

# DS18\_2016

## MONSOON ASSEMBLAGES CHENNAI

Lindsay Bremner + Roberto Bottazzi  
Assisted by Beth Cullen + Michele Vianello



<http://www.mid-day.com/articles/monsoon-pays-a-visit-to-rain-starved-mumbai/16525164>

### Overview

For the next three years, DS18 will participate in the research agenda of Monsoon Assemblages, a five-year research project funded by the European Research Council. You will be working consecutively in three South Asian cities - Chennai, Delhi and Dhaka, which you will be exploring as what we have called “monsoon assemblages.” By this we mean complex, emergent urban systems operating under uncertain conditions brought about by changing monsoon climates, rapid urbanization, rampant neoliberal development, planning policies, everyday practices etc. This confluence often not only produces floods, heat waves, out-break of disease, water shortages and power failures, it also couches such cities in disaster discourse and the monsoon as a seasonal disaster-in-waiting.

In this studio, you will take a radically different approach to the monsoon. The monsoon is not a thing, but a vast meteorological system which drives the climate system across half of our planet. You will develop an understanding of its architectures. You will explore the multiple ways in which it is woven into the fabric of urban life, the multiple forms of knowledge, the rituals and the infrastructures that have been built up around it (scientific, cultural, everyday). You will develop different ways of engaging with it, representing it and giving it voice. This research will provide the basis for the development of alternative understandings of climate change and an approach to design in which the constructed landscape functions as a synthesizer of socio-political, cultural, meteorological, hydrological and geological processes. This is applicable not only in monsoon cities, but transferable to other contexts in your future professional life.

In 2016/17, you will be working with the phenomenon of monsoon rain. Using data, you will simulate it, shape surfaces with it and model its interaction with the earth. You will then map and visit Chennai, India's fourth largest city and the capital of Tamil Nadu, in the south-east of the country. Here you will spend a week hosted by the School of Architecture and Planning at Anna University, when you will participate in field work and design workshops that directly engage with monsoon rain and the surfaces, grounds, people, animals, plants, practices and places it shapes. Our site will be a 9km

transect in south Chennai from the Bay of Bengal to the Kilkattalai Lake, which incorporates the Chinna Nilgarai Kuppam (a fishing village), the Neelangarai upmarket residential neighbourhood, the Palliikanarai Marsh, Perungudi Municipal Dump and Karapa-gambal Nagar (a slum resettlement area), and crosses the the Buckingham Canal and IT Corridor (19th C and 21st C infrastructure corridors). You will undertake field work throughout this transect in order to understand, map and record elements of rain's physical, social and political life. To do this you will use audio, mapping, participatory, photographic, sampling and video techniques. This data will form the basis of a strategic masterplan for a portion of the transect and a design brief that you will develop in the second semester.

*The aim of the studio will be to develop alternative understandings of climate change from those that frame it as a disaster to be managed and an approach to the design of constructed landscapes as synthesizers of physical (meteorological, hydrological and geological), cultural, socio-political and technological systems and processes. This has relevance not only for monsoon cities, but for other contexts in your future professional life.*

