

Extreme Event Ecology!



Chanaral Town. Credit: Ivan Alvarado/Reuters

Extreme climate events are increasing in frequency and intensity due to climate change. They leave devastation, exacerbating pre-existing vulnerabilities in ecosystems, communities and infrastructure. However, they also create 'windows of opportunity' for transformations. This documentary explores three key issues in the context of an extreme event in the Chilean Atacama Desert:

- (i) How the extreme event is assembled in time and place;
- (ii) The potential of such events for transforming social and ecological systems;
- (iii) A framework for making sense of such events of transformational changes.

DELUGE IN THE DESERT: 7 YEARS OF RAIN IN 12 HOURS

On 25-26 March an unusually cold front, associated with the El Nino climate phenomenon, struck the Andes. It swept south from Ecuador and resulted in the heaviest rainfall in over 80 years in the Copiapo and Huasco Valleys in the Atacama region of Northern Chile. Its impact was dramatic, flooding towns, damaging infrastructure and vineyards, disruption mining operations, and threatening vulnerable fauna and flora.

EXPLORING THE ASSEMBLY OF EXTREME EVENTS

To investigate this event, we draw on event ecology, which originates in environmental geography. This approach focuses on an 'event' and uses abduction to explore causal chains of evidence from diverse sources – historical records, climate data, interviews, biodiversity inventories – to investigate in-situ and ex-situ factors which contribute to the event's expression.

Map of Chile



A QUESTION OF THE LONG-TERM

Using event ecology as our framework, we investigate:

- (i) How have long-term human-environment interactions created the social, material and ecological conditions upon which the extreme event was expressed?
- (ii) How does a vibrant history of land and water-use amplify or constrain the 'disruptive/transformational' capacity of climate-related extreme events?

HISTORY AND ECOLOGY IN METHODOLOGY

Setting out to explore the histories, perspectives and engagements of actors in the region, particularly in relation to the control of water resources, land management, and the persistence of 'wild' ecosystems and fauna, we use mixed-methods (Creswell, 2009) involving:

- Synthesizing information from paleo-studies and historical records;
- Conducting interviews with individuals and groups, drawing on mobile methods, i.e. walking interviews (Ingold and Vergunst, 2008);
- Analysing pre- and post-event policy documents, environmental reports, botanical records.



Huasco Valley/ Credit: Cathel Hutchison

COMADREJA PRODUCTIONS presents A CATHEL HUTCHISON feature documentary