere for centuries. They helped build the rail roads across America, and their descendants can be found in Chinatowns across the world. Today's migrants leave for the same reason as their forbears; to find a better life. But the risks they are prepared to take, and the price they are prepared to pay, are getting higher and higher.

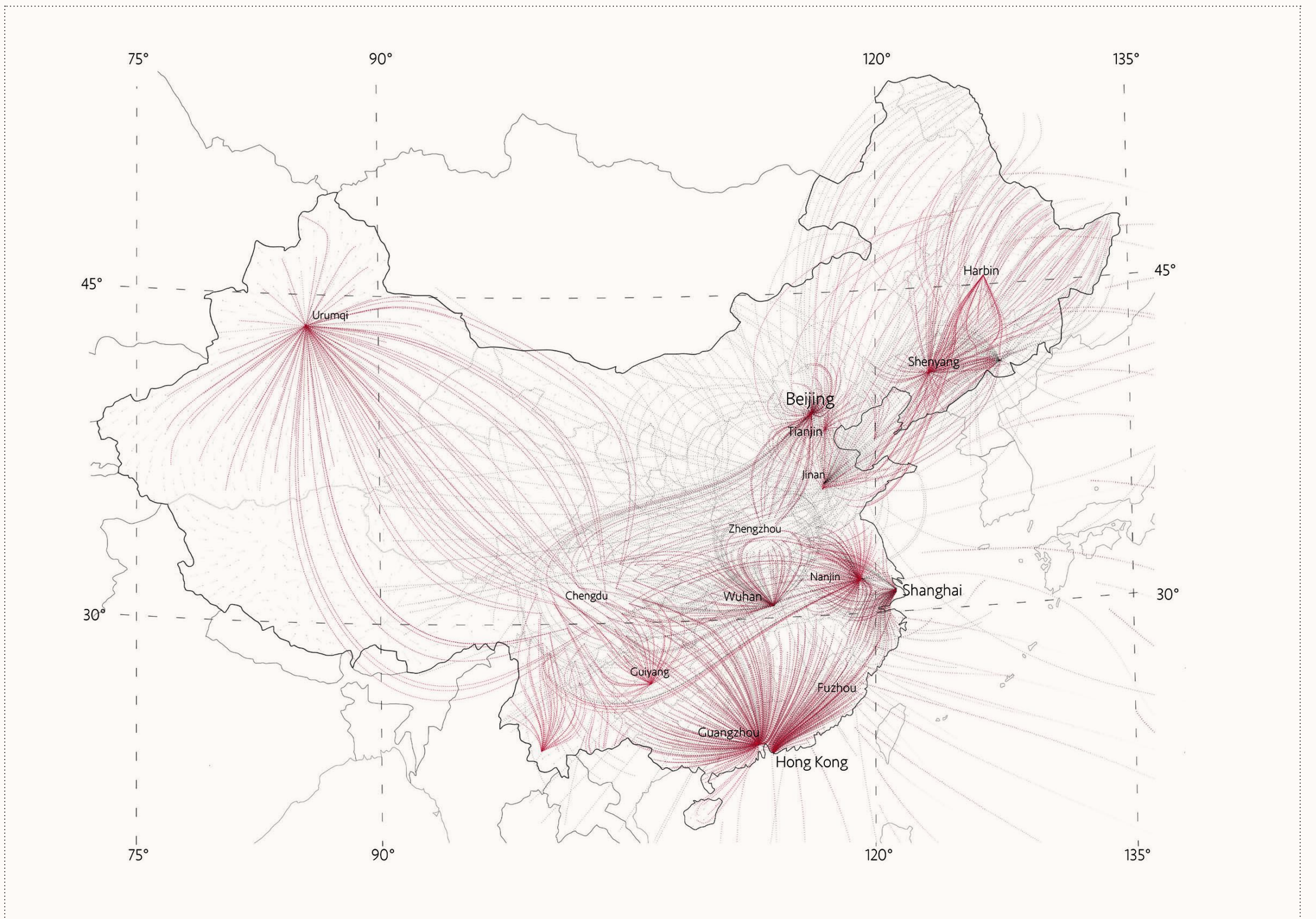
20 June, 2000 By Rupert Wingfield-Hayes

However, many Fujianese cannot make the journey on their own, and that is why they get "help" in this process:

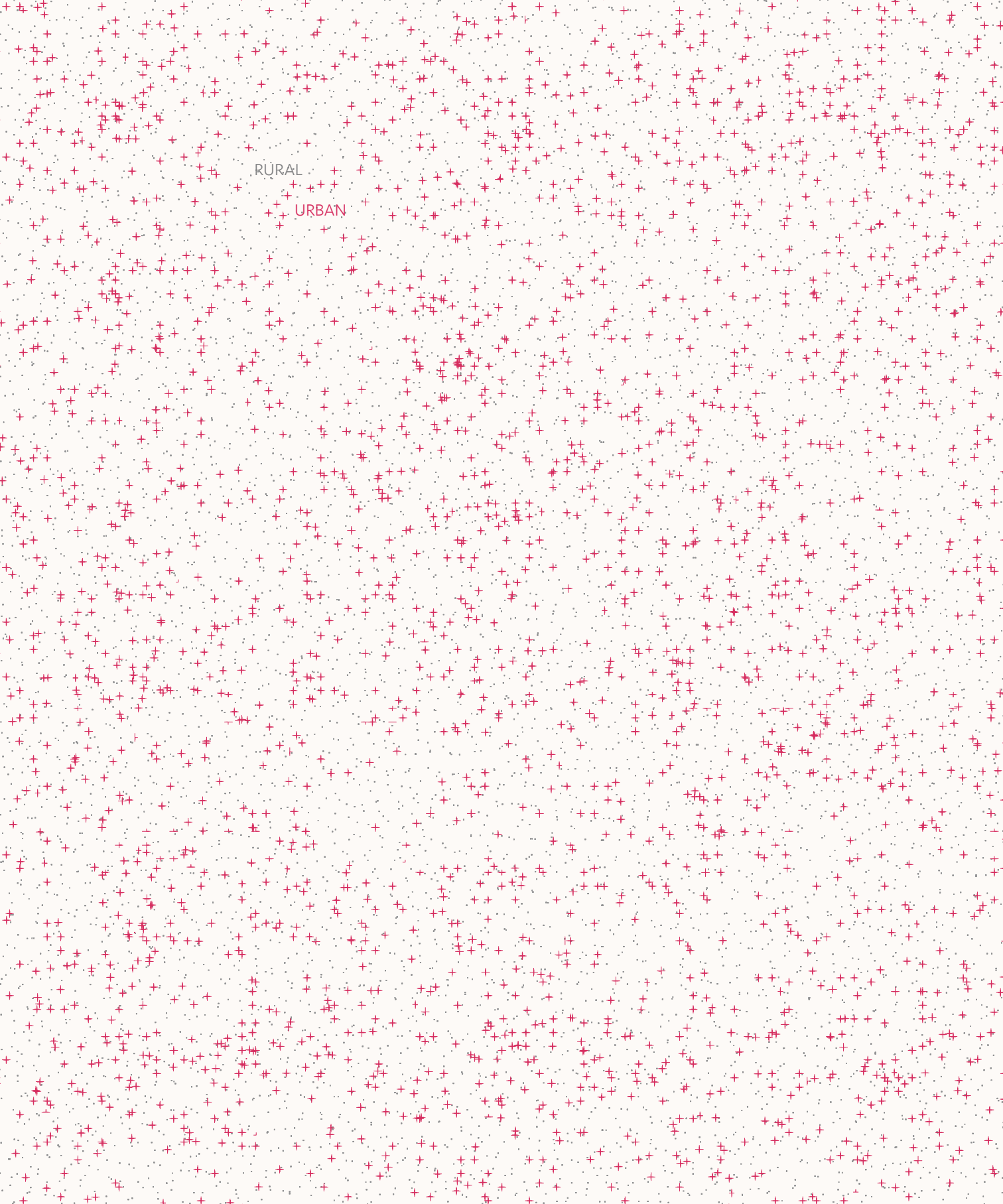
- snakeheads (or smugglers), who organize the entire smuggling process,
- corrupt Chinese officials, who make sure that the Chinese Coast Guard conveniently disappears when ships carrying illegal immigrants leave for international waters (Kwong, 1997), and other contacts in many transit countries, which arrange for charter flights to the United States or subcontract to help the immigrants across the U.S. border
- enforcers in New York, whose task is to threaten and torture illegal immigrants until they pay their debts - it costs around 36 000€ [260 800 yuans], what makes it a crushing sum in the light of the poverty of Fujian Province - the passengers pay the loan for a number of years.

Despite the fact, that smuggling business is illegal, it is getting more and more income through the poor province, and is the door for better life for some fishermen and their family.

Emigration from Fujian is in fact not a new phenomenon. Moreover, it is deeply rooted in Fujian's cultural heritage. One important fact, that has often been overlooked, is that since they live on the east coast of China, many Fujianese are used to life at sea, taking those risks as a way of life. Undocumented migration from Fujian is a continuation of its long-term tradition of international migration. It began during the Ming dynasty in the middle of the fifteenth century and gained significant momentum during the Qing dynasty in the seventeenth century (Zhu, 1991). Some Chinese emigrated voluntarily, but millions (particularly those from Fujian and Guangdong) were imported by European colonials to work at their tropical plantations and tin mines (Alexander, 1973; Kwong, 1996). The Opium War, which China lost to Great Britain, was a crucial moment. As part of the war settlement, China signed the Treaty of Nanking in 1842 (Spence, 1991), that permitted the opening of five Chinese port cities for residence of British subjects and their families. Two of the port cities are located in Fujian. The signing of this treaty greatly facilitated the exodus of Chinese labourers (Pan, 1990). This was also a time, in which the Industrial Revolution was in high gear. Having abolished the international slave trade, Britain was looking for alternative cheap labor for its colonies. The discovery of gold in California provided a stimulus for the Chinese to emigrate to the United States (Sung, 1967; Zhou, 1992). With regard to push factors within China, one was the country's unprecedented population growth during the late Ming and mid-Qing periods. The best estimates suggest, that in 1685 China had a population of 100 million. About a hundred years later, in 1790, its population was 301 million - an increase of 200 percent (Ho, 1959; Spence, 1991). The rapid growth of Chinese population created enormous pressure on the forces of production, and plunged many people into poverty. From 1984 onwards, the system changed and migration became legal. People no longer needed a permit to leave. Yet, leaving one's village is still expensive, since migrants arriving into big cities have no access to health care, education or accommodation. So living conditions for migrants and their families are extremely difficult.[10].



▲ 5. Migratory flows between Provinces, from the Countryside towards the Cities, 1985-1990



RURAL

URBAN

02

XIAPU COUNTY

Named as probably one of the most breathtaking places on earth - thereby visited each year by almost 1/4 million photographers from all around the world. A small, rural fishing area, located in a littoral zone, with rocky landscape and mountains. The area, where life wakes up with the sun and work depends on the water flow. Inhabited by at least half a million people, engaged mainly in marine culture. With the vast majority living in rural areas along the coast, leading their life in specific, traditional way for generations.

The environmental conditions, great seawater temperature and plenty of sunshine - makes this place rich in croakers, kelp, oyster and laver. The movement of the tide uncovers marvelous patterns in mudflats, and generate constantly changing landscape, altering the scene throughout the day. The bamboo poles, stone columns and fish nets, that are usually put into the mudflat to dry laver, kelp and other marine product, make the area remarkable. In turn, fishermen sailing through this bamboo jungle on the water, are co-creating scenes typical for locals, but spectacular for the rest of the world.

This help Xiapu to be selected on the top of ten best photographic mekka, by a famous Chinese professional photography magazine, and nothing seems to alter this opinion.

xiapu county

the oldest county within the Fujian Province

Located at the very center of Chinese coastline, right inside Fujian province - Xiapu stands as a conglomerate of fishing villages, overlooking distant shores of Taiwan. Although being a small area, it has the country's largest mudflat, filled with various life forms, and occupying a strategic maritime position between East and South China Sea. Moreover, the coastal line spreads over 404 kilometers and thereby determines the longest shoreline among other counties in Fujian. Local mudflats, along with daily choreography of fishing activities, attract thousands of tourists from all around the world, willing to see, feel, experience - and record - this unique offshore theater. Also not without a reason - sunrises and sunsets are the times with highest activity, as many photographers tend



▲ 7. Borders of Xiapu County

to use dramatic light as a background for those amazing, robust - and yet so tangible - daily fishermen routines. Xiapu County has a land area of 1,590 km², featuring mainly mountains. Eroded low hills with bare rocks occupy most of the coast, with small, flat bays hosting numerous fishing villages. In comparison - total sea water area is almost 20 times bigger - reaching 29,592.6km², with 696km² belonging to the flat intertidal zone. Apart from clearly geographic features of this area - anthropological domain gives a strong foundation for Xiapu identity. The county administrates 12 towns and 292 villages, with population exceeding 500 000 inhabitants. They tend to concentrate along the shoreline, where approximately 50% of them become active fishermen. This implies vast infrastructure, where more than 18 000 boats set the sail each day, cultivating and harvesting rich marine ecosystem. Due to a subtropical climate and great seawater temperature, Xiapu waters host more than 700 kinds of fish,

seaweed and shellfish [11]. That is why the majority of industry spreads upon fishing and sea farming, including mostly kelp, oyster, laver and large yellow croaker. Only in 2011, the total marine product reached 300,000 tons, with annual contribution to agricultural GDP at the level of 25%! Daily routines for almost 70% of inhabitants, living in coastal villages, island or simply on the sea - consist of traditional rustic activities. They work with the environment, adjust their life to the tides, and make their living by farming and fishing for generations. Depending on the season, the villagers sail the boats to conduct fishing or harvesting seaweed. With the latter - they collect the kelp or laver from bamboo structures, drying them on offshore rafts and preparing for export. Tidal movements changes constantly the scenery of Xiapu mudflats, and together with bamboo poles and fishing nets create a truly unique views. Numerous of fishing farms, hundreds of traditional floating houses and thousands of small fishing vessels left on the mudflat after the work each day - determine specific excellence of this territory.

The traditional Chinese way of life complements that place and let tourists and photographers witness the authenticity and beauty of fishing villages. All its components, together with drying kelp on the bamboo poles, water crafting the shoreline, fishermen working on the mudflats, and breathtaking morning sceneries - create a dreamlike world and define Xiapu as a true

paradise



▲ 4. Sunset at Yu Gong Ting,



<5. Golden beach ▽ 6. Sunning fabrics

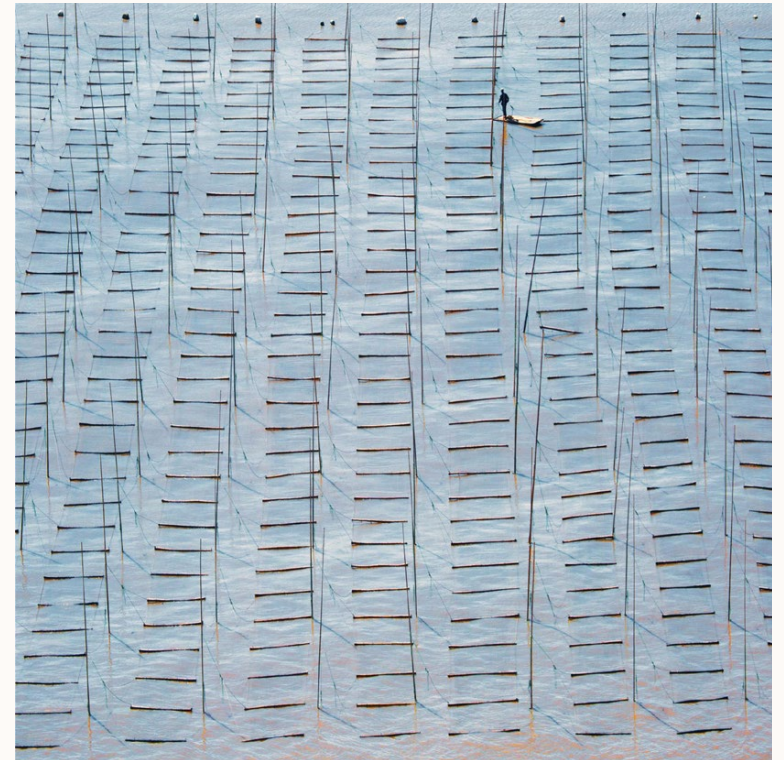


Catching fishes at Bei Qi 7.△ Drying seaweed at Sha Jiang 8.>



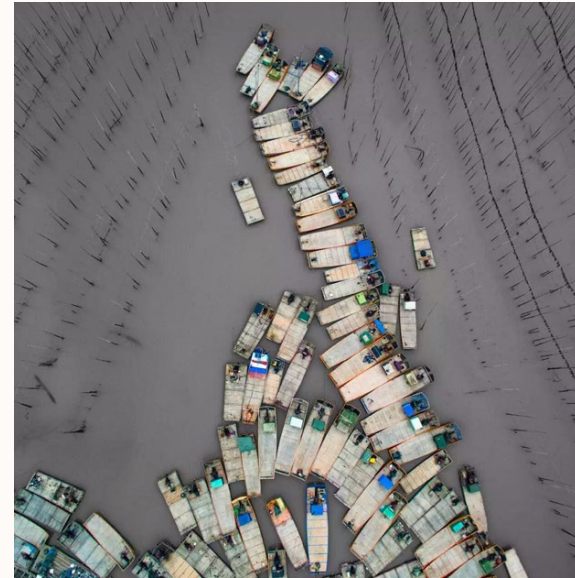


◀9. Drying seaweed at Sha Jiang ▼10. Seaweed farm



Low tide at Nan Wan 11.▲ Low tide at Sha Jiang 12.▶





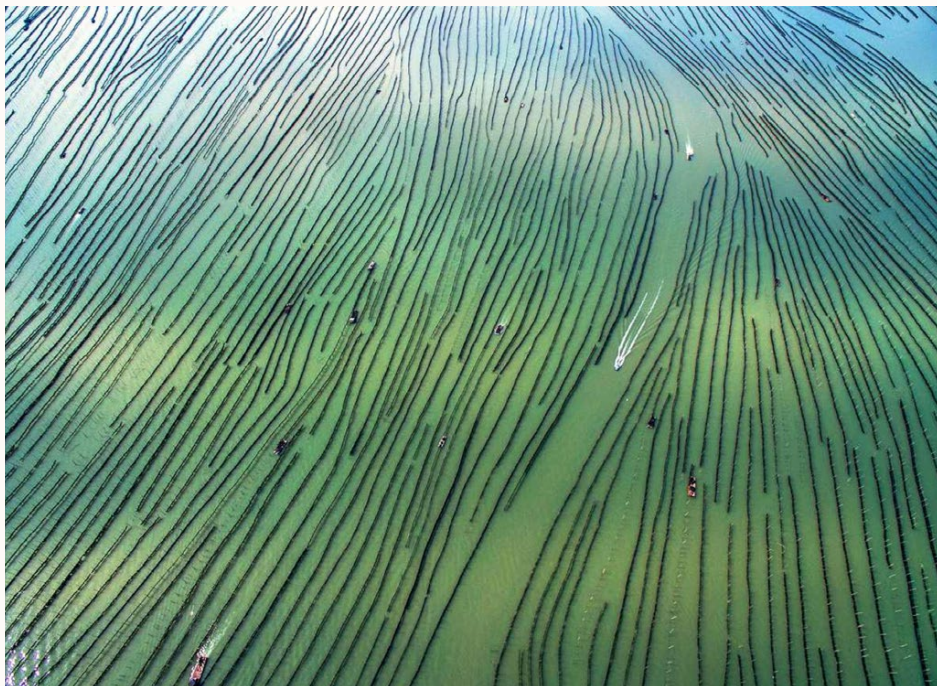
< 13. High tide at Zhu Jiang ▽ 14. Early morning at Bei Qi

Seaweed farm during the sunset 15. ▴ Harvesting the seaweed 16. ▸





Shrimp farm at Ba Chi Men 17. ▷



◁ 18. Hanging harvested seaweed on bamboo sticks ▷ 19. Fishing ponds



△ 20. Farmer, Yang Jiayi

these stunning beautiful pictures,
at the first sight, show a dream
place to be for all of us. But ...

location in the subtropical climate can threaten the development of society and economy, especially when consequences of climate change are aggravating year by year

typhoons

Due to specific geographic environment and sub-tropical monsoon climate, Fujian's social and economic growth is seriously affected by frequent natural disasters, including typhoons, rainstorms, floods and inundations.

Typhoons, incipented and developed on the ocean, are highly destructive cyclones, accompanied with gales, rainstorm and storm tides. In the project area, typhoons or short intense rains are often associated with mountain torrents, geologic disasters, or serious local inundations. In turn - floods are often combined with typhoons, posing a great risk for local residents and safety of their property. Typhoon season begins usually in July, ends in September, but may sometimes occur as early as April and as late as October, with the wind speed up to 40m/s .

According to data from Fujian Provincial Meteorological Center - during 1980 and 2005, Xiapu was hit by 26 typhoons, one per year on average. In recent years though, this number increased. During years 2006 - 2011, the villages was strucked by 19 typhoons, resulting with an average of 4 per year. The frequency seems increasing along with global [#climate change](#), which is belived to be the main reason for increasing frequency of extreme climate events.

As mentioned before [page 31], there are more than 18 450 fishing boats - generally small in tonnage and weak in the capacity to resist wind and waves. That is why during typhoons they need to enter ports for protection, which is a great challenge for the sheltering capacity of Xiapu's harbours. Moreover, since many fishing boats cannot take shelter effectively, each strong typhoon results in damages and losses, blocking social and economic development. Typhoons affect boats in two ways:

- partial damage or sinking in the worst scenarios,
- sailing to the shelters that are miles away, might simply consume too much time, fuel and living costs. Small boats, in particular are unable to sail long distances and have to stay at local ports.

During the period of 2009-2012, typhoons damaged almost 320 boats, resulting in loss of approximately 200.77 million yuan (ca. €27,7mln), and the aquaculture loss of 61,46 million yuan [11].

	2009	2010	2011	2012	Total
Affected population	136000	36763	23499	48197	244459
Direct financial losses (0,000¥)	20262	20464.7	2126.8	26352.7	69206.2
Direct financial losses of agriculture, forestry, stockbreeding and fishery	12819	18094	1796.8	16261	11700.9
Boat losses [sunk/damaged]	20/102	12/85	8/41	15/58	55/264

[12] Statistics of the Flood Control Office of the Xiapu County Water Resources Bureau

In 2009, Typhoon Morakot - the eighth of the season - was one of the most powerful storms. It arrived to the coastal areas of Beibi Town, Xiapu County, on 9th of August at 4:20 p.m., bringing destruction in many fields:

- winds reached up to 118.8 km/h in its eye
- at least 136,000 people suffered property losses from flooding and landslides
- economic losses reached ¥2.2 billion yuan (322 million U.S. dollars), as 143,000 hectares of farmland were damaged and nearly 9,000 enterprises suspended production
- more than 300 houses had collapsed, and 16,200 hectares of farmland were inundated. The city's airport was closed and 56 roads were cut off by rainstorms
- hit the Chinese coastline, affecting over 11 million people throughout eastern China. [13][14]

As the number of typhoons in recent years increased, and capacity of previous shelters failed to answer growing demands, the World Bank Board of Executive Directors approved \$60 million loan to reduce the vulnerability of fishing communities. The strategy of Fujian Fishing Ports Project includes building or upgrading about 200 harbours with sheltered areas within Fujian Province (until 2018). Meantime, the plan assumes to establish six fishing ports in Xiapu County, which would provide almost full coverage of all the fishing boats in local communities.

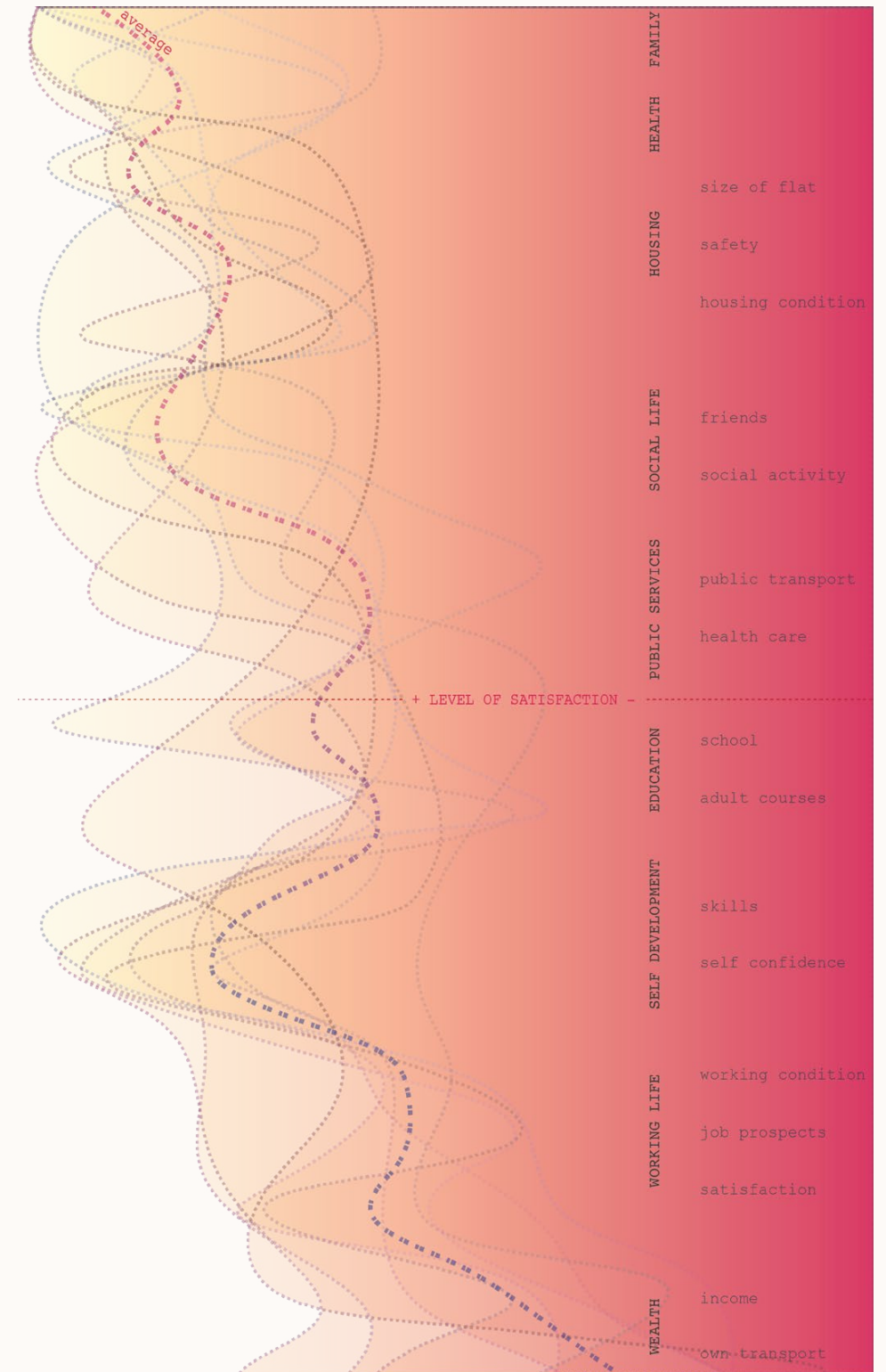
a complex index of personal adjustments,
attitudes towards life, and perceptions
of problems

quality of life

The measure of life satisfaction is a comprehensive and meaningful indicator of what is happening to people's lives and their well-being. The factors shaping China's quality of life appear to be essentially the same as in European transition countries[15]. Clearly, they vary according to personal preferences, but they often include income security, job satisfaction, family life, health and social safety net. [16] The research measuring life satisfaction demonstrates, in contrast, that among ordinary people - especially in less-educated and lower income segments of the population - life satisfaction has declined noticeably as material aspirations have soared. Also concerns have arisen about finding and holding a job, reliable and affordable health care, and provision for children and the elderly.

This being said, Fujian belongs to the poorest provinces within China. Thereby, looking for a better life, higher income is the main reason for migration since ages. The average income of rural areas inhabitants reaches RMB 8,195. While the income for urban population is decidedly higher and reach at least RMB 18,893. The possibility of bigger salary forces many fishermen to leave their families, move to an urban area and send their profits back to the family left in the village. Despite the fact, that locals feel strong connection to the place of living - migration happens on a large scale. The graph on the right shows the results of investigation among locals from Sha Jiang Village in Xiapu County. The income, as supposed, lower their satisfaction of life, while other elements seems to suit their needs.

Results of a survey among locals from Sha Jiang 8.►



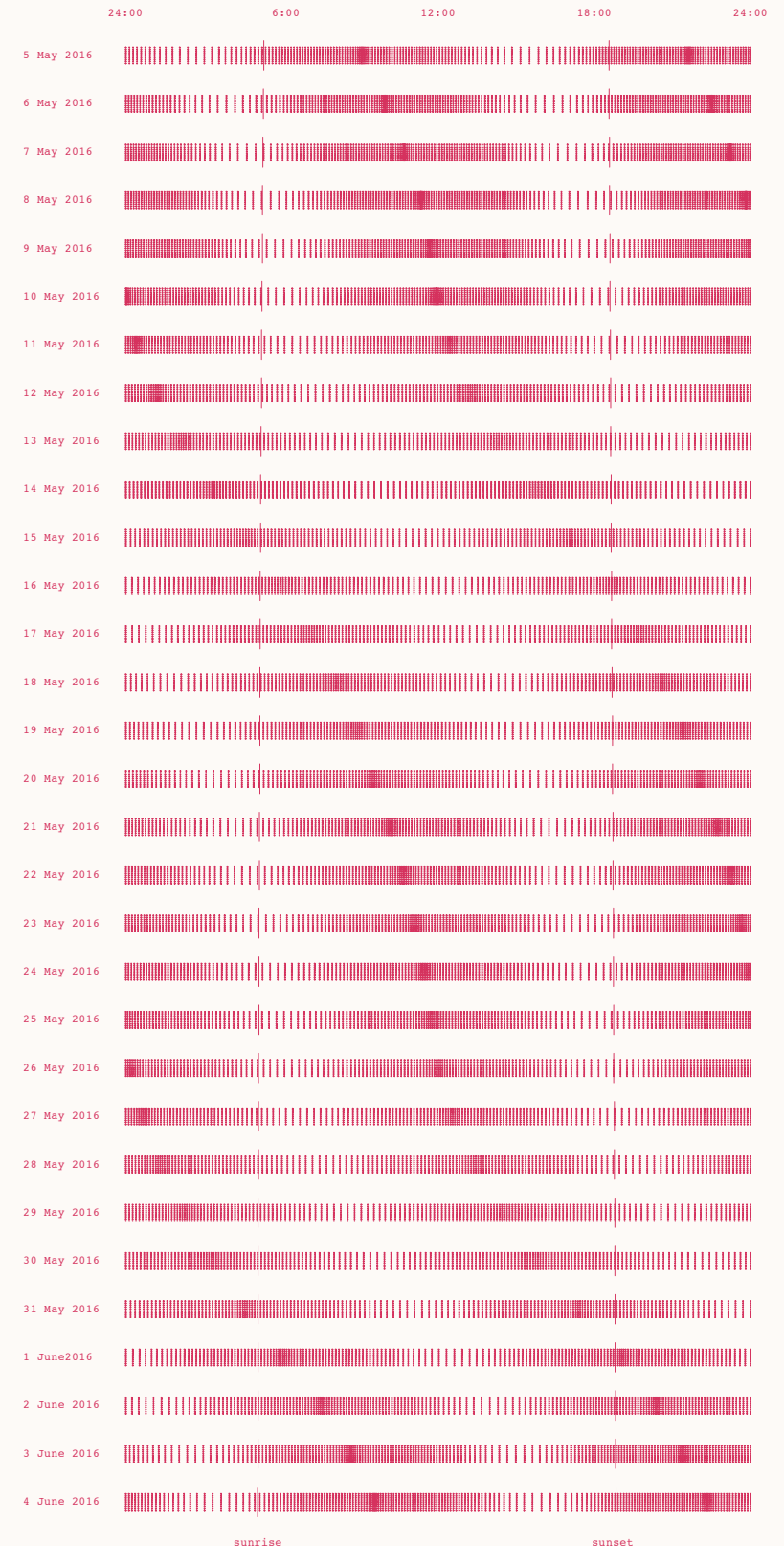
the place of continuous negotiations
for the wide stripes of shoreline

mudscapes

The landscape of fishing villages changes twice a day, as the water rise and fall in tidal fluctuations, defining almost 40km² of seaweed farms as a space of continuous transition.