Palliikanarai Transect





## The Monsoon

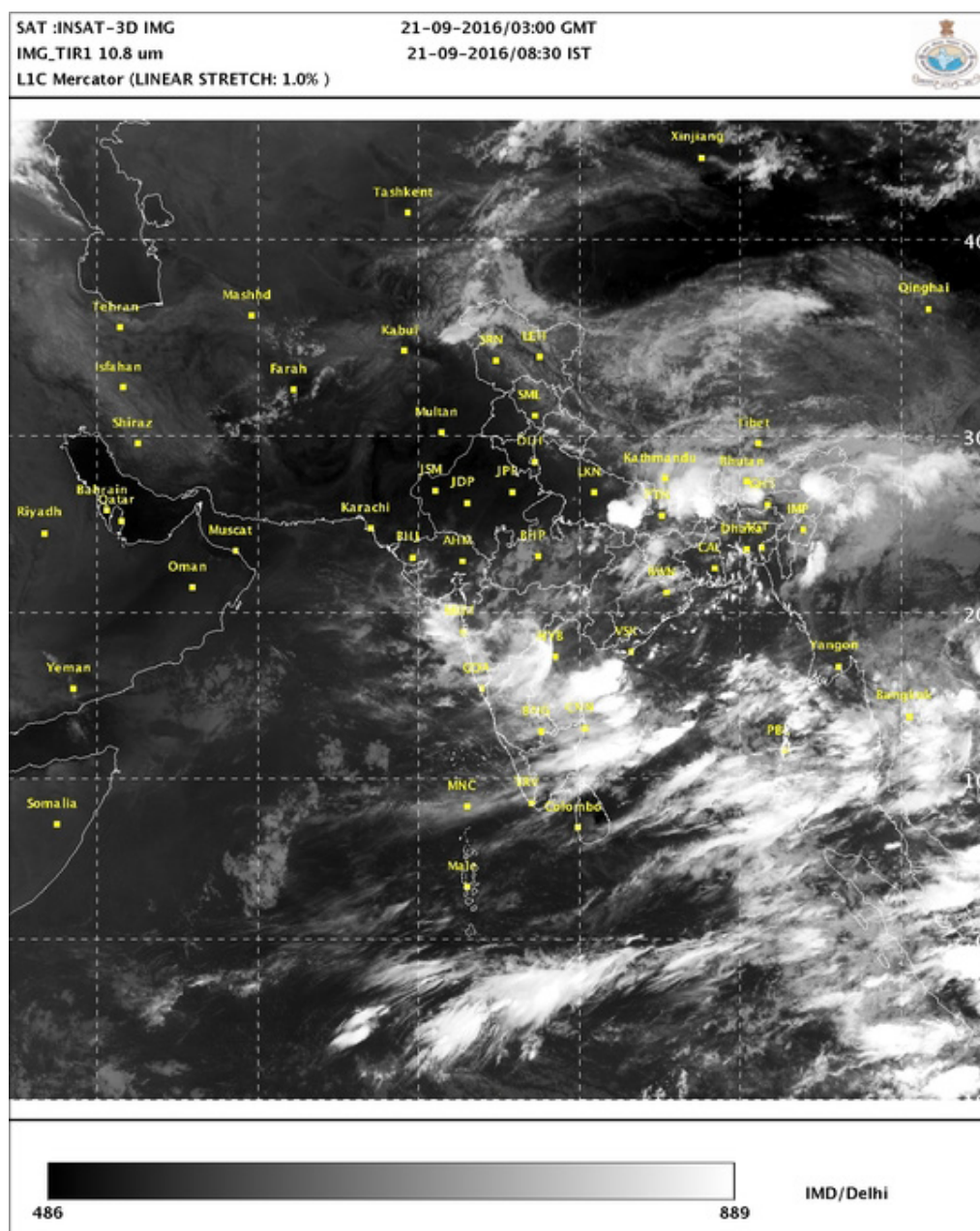
The monsoon is not a thing, but a dynamic planetary climatic system, or rather assemblage of many out-of-phase inter-connected climatic systems driven by air pressure and temperature differentials. Our present understanding of the global climate system shows that the monsoon is not only driven by different rates of heating and cooling of the Indian Ocean and the Asian plateau, producing on and off shore winds, but also by the sea saw of air mass and ocean temperature known as the El Nino-Southern Oscillation (ENSO) in the Pacific Ocean, and by the Madden-Julian Oscillation (MJO), an eastward moving tropical rainbelt that circulates the globe every 30-60 days (amongst others). It is impacted by the timing and depth of snowfall in the Himalayas and by anthropogenic factors such as aerosol particles, forest cover and land use change. Experience of it is filtered by ritual, by the media, by technology, by economic and political systems and practices. Knowledge of it is produced by a range of knowledge systems, such as cosmology, oceanography, meteorology, hydrology, agriculture and everyday life. It is experienced as black skies, as torrential rain, as drought, as humidity, as winds, as enormous waves, as flooded streets, but also as new life, as ground water and as food. It is this climatic phenomenon that we will engage and design with while participating in the Monsoon Assemblages project.

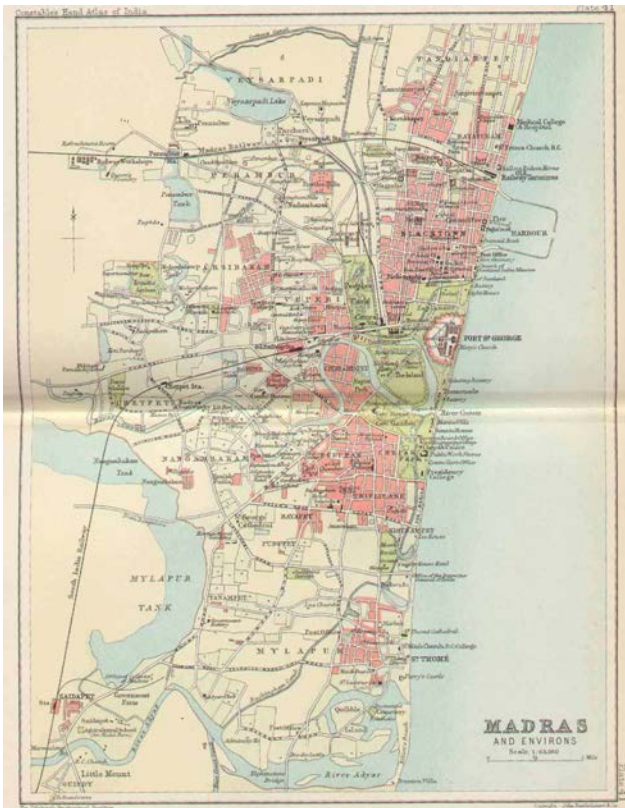
Further Reading/ Viewing:

BBC 2. Wonders of the Monsoon. <http://www.bbc.co.uk/programmes/p026glh9>

Davis, M. (2002). Late Victorian Holocausts. London: Verso.

Frater, A. (2005). Chasing the Monsoon. London: Picador.





Madras 1893



Chennai 2016

## Chennai

Chennai's history dates back to 1639, when a tract of land along the beach was granted by a local leader to the British East India Company to set up a cloth manufacturing company. It was named Madras and made a Presidency in 1653. By 1687 was considered the prime city in British colonial India. By 1772, not 100 years later, Calcutta had replaced it as the capital of British India and in the 19th Century, Chennai was bypassed by the industrial boom that transformed Calcutta and Bombay and retained a semi-rural atmosphere. This endured long after independence from Britain in 1947, when its identity was defined by regionalist Dravidian politics and it failed to establish itself as a national metropolis. However, after the introduction of neoliberal economic policies by India's national government in the 1990's, Indian states began to compete for foreign investment, particularly in IT industries. Tamil Nadu was one of the first states to adopt the national



Residential buildings on the IT Corridor <http://www.newindianexpress.com/cities/chennai/Residential-boom-in-IT-corridor/2013/08/12/article1729602.ece>



neoliberal agenda and by 2001 it was emerging as one of the prime destinations for foreign capital. One of its multi-pronged strategies was to transform an existing road extending from Chennai southwards into a six-lane 18-kilometer tolled expressway that linked three new state-sponsored IT campuses. Real estate developers and IT-based firms were offered a package that included tax incentives and promises for uninterrupted electricity and water supply in order to attract investment in high-end commercial and residential properties. World city imaginaries mobilised global urban planning formulae (special economic zones, industrial estates, gated residential compounds etc.) and speculative building practices transformed the peripheral urban landscape and impacted its monsoonal ecology.

Chennai is located on a flat coastal plain. It depends for its water on annual monsoon rainfall feeding its surface water bodies (lakes, tanks, reservoirs and ponds) and replenishing its aquifer. What is evident from maps over its 350-year history is that, as the city has developed, its seasonal water bodies have been soft targets and been filled in or encroached upon to make way for construction or infrastructure. The IT Corridor development was no exception. Running parallel to the coastline and the Buckingham Canal (a colonial infrastructural project), it has been built on coastal sand dunes and backwaters, including the Pallikaranai Marsh, a vital conduit for rainwater into the city's groundwater reserves and part of an excess water discharge system to the Bay of Bengal. The Chennai floods of 2015 were, in part, due to the cumulative effect of these policies and practices.

Further reading:

Arabindoo, P. (2009). "Falling Apart at the Margins? Neighbourhood Transformations in Peri-Urban Chennai." *Development and Change*. 40(5):879-901.

Chance2Sustain. (2014). Engaging with Sustainability Issues in Metropolitan Chennai.