Daily change of the sea level consists of two low tides and two high tides, appearing in a slight different times each day. The diagram on the right shows how the fluctuation shifts on the course of one month - creating continuous dissonance between daylight and tidal activity. This refers to the fact, that for any particular spot on Earth's surface, the height of the tide and its timing depend on both the Sun and the Moon correlation to Earth. The Rule of Twelfths allows to determine approximate height of the tide at any time of the day. It's based on the understanding, that the change in depth of water is not constant, but rather increases its pace until it reaches maximum ebb or flow, then decreases until slack water. It uses a simple six-hour cycle. It means that during this period the fall and rise of tide is the fastest in its 3rd and 4th hour. The movement of the water itself stands as an important factor for the fishermen, as they sail away from the shore, using the low tide to decrease consumption of petrol.

Daily shift of tidal amplitude within a month 9.►

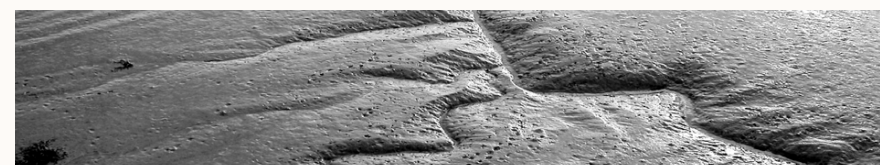
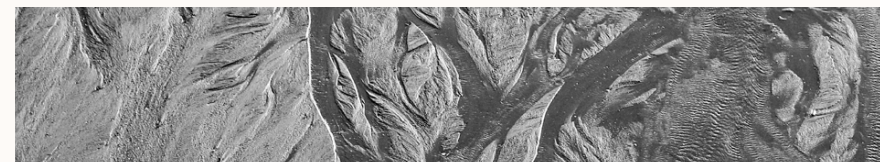


natural and artificial, urban and geologic, aquatic, terrestrial, and atmospheric - that's only a few types of wide meaning of

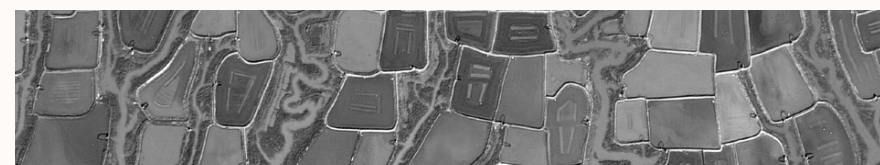
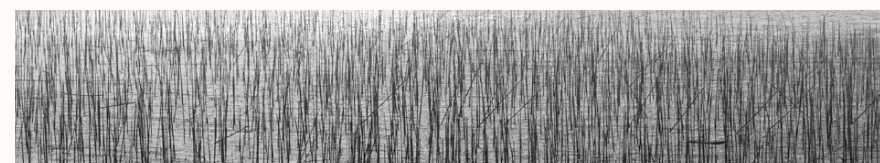
#landscapes

Although we distinguish various kinds of landscapes - in general understanding - it is a fragment of nature free from any human presence, interference or control. Therefore, while defining the opposition of natural landscape, it is necessary to notice, which features are artificial or natural - in relation to the environment. The first case concern the man himself and all his products, while the second one relate to inanimate matter, plants, animals, or other representatives of the nature, like bird's nests, animal burrows or just beaver dams. Humans are included in the landscape just like artifacts. They form its part - doing their jobs or relaxing. We can easily say, that for them, the landscape does not exist, they do not notice it, since they are busy with their activities. A landscape exists for the eyes of the viewer, for the observer who is beyond the landscape, being neither its participant nor its part[17].

Locals settled in Chinese coastal areas took the advantage of environmental opportunities, and begun practicing sea farming. The development of local marine fisheries proceeded with man-made changes in the landscape, thereby transforming it into the artificial scapes. Therefore, the base for understanding Xiapu's landscape is constituted by the opposition between natural and artificial elements of its environment - keeping in mind, that every change in the landscape transforms it into an artificial one.



▲ Natural landscapes | 21. Sand bubbler crab patterns | 22. Meandering streams of water | 23. Water channels in mudflats | 24. Sea food: harvested oysters



▲ Artificial landscapes | 25. Fish trap during the low tide | 26. Fishing boats | 27. Bamboo poles for hanging seaweed | 28. Aerial image of fishing ponds

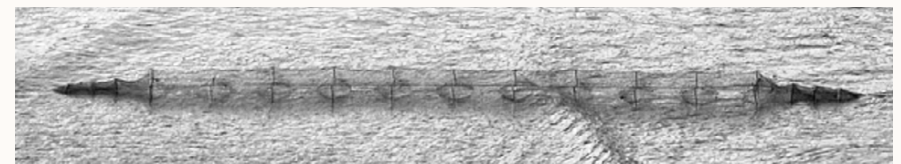
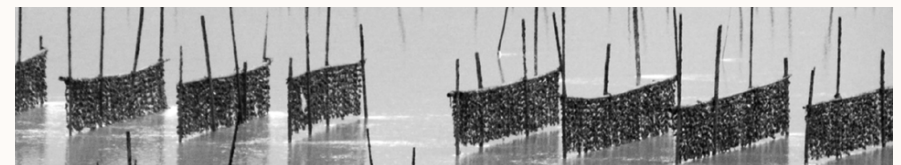
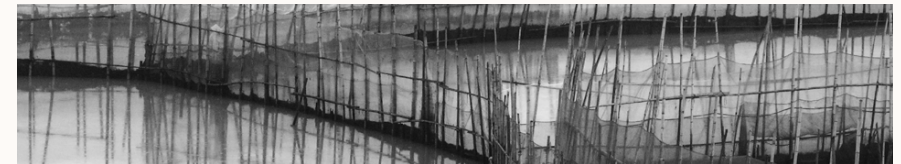
a way to feed the ever growing masses
without using the overpopulated land

#aquaculture

Small or large scale, based on the land and in fresh, brackish, but also saline environments. It can use extensive, semi-intensive and intensive methods for a great variety of species - with different economic values.

The biggest and the most important role in Xiapu industry is played by seaweed farms. Warm waters of the East China Sea allows nori, kelp and laver to grow through the winter, to be harvested during spring, by hanging on the bamboo to dry. Depending on the site conditions, as water depth, currents and nutrient content, the algae can be cultivated in three ways: in floating raft, semi-floating raft, or being strung between stakes punded into the substrate.

The quantity of aquaculture system vary in every place of the asian coast. The only element, that appears in every aquacultivation area, is artificial reef structure, that due to the worsening marine habitat, contributes to instability of fishery natural resources. Moreover, majority of fishermen spend all days working, except for closed 3-month period. This period prevents fishing at certain times of the year to protect species at vulnerable moments in their life cycle, such as spawning seasons. This takes China's fishermen to the brink, and as a result it forces some of them to break the rules. The #overfishing problem influences the quality of cought fishes, as well as reef destruction. Fishermen income becomes lower, what brings them to even more overfishing - marking the beginning of unsustainable spiral...



Δ29. Fishponds for fish, shrimps, crab and abalone cultivation | 30. Floating raft - for sea cucumber cultivation | 31. Pen culture for fish and shrimps | 32. Nori cultivation on bamboo stakes | 33. Oyster farm on bamboo stakes | 34. laver cultivation | 35. Fish traps | 36. Artificial reef before installation

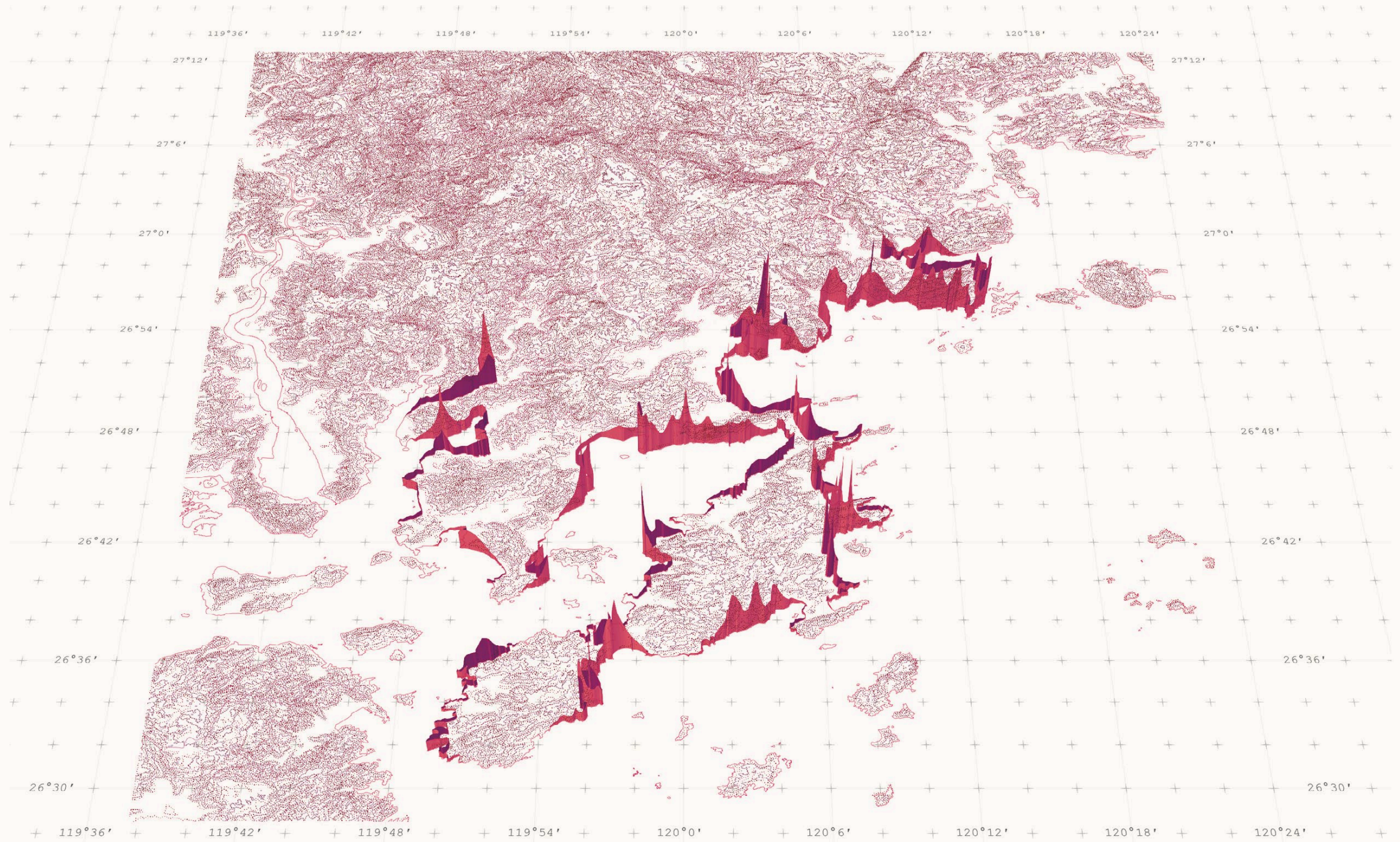
03 THE WORLD OF DATA

Each and every day we generate data using search engines like google and yahoo, leaving likes on facebook, or just by uploading photos and videos to Instagram. In each case the digital traces - in the form of simple words or emoticons - represent a vast source of data. This flood of information is dramatically changing the way we interact with each other and with the world. Data became an opportunity and a powerful #tool, being able to raise questions, solve problems or determine user needs.

Nowadays technology and world form a unity. We perceive the world by experiencing a form of representation provided by a #tool, such as data visualisation. This kind of data appearance mediates between the observer and the world - shaping user interpretation and understanding of the world they operate in, accustoming their actions and reactions.

Presented data emerges in a conclusion map, showing parts of the coastal line in Xiapu photographed the most - including time the photos were taken, by whom and with what description. These areas determine hot spots, containing great influence on the common perception of Xiapu.

◀ 10. Selected path is an information cloud of one photo uploaded to www.panoramio.com website



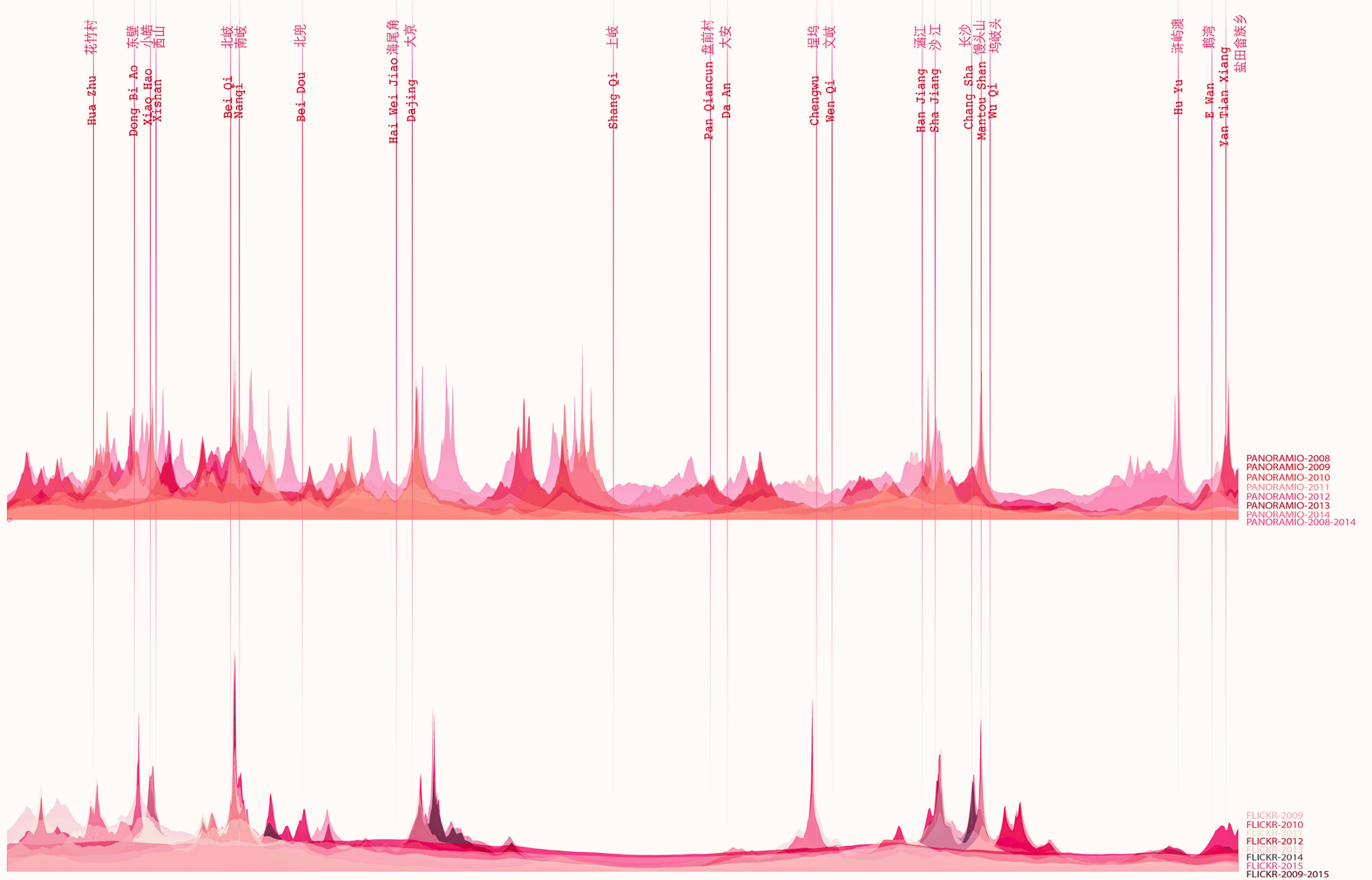
▲11. the most geotagged places along the Xiapu coastline

most geotagged locations

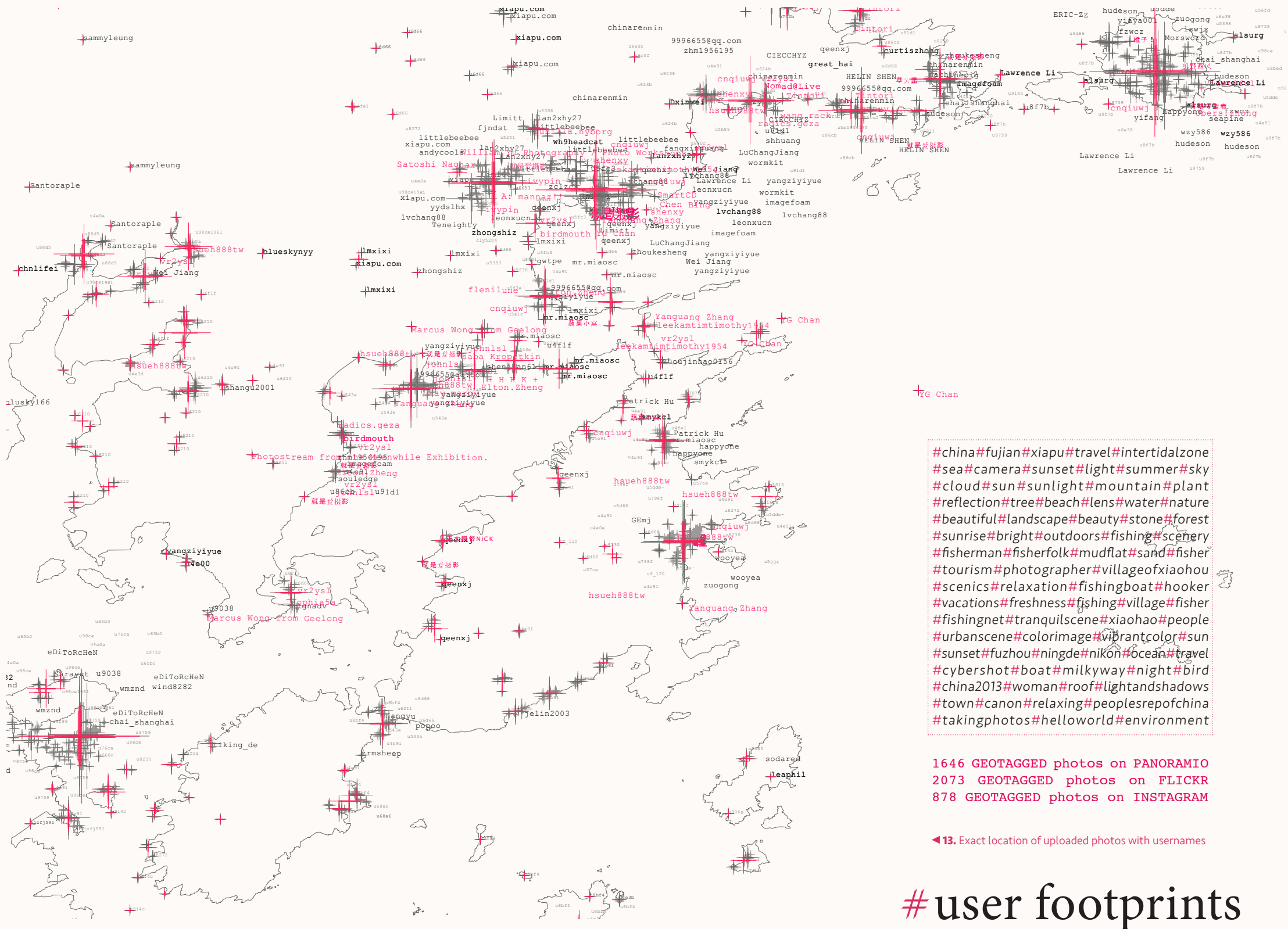
XIAPU COASTLINE

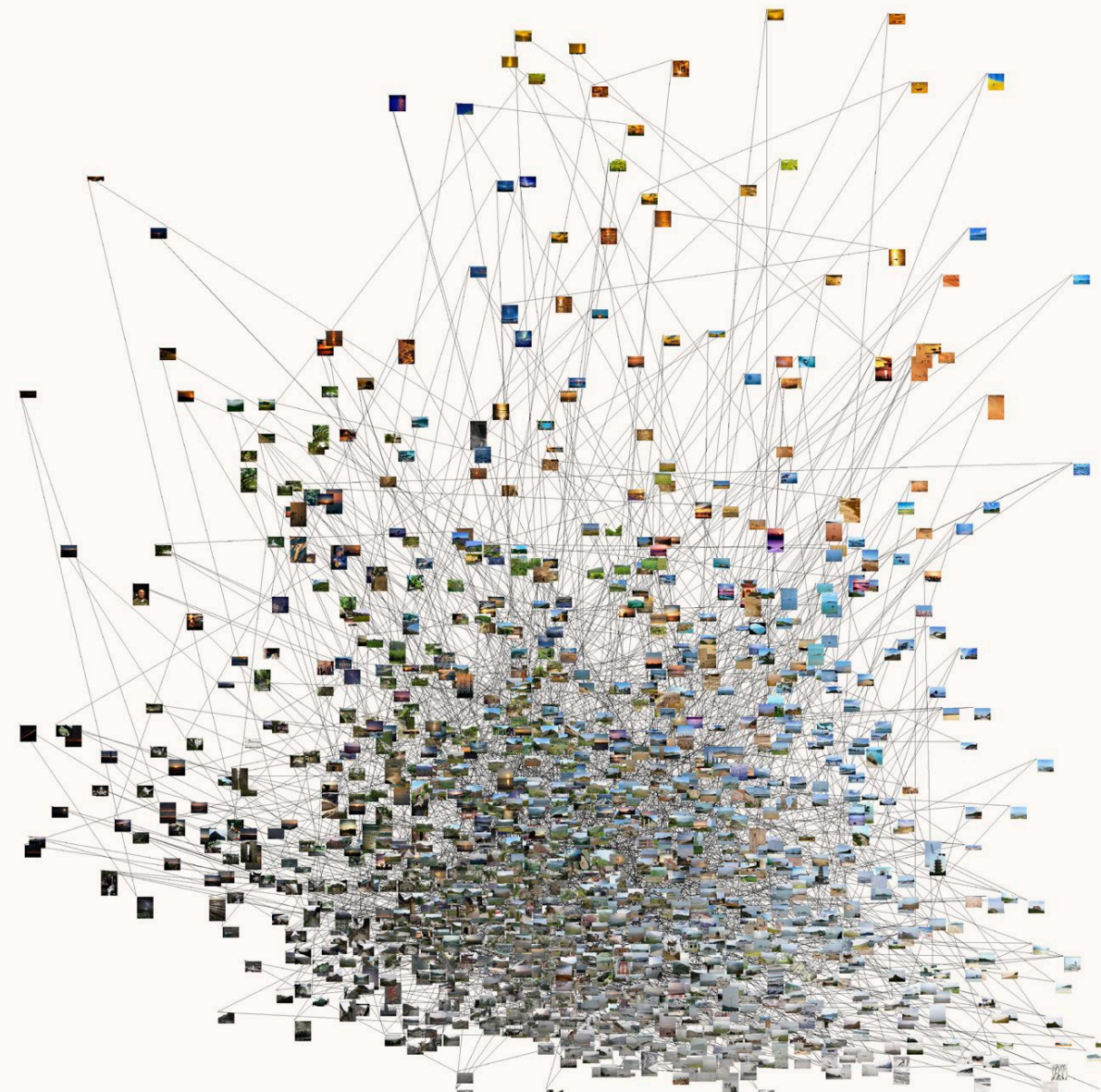
0 km

404 km

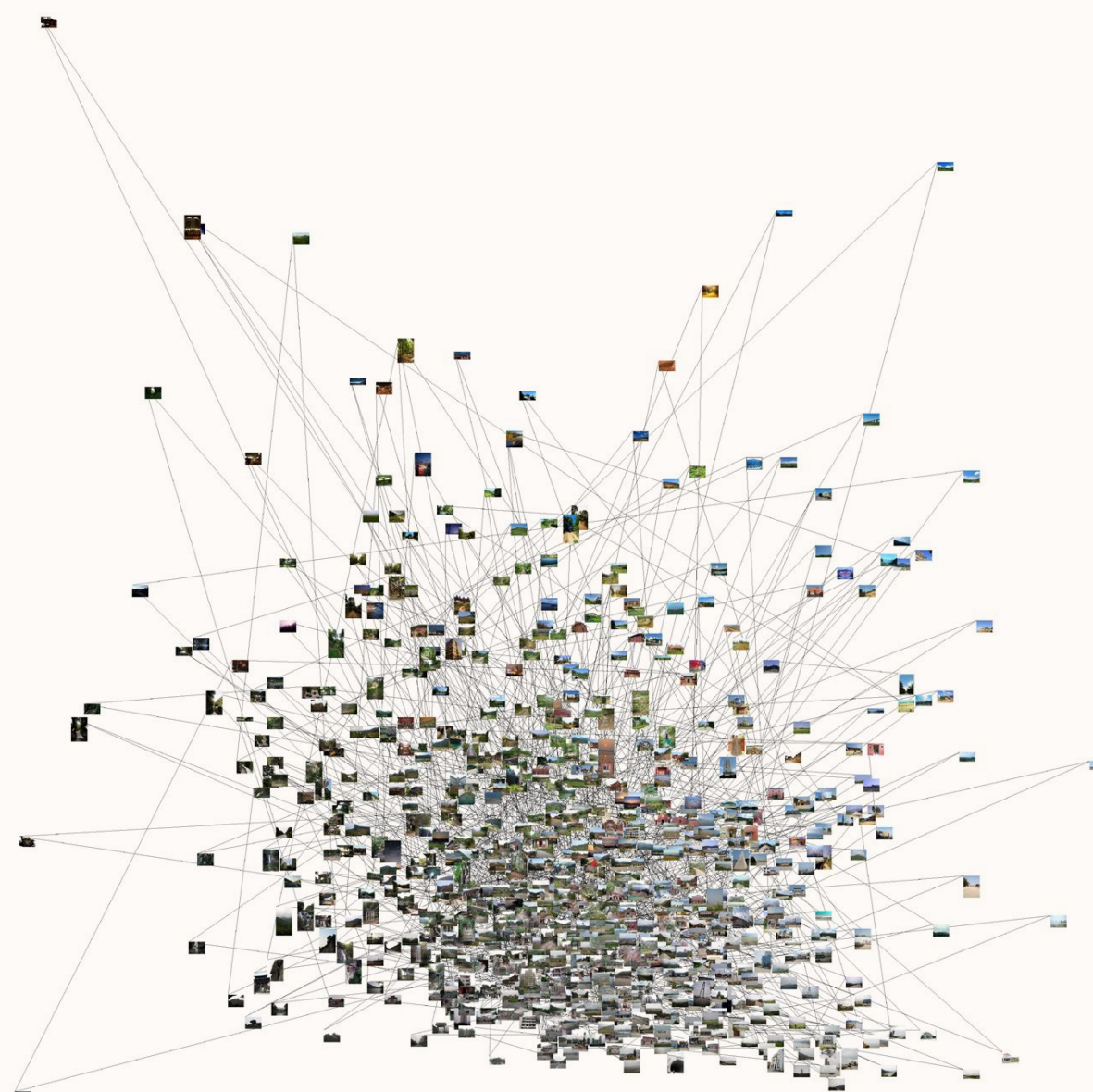


▲ 12. diagrams presenting which village was most geotagged each year, on panoramio and flickr





▲ 14.1 Projection of all photos from Xiapu County uploaded to Panoramio and Flickr.
 X-axis presents the median brightness Y-axis presents the median saturation of all photos
 That organizes the photos according to time of day



▲ 14.2 Projection of all photos from neighbouring counties (Fu'an and Jiaocheng) uploaded to Panoramio and Flickr.
 X-axis presents the median brightness Y-axis presents the median saturation of all photos
 That organizes the photos according to time of day

photo cloud



SITE SELECTION

Fishing villages became significant more than 2500 years ago. Since then, they are a fundamental form of aquaculture and mariculture, charming with unique and historical value. In China, fish practice has always been a family business - based on experience accumulated over generations. That is why marine products are a source of food and work, but also a backbone for preserving traditional culture. And that factor mostly attracts tourists.

Unique features of the landscape work as a vocabulary to memorize those villages, much more than their municipal names. But beyond the landscape there is an ordinary life, characteristic streets and extraordinary spirit of those very places.

Each part of the coastal line varies from another - it is the environmental condition, that determine, which cultivation method can be used, and which type of growth is developed in that specific place. Each village has its own features and determine thereby a separate entity of Xiapu. However, analysis of the most geotagged places within the county - allow to distinguish, which areas represent Xiapu the most. For further research the Sha Jiang Village has been selected, recognised more as so called S-shape landscape. Being one of the must-see places, with architectural heritage and the biggest mudflat area, with short distances from the other villages and hot spots - Sha Jiang defines the base for this thesis.