[http://www.chance2sustain.eu/fileadmin/Website/Dokumente/Dokumente/Publications/pblications\\_2014/C2S\\_CR\\_No05\\_Chennai\\_City\\_Report\\_\\_V2.pdf](http://www.chance2sustain.eu/fileadmin/Website/Dokumente/Dokumente/Publications/pblications_2014/C2S_CR_No05_Chennai_City_Report__V2.pdf)

Varrel, A. (2011). "The "IT" mantra in mega-projects in India: the case of the IT Highway in Chennai. Locating implications and contradictions for metropolitan development." *Rethinking Development in an Age of Scarcity and Uncertainty*. 19-22 Sept. 2011. University of York. <http://eadi.org/gc2011/varrel-689.pdf>

Further Viewing:

Destination OMR (Chennai). <https://www.youtube.com/watch?v=ZQE9f9KX9N8>



View across Pallikaranai Marsh from 200 ft Road <https://tvaraj.files.wordpress.com/2014/02/pallikaranai-100-feet-rd-pallikaranai-chennai-posted-by-arun-christopher-ilo/chennai-blogspot-in1.jpg>

## Programme Overview

### Semester 1 Brief 1: Hydrological Prototype

5 weeks, individual work

This brief invites you to model rainfall and develop prototypical interfaces between sky and ground under conditions of monsoon rain. When it rains, rain percolates into the ground until the ground is saturated, then it pools, fills depressions, and then, if it can, it flows to lower ground, if not, it rises and floods. Buildings stand in the path of this sequence, usually dealing with rain by introducing pipes and drains to channel it to underground sewers and discharge it into rivers or the sea. Under monsoonal conditions, it is precisely this way of doing things that is partly responsible for floods, and their obverse, droughts, for pipes are never sized right, require maintenance, get blocked and prevent water from percolating into and replenishing aquifers.

You are asked to develop alternative ways of doing this, by

(i) simulating the physical behavior of monsoon rain and developing an attitude towards it (such as absorb, channel, dam, disperse, drain, filter, harvest, retain etc.)

and

(ii) modeling its interaction with shapes, surfaces and materials to produce a prototypical envelope that at the same time as performing in a certain way will accentuate aesthetic properties of rain (such as sound, smell, fall, colour, reflectivity etc.)

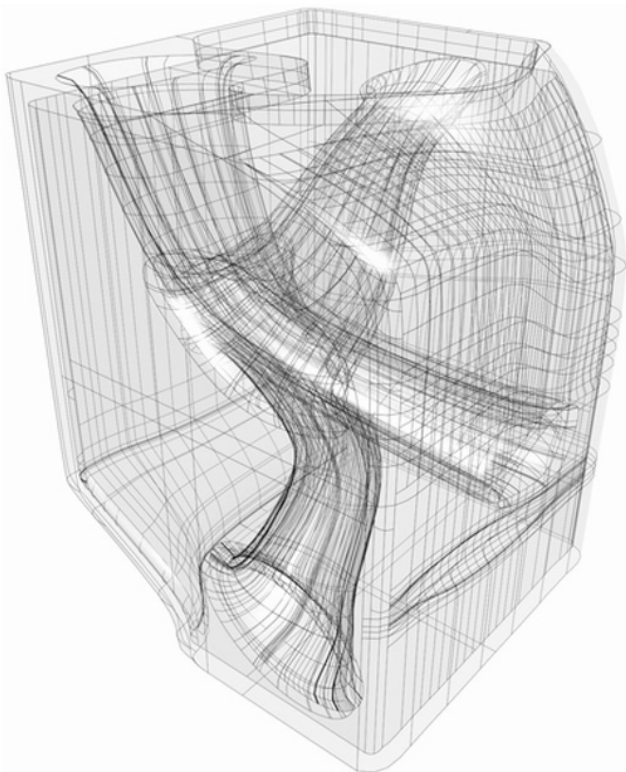
Output: digital and physical models

Further Reading:

Jacek Krenze. (no date). "Rain in Architecture and Urban Design." <http://webx.ubi.pt/~jkrenz/Rain.pdf>

James Joyce. (1922). *Ulysses*, 1992 edition, 783-785. London: Penguin.

Kristian Alexander Hyde. (2012). "Phenomena: Rain." [http://www.hydearchitects.com/cms/wp-content/uploads/2012/09/20120815\\_HH\\_Phenomena\\_Rain.pdf](http://www.hydearchitects.com/cms/wp-content/uploads/2012/09/20120815_HH_Phenomena_Rain.pdf)





Precedent:

Andre Bloc.

Andres Jaque / Office for Political innovation. COSMO: <http://momaps1.org/yap/view/19>

Arboreal. Tyrrell: <http://arborealarchitecture.com/projects/tyrrell>

Ayse Erkman. Plan B: [http://www.planb-venicebiennale.com/giris\\_en.asp#](http://www.planb-venicebiennale.com/giris_en.asp#)

Biothing. Ghatkopar India School Façade: <http://www.biothing.org/?cat=20>

Carlo Scarpa: Brion Cemetery

Francois Roche. Water Flux (and others): <http://www.new-territories.com/waterflux08.htm>

From the Earth's Crust: <http://www.ea-cr.eu/>

MAD Architects. Fish Tank: <https://divisare.com/projects/302600-mad-architects-fish-tank>

PITCHAfrica. <http://www.archdaily.com/616304/pitchafrica-creates-water-harvesting-campus-and-stadium-for-communities-in-need>

Studio Mumbai. Copper House II: <https://vimeo.com/53087257>



Studio Mumbai. Copper House 2. <http://mentalspaceodyssey.tumblr.com/post/91333134355/remash-copper-house-ii-studio-mumbai-enrico>

## Brief 2: Base Mapping the Pallikarai Transect

3 weeks, group work

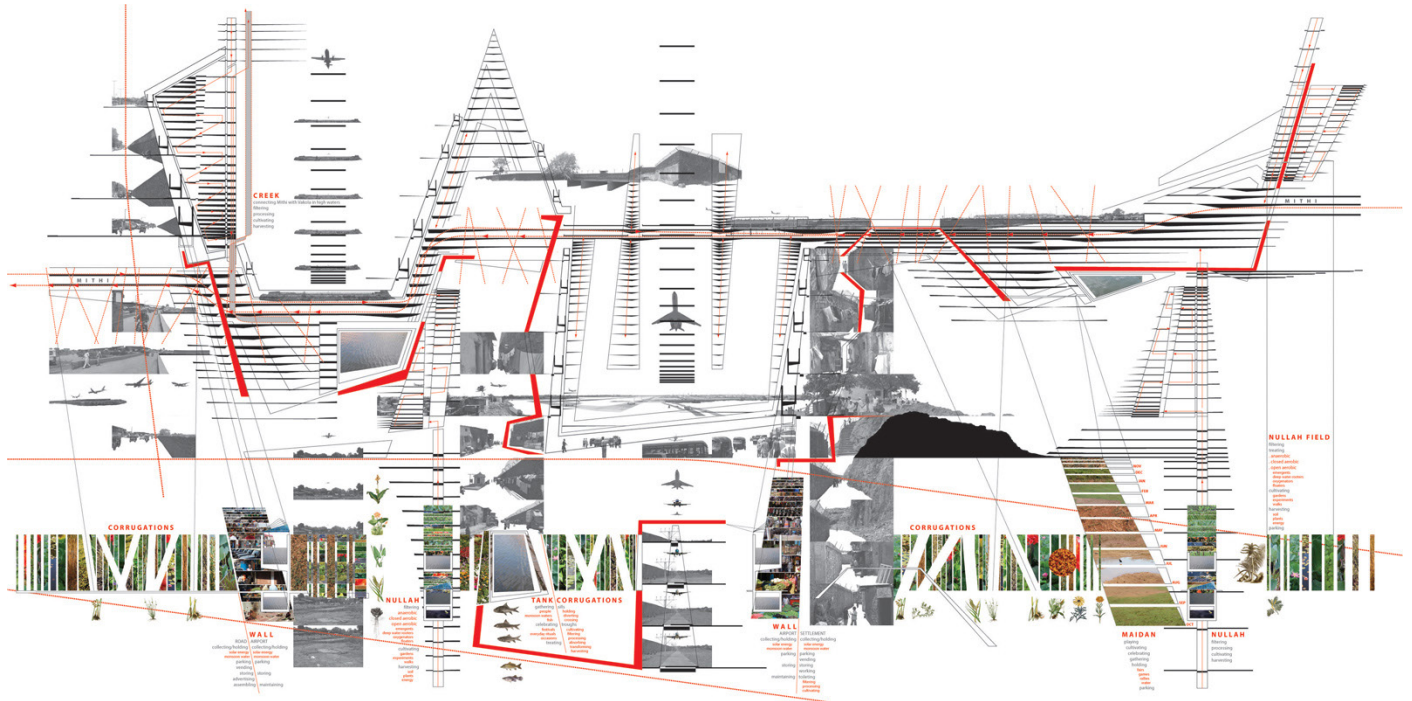
You will be divided into five groups of four students each to develop base maps of the Chennai transect and its subterranean layers, using rhino and grasshopper plug-ins. These maps will serve as base maps, to be verified and added to during the field trip to Chennai.