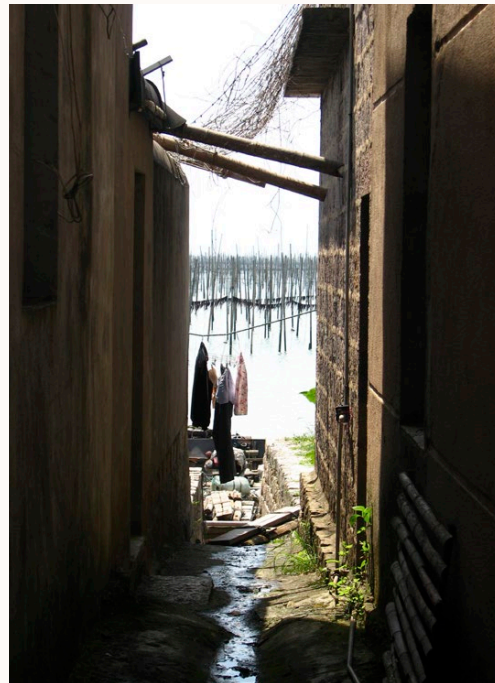
everyday life



< 37. Main street in Sha Jiang Village ▽ 38. Street in Han Jiang Village



Δ 39. Street in Sha Jiang Village Street in Han Jiang Village 40.>



▽ 41. Bamboo poles with drying seaweeds

Laying out harvested seaweeds to dry on bamboo raft 42▷



◁ 43. Hanging seaweeds on bamboo poles ▷ 44. Packages of dried seaweed



< 45. Bamboo raft with sea cucumber cultivation Bamboo rafts as a streets 46. ▽



△ 47. Floating fishing villages close to Dong'an Island House at a floating Village 48. ▷





<149. Floating bamboo raft at Hu Yu Bay Floating village and seaweed farm 50.7



Δ51. Shrimp cultivation in Ba Chi Men

Coastline at Han Jiang Village 52. ▷





<53. Local welder in Shaa Jiang Village

Lying out seaweeds on a grass 54. ▽



△55. Women packing dried seaweed

Working fisher at seaweed farm 56. ▷



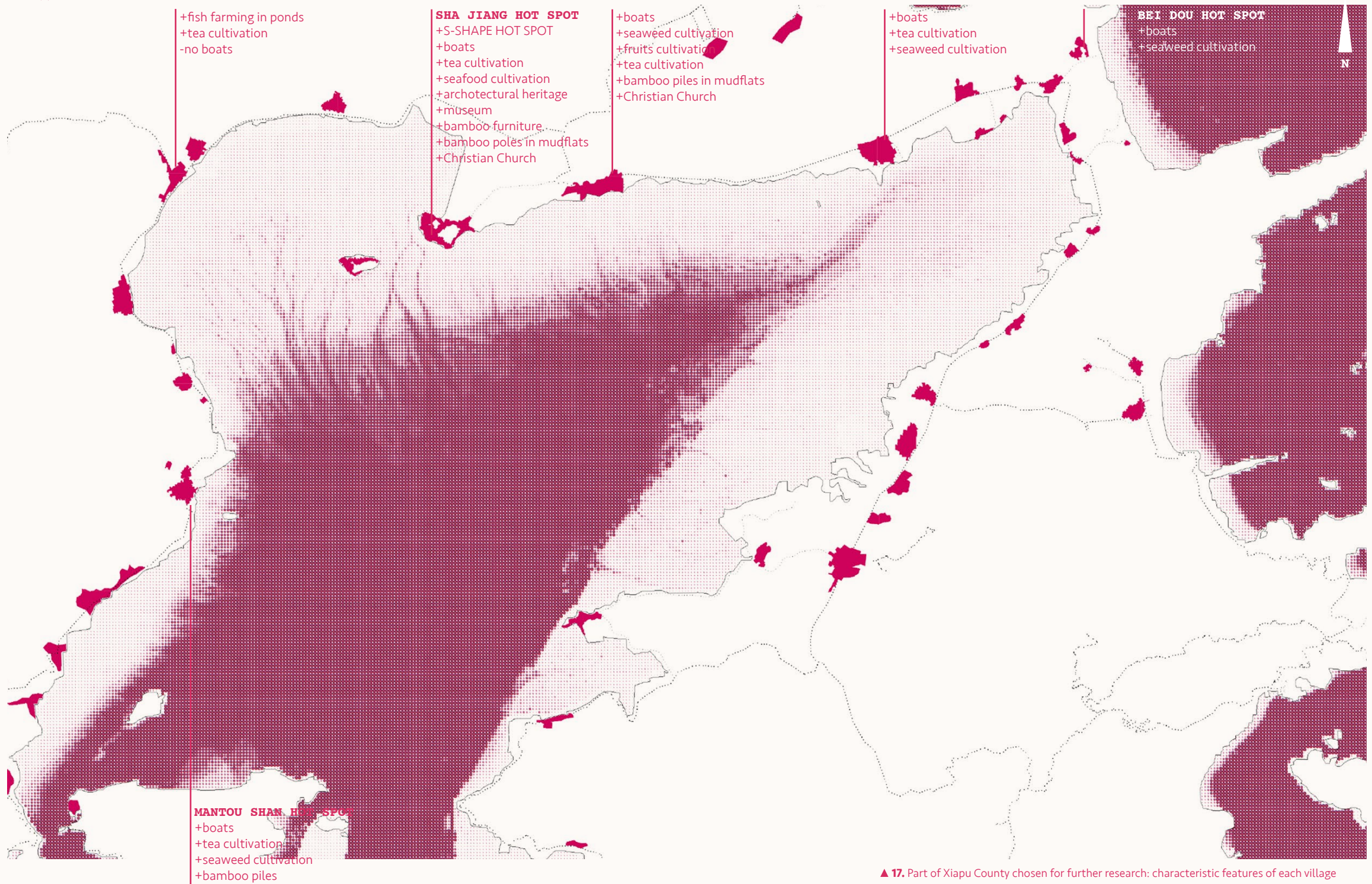
△57. Fixing a fishing net

aerial view

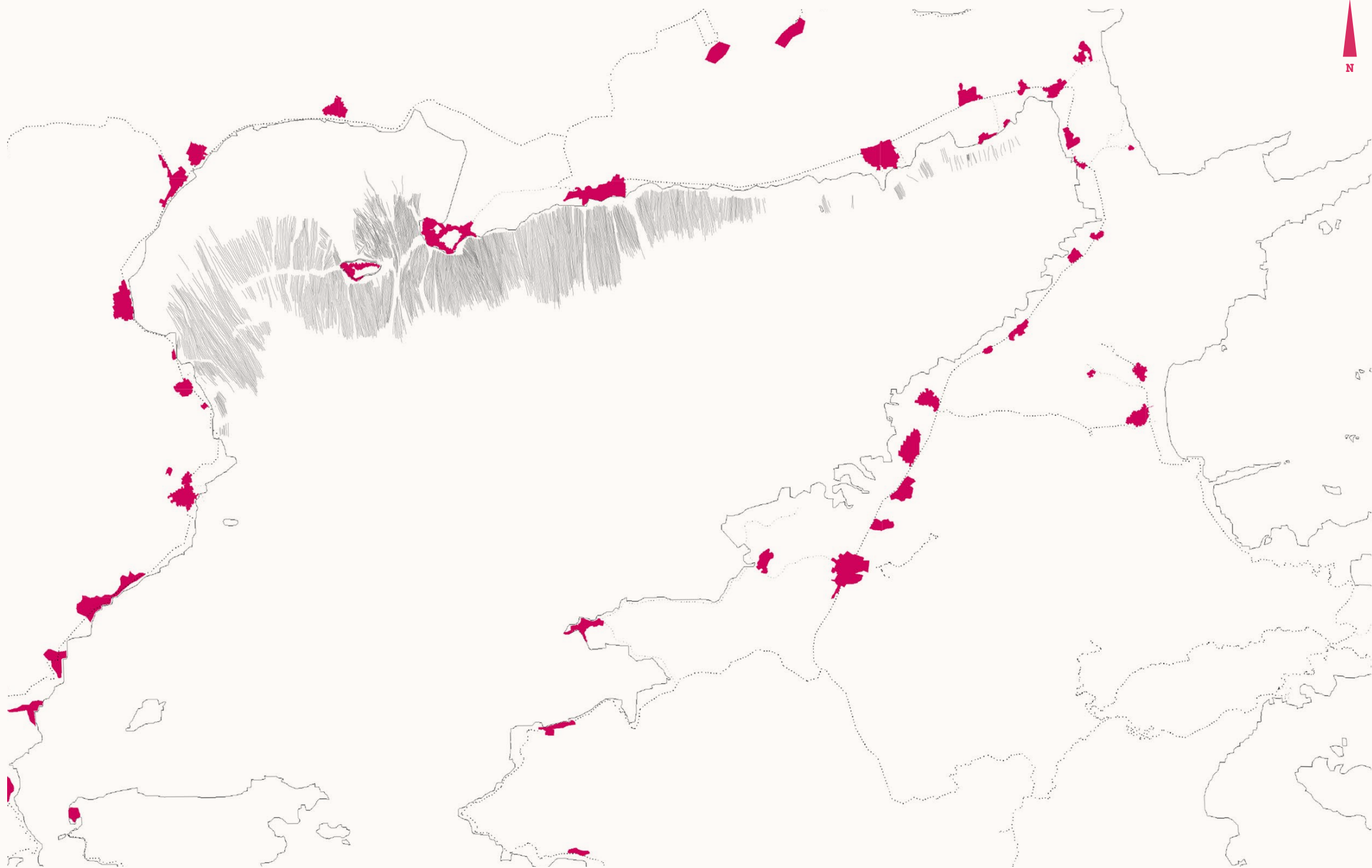


▲ 16. Part of Xiapu County chosen for further research

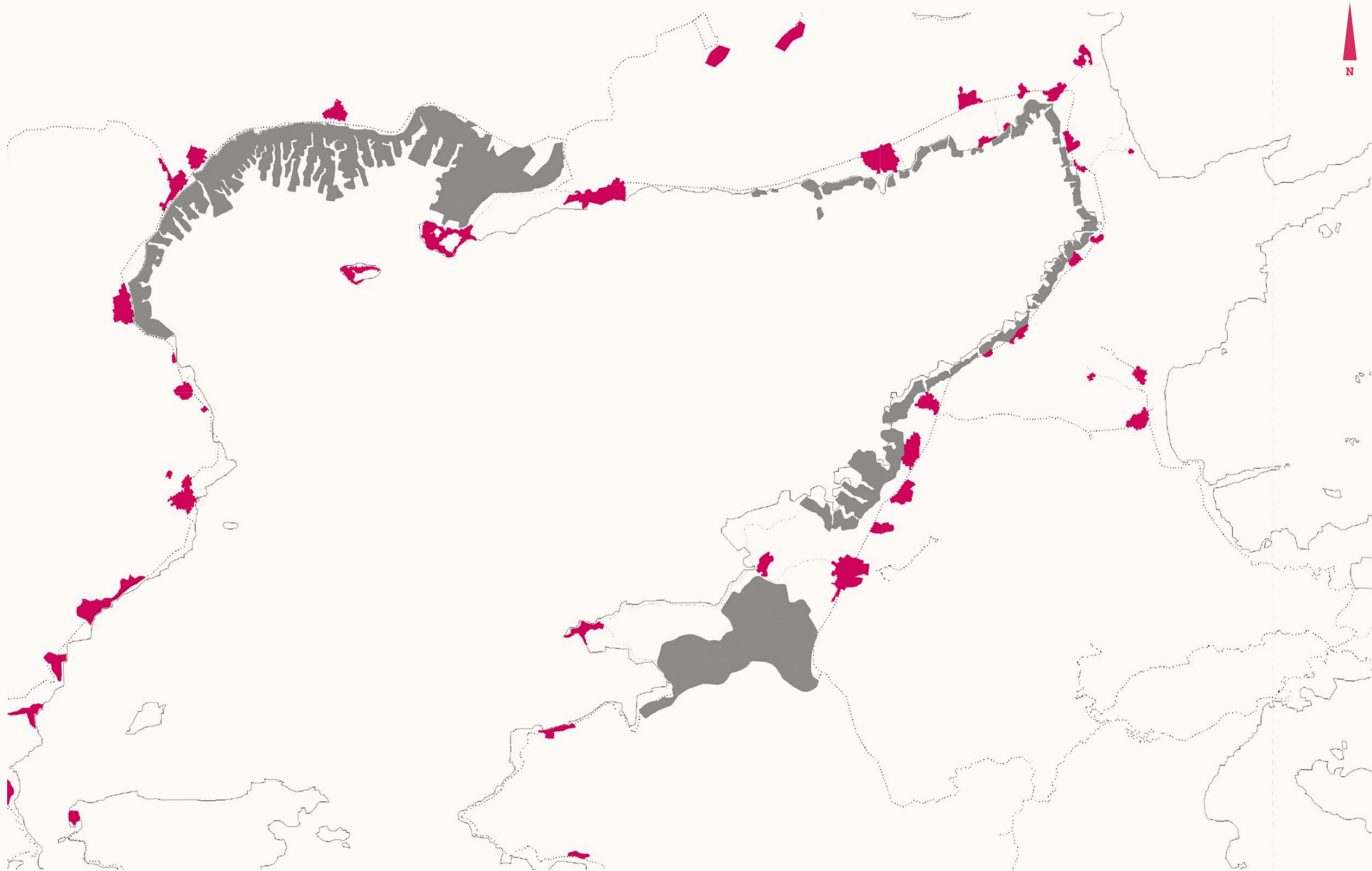
site identities



▲ 17. Part of Xiapu County chosen for further research: characteristic features of each village



▲ 18. Part of Xiapu County chosen for further research: location of bamboo poles



▲ 19. Part of Xiapu County chosen for further research: location of fishing ponds-no direct connection land-mudflats

Sha Jiang Village



▲ 20. Sha Jiang Village in Xiapu County during the low tide



▲ 21. Sha Jiang Village in Xiapu County during the high tide

part II

CONCEPT

In the modern era, local events can make an impact on the rest of the world, because we have the means of broadcasting news anywhere and in real time. To be interconnected, although, is bounded with certain responsibilities: every decision we make in our tiny place in the world can - and will - be scrutinized by the people across the oceans and continents. On the other hand - often responsibilities are paired with possibilities, which became the driving force for the search of local community with certain conditions: a problem, that could be highlighted and explained to a global audience, using this particular, modern state of interconnectivity.

With Xiapu in scope, the morphology of photography sites came both as multimedial device, as well as a potential area for further development, accentuating village lives of fishing communities - tiding with them, slowly rearranging the way we perceive, approach and interact with their subtle local features. Tourism development - which currently is on a low level - has to be built upon interaction with those locals, exploring the streets and inner courtyards of the villages all along the coast. To achieve this immerse level of interaction, features of Xiapu characteristic environment had been analyzed and evaluated towards potential usage.

Key element of coastal activity in Xiapu, embedded into the core of this Thesis, became the interplay between wet and dry areas of the tidal zone. The tempo, in which the mud shifts to a walkable surface, indicates not only the physical change of the landscape, but also the social potential arising daily, as the land reclaims itself in a constant fluctuation.

◀ 22. Embracing mud sensitivity

problems

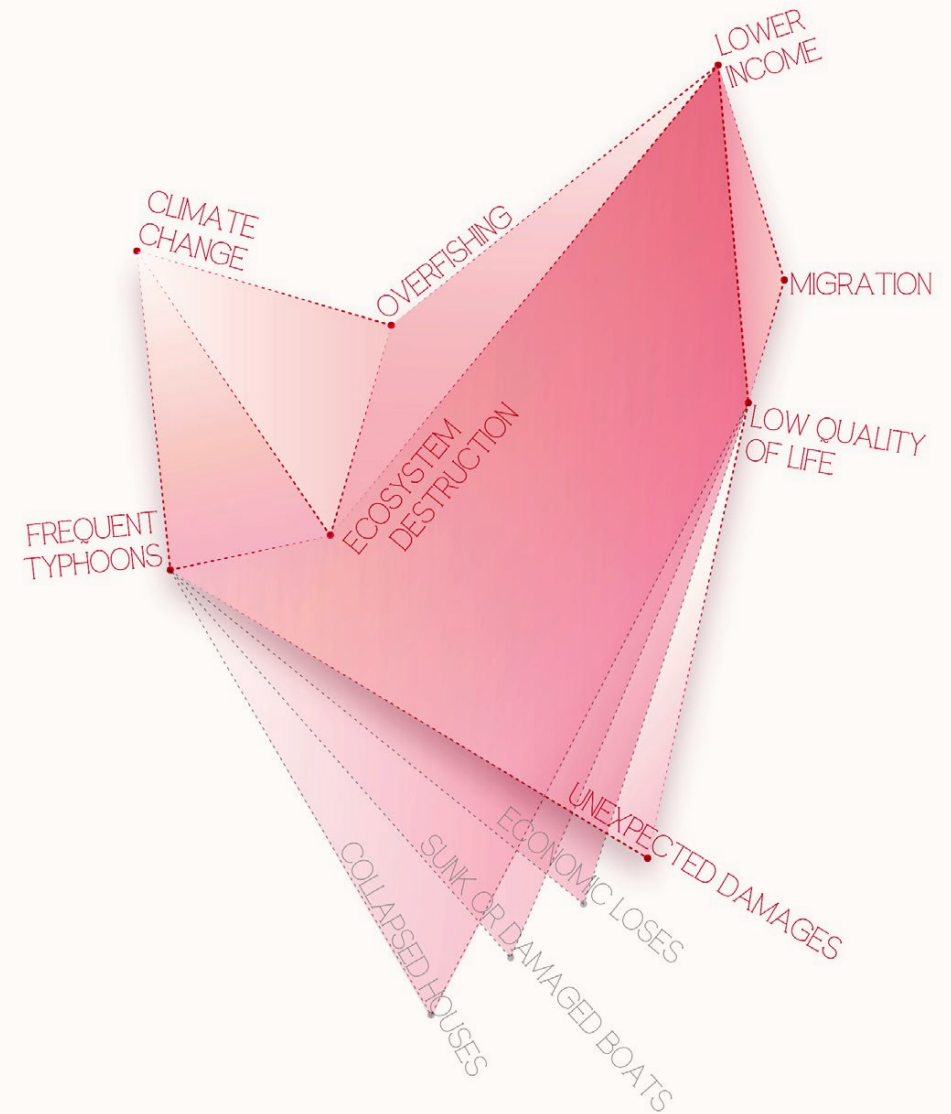
“You’ll see, I won’t stay here. I’ll get out of here, whatever it takes. But I’ll leave.”*

Presented research analyses complications faced by fishing communities, as well as consequences of those problems, and how locals cope with them. All that issues are linked together, having a vast influence on the life satisfaction and the standard of living.

Starting from the low income from the cultivation of sea food - that contributes to the growing migration level - it also strengthens the problem of overfishing. In that case the consequences touch directly the quality of catches and, indeed, lower the prices for the catches. But from the fisherman perspective, the behaviour of breaking the fishing ban is fully understood. After all he is a man responsible for his family livelihood.

On the other hand - worse and worse weather conditions, caused by climate change and overfishing - might lead marine habitat to even more significant pressure. Especially coral bleaching causes habitat degradation, which alter biodiversity of the reef fish, and in turn contribute to overfishing.[19] At that point, as mentioned, the quality of catches has a big impact on the low income. But the greatest threat for the local fishing communities is being determined by the global warming - resulting in frequent natural disasters, including typhoons, rainstorms floods and inundations.

**the quote comes from the movie “XIAPU” directed by Mikhail Khursevich and Valery Kazankov*



▲ 23. Cause and Effect Analysis- issues affecting local communities

The aftermath can be severe to local people, because it touches directly their place of living, damage costs they have to incur, economic losses and - in worst cases - death.

All issues together are connected with each other in direct or indirect way. All of them seems to interconnect at the very final point - while making the decision about migration. And despite of very close relation with their families, friends, and the whole community they live in, it is mostly men, that feel obligated to find a job in some remoted city, providing support for their families left in the village. Some of them, already when the children are small, begin to save some money. The moment children grow older - they are being “sent” to a better place.

mission

The main mission of the project is to accentuate the values of wetlands, and emphasize the importance of fishing villages - not only because of its ecological security threat - but also because of the unique and substantial identity.

Taking advantage of all the features in Xiapu County, and finding a new potential of tidal area - as well as fishing farms - the project seeks to implement new cultural functions, that would improve the quality of locals' life.

Unquestionable potential lies behind the photographic tours. Organised, they offer 3- to 5-days trips around the Xiapu County, with the tight program of visiting picturesque landscapes within fishing villages. The tours bring people to the hot spots for 1-3 hours, letting them to catch the right moment of sunset or sunrise, leaving no time for having a look around the village. Villages do not contain any other point of interests for potential tourists, serve only as a hot spot. They are not able to give any accommodation to potential tourists, or any lunch for a bigger group of people. Although Xiapu is visited by almost 1/4 million passionate photographers and tourists from all around the world, the tourism infrastructure is on absolutely low level. Sharing photos and videos through social media on the other hand - as it was done all the time - has a real potential of broadcasting something more, than a beautiful landscape. Photos could become a medium. Yet self-organizing such a photographic trip is a difficult process, and not many people

afford to do this, especially without having the knowledge of Chinese language. The scale of certain problems, selected during the research phase, can be reduced through a sustainable investment in tourism. Considering all the features and possibilities laying behind every village, proposed improvements might be a golden mean for improving life quality of fishing communities.

Important factor in this case might be to understand the local attitude towards such developments and possible enhancements of their well-being, which would influence their further support for that process. Community involvement, as well as personal benefits from tourism, might result in positive social impacts. The findings indicate, that from both - positive and negative impacts - of the tourism infrastructure growth, the effects from positive social influences are much stronger than from the negative ones. If the villagers will trust to have more benefits from tourism and will participate more and more in the process of planning, they will feel life quality improvement, and will - in result - support further developments. [20]



In order to go with the research further, there was an online investigation proceeded within the local people of Sha Jiang village. The main purpose of the questionnaire was to check their attitude towards potential development of tourism infrastructure. All the asked people were glad of the fact, that Xiapu is visited by thousands of people. Moreover, they feel strong connection to their place of living, as well as to the culture they grow up and families they have. The tourism - in their opinion - does not change their culture, neither the place of living, thus asked villagers had nothing against the expansion of tourism in their area. About 90% of them indicated that potential developments would have a positive impact on the local life. The rest 10% had a neutral approach to that point. Moreover, almost all of them would like to contribute to the rising level of tourism in the future. It is worth to mark, that nobody from that survey had a negative attitude.

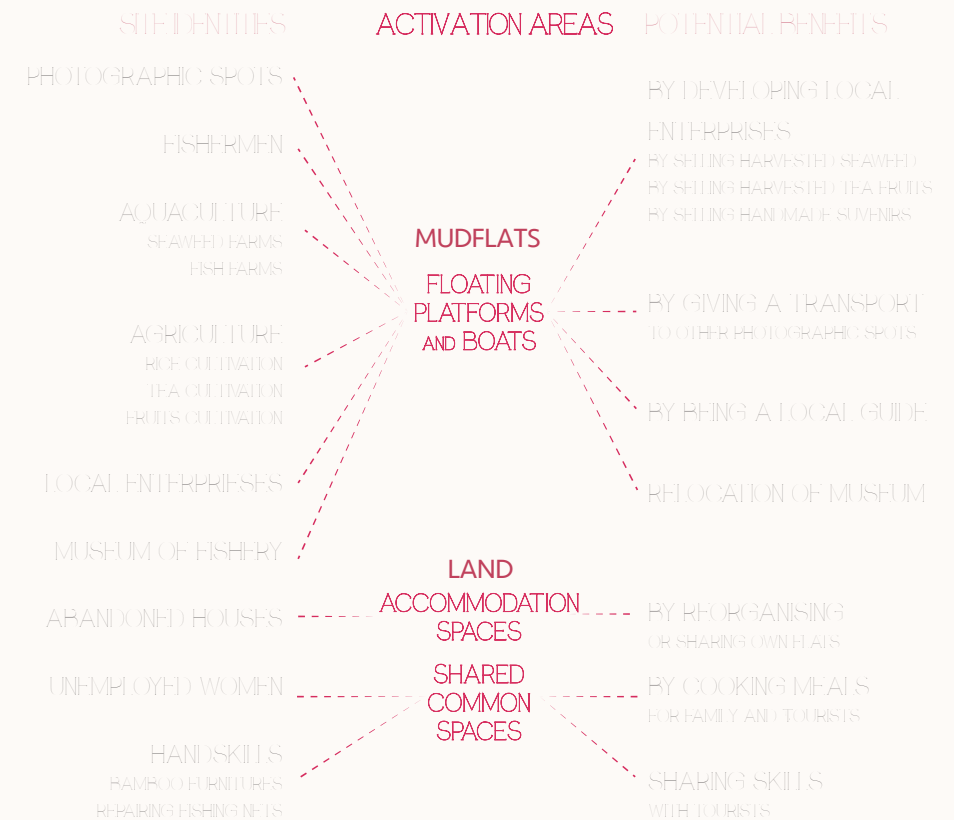
Developing the relationship between inhabitants and visitors might be the first factor, that would drive local economic revolution. This process, although, should not change the way of living, but enable their daily routines to take advantage of this touristic potential. It would enhance the income of families, giving opportunity for example to the women in the village, which could offer dining possibilities, as well as introducing tourists to all the daily activities, in which they could participate.

intervention strategy

Every village within Xiapu County is a characteristic place and has its own unique features.

Depending on natural conditions, local communities developed different types of cultivation. Some of them farm in fishing ponds, that extend the shoreline, and limit a direct connection between village and mudflats. Those people rely on ponds and have no need to use the boats. On the contrary - other villages located along the coast or on the sea - practice seaweed farming or other types of aquaculture i.e. floating bamboo rafts. For those villagers boats are used not only for transport, but also for earning money on fishing and marine harvesting. Besides the characteristic landscape and work on the sea or fishing ponds, locals are also engaged in rice cultivation, some fruits or white tea farming. This concerns unemployed woman in particular. If they are not on the farm or at home - preparing dinner with children - then they probably fix the fishing net or create a bamboo furniture with children, spending the time on the courtyard or on the street with other locals. A few of them lead a small local enterprises, among which you can find even a small cozy museum, that unfortunately seems to be unnoticed by tourists. Between other easy to spot features is a big amount of abandoned houses, that seems to be correlated with growing migration level.

Developing some of these features - together with existing hot spot areas - might bring a potential new benefits for local community, and be a growth driver for local enterprises.



▲24. Transforming site features into a benefits program

In that instance, considering the abandoned houses as a possible accommodation spaces - might determine first venture. In a result, hosting tourists in a village, even for a few hours, covers the need for a proper dining place. Locals might benefit from sharing meals in natural relaxed situations, not being distracted from daily activities. Potential tourists have - on the other hand - an opportunity to meet the culture and traditional lifestyle, not only by observing photographed people, but also by attending their everyday life. The process of remodeling site features and using their potential allows local people to derive profit from daily activities by a little involvement.

Another profits might be achieved by activating the mudflat canvas. Using their potential of being, in a sense, sensory garden - would allow to discover not only different perspectives of fisher's life - but also the matter of wetlands. Activation of certain mud-scapes would arouse tourists' interest and bring people into the mudflats. Potential visitor would not only observe the landscape, but also be a part of it. Proposed floating platforms for developing enterprises could support local trade, with equal contribution from tourists, as well as from locals. The connection to these points would be determined by a daily tidal range, that would deactivate particular areas covered by water. Daily changes in tides - on the other hand - would introduce various iterations of such paths - evoking continuous momentum of rediscovery.

concept

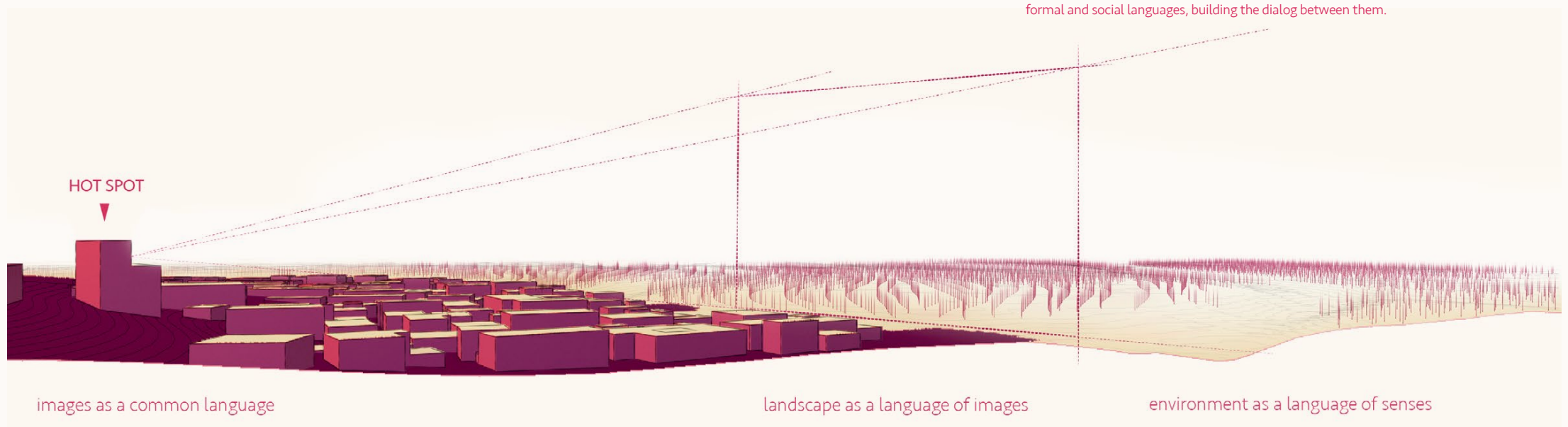
Cycle of the moon, retreating waters and the boats sailing off upon them - it all determines daily schedule of Xiapu coast. In the middle of all that, mudflat canvas appears as a scene for this unique choreography - where all local characteristic features overlay in various order, creating dissonances invisible to the eye of the visitor, but noticable within the span of days, months and years. This canvas remembers each step, only to overwrite it a while later, deforming previous signs of local interaction.

In the age of common reclamation, areas like Xiapu would often be developed in a relatively radical way - introducing habitable land at the cost of mudflat extinction. The aim of this project is to tackle this problem by introducing innovative way of widely understood reclamation.

The great opportunity lays in the very nature of mudflat, that begin to appear and dry according to tidal activity. This particular periodicity enables us to extend coastal area along with retreating sea, introducing activities adjusted to the heartbeat of this ecosystem. This way mud becomes a shared domain, still perceived as landscape during high tides, and inviting people to interact with its environment, when the water slowly goes away.

Leaving the landscape unchanged as much as possible was one of the most crucial aims, resulting from multiple reasons. Firstly - Xiapu region is highly picturesque and renown within photographers from all around the world. With this in mind, there is a certain possibility of using those thousands of photographs - done each year - as a medium highlighting problems of the area. It was also important - considering the landscape itself as a form of contemplative experience done from a distance - to introduce unique duality of mudflat performance. This could include mentioned features of the landscape, along with newly developed environmental conditions: simply entering the mud and taking a walk, immersing ourselves within this rare, vivid environment. With such a strategy, it would be possible to achieve the second reason of preserving this landscape: being the main lifestock for millions of Xiapu citizens.

▼25. The village of Sha Jiang - mudflats area covered by hundreds of bamboo sticks and visiting photographers - composed together in unique type of ecosystem. Navigating through multiple formal and social languages, building the dialog between them.



Inviting people to have a simple walk on the mudflats, might be in fact a big step for the whole neighbourhood development. The moment of getting from the photo Hot Spot to the shore, and navigating through the network of small village streets, lay ground for the dialog between citizens and visitors.

With this in mind, the whole concept of walking on a mud gave a simple - yet subtle and powerful - space to operate. Precisely between the foot and the sand is where the project is crystalized. Thin layer of textile - a membrane mediating between visitors and this precious environment - allow to explore wetlands, covering them to preserve their upper layer in the same time.

Membrane shifts from being a solid surface to much more flexible state, enabling people to explore this very unique feature of Xiapu environment - softness of a mud.

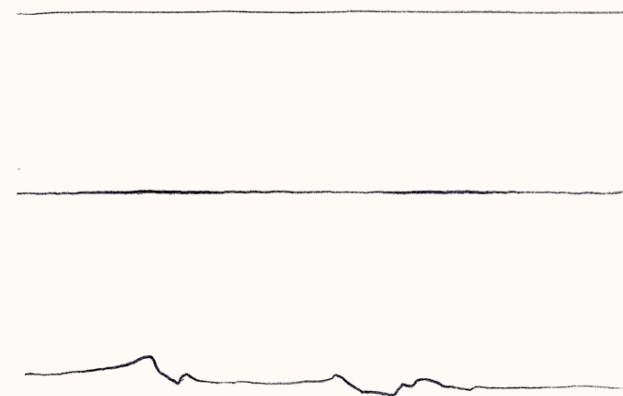
Solid states are achieved by the pressure pumped inside of pneumatic threads - simulating concrete floor in the middle of the sea, while flexible moments give a wide range of sensations, gradually immersing visitors in this sensory garden.

THESIS AIMS

- +to develop design system that actively seek to engage people to participate in their environment
 - +to focus on the human design experience
- +to develop new ways of understanding the relationship between people and environment
- +to highlight the expression of mudflats transition as a response to reclamation process

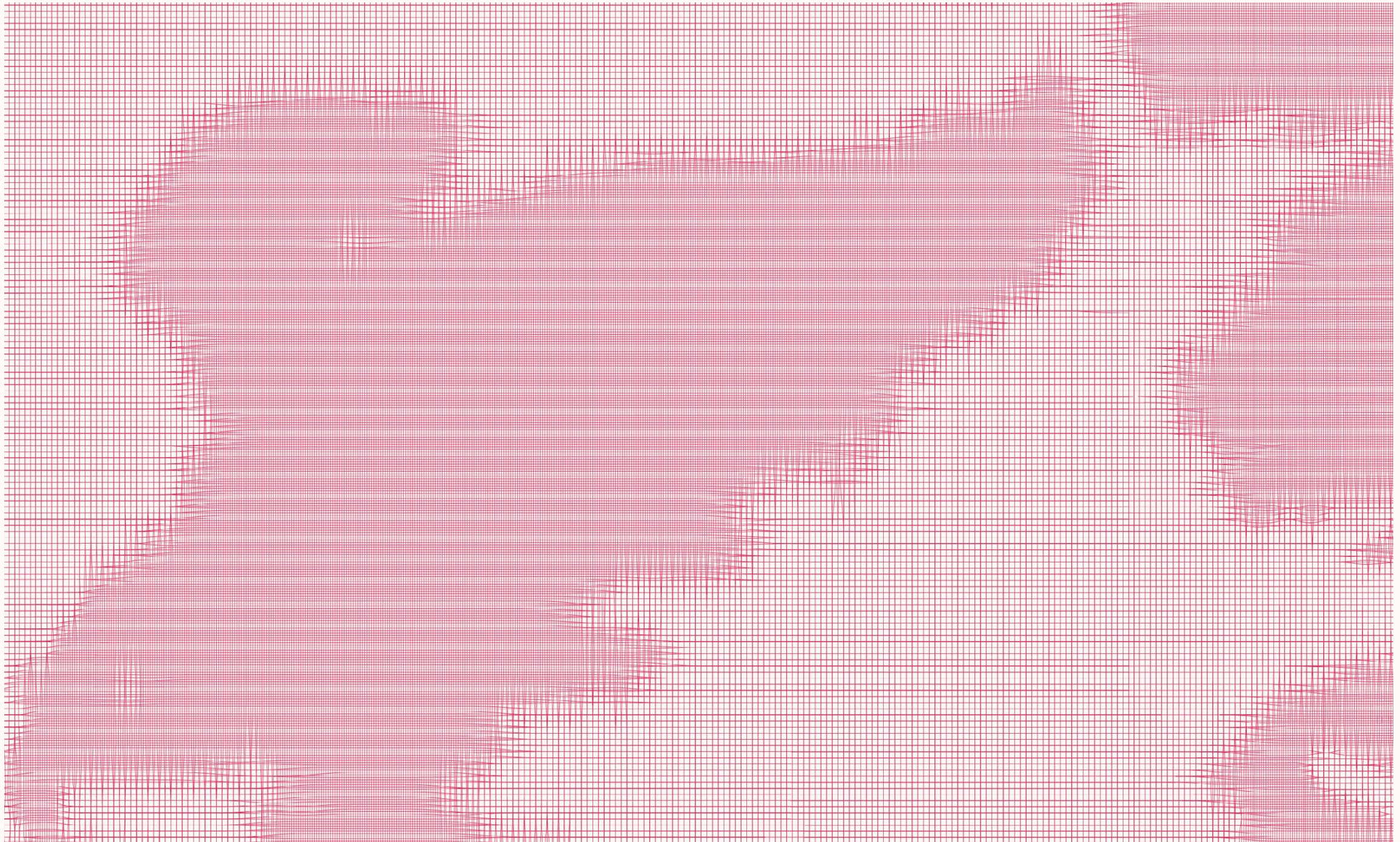
PROJECT AIMS

- +to enable tourists' interaction with locals
 - +paths as a connection to other villages
- +encouraging tourists to stay a bit longer in villages- increases the demand on the accommodation and eating places
- +walkable surface as an unexpectable and unknown territory with new specific views



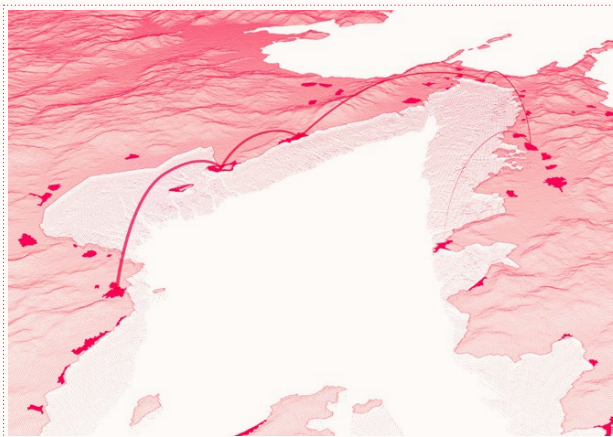
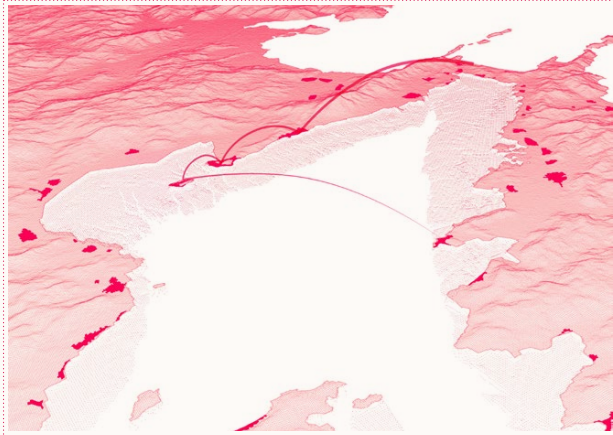
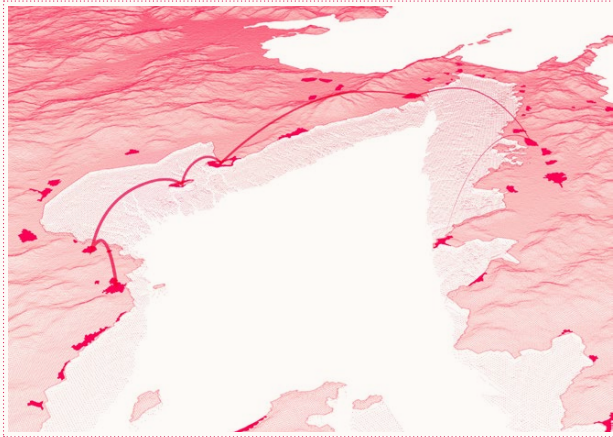
▲ 26. thin-soft-flexible : sketching the space between environment and the visitor

time map

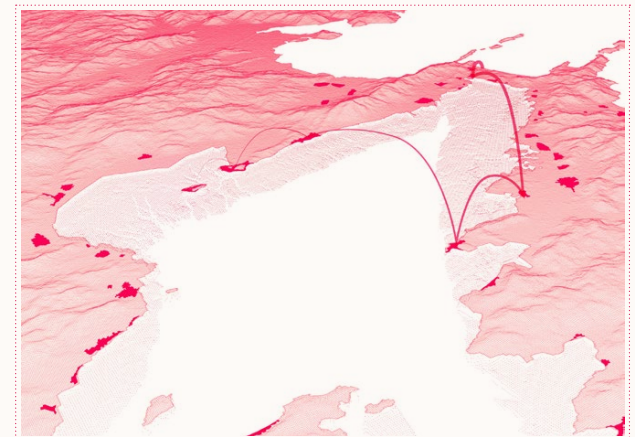
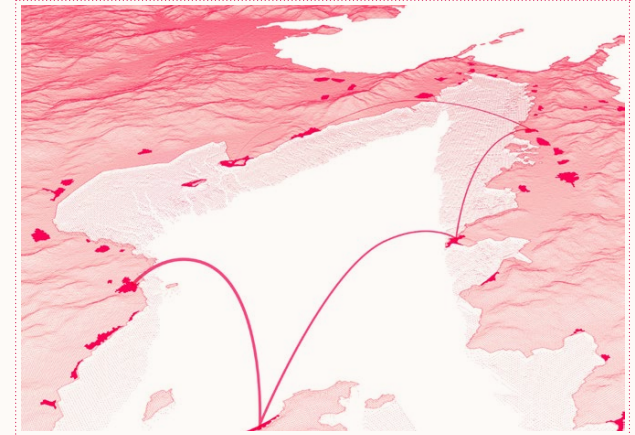
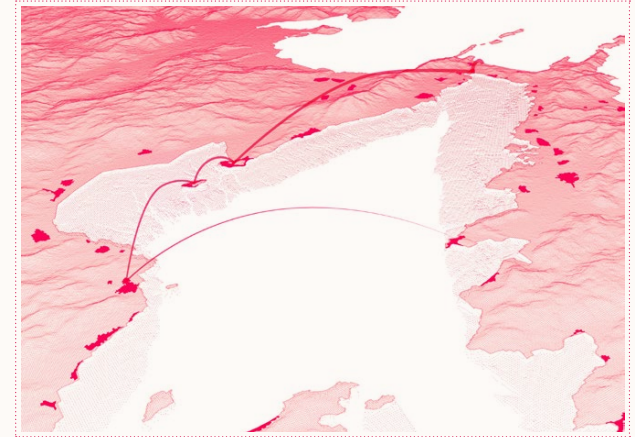


▲ 27. Basic map of time needed to cover a given distance - size of parcels is related to average speed on a given type of soil. Walking on stable ground: 100 m/ 1 min. Walking on unstable ground: 40 m/ 1 min,

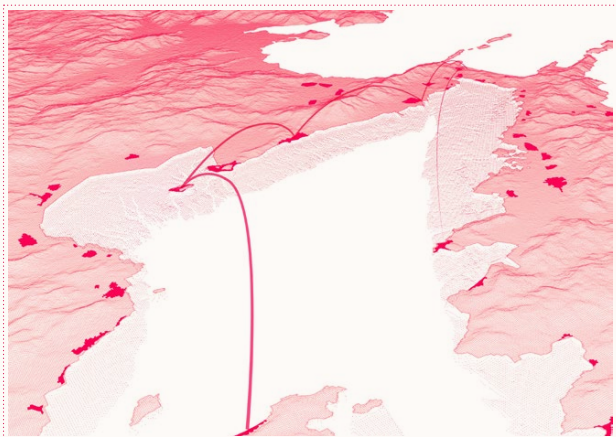
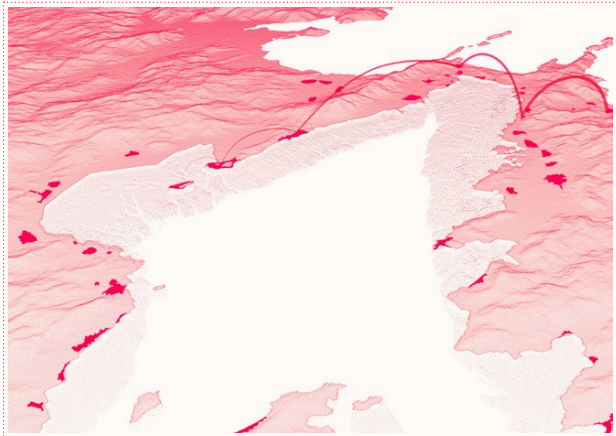
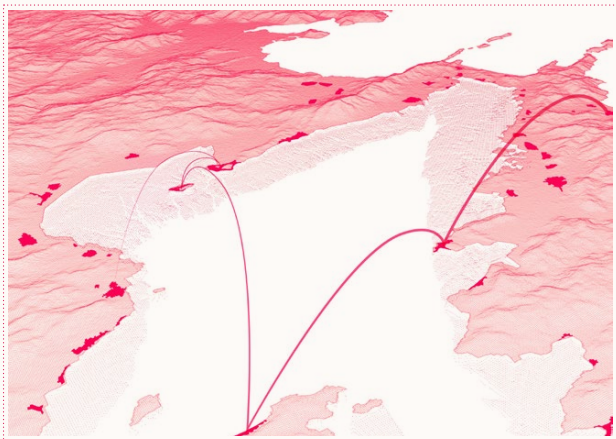
scenarios



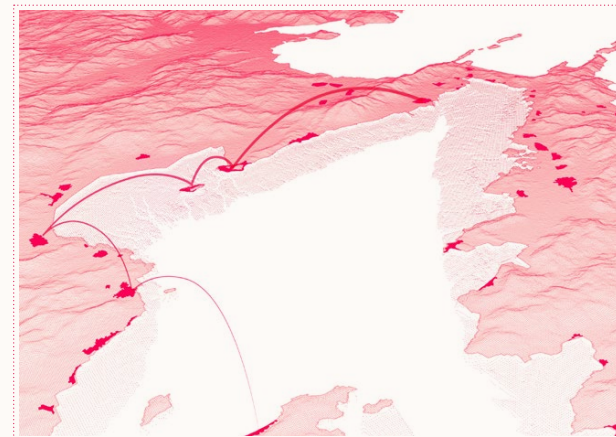
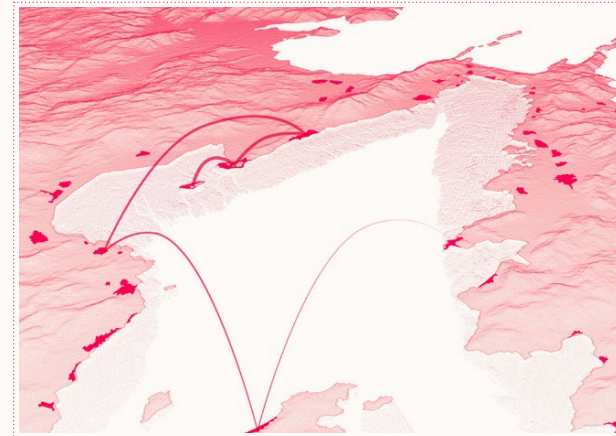
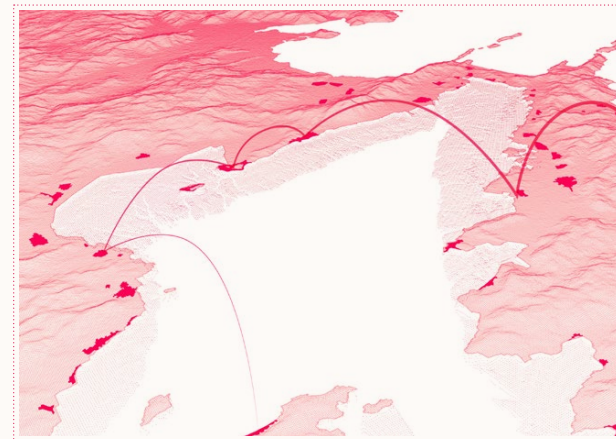
▲ 28.1 Scenarios of one day trip through a few fishing villages. The programm enables the tourist to start a day in a village with the sun rise view and end the day in the village with the sun set view on another coast



▲ 28.2 Scenarios of one day trip through a few fishing villages. The programm enables the tourist to start a day in a village with the sun rise view and end the day in the village with the sun set view on another coast



▲ 28.3 Scenarios of one day trip through a few fishing villages. The programm enables the tourist to start a day in a village with the sun rise view and end the day in the village with the sun set view on another coast



▲ 28.4 Scenarios of one day trip through a few fishing villages. The programm enables the tourist to start a day in a village with the sun rise view and end the day in the village with the sun set view on another coast

part III

DESIGN STRATEGY



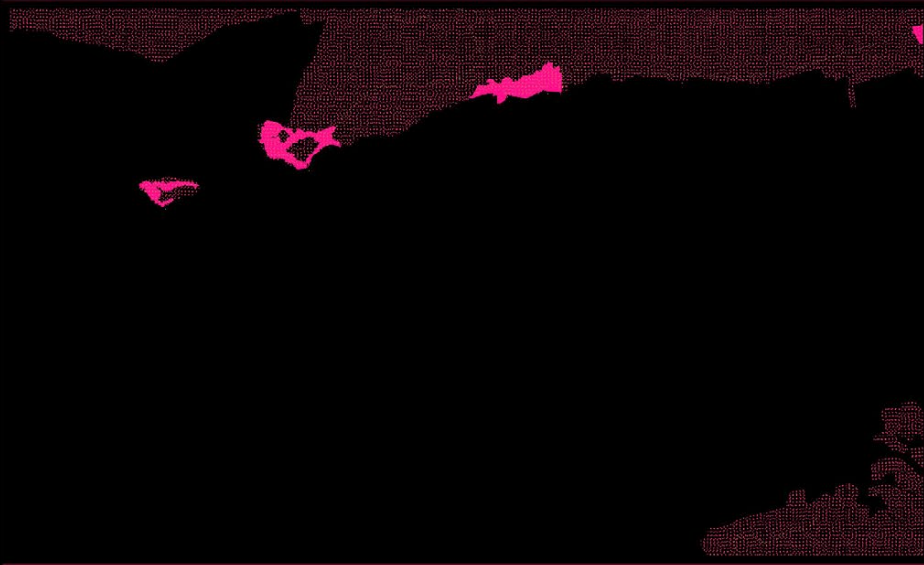
Mudflats reclaim themselves each and every day, as ongoing process of tidal movement preserves their nature and uncovers their beauty.

The height of the water changes in different speeds - increasing the fastest somewhere between 3rd and 4th hour. With an average amplitude of 5m - the channels are the record of water movement, but even during the low tide, they can be still used to water the fishing ponds or to serve as a communication channels between villages and seaweed farms.

Tidal activity within Xiapu environment compose itself based on the rhythm. Water - however - aggregates each day with a slight different speed, creating intricate dissonance. This tidal accelerations, monthly shifts and daily differences - water the life of Xiapu population, helping to flourish multiple types of cultivation, composing daily routines and forecasting the work ahead. This particular feature of Xiapu environment is nothing less and nothing more, than simply a momentum of dissonance, emerging in a network of channels, creases and furrows of sand. Yet - it drives the life of the whole community, and stands as the backbone of their culture, making it a very promising feature to work with.



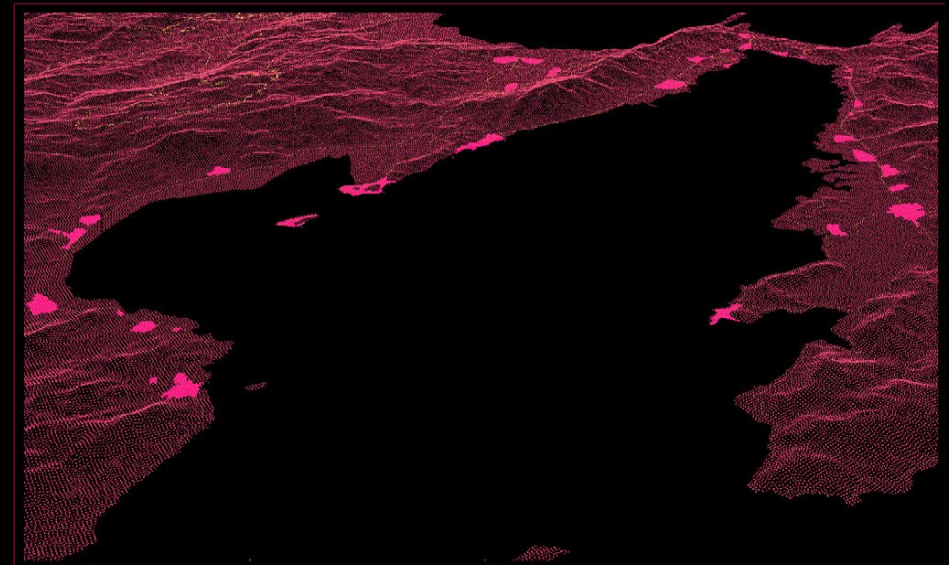
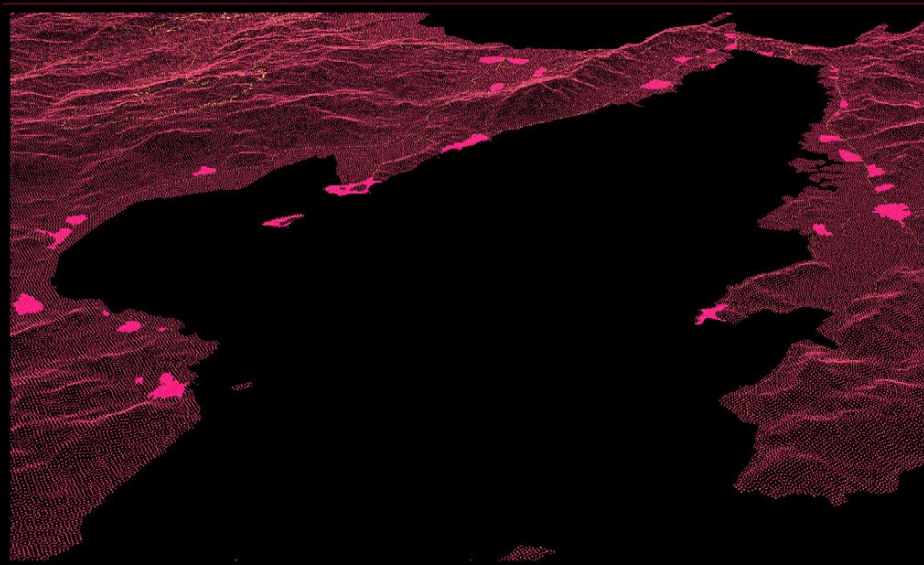
tidal range



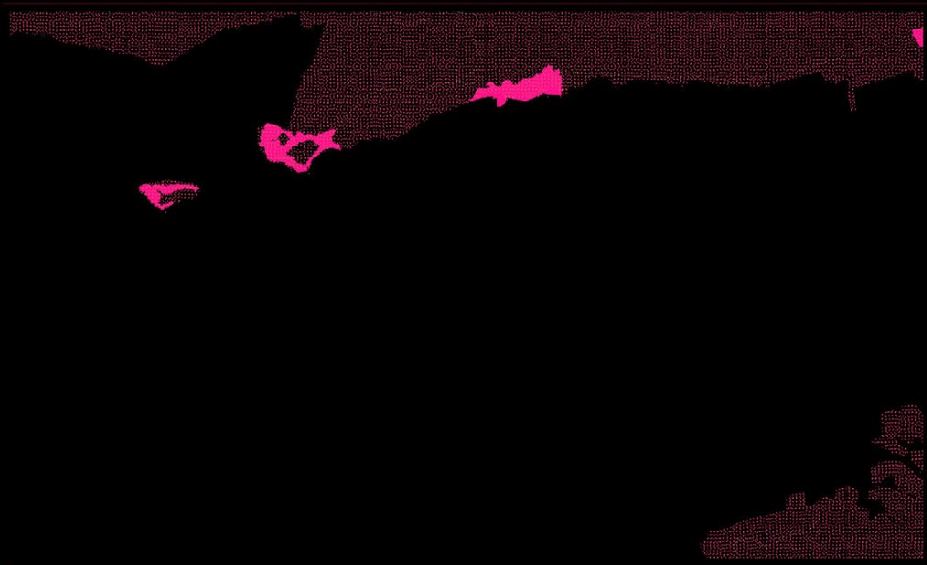
TIDAL RANGE 3.2 M



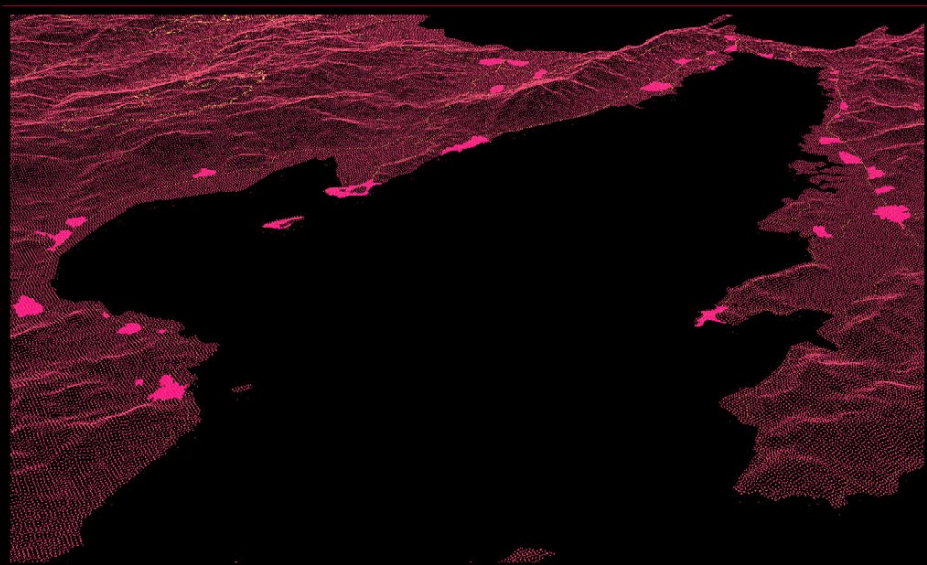
TIDAL RANGE 6.1 M



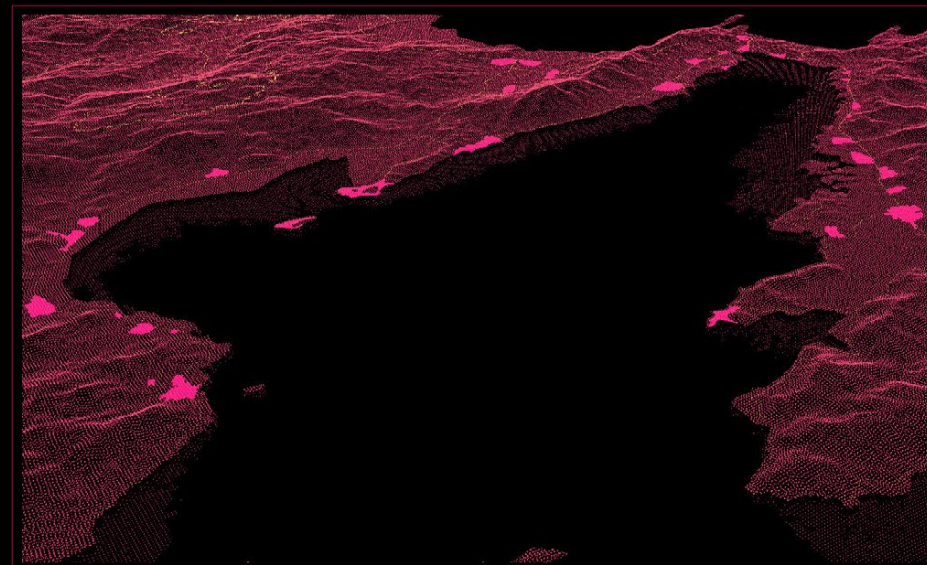
◀ ▲ 30. Top view and perspective view during the high tide



TIDAL RANGE 3,2 M



TIDAL RANGE 6,1 M



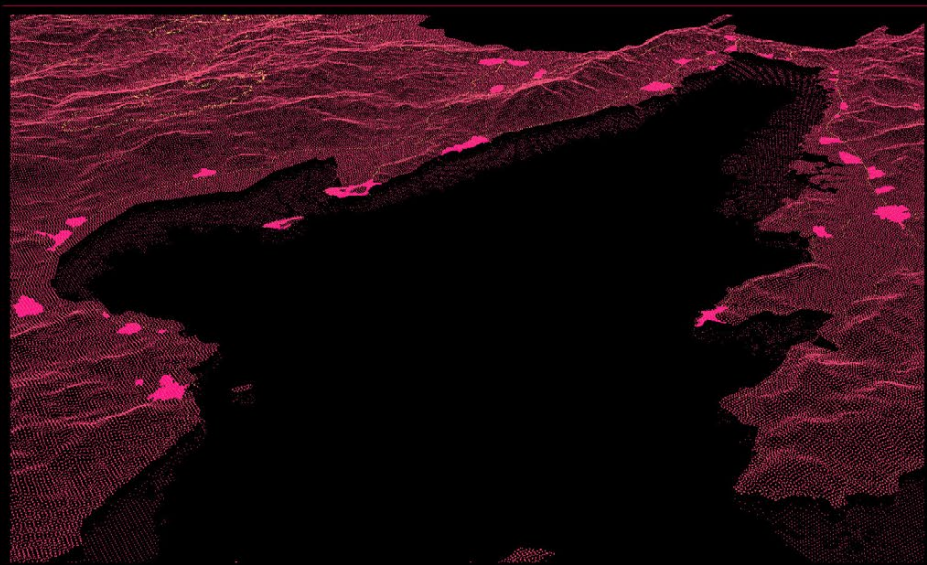
1 HOUR

2 HOUR

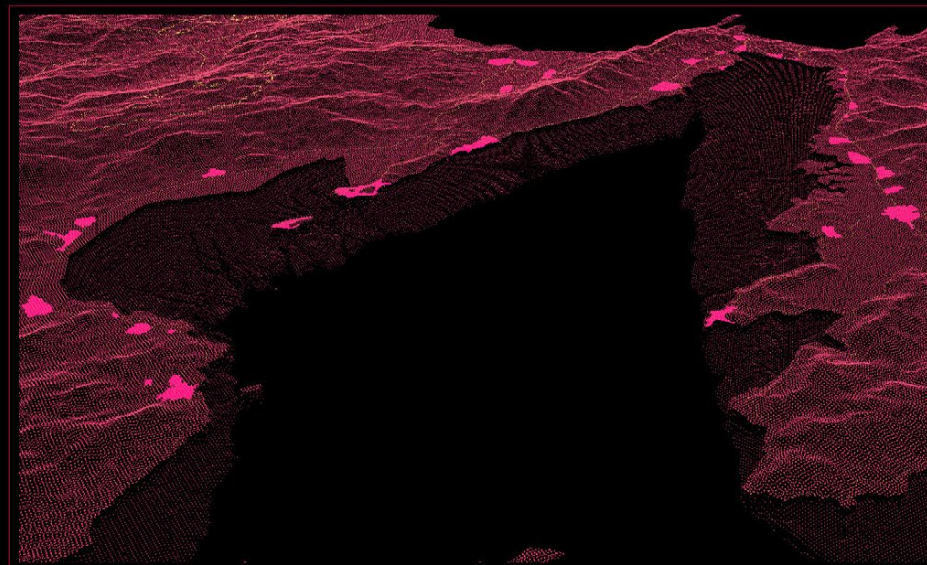
◀▲ 31. Top view and perspective view - 2nd hour after the high tide