Output: Digital maps, 5 x printed map panels and laminated, loose-leaved map books for field work.

Precedent:

Desimini, J. and Waldheim, C. (2016). Cartographic Grounds. New York: Princeton Architectural Press

Robert Pietrusco. <http://www.warning-office.org/>



Anuradha Mathur and Dilip da Cunha (2009). Airport Crossing. <https://placesjournal.org/article/ecology-and-design-parallel-genealogies/>



Nelankeralai. [http://www.thehindu.com/multimedia/dynamic/01887/TH10\\_CLRL\\_1887303f.jpg](http://www.thehindu.com/multimedia/dynamic/01887/TH10_CLRL_1887303f.jpg)



## Brief 3: Field Trip

1 week, Group Work

In early December, you will undertake a 10-day trip to Chennai, to be hosted by Anna University SAP, where you will work in groups with their students on field work and in design workshops. Representatives of key stakeholder groups from the government, academia, NGO and communities will engage with you in lectures and seminars. You will visit the Rain Centre and one of its projects. You will undertake a transect walk through the site and map and document it in various ways. In groups you will undertake closer mappings and recordings of one part of it, either to the east or west of the Pallikarai marsh or of the marsh itself. You will likely experience monsoon rain and document how it transforms sites and urban life. In groups in quick design workshops, you will produce a strategic masterplan for your section of the transect. This will form the basis of the second semester's individual work.

Outputs: Data (audio recordings, maps, photographs, video, drone footage (?), site samples (?)) and a strategic masterplan

### Reading

Next City. (2013). The Informal City Reader, pp. 108-151. Philadelphia: Next City. <https://www.rockefellerfoundation.org/app/uploads/The-Informal-City-Reader.pdf>

Kumar, M., Saravanan, K. and Jayaraman, N. (2014). "Mapping the Coastal Commons." Economic and Political Weekly XLIX(48): 46-53.

### Precedent

Anuradha Mathur and Dilip Da Cunha. (2009). SOAK. Mumbai in an Estuary. Delhi: Rupa and Co.

Catherine Mossbach and Philippe Rahm. (2012). "Taichung Gateway Park."

<http://elap.es/archpapers/2012/03/the-taichung-gateway-park-competition-projects-of-the-winners/>

Paola Vigano. (2009). "The Metropolis of the Twenty-First Century. The Project for a Porous City." OASE #80: 091-107.

<http://www.oasejournal.nl/en/Issues/80/TheMetropolisOfTheTwenty-FirstCentury#091>

Alan Berger. "Wetland Machin" <http://pruned.blogspot.co.uk/2008/07/we-wetland-machines.html>

<http://landscapeandurbanism.blogspot.co.uk/2010/04/experimental-landscape-architecture.html>

Kate Orff. (2016). Toward an Urban Ecology. New York: Monacelli

## Brief 4: Declaratory Drawing

Semester 1 will terminate in a single drawing in which you graphically declare your intentions for the second semester. This will include intentions towards rain, ground, site, programme and architecture for work in Semester 2. This will be handed in as part of the interim portfolio.

Output: Declaratory Drawing

## Semester 2: Hydrological Urbanism

During Semester 2, you will develop the architectural, geological, hydrological and urban strategies for your site on the basis of the strategic masterplan and your hydrological prototype. The goal will be to transform your selected site into a novel ecological system, in which the constructed landscape becomes a synthesizer of socio-political, cultural, geological, hydrological and meteorological processes.

### Attached

### Semester Schedule

List of further reading resources in the library (Also available here: <http://readinglists.westminster.ac.uk/index.html> (enter Lindsay Bremner studio DS18 (Academic Year 2016/17))

DS18 2016/17 SEMESTER 1 SCHEDULE							
Lindsay Bremner + Roberto Botazzi, assisted by Michele Vianello and Beth Cullen							
Week	Dates			Activity	Brief	Outputs	People
1	26/09-30/09	Monday 26	10.00 - 17.00	Studio Selection	1. Hydrological Prototype	Wk 1: Precedent, attitude, volumetric calculations	RB, LB
		Thursday 29	10.00 - 13.00	Pin-up: Rainwater precedents			LB
			14.00 - 16.00	Workshop: Cath Hassel (ech2o)			Calculating monsoon rain
2	03/10-07/10	Monday 03	10.00 - 13.00	Studio: Digital workshop 1 (GH)	1. Hydrological Prototype	Wk 2: Prototype Iteration 1: Shapes + surfaces	RB, LB
			14.00 - 15.00	Lecture: Pushpa Arabindoo	Unprecedented natures?: an anatomy of the Chennai floods		RB, LB
			15.00 - 18.00	Studio: Tutorials			RB, LB
		Tuesday 04	18.00 - 20.00	Monsoon Assemblages Launch			
		Thursday 06	10.00 - 13.00	Studio: Tutorials			
3	10/10-14/10	Monday 10	10.00 - 13.00	Studio: Digital workshop 2 (RF)	1. Hydrological Prototype	Wk 3: Prototype Iteration 1: Performance simulations	RB, LB
			14.00 - 18.00	Studio: Tutorials			RB, LB
				18.00 - 19.30			DS18 Studio as Book Launch
		Friday 14	10.00 - 13.00	Studio: Tutorials			RB
4	17/10-21/10	Monday 17	10.00 - 13.00	INTERIM PIN-UP	1. Hydrological Prototype	Prototype Iteration 1: Shapes, surfaces, simulations	LB, RB
			14.00 - 18.00	Studio: Tutorials		Materials	LB
		Thursday 20	10.00 - 13.00	Studio: Tutorials		Wk 4: Prototype Iteration 2	
5	24/10-28/10	Monday	10.00 - 18.00	Studio: Tutorials	1. Hydrological Prototype	Wk 5: Prototype Iteration 2: Rapid prototyped model	LB, RB
		Friday 28	10.00 - 13.00	Studio: Tutorials			LB
6	31/10-04/11	Monday 31	10.00 - 18.00	CROSS REVIEW 1	1. Hydrological Prototype: Process and product posters and rapid prototyped model	Wk 6: Brief 1 Complete	LB, RB +
		Thursday 03	10.00 - 18.00	No studio			
7	07/11-11/11	Monday 07	10.00 - 11.00	Studio: Intro Brief 2	2. Mapping the IT Corridor and the Pallikaranai Marsh	Wk 7: Data sourced and mapping tools identified	LB, BC, MV
			11.00 - 14.00	Studio: Digital workshop 3 (GH)			RB, LB
			15.00 - 18.00	Studio: Tutorials			LB, RB
			18.00-19.00	Lecture: Oscar M and Ben P	Title tbc		
		Thursday 10	10.00 - 13.00	Studio: Tutorials			LB, MV
		Saturday 12	10.00 - 15.00	Pilot Field Trip	Thames Estuary Path		LB, BC, MV
8	14/11-18/11		10.00 - 18.00	Studio: Tutorials	2. Mapping the IT Corridor and the Pallikaranai Marsh	Wk 8: Map Iteration 1	LB, RB, MV
			10.00 - 13.00	No studio: Play Week			
9	21/11-25/11	Monday 21	10.00 - 18.00	Studio: Tutorials	2. Mapping the IT Corridor and the Pallikaranai Marsh	Wk 9: Map Iteration 2	LB, RB, MV
		Thursday 24	10.00 - 13.00	Studio: Tutorials			LB, MV
		Friday 25	13.00 - 14.00	MA Seminar: Niranjana Neena	Title tbc		
10	28/11-02/12	Monday 28	10.00 - 18.00	PIN-UP BRIEF 2	2. Mapping the IT Corridor and the Pallikaranai Marsh	Wk 10: Brief 2 Complete	LB, RB, MV
			14.00	Intro Brief 3			LB, MV, BC
		Thursday 01		No studio			
11	05/12-09/12			FIELD TRIP	3. Field Trip + Design Workshop, SAP, Chennai	Wk 11: Field Trip Data, Strategic Master Plan Iter 1	LB, MV, BC
				FIELD TRIP			
12	12/12-16/12	Monday 12		FIELD TRIP	3. Field Trip		
		Friday 16	10.00 - 13.00	PIN-UP BRIEF 3, Intro Brief 4	4. Declaratory Drawing	Wk 12: Declaratory Dwng Iteration 1	LB, RB



# Lindsay Bremner studio DS18 (Academic Year 2016/17)

Studio (DS18) 4ARC650 and 4ACH716.