TIDAL RANGE 3,2 M



TIDAL RANGE 6,1 M



1 HOUR

2 HOUR

3 HOUR

4 HOUR

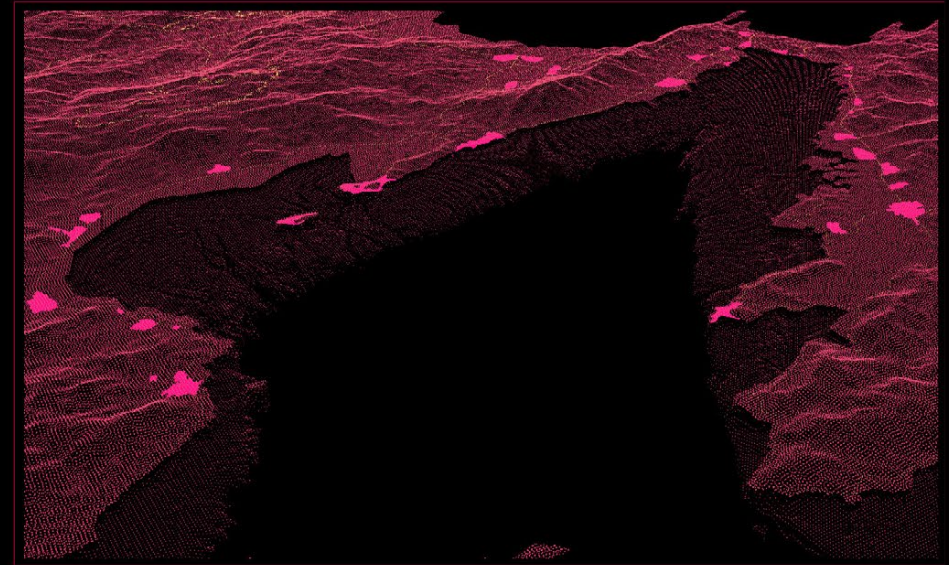
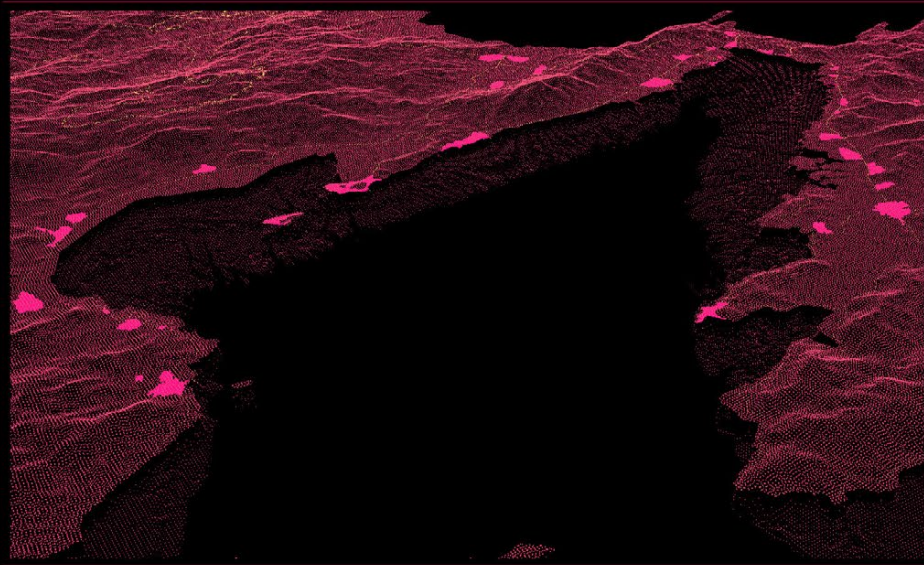
◀▲ 32. Top view and perspective view - 4rd hour after the high tide



TIDAL RANGE 3,2 M



TIDAL RANGE 6,1 M



1 HOUR

2 HOUR

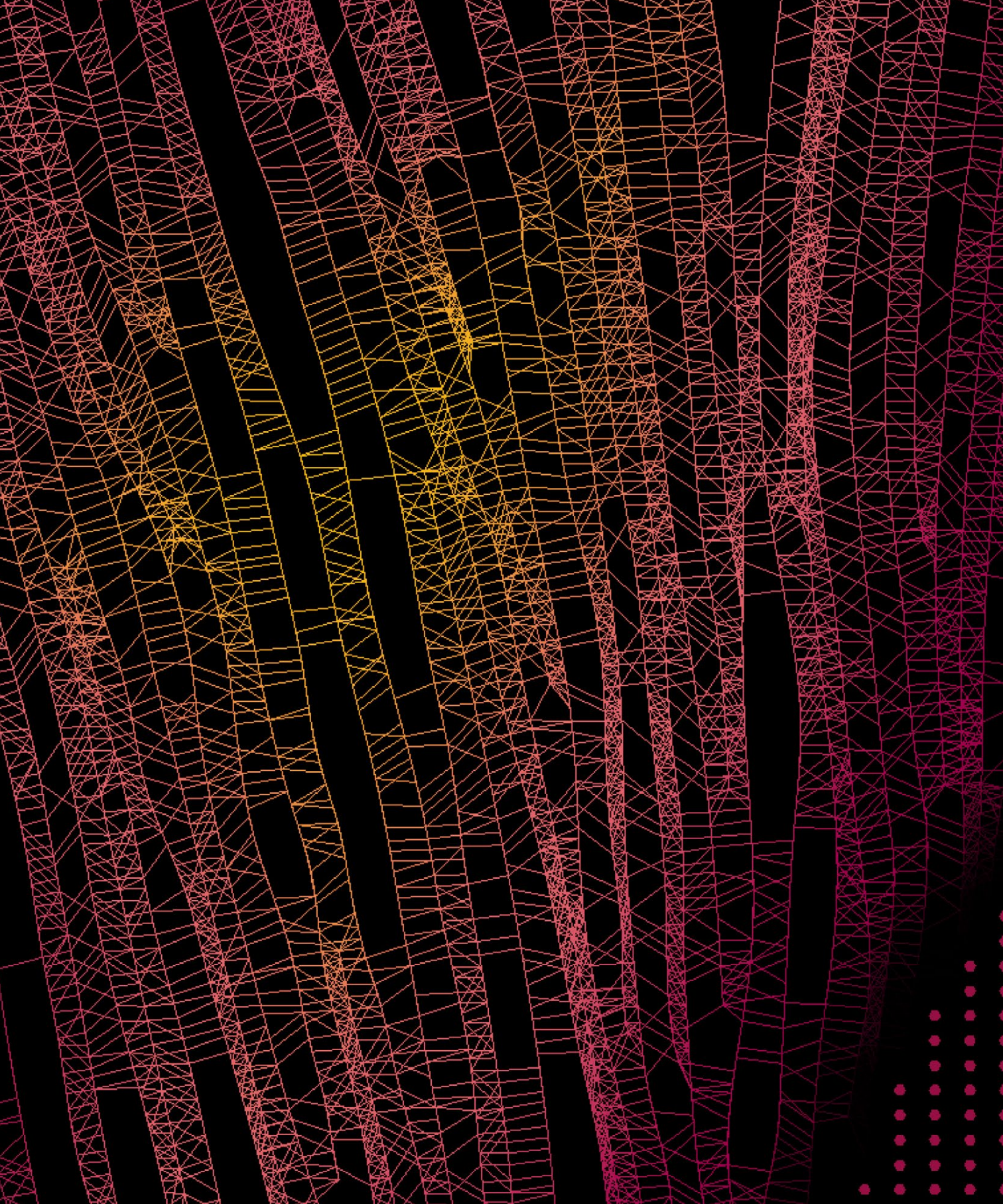
3 HOUR

4 HOUR

5 HOUR

6 HOUR

◀▲ 33. Top view and perspective view during the low tide



07

WAEVING PROCESS

Standing in silence for the past decades - bamboo sticks create unusual atmosphere of Xiapu coast, balancing on the edge of decay and utility. Reminding of themselves in the time of seaweed cultivation - they can be also a possible backbone for intricate connectivity.

With that in mind, tidal activity has been measured in order to trace mud areas with the fastest drying tempo. The domain of walkable space begun to grow, creating a sort of extension of the village. Choosing bamboo sticks on the driest ground established a bond between those two areas, helping to navigate and memorize arising spacial opportunities. In the same time it enables visitors to gradually experience various softness of the ground - from dried sand in the middle to wet and reflective mud on the edge of the water.

By connecting the closest bamboo together, the process of weaving begun to appear, unifying certain areas of mudflats. With this particular network - marking the optimal path scenarios was not only possible, but - in fact - rooted deeply in the subtle interplay between the village and its occasional extension.

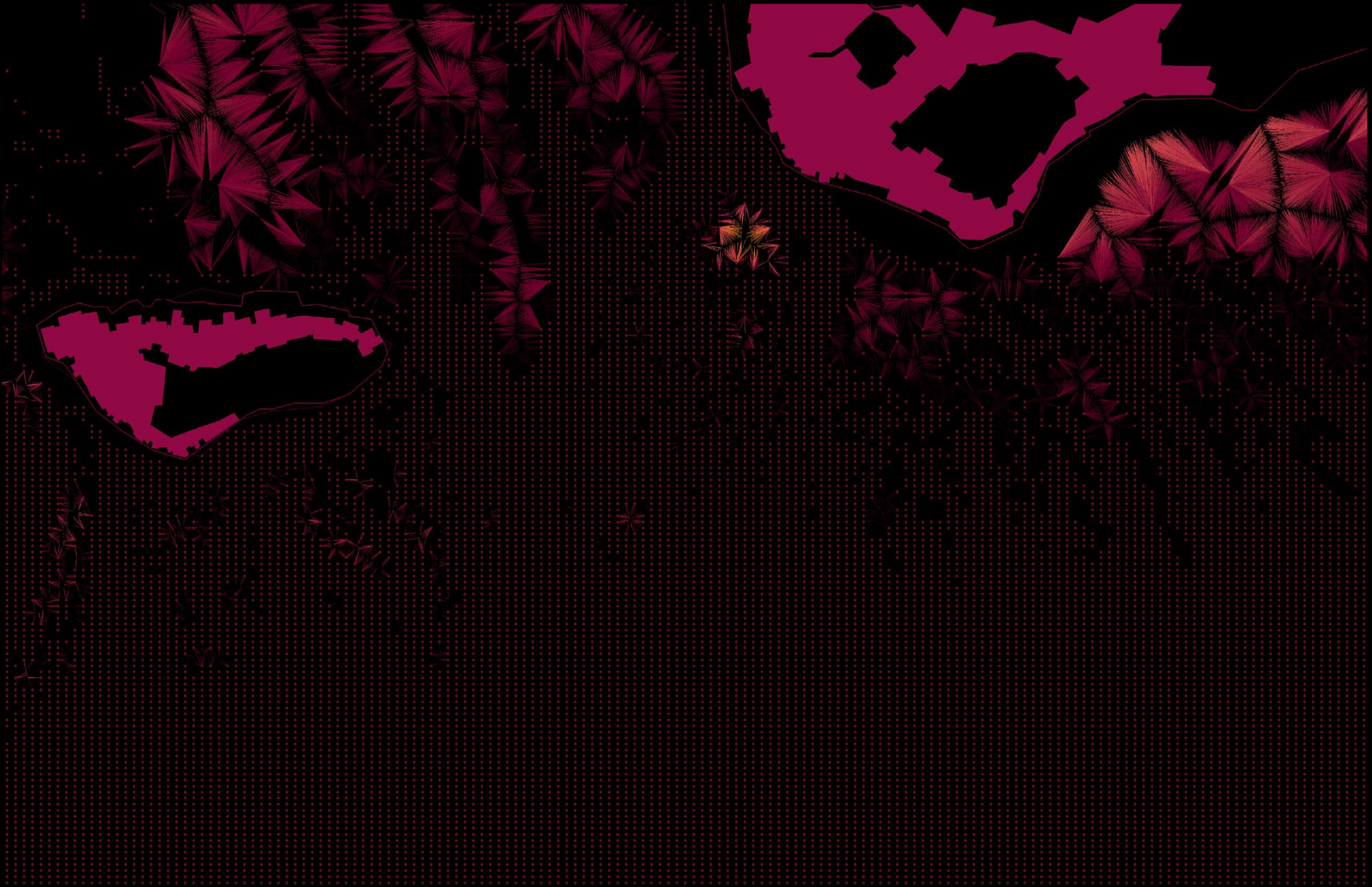


◀ **34.** Bamboo connectivity : color gradient of the network diagram represents distances between driest areas of mudflats and areas still under water

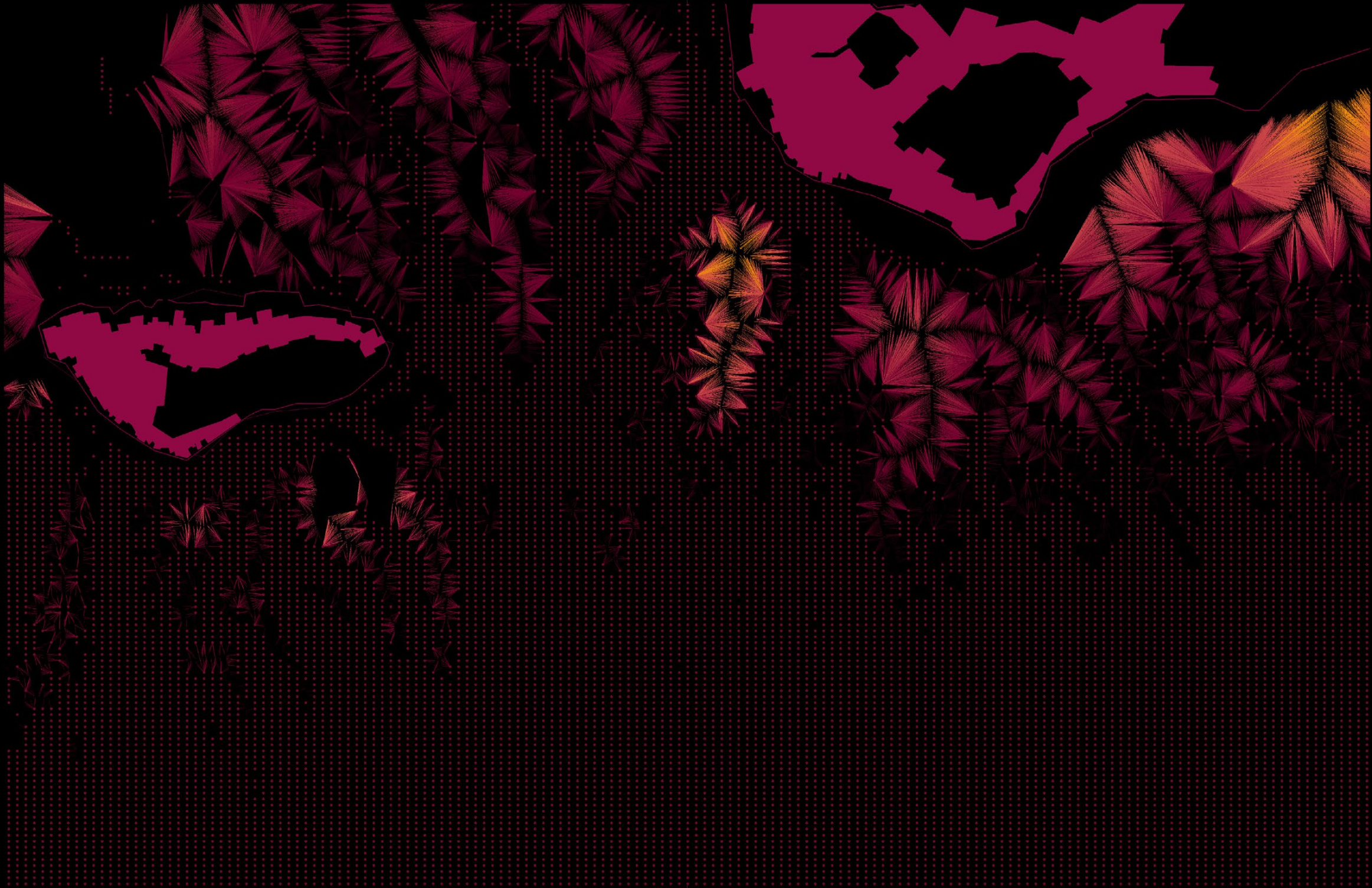


Aproximating ground dryness, measuring distances to the water during tidal movement |video| 35.1 ▲

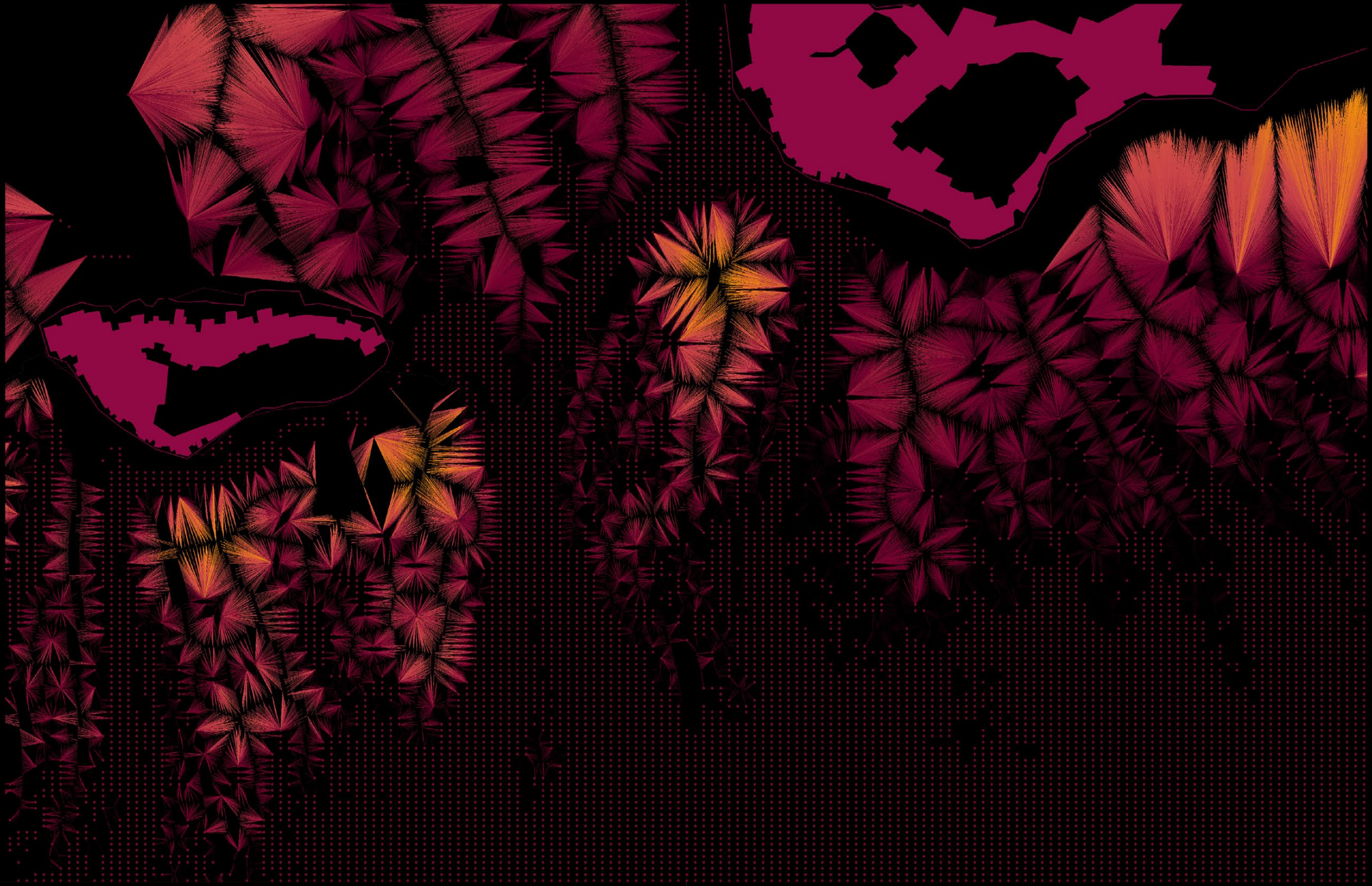
growing distances



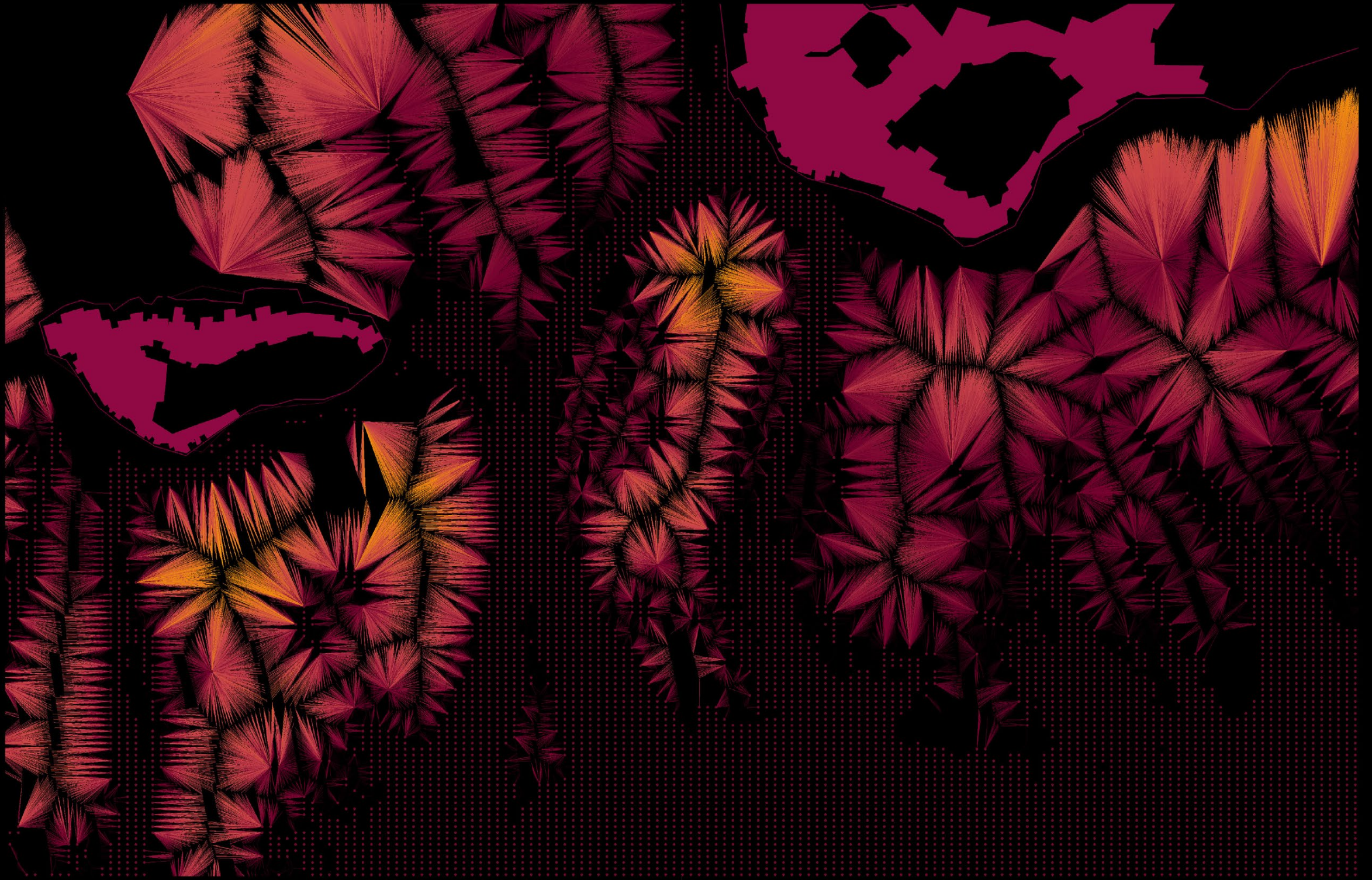
Aproximating ground dryness, measuring distances to the water during tidal movement [video] **35.2** ▲



Aproximating ground dryness, measuring distances to the water during tidal movement |video| 35.3 ▲



Aproximating ground dryness, measuring distances to the water during tidal movement [video] 35.4 ▲

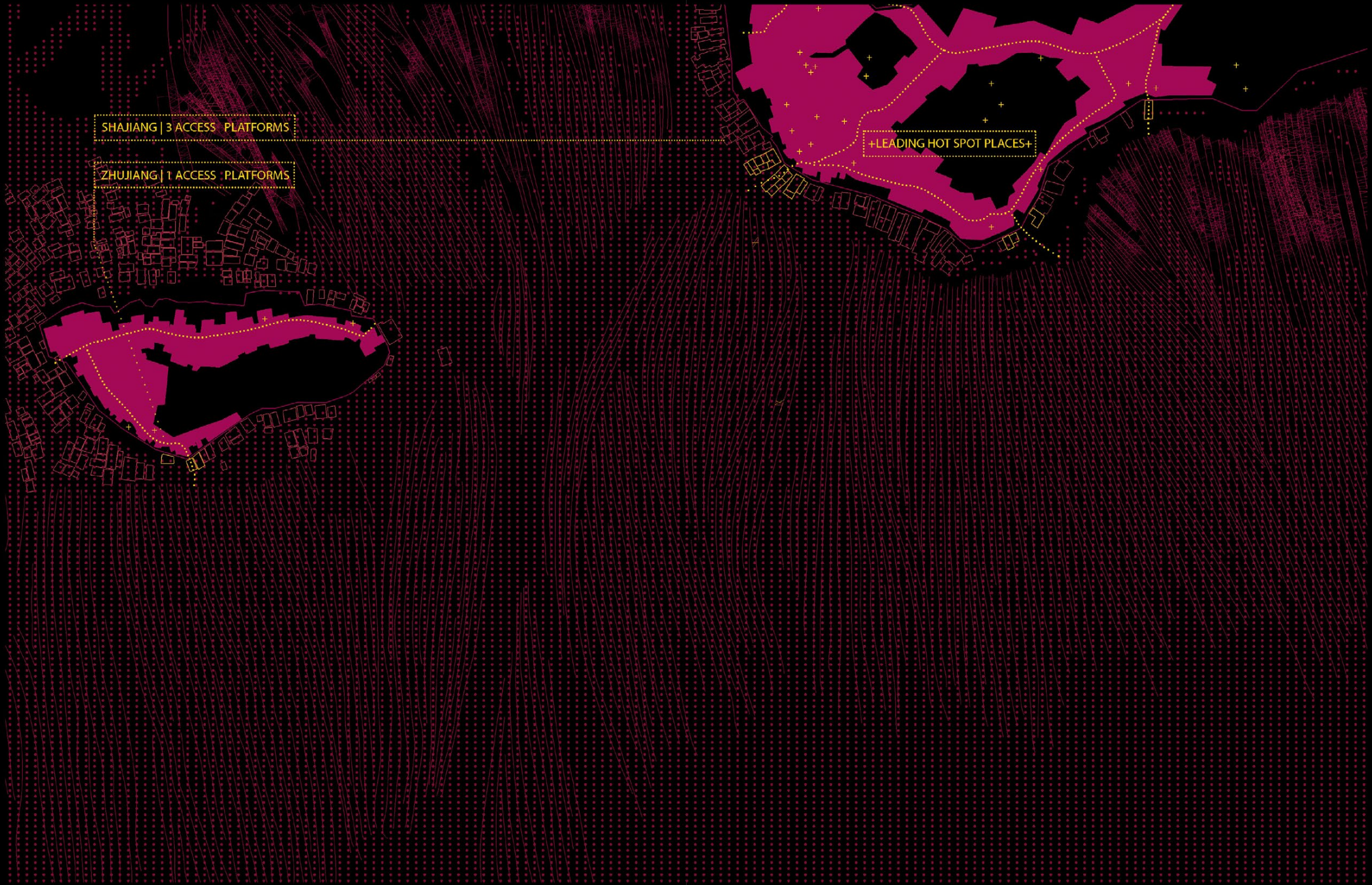


Aproximating ground dryness, measuring distances to the water during tidal movement [video] 35.5 ▲