View Online



35 items

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**ABE support from your librarians**

[Webpage](#) | A blog from your librarians with key resource information and research support.

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## Urban Water / Rivers (5 items)

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**Deccan traverses: the making of Bangalore's terrain** - Anuradha Mathur, Dilip da Cunha, 2006

[Book](#) | Essential

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**Soak: Mumbai in an estuary** - Anuradha Mathur, Dilip da Cunha, 2009

[Book](#) | Essential

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**Design in the terrain of water** - Anuradha Mathur, Dilip da Cunha, University of Pennsylvania. School of Design, 2014

[Book](#) | Essential

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**Water urbanisms: East** - 2013

[Book](#) | Further

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**Ganges water machine: designing New India's ancient river** - Anthony Acciavatti, 2015

[Book](#) | Further

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## Urbanism in India (5 items)

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**Ecologies of urbanism in India: metropolitan civility and sustainability** - 2013

[Book](#) | Further

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**Urban poverty and climate change. Life in the slums of Asia, Africa and Latin America** - David Hulme, Manoj Roy, Michaela Hordijk, 2016

[Book](#) | Further

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**Indian capitalism in development** - Barbara Harriss-White, Judith Heyer, 2014

[Book](#) | Further

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**Mapping India's capitalism: old and new regions** - 2015

[Book](#) | Further

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**Middle India and Rural-Urban Development 2015: Four Decades of Change** - Barbara Harriss-White, 2015

[Book](#) | Further

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## Urbanism / Urban Design / Planning (10 items)

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Bracket 3: At Extremes - 1 Jun. 2015

[Book](#)

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Systemic Design Can Change the World - Alan Berger, Sept. 2009

[Book](#)

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Toward an Urban Ecology: SCAPE / Landscape Architecture by Kate Orff (2016-07-12) - 1731

[Book](#)

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Planning matter: acting with things - Robert A. Beauregard, 2015

[Book](#) | [Essential](#)

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In the life of cities - Mohsen Mostafavi, 2012

[Book](#) | [Further](#)

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Sense of the city: an alternate approach to urbanism - Mirko Zardini, Wolfgang Schivelbusch, cop. 2005

[Book](#) | [Further](#)

---

Ecological urbanism: the nature of the city - Susannah Hagan, 2015

[Book](#) | [Further](#)

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Ecological urbanism - Mohsen Mostafavi, Gareth Doherty, Harvard University. Graduate School of Design, c2010

[Book](#) | [Further](#)

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Territorialism - Paola Vigano, 2014

[Book](#) | [Further](#)

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Water and asphalt: the project of isotropy - 2016

[Book](#) | [Further](#)

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## Landscape (3 items)

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The landscape imagination: collected essays of James Corner, 1990-2010 - James Corner, 2014

[Book](#) | [Further](#)

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Projective ecologies - 2014

[Book](#) | [Further](#)

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Cartographic grounds: projecting the landscape imaginary - Jill Desimini, Charles Waldheim, 2016

[Book](#) | [Further](#)

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## Architecture (4 items)

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**Architecture, Energy, Matter** - Lindsay Bremner, 2016

[Book](#) | Essential

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**Subnature: architecture's other environments** - David Gissen, 2009

[Book](#) | Essential

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**The air from other planets: a brief history of architecture to come** - Sean Lally, 2014

[Book](#) | Essential

---

**Climates: architecture and the planetary imaginary** - 2016

[Book](#) | Further

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## Theory (7 items)

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**Pamphlet architecture 35** - Princeton Architectural Press, 2015

[Book](#) | Essential

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**Vibrant matter: a political ecology of things** - Jane Bennett, 2010

[Book](#) | Essential

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**Architectural theories of the environment: posthuman territory** - Ariane Lourie Harrison, 2013

[Book](#) | Essential

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**Subnature: architecture's other environments** - David Gissen, 2009

[Book](#) | Essential

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**The Fabric of Space: Water, Modernity, and the Urban Imagination** - Matthew Gandy, 2014

[Book](#) | Further

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**The stack: on software and sovereignty** - Benjamin H. Bratton, 2015

[Book](#) | Further

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**Politics of nature: how to bring the sciences into democracy** - Bruno Latour, 2004

[Book](#) | Further

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