Possible tracks appearing during retreating tide. Each path leads from the coastline to the floating platform on the open sea |video| 36.1 ▲

living tracks

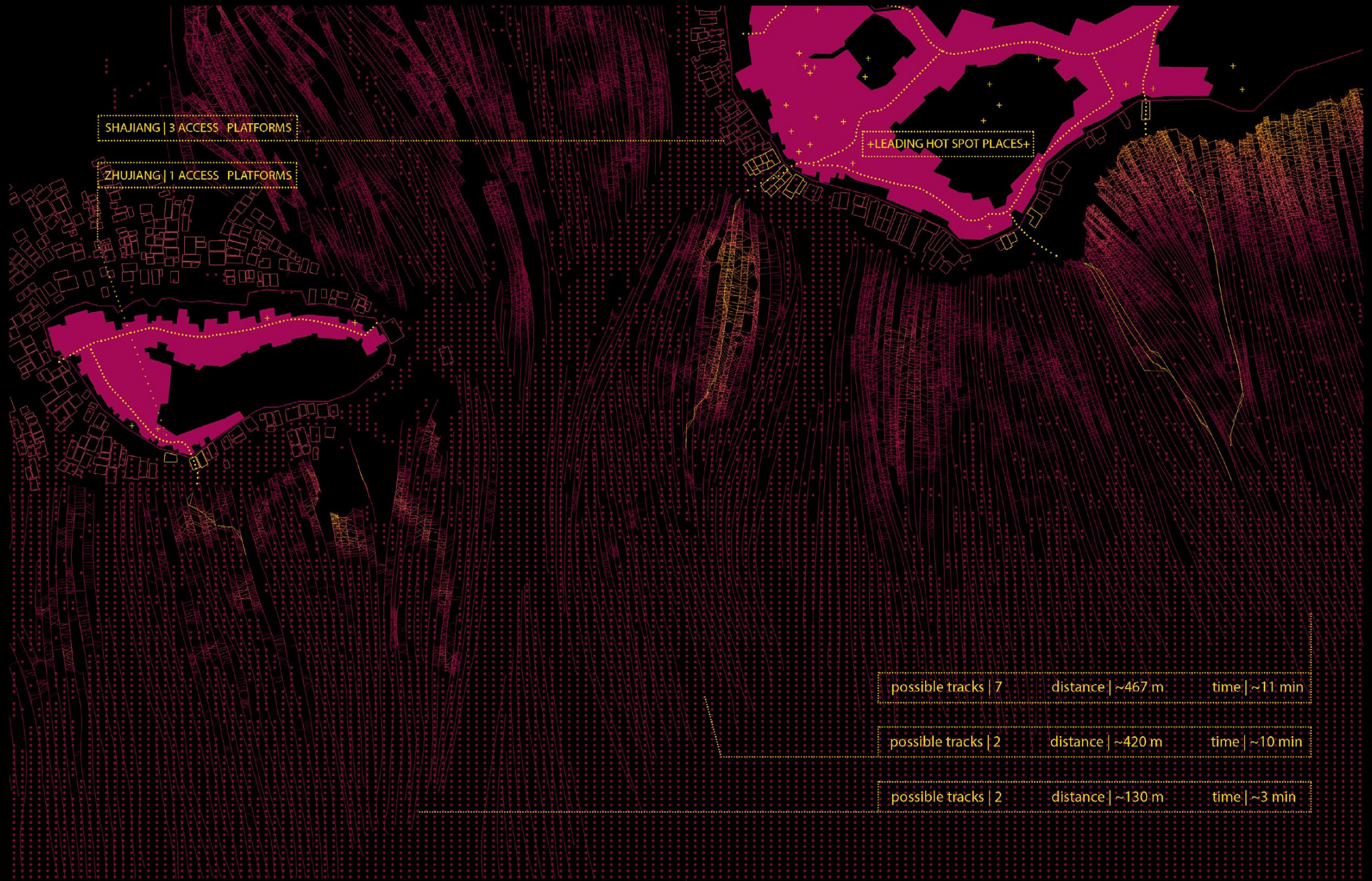


SHAJIANG | 3 ACCESS PLATFORMS

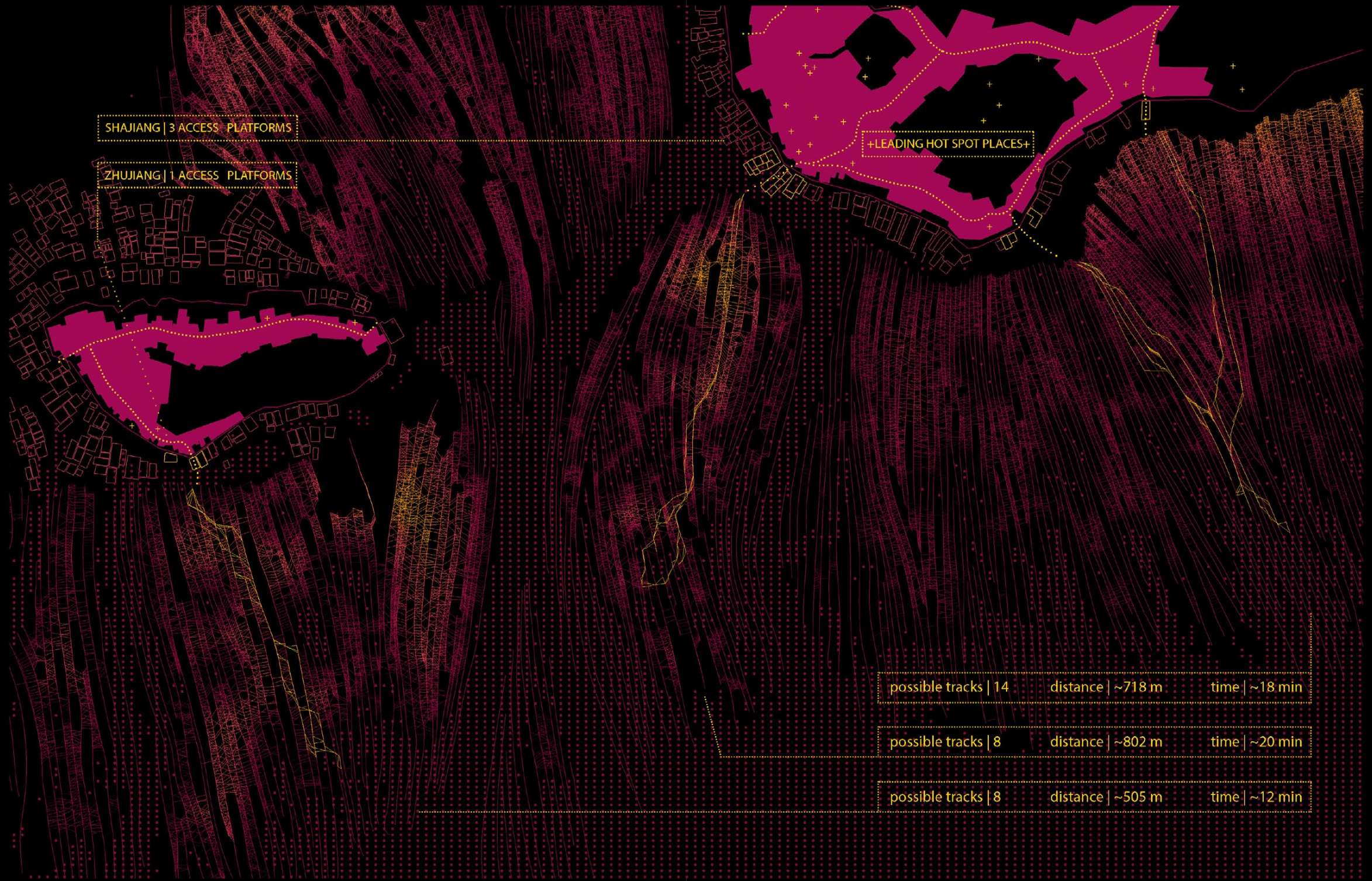
ZHUJIANG | 1 ACCESS PLATFORMS

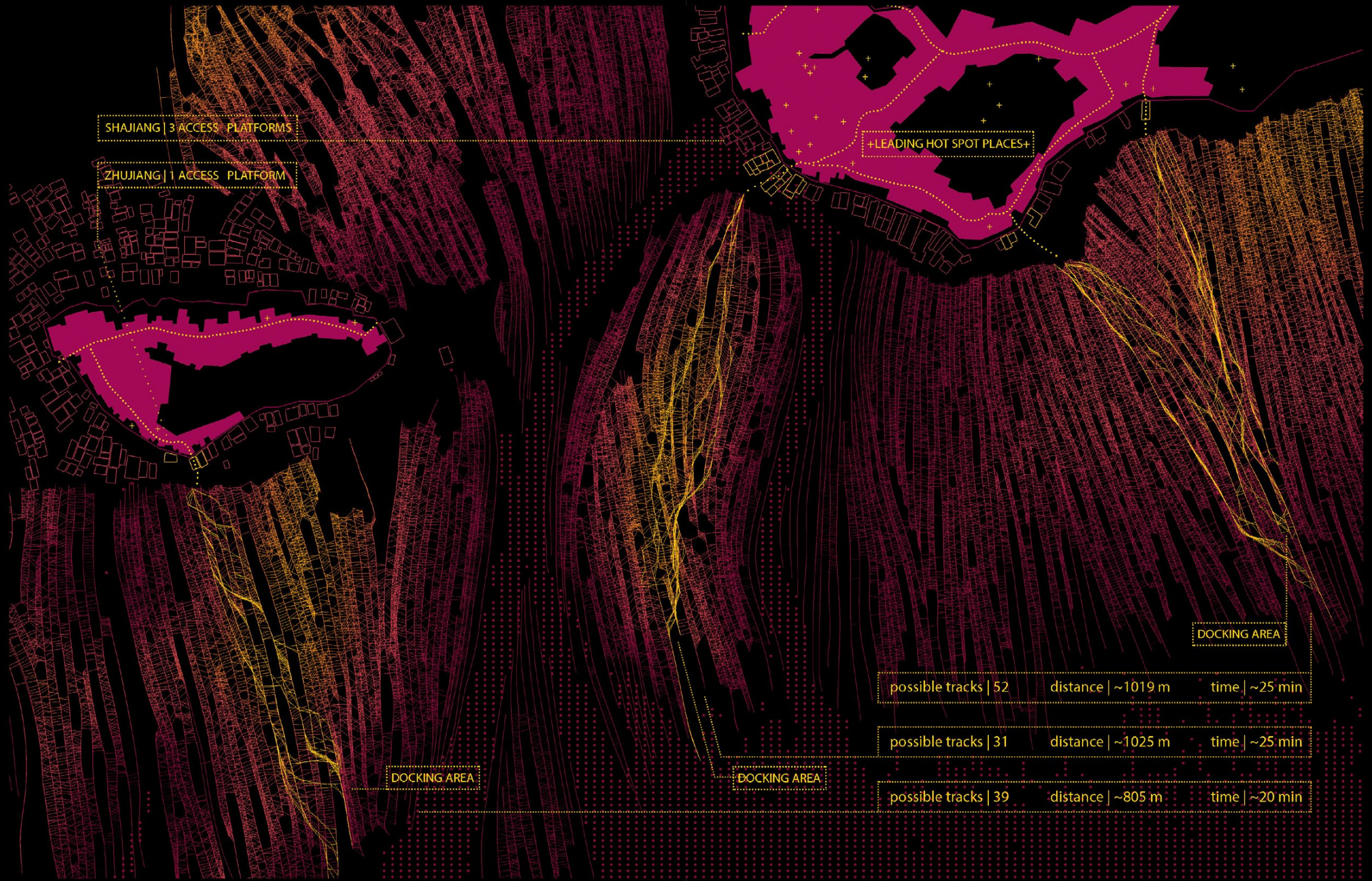
+LEADING HOT SPOT PLACES+

Possible tracks appearing during retreating tide. Each path leads from the coastline to the floating platform on the open sea |video| 36.2 ▲



Possible tracks appearing during retreating tide. Each path leads from the coastline to the floating platform on the open sea [video] 36.3 ▲





SHAJIANG | 3 ACCESS PLATFORMS

ZHUJIANG | 1 ACCESS PLATFORM

+LEADING HOT SPOT PLACES+

DOCKING AREA

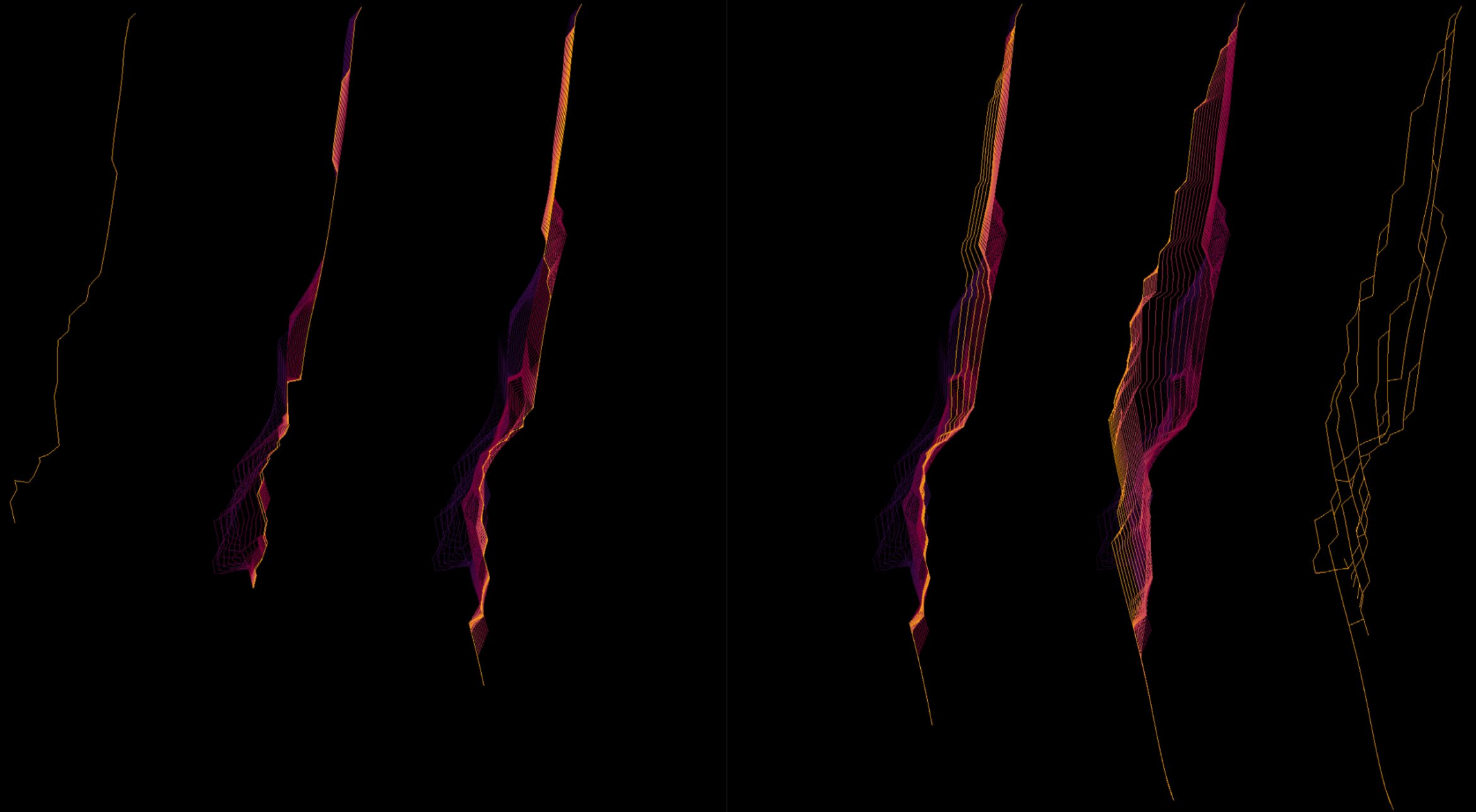
DOCKING AREA

DOCKING AREA

possible tracks | 52 distance | ~1019 m time | ~25 min

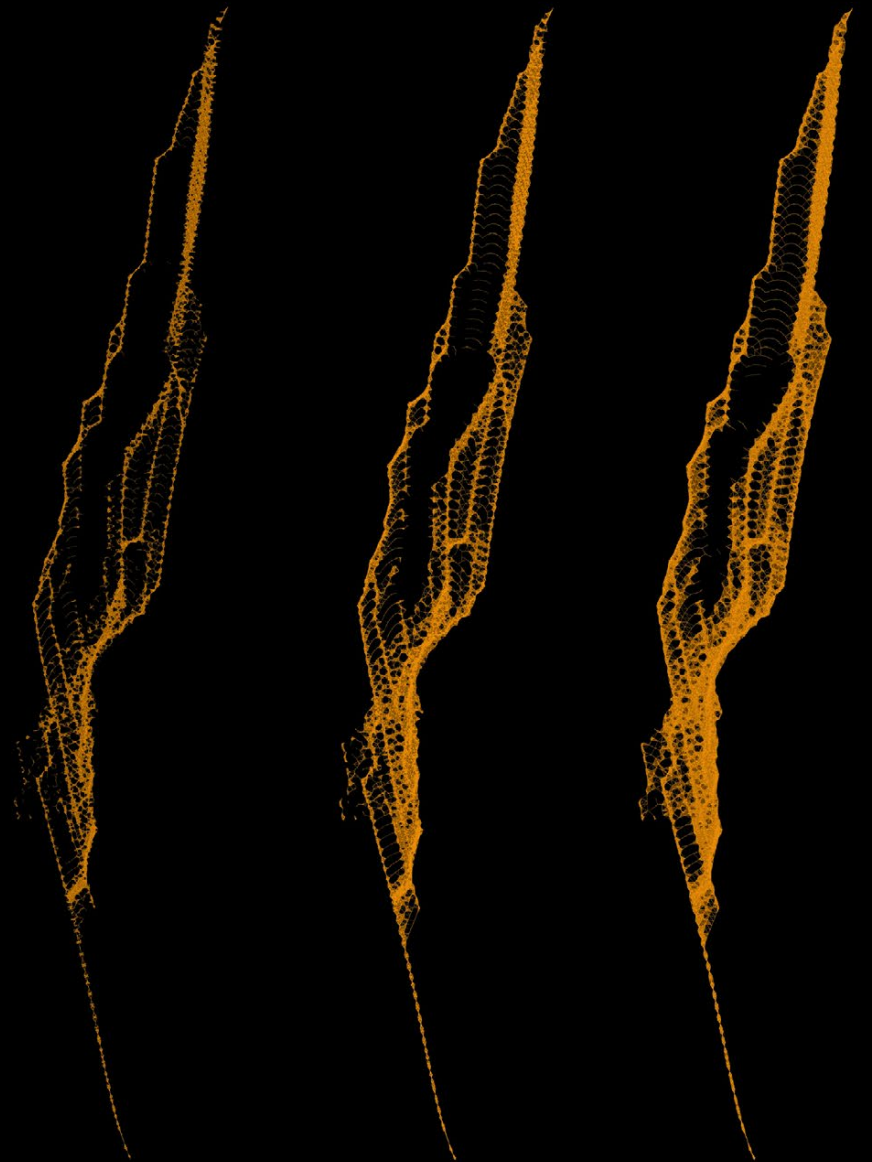
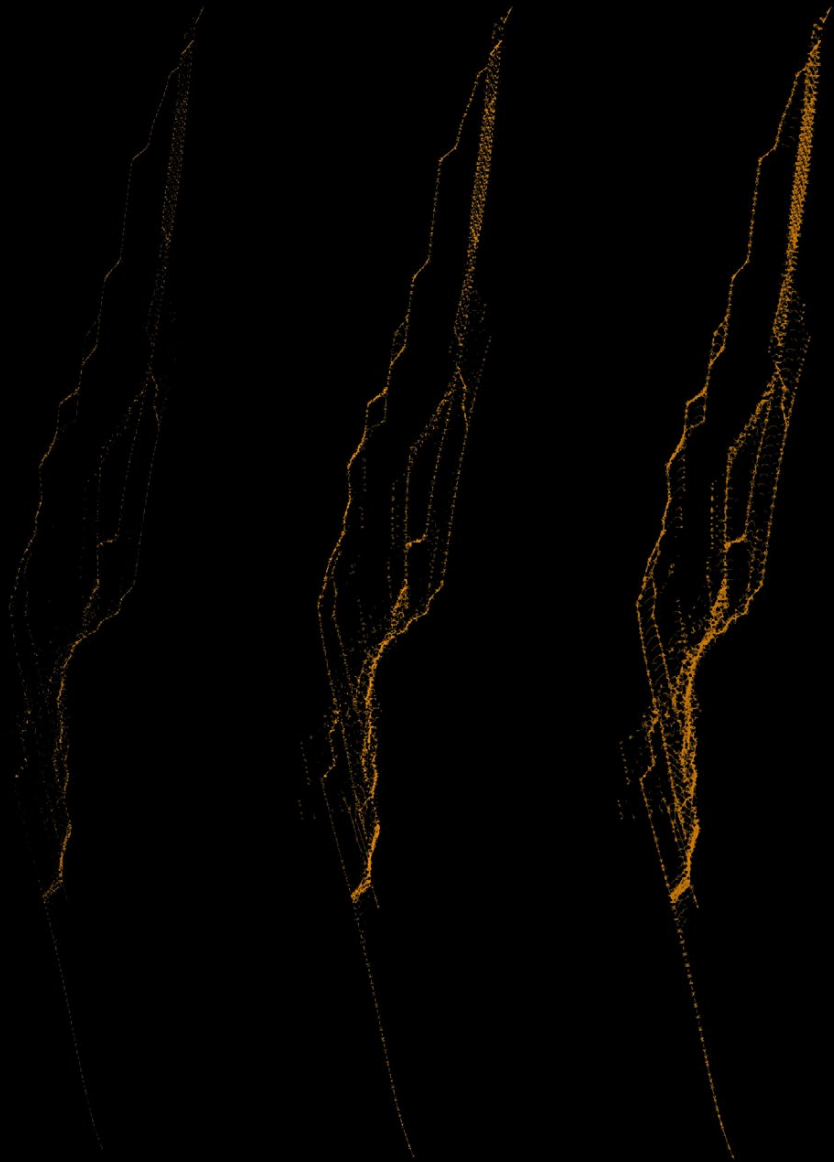
possible tracks | 31 distance | ~1025 m time | ~25 min

possible tracks | 39 distance | ~805 m time | ~20 min



Changes of possible paths determined by the phase of the tide 37. ▲▶

track strategy



part IV

MATERIAL RESEARCH



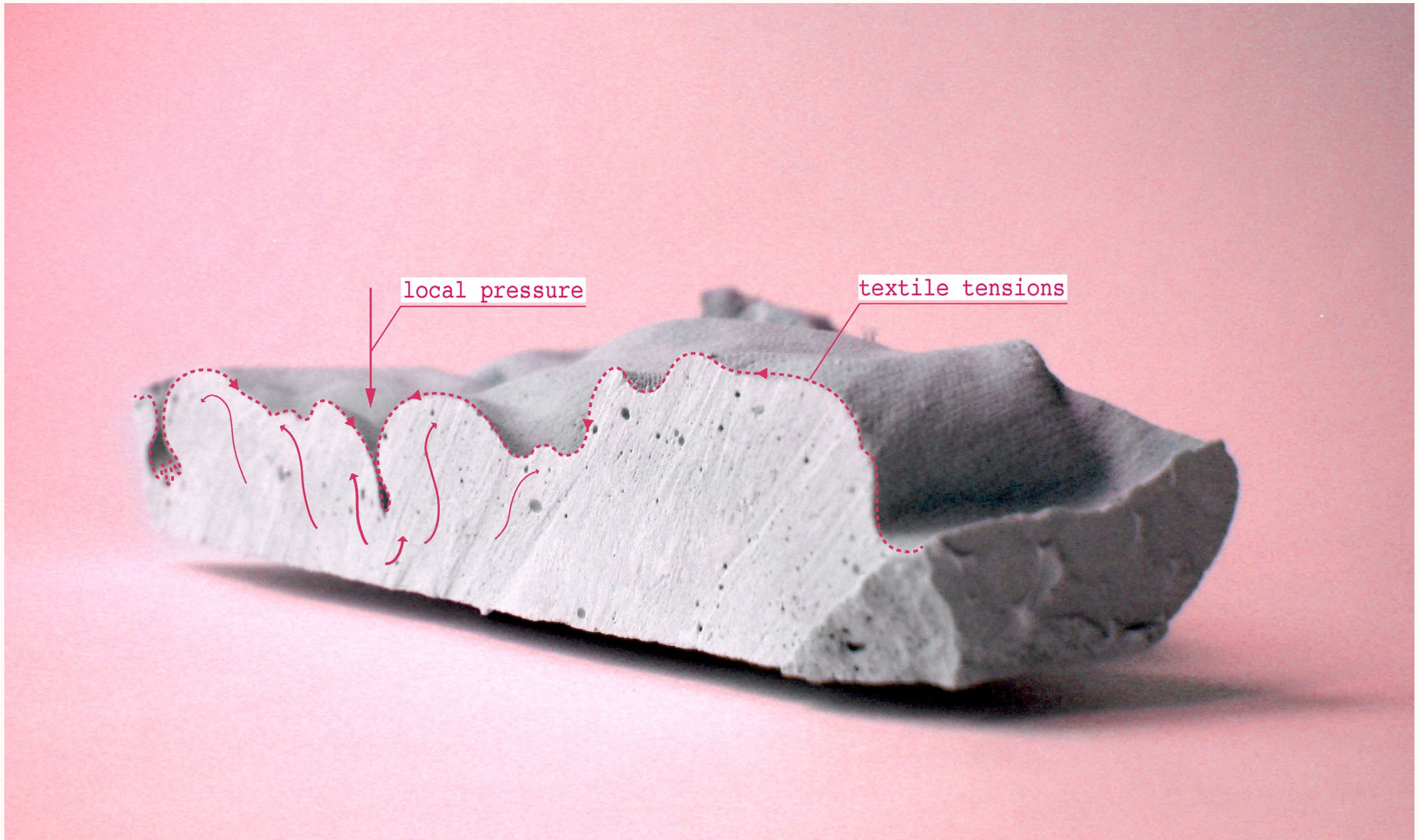
Borders, membranes, thin film covering the leaves or simply our skin - we often perceive those elements as 2 dimensional objects, while - in fact - it is the thickness, density, structure and performance, that defines them the most. The moment we become aware of those subtle factors, we can start to describe membranes as buffers.

Buffer zones appear between various forms, materials and situations, but there is one certain type of buffer we are experiencing each and every day: clothes. They define our privacy and intimacy, sticking to the body or hanging loose in undefined manner. It is - in fact - this particular feature of the textile, that makes it so unique: when an object approaches our body, it has to pass this buffer zone of cloth reciprocity, in order to feel our form. In a way - textile negotiates between two separate entities.

For the purpose of preserving mudflats, as well as giving some kind of processed reciprocity, an idea of a membrane had been placed upon those mud fields - appearing precisely between the sand and the foot of the visitor. Working both ways, it pertracts the features of Xiapu environment, along with the needs and actions performed by men.

Following those ideas, formal research had been divided into two main branches: the first exploring mud resistancy against pressed fabric - while the second refering to flexibility and memory of textiles.

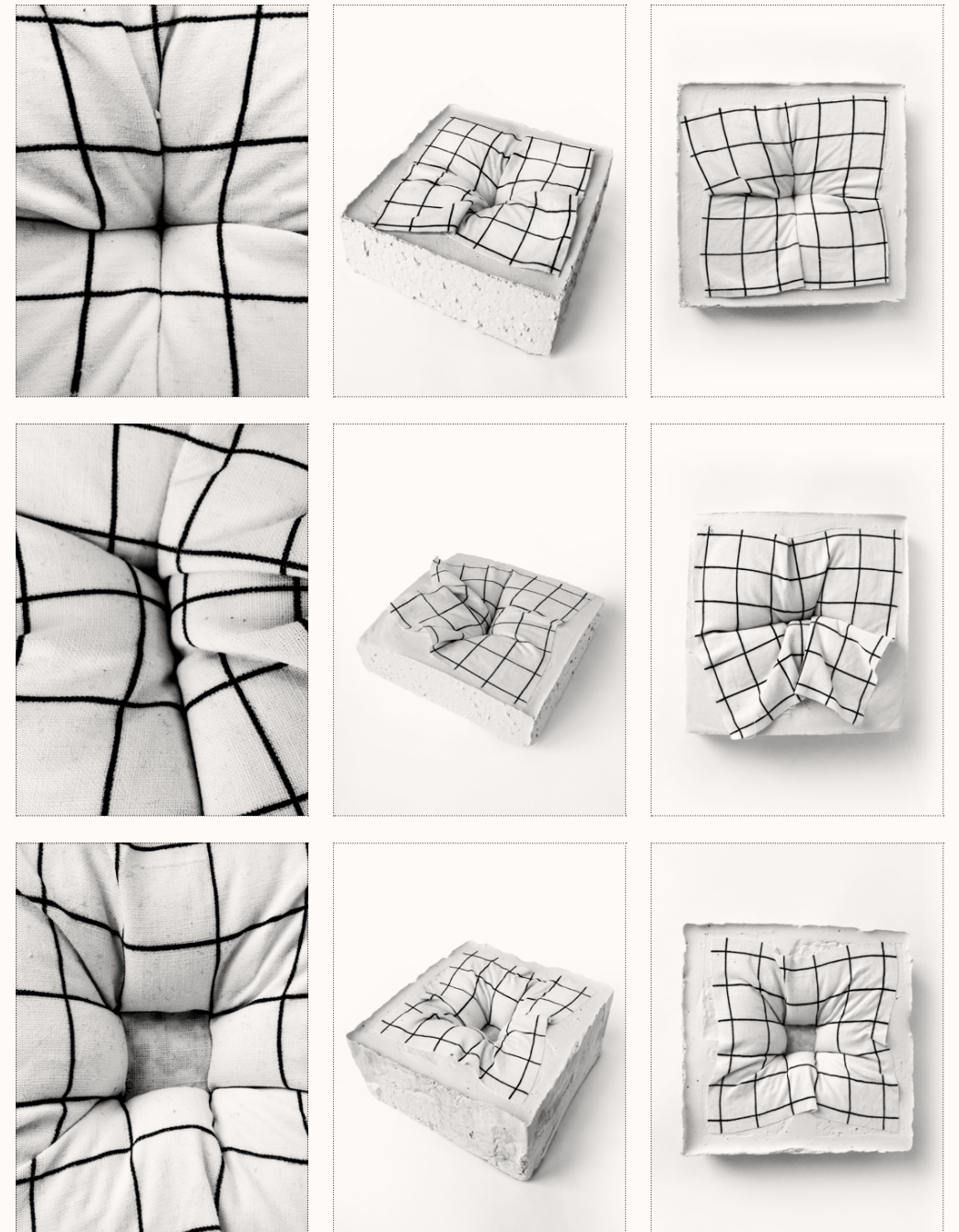
flexible molding



Δ 59. Viscosity molded by the pressure applied to a textile



Textile molding with various pressures 60.Δ



Δ 61. Grid deformations under point-, line- and area-pressure

frozen flexibility



Δ62. Hot glue applied to a stretched textile, released after cooling down



Δ 63. inscribing memory into stretched fabric- various gluing patterns

Memory of materials, resulting in different kinds of deformations, could be inscribed into textiles and evoked with flexible, controlled patterns.

Using this logic - aggregating tidal power and processing it by soft materials and pneumatics - creates PNEUMATIC THREADS. This particular relationship is rooted in various natural forms, yet opening itself towards one of the biggest production branches worldwide - textiles. It gives an opportunity to rethink stretching, flexibility and material memory, looking for important factors directly inside of Xiapu County.

With this being said, Pneumatic Threads take advantage not only from existing tidal range, but combine know-how of knitting and net production - embedded deep into the local culture. Using this knitting potential of the area, as well as daily harvesting routines, enables to introduce membrane system produced with local wisdom, and distributed along the mudflat with local activities. Introducing modern materials into local cultural heritage, extends features of this vast environment, helping to activate various potential within it.

In order to develop digital prototypes, multiple scripts had been designed - giving opportunity to test and recombine various formal and topological possibilities. Mixed with physical prototyping - the whole process gained multidimensional complexity, remaining relatively intuitive to operate in the same time.



◀45. Digital description of complex textile behaviours

pneumatic thread

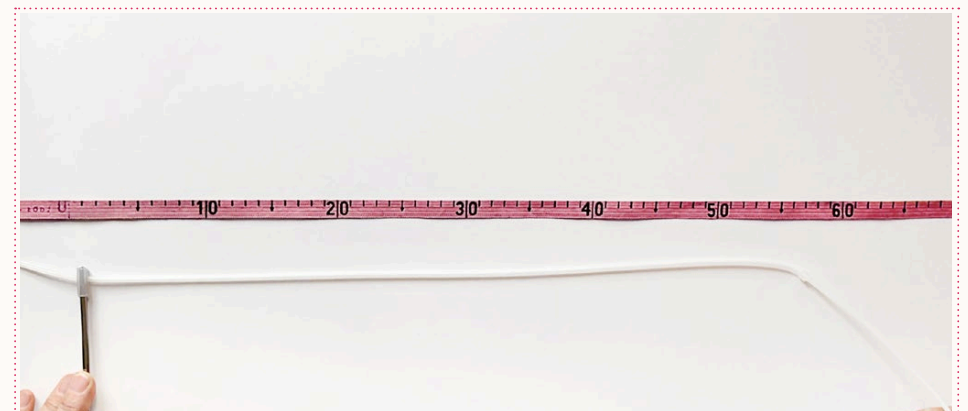
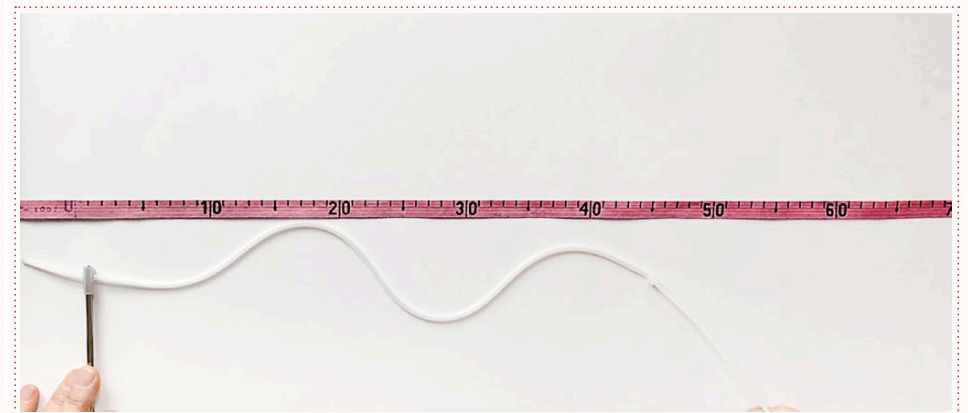
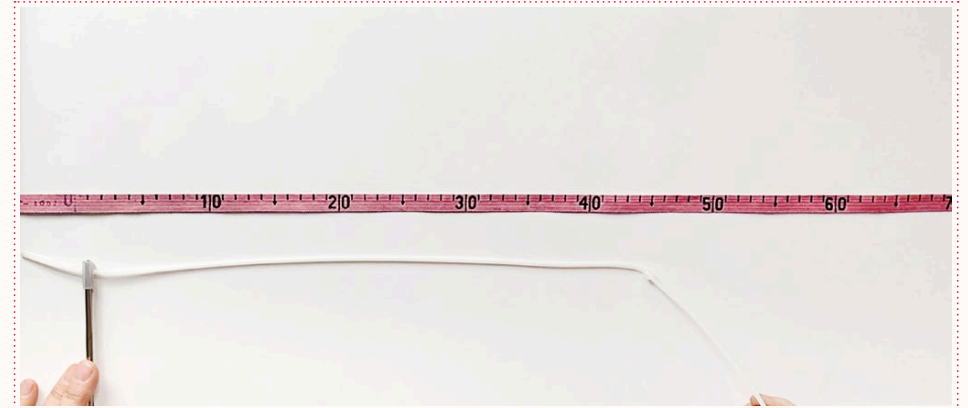
Concentrating on the functionality of pneumatic thread, one question appeared as the most important: which material to choose? The first choice was a simple, medical silicone tube, which had almost none width extension capacity, but occurred to have relatively high potential towards elongation.

Single silicone wire - in this particular example - changed his length by 25%. Moreover, using high pressure (either from liquid- or air condensation) makes the wire harder - being an interesting factor when thinking about redefining textiles.

With this in mind, the very function of pneumatic thread - made either from medical tubes, or later from Ecoflex family of silicones - was now able to be described with set of pressures, along with patterns applied to textiles.

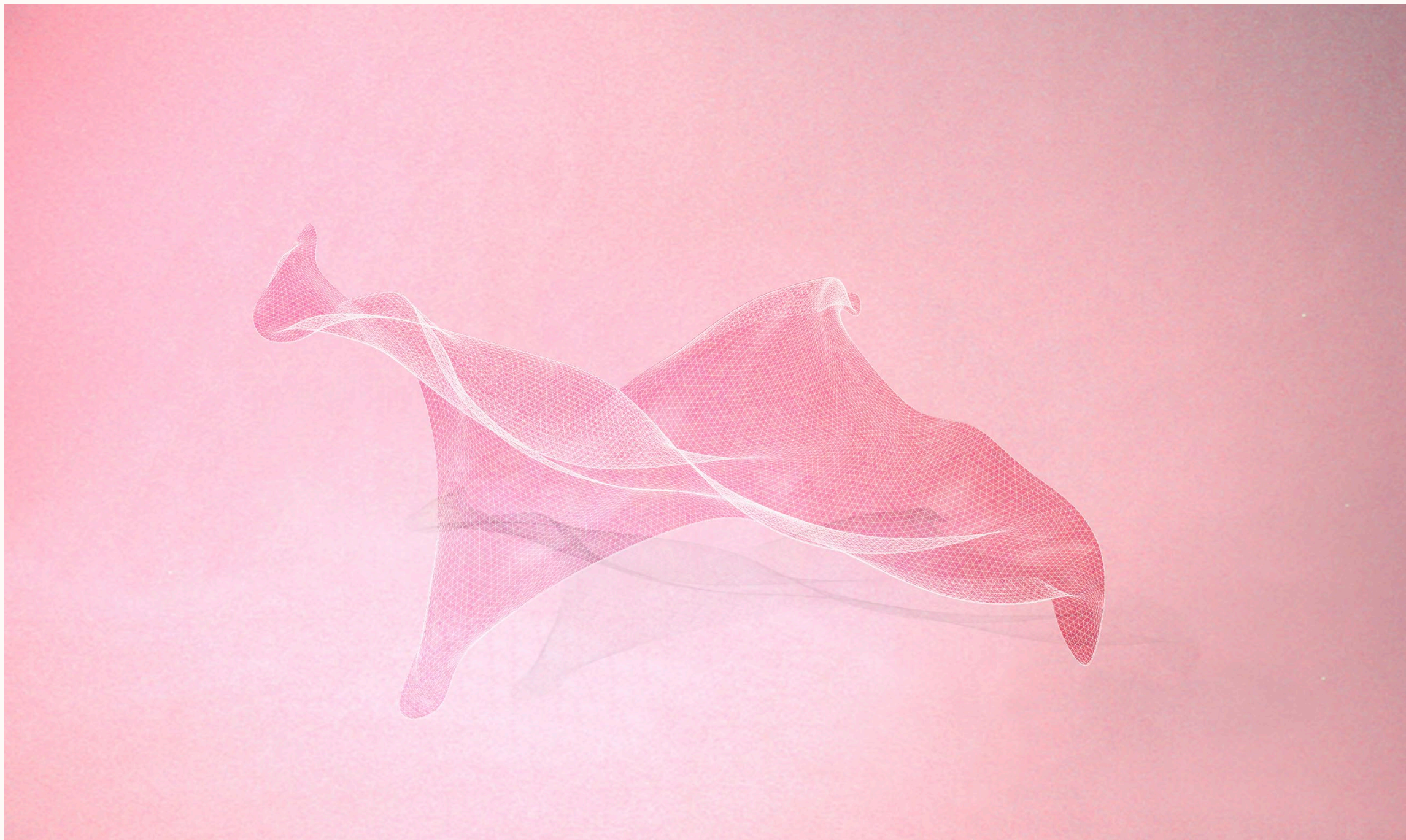
Another important feature of silicone was its scalability, or - in other words - ability to merge several fibers together with another layer of silicone, unifying the pattern and tightening connection with textile. It helped not only to stabilize patterns, but also established close, strong bond with membrane, making the loss of force between those two materials as low as possible.

Future applications of pneumatic threads are countless, and require certain research to be developed within various fields. Creating complex clothes from human to urban scale, with interwoven pneumatic threads - might be possible sooner than we expect.

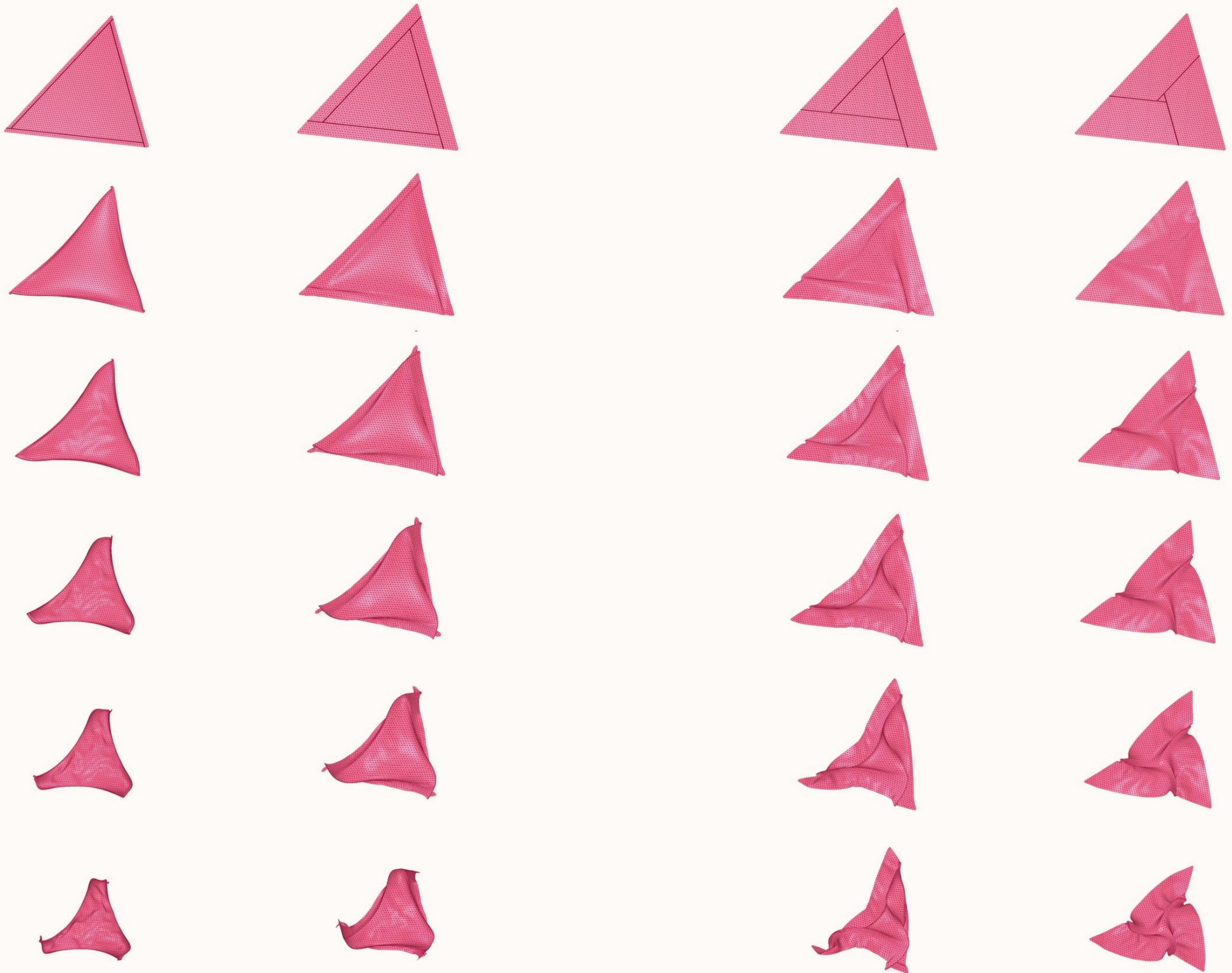


Δ 64. Changing the length of a silicone tube by applying certain amount of pressure

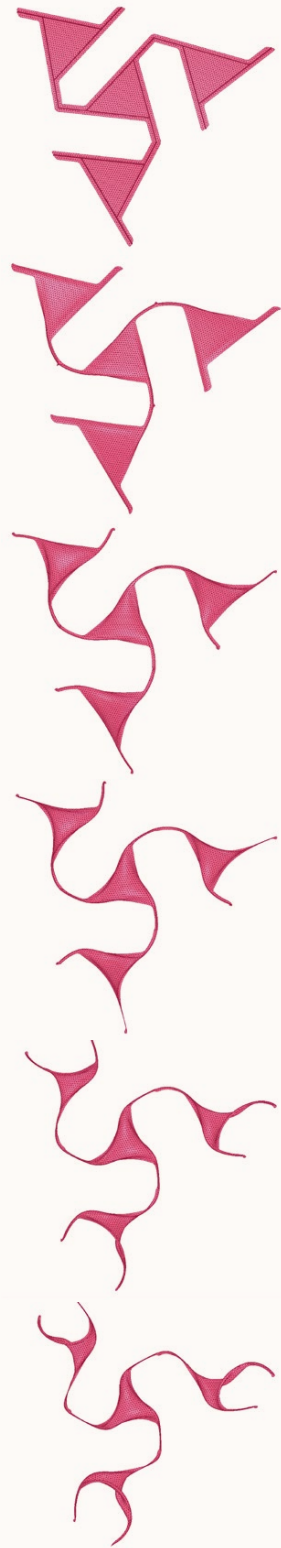
digital research



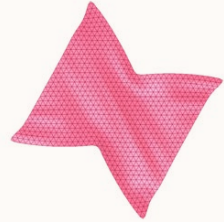
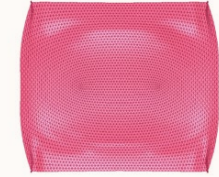
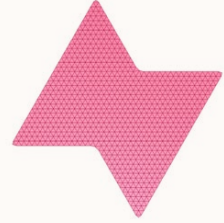
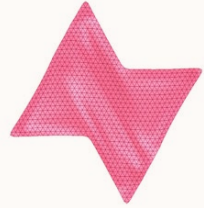
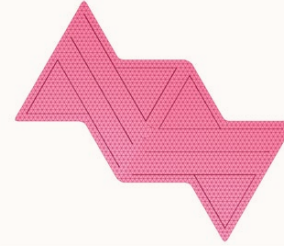
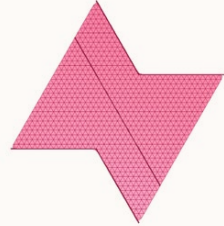
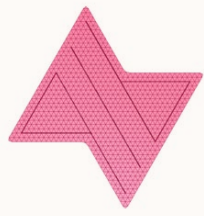
▲ 46. Distinct beauty of textiles, determined by a subtle change of conditions



<Δ 47.1-4 Several combination have been tested in order to mark unique performance of certain patterns applied to the textile



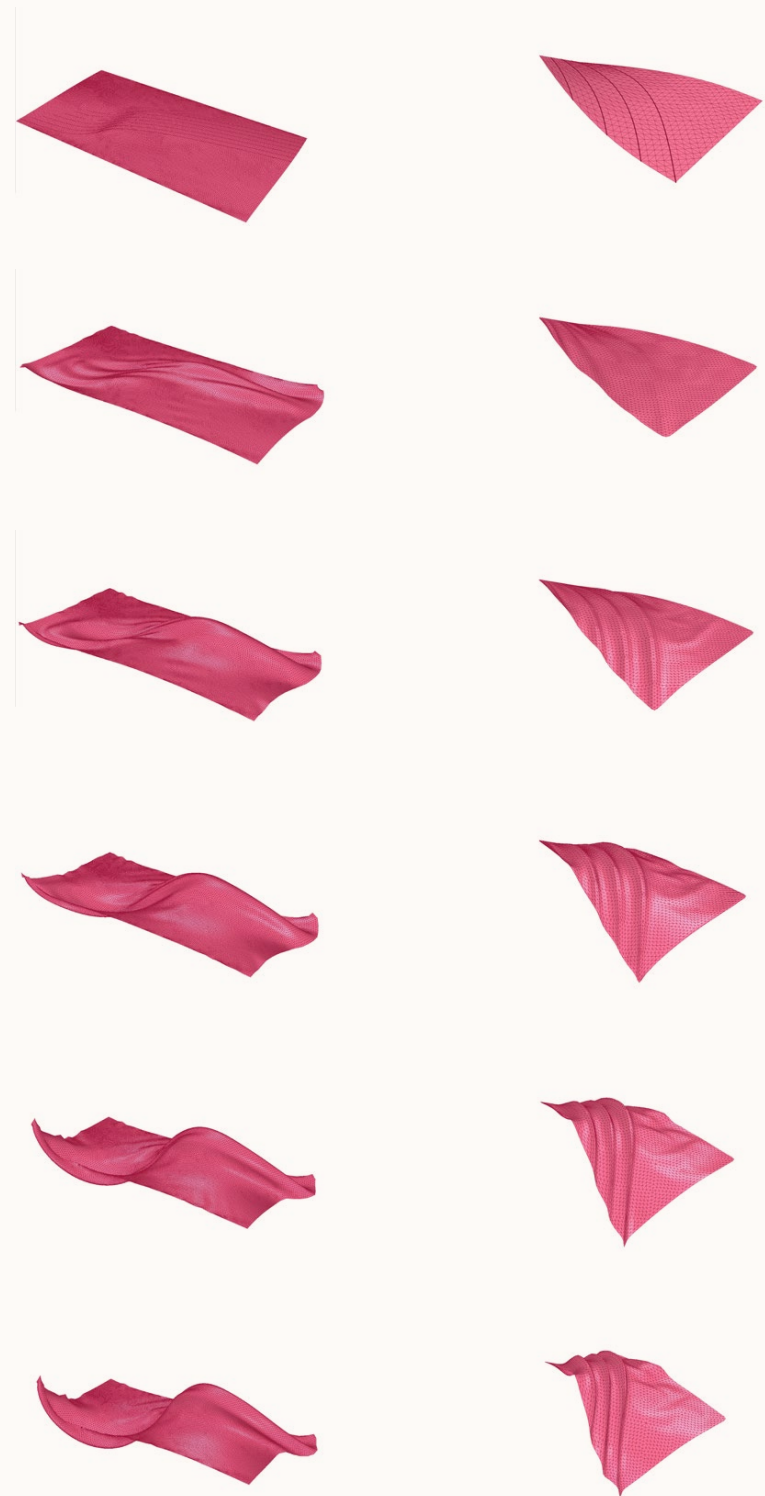
<Δ 47.5-8 Several combination have been tested in order to mark unique performance of certain patterns applied to the textile



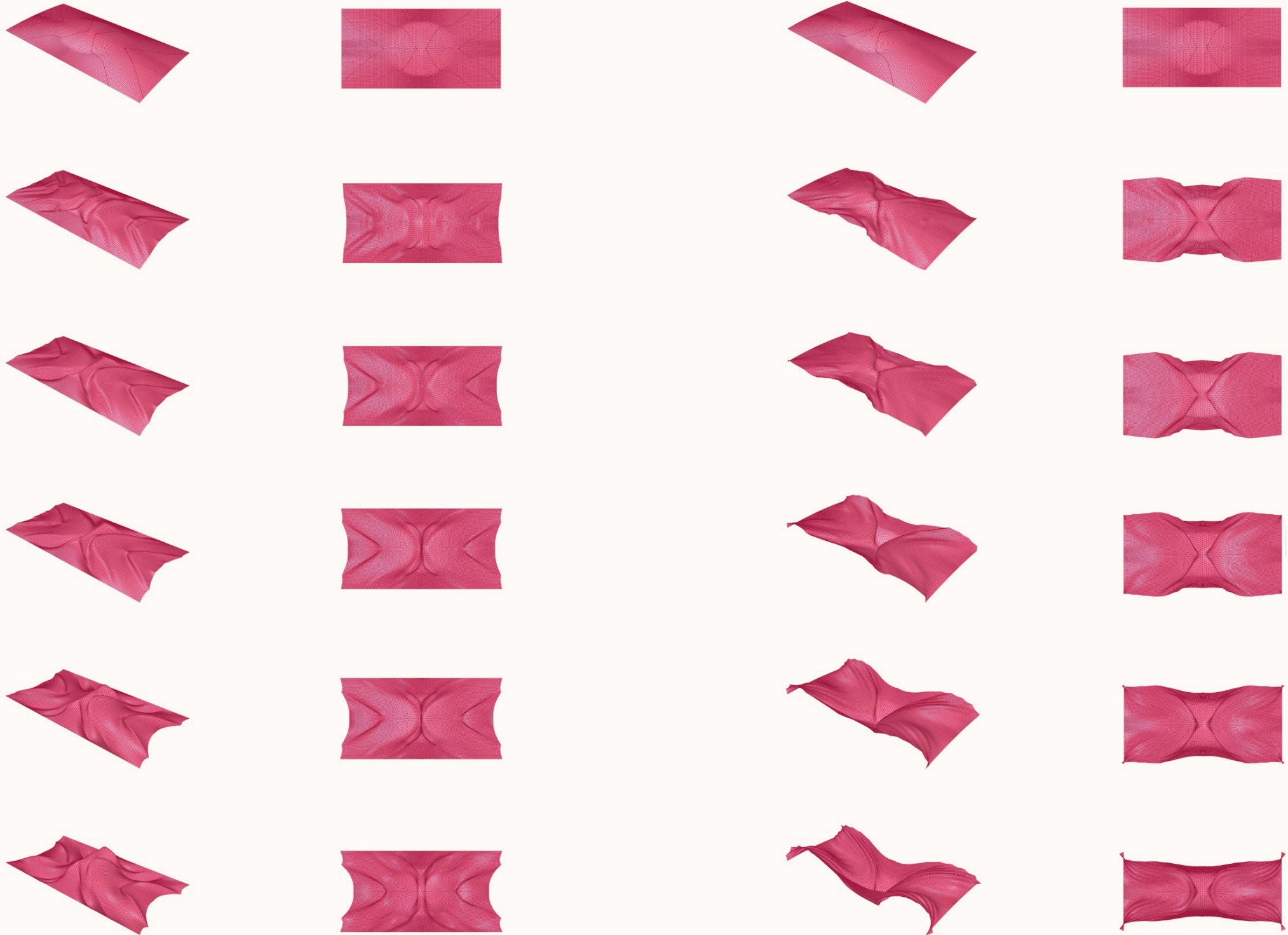
<Δ 47.9-12 Several combination have been tested in order to mark unique performance of certain patterns applied to the textile



<Δ 47.13-16 Several combination have been tested in order to mark unique performance of certain patterns applied to the textile



<Δ 47.17-20 Several combination have been tested in order to mark unique performance of certain patterns applied to the textile

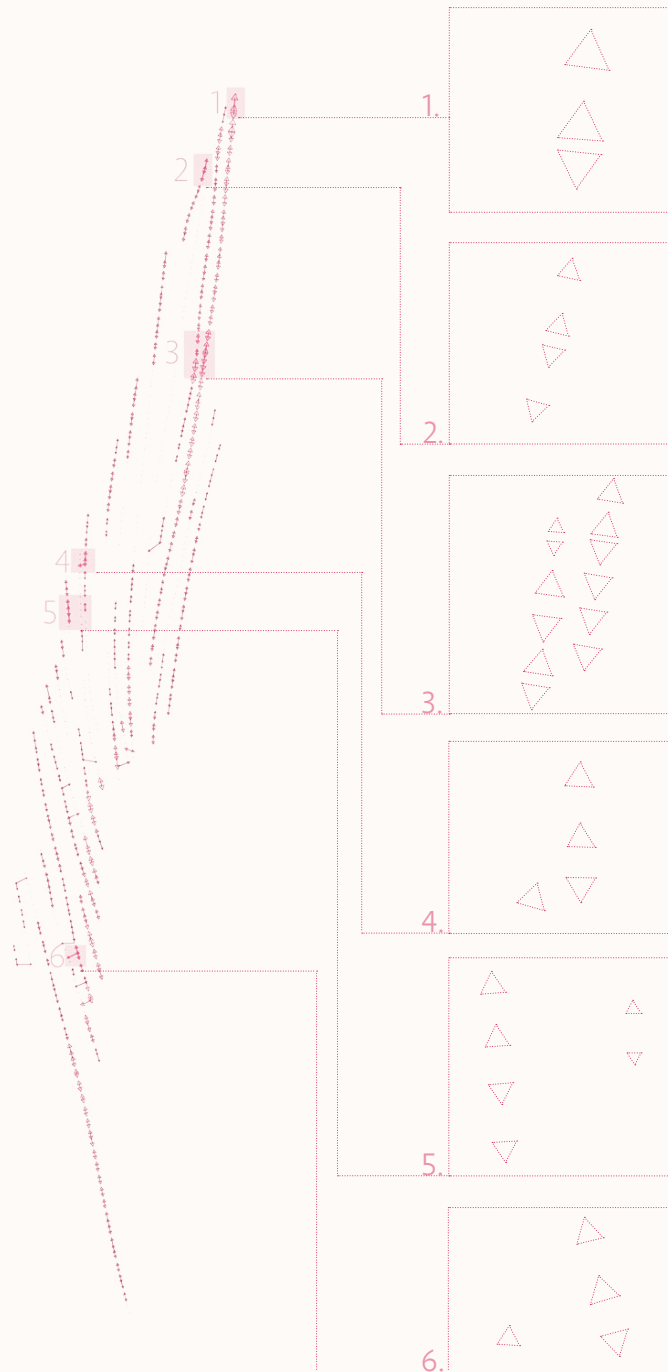


<Δ 47.21-24 Several combination have been tested in order to mark unique performance of certain patterns applied to the textile

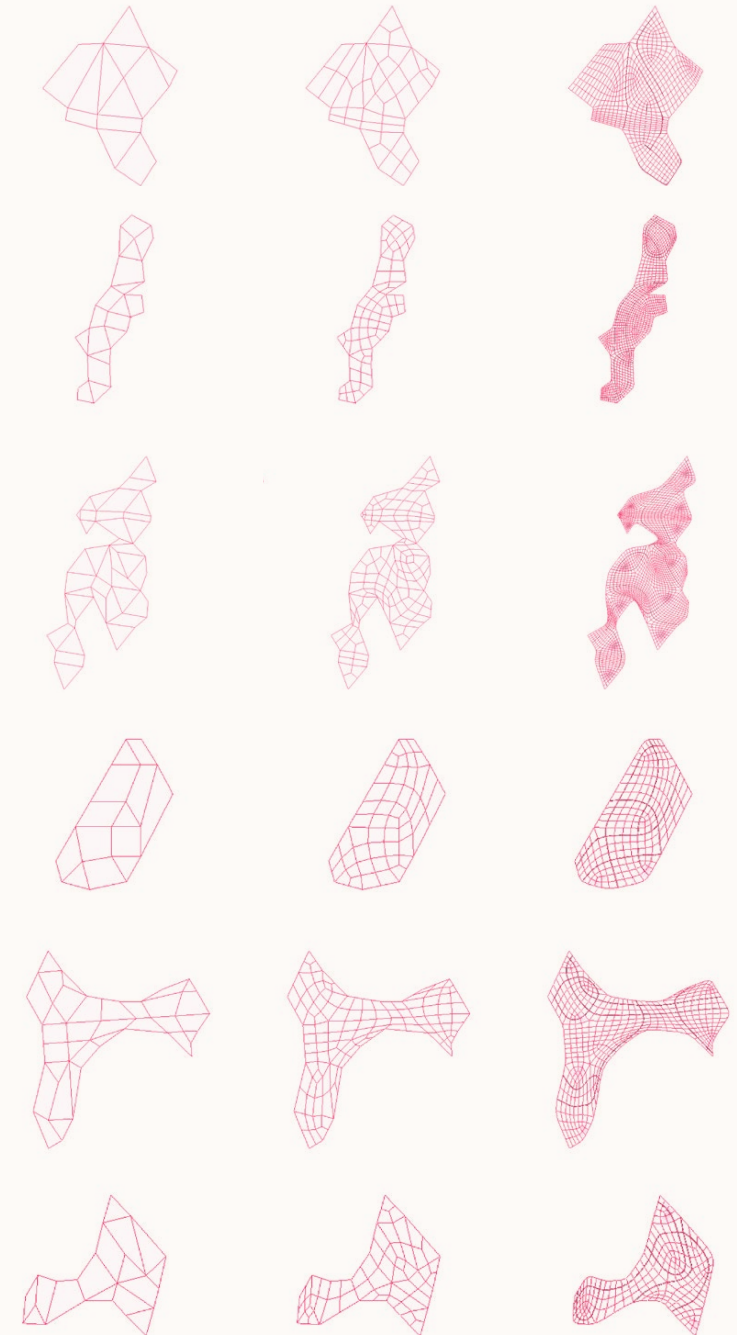
part V

CONTEXTUAL APPLICATION

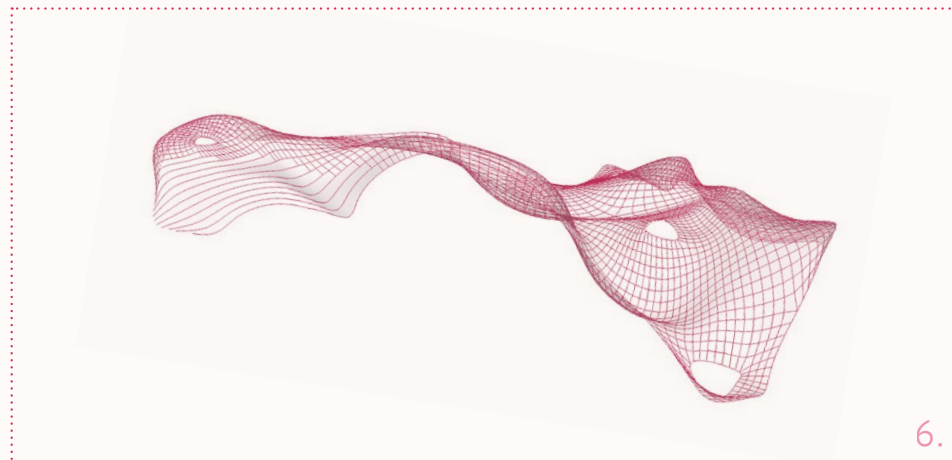
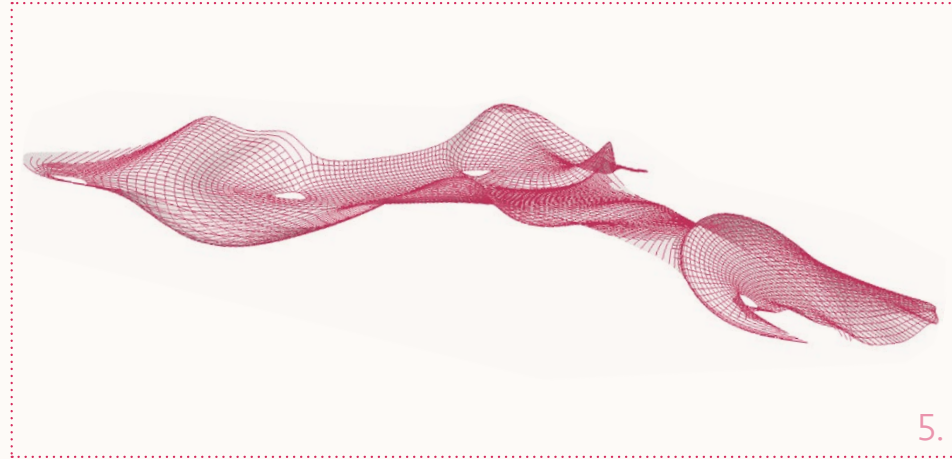
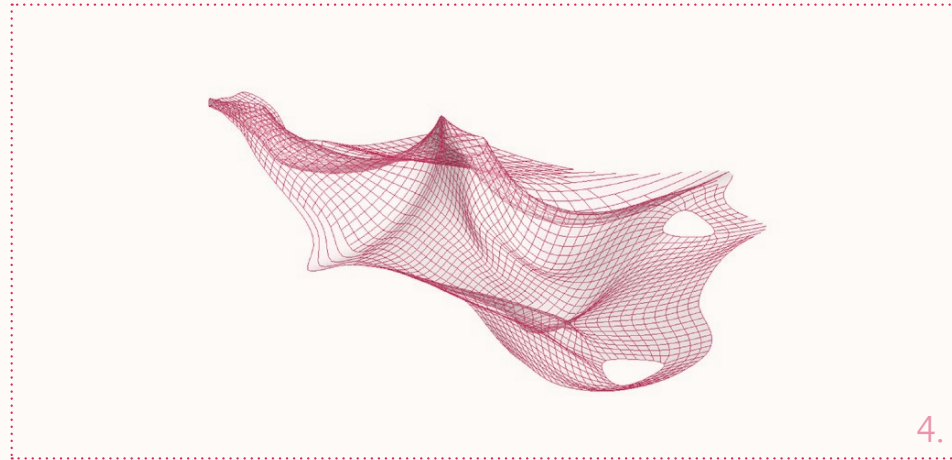
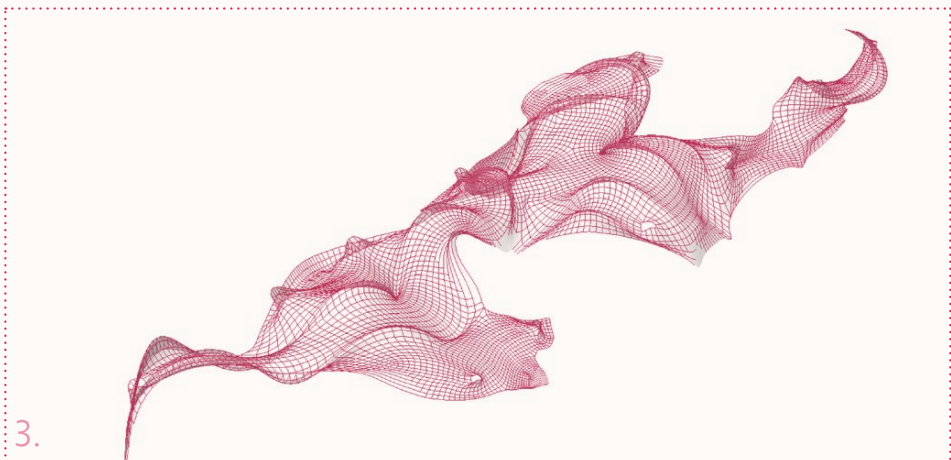
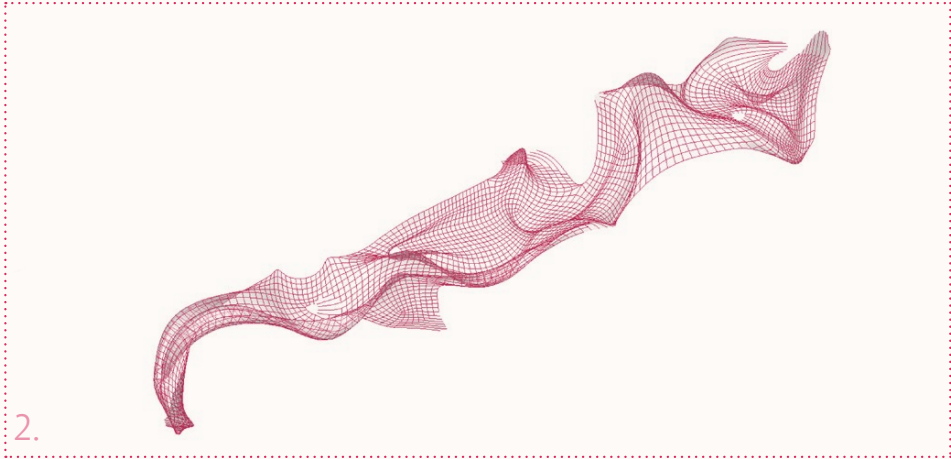
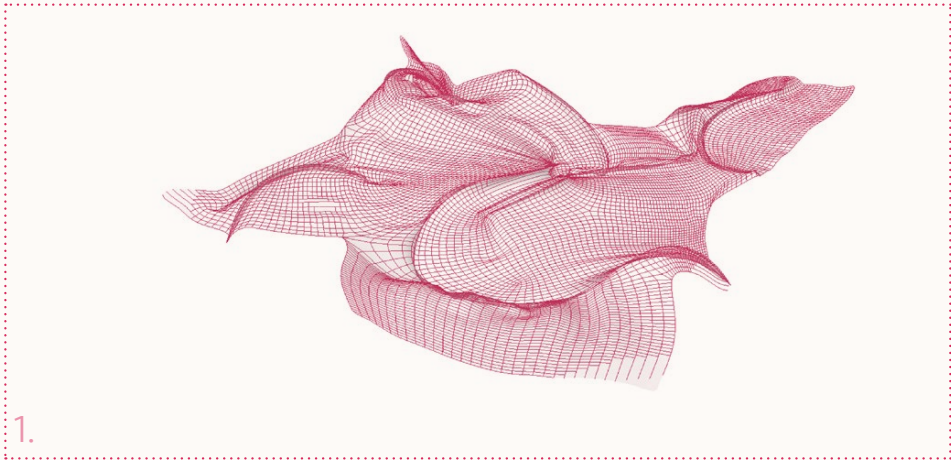
thread distribution



Typology of bamboo groups from Sha Jiang mudflats 48. ▲



▲ 49. Possible development of the threads within different typologies

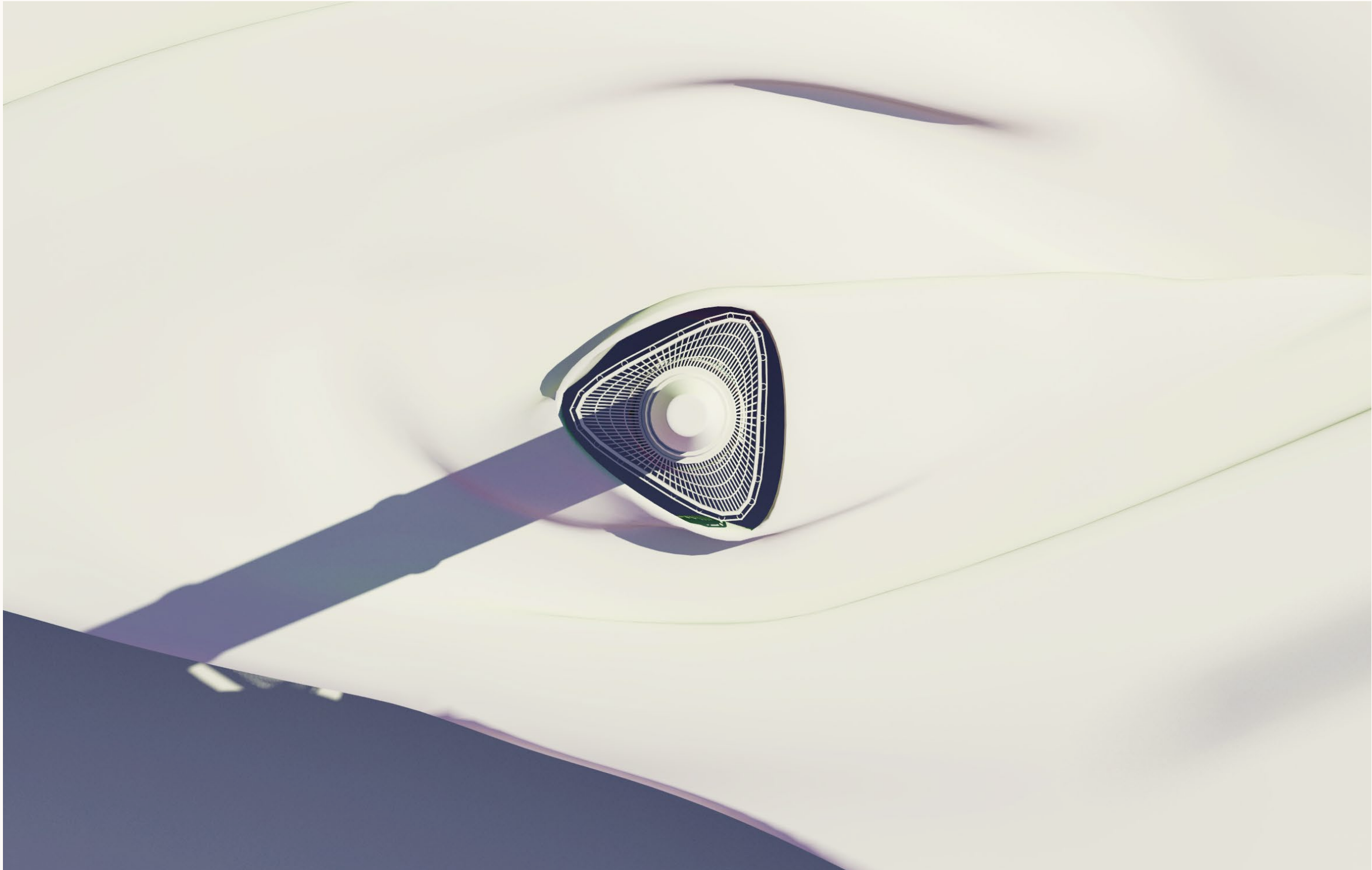


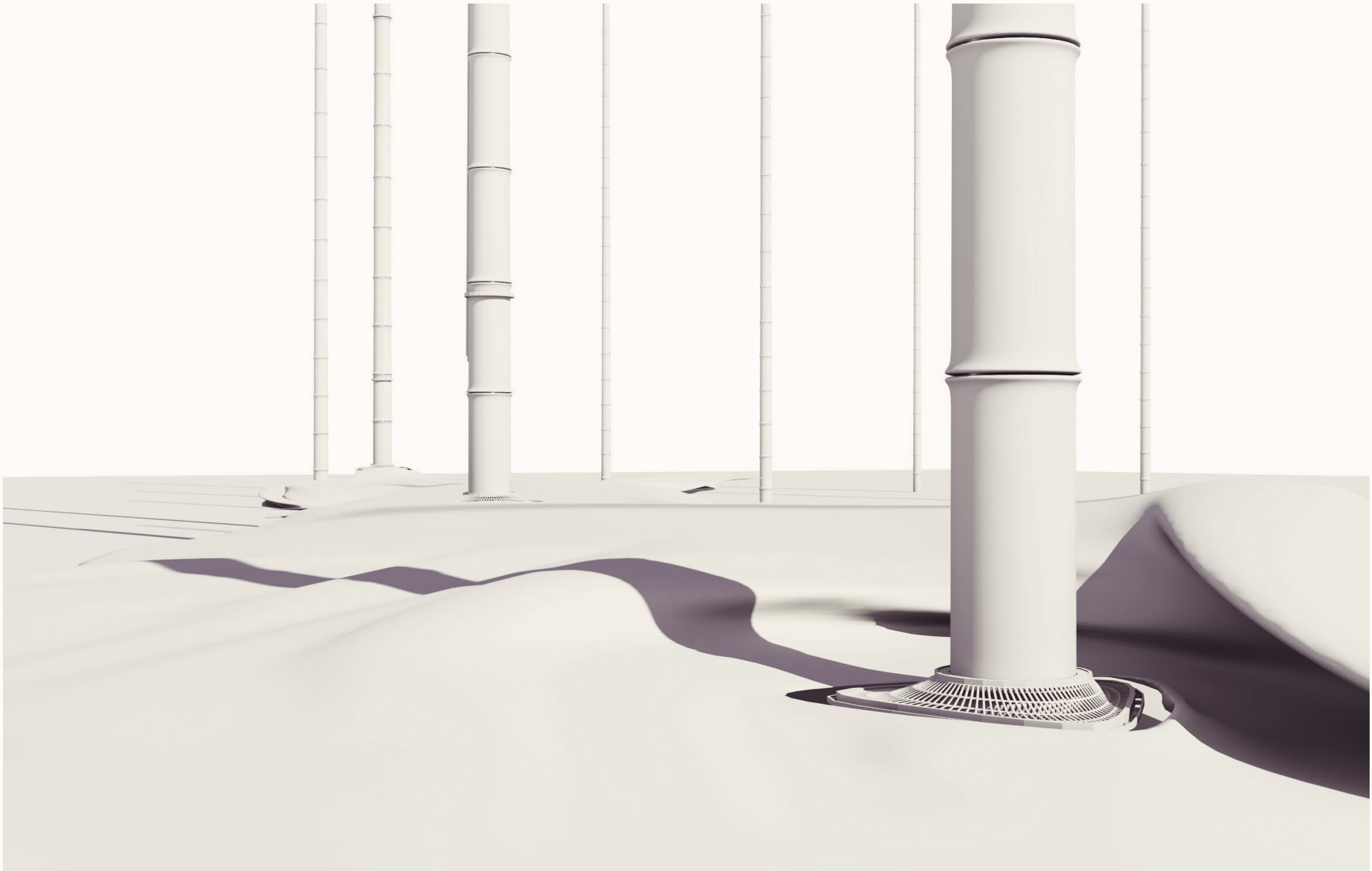
Δ 50. Textile deformations by extending pneumatic thread pattern

VISUAL PROJECTION



Δ 51. Visualisation





PHYSICAL MODEL



△ 64.1 Characteristic landscape of Xiapu - Sha Jiang village surrounded by mudflats, 1:1000



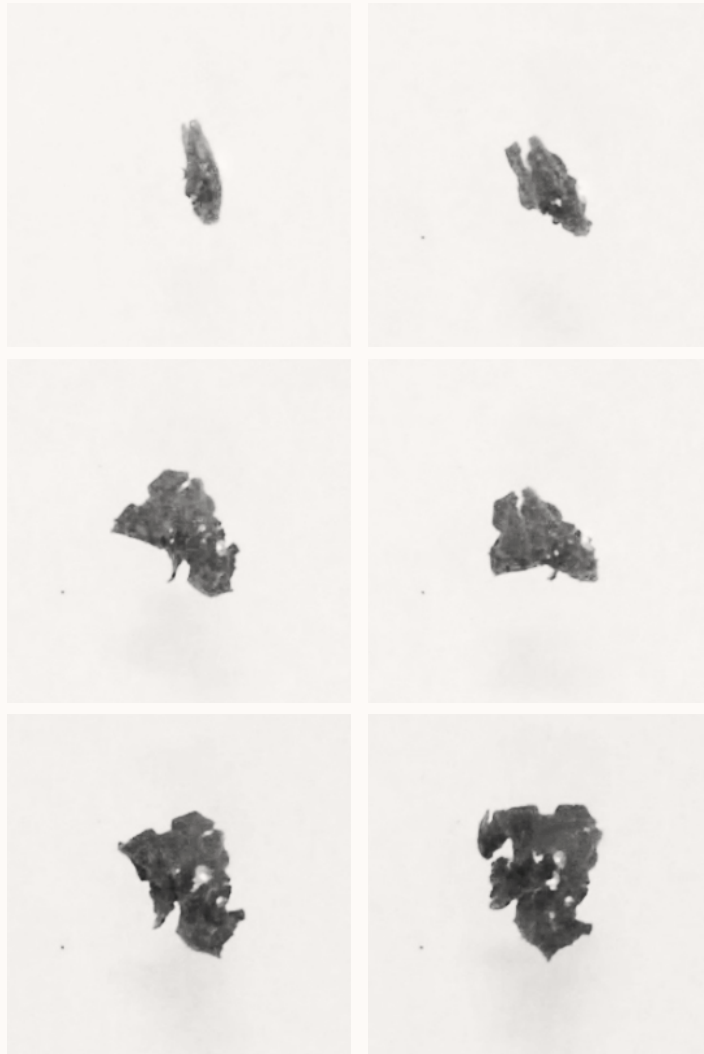
△ 64.2 Characteristic landscape of Xiapu - Sha Jiang village surrounded by mudflats, 1:1000



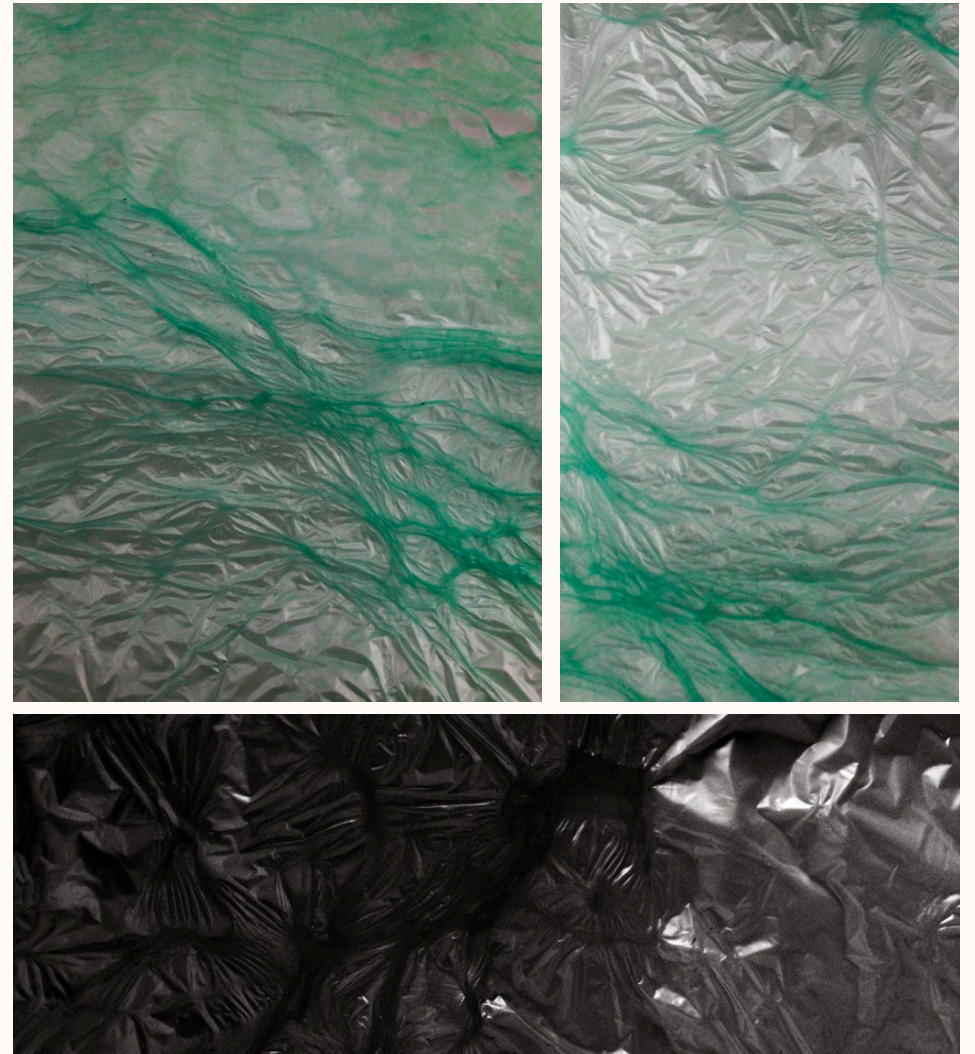
Δ 65. Physical model as a canvas for Augmented Reality - explaining complex choreography of design strategy

APPENDIX

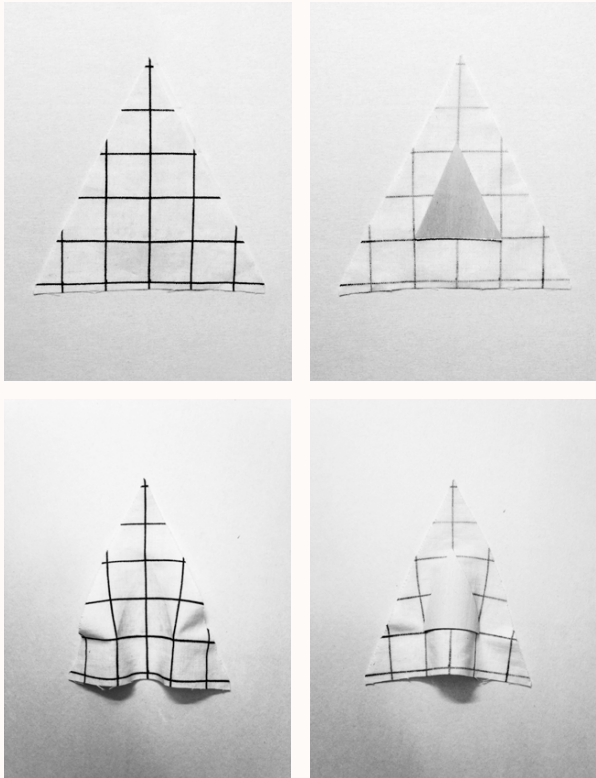
initial research



Δ66. Self developing surfaces : unfolding of a green tea leaf in a water



Δ67. Result of a melted foil



Δ68. Grid deformation: bending wood by applying humidity to wooden fibers



Δ69. Testing silicone by applying pressure into post-wax channel



Δ70. Testing flexinol muscle wire mounted onto a piece of textile



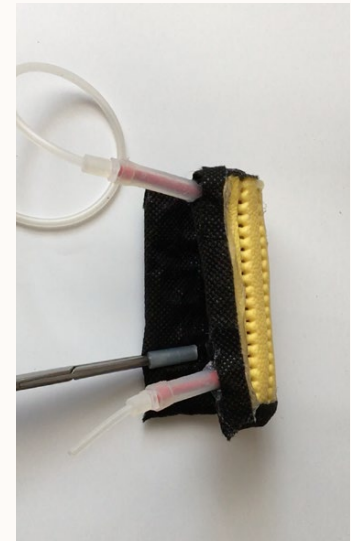
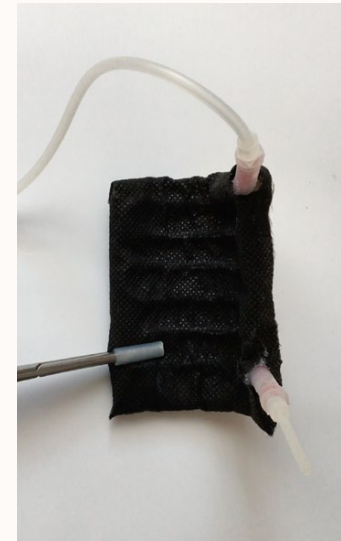
Δ71. Testing ecoflex silicon: creating a "textile pneumatic tube"



Δ73. Testing pneumatic tube combined with an elastic textile



Δ72. Testing Ecoflex silicon : multilayered composite with integrated channel



Δ74. Testing pneumatic tube placed between elastic and non-elastic surfaces

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4. Sunset at Yu Gong Ting Cun Village, Xiapu County | Photo by E.W.Pawlik
5. Golden beach | Photo by Ge Zheng | Available at: <http://www.pipa.sg/index.php/winner-2016/projected-image-travel-colour/>
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18. Hanging harvested seaweed on bamboo sticks | Photo by Jianrong Song | Available at <http://shangbangsalon.com/index.php/xiapu-colour-landscape/>
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20. Farmer, Yang Jiayi | Photo by E.W.Pawlik
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22. Meandering streams of water | Photo by E.W.Pawlik
23. Water channels in mudflats | Photo by Nick Saltmarsh | Available at <https://www.flickr.com/photos/nsalt/3056057474/>
24. Sea food: harvested oysters | Photo by fegafomatos | Available on <https://www.flickr.com/photos/18274848@N08/20262479095/in/album-72157656670203626/>
25. Fish trap during the low tide | Photo by Toonman_blchin | Available on <https://www.flickr.com/photos/toonmanimage/17622381365/in/album-72157652312647209/>
26. Fishing boats | Photo by unknown author
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39. Street in Sha Jiang Village | Photo by E.W.Pawlik
40. Street in Han Jiang Village | Photo by E.W.Pawlik
41. Bamboo poles with drying seaweeds | Photo by Melinda Chan | Available at <https://www.flickr.com/photos/channemmel>
42. Laying out harvested seaweeds to dry on bamboo raft | Photo by E.W.Pawlik
43. Hanging seaweeds on bamboo poles | Photo by E.W.Pawlik
44. Packages of dried seaweed | Photo by E.W.Pawlik
45. Bamboo raft with sea cucumber cultivation | Photo by E.W.Pawlik
46. Bamboo rafts as a streets | Photo by Jarvankng | Available at <https://www.instagram.com/jarvankng/>
47. Floating fishing villages close to Dong'an Island | Photo by E.W.Pawlik
48. House at a floating Village | Photo by Jarvankng | Available at <https://www.instagram.com/jarvankng/>
49. Floating bamboo raft at Hu Yu Bay | Photo by E.W.Pawlik
50. Floating village and seaweed farm | Photo by E.W.Pawlik
51. Shrimp cultivation in Ba Chi Men | Photo by E.W.Pawlik
52. Coastline at Han Jiang Village | Photo by E.W.Pawlik
53. Local welder in Shaa Jiang Village | Photo by E.W.Pawlik
54. Lying out seaweeds on a grass | Photo by E.W.Pawlik
55. Women packing dried seaweed | Photo by E.W.Pawlik
56. Working fisherman at seaweed farm | Photo by Melinda Chan | Available at <https://www.flickr.com/photos/channemmel/8902460372/in/album-72157633750583717/>
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57. Textile imprint | Photo and model by E.W.Pawlik
58. Viscosity molded by the pressure applied to a textile | Photo by M. Spólnik, model by E.W.Pawlik
59. Textile molding with various pressures | Photo and model by E.W.Pawlik
60. Grid deformations under point-, line- and area-pressure | Photo and model by E.W.Pawlik
61. Hot glue applied to a stretched textile, released after cooling down | Photo and model by E.W.Pawlik
62. Inscribing memory into stretched fabric - various gluing patterns | Photo and model by E.W.Pawlik
63. Changing the length of a silicone tube by applying certain amount of pressure | Photo and model by E.W.Pawlik
- 64.2 Characteristic landscape of Xiapu - Sha Jiang village surrounded by mudflats, 1:1000 | Photo and model by E.W.Pawlik
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73. Testing pneumatic tube combined with an elastic textile | Photo and model by E.W.Pawlik
74. Testing pneumatic tube placed between elastic and non-elastic surfaces | Photo and model by E.W.Pawlik

graphics

1. Terrain of Xiapu County, Fujian Province, East Coast China

Graphic by E.W.Pawlik

2. Azimuthal map projection of Asia, centered on Taipei | based on the map from The Library of Congress. Available at: <http://www.loc.gov/item/75692496>

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3. Hong Kong in 1984 and in 2015 | based on historical Imagery from Google Earth

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4. Typhoon Nepartak heading for Taiwan and China Mainland in July 2016 |

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7. Borders of Xiapu County | based on openstreetmaps.com

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8. Results of a survey among locals from Sha Jiang

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9. Daily shift of tidal amplitude within a month | based on: <https://www.tide-forecast.com/locations/Shajiang/tides/latest> | Accessed 5 May 2016 and 20 May 2016

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10. Selected path is an information cloud of one photo uploaded to www.panoramio.com website | using Panoramio API

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11. the most geotagged places along the Xiapu coastline

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12. diagrams presenting which village was most geotagged each year, on [panoramio](http://panoramio.com) and [flickr](http://flickr.com) | data from Panoramio API and Flickr API

Graphic by E.W.Pawlik

13. Exact location of uploaded photos with usernames | data from Panoramio API and Flickr API

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14.1 Projection of all photos from Xiapu County uploaded to Panoramio and Flickr. X-axis presents the median brightness Y-axis presents the median saturation of all photos. That organizes the photos according to time of day

Graphic made in ImageJ

14.2 Projection of all photos from neighbouring counties (Fu'an and Jiaocheng) uploaded to Panoramio and Flickr. X-axis presents the median brightness Y-axis presents the median saturation of all photos. That organizes the photos according to time of day

Graphic using Image Plot Program

15. Intertidal zone along the coast of Xiapu County | based on historical imagery from Google Earth

Graphics by E.W.Pawlik

16. Part of Xiapu County chosen for further research

Graphic from Apple Maps

17. Part of Xiapu County chosen for further research: characteristic features of each village

Graphic by E.W.Pawlik

18. Part of Xiapu County chosen for further research: location of bamboo poles

Graphic by E.W.Pawlik

19. Part of Xiapu County chosen for further research: location of fishing ponds-no direct connection land-mudflats

Graphic by E.W.Pawlik

20. Sha Jiang Village in Xiapu County during the low tide

Graphic from Google Maps

21. Sha Jiang Village in Xiapu County during the high tide | based on historical imagery from Google Earth

Graphic by E.W.Pawlik

22. Embracing mud sensitivity Graphic by E.W.Pawlik

23. Cause and Effect Analysis- issues affecting local communities

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24. Transforming site features into a benefits program

Graphic by E.W.Pawlik

25. The village of Sha Jiang, mudflats area covered by hundreds of bamboo sticks and visiting photographers - composed together in unique type of ecosystem. Navigating through multiple formal and social languages, building the dialog between them.

By E.W.Pawlik

26. thin-soft-flexible : sketching the space between environment and the visitor

27. Basic map of time needed to cover a given distance - size of parcels is related to average speed on a given type of soil. Walking on stable ground: 100 m/ 1 min. Walking on unstable ground: 40 m/ 1 min Graphic by E.W.Pawlik

28.1-4 Scenarios of one day trip through a few fishing villages.

Graphic by E.W.Pawlik

29. Tidal Rhythms at Xiapu coast

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30. Top view and perspective view during the high tide

Graphic by E.W.Pawlik

31. Top view and perspective view - 2nd hour after the high tide

Graphic by E.W.Pawlik

32. Top view and perspective view - 4rd hour after the high tide

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33. Top view and perspective view during the low tide

Graphic by E.W.Pawlik

34. Bamboo connectivity : color gradient of the network diagram represents distances between driest areas of mudflats and areas still under water

Graphic by E.W.Pawlik

35.1-5 Approximating ground dryness, measuring distances to the water during tidal movement

Graphic by E.W.Pawlik

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37. Changes of possible paths determined by the phase of the tide

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38. Frequency of the driest tracks

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39. Bamboo sticks located along selected tracks

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40. Connections between the closest bamboo sticks

Graphic by E.W.Pawlik

41. Oriented topologies of bamboo groups

Graphic by E.W.Pawlik

42. Bamboo sticks located on the most active areas

Graphic by E.W.Pawlik

43. Gradient of potential visitor footprint

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44. membrane fabric emerging from particular set of local characteristics

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45. Digital description of complex textile behaviours

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46. Distinct beauty of textiles, determined by a subtle change of conditions

Graphic by E.W.Pawlik

47.1-24 Several combination have been tested in order to mark unique performance of certain patterns applied to the textile

Graphic by E.W.Pawlik

48. Typology of bamboo groups

Graphic by E.W.Pawlik

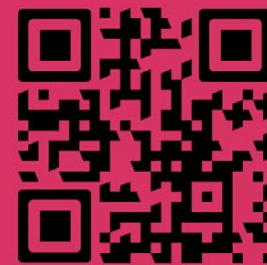
49. Possible development of the threads within different typologies

Graphic by E.W.Pawlik


50. Textile deformations by extending pneumatic thread pattern

Graphic by E.W.Pawlik

51. Visualisation



www.vimeo.com/ewpawlik



Die Masterarbeit beschäftigt sich mit Wattgebieten, die aufgrund wachsender Städte urbanisiert werden. Die Nutzbarmachung dieser Gebiete ist nicht per se negativ, aber das Ausmaß der Zerstörung natürlicher Lebensräume ist so groß, dass dieser Prozess umgehend gestoppt werden sollte. Dies betrifft besonders Asien, da hier aktuell ein weiteres Bevölkerungswachstum von zwei Milliarden Menschen erwartet wird. Die Nutzbarmachung von Wattgebieten ist eine der Maßnahmen der betroffenen Länder um damit umzugehen.

Deshalb liegt das in dieser Arbeit betrachtete Gebiet in einer chinesischen Provinz, die als Ansammlung von Hunderten von Fischerdörfern einen großen Einfluss auf die weltweite Gewässerkultur hat. Die Region ist berühmt für die Schönheit der Natur und den traditionellen chinesischen Lebensstil. Dadurch ist sie zu einem Hotspot für Fotografen aus aller Welt geworden. Erste Studien der Region machten mich aber auf viele Probleme der Fischerdörfer aufmerksam, vgl. auch [#global issues](#). Mir wurde klar, dass in der öffentlichen Wahrnehmung die Schönheit des Ortes zu sehr im Vordergrund steht im Vergleich zur tatsächlichen Rauheit des täglichen Lebens. Hier wurde idealisierte Landschaft vermarktet und nicht die Realität abgebildet. Während der Beschäftigung mit dem Thema, siehe auch [#wetlands](#) [#reclamation](#) [#climate change](#) [#fishing village](#) and [#migration](#), begann ich daher, die Masterarbeit auf das Potential derjenigen Wattgebiete zu fokussieren, welche der tägliche Arbeitsraum für alle Einheimischen ist.

Die meistfotografierten Landschaftsgebiete in der Xiapu Provinz können dazu beitragen, auf bestimmte Probleme aufmerksam zu machen und Ideen zur Verbesserung der Lebensräume der Einheimischen zu verbreiten. Alle bereits existierenden Foto-Spots könnten unter Verwendung von Geo-Tags in den Social Media Channels als Kommunikationsplattformen genutzt werden, um für die Xiapu Landschaft einen Design Vorschlag zu entwickeln, der dem wahren Wert der Wattgebiete gerecht wird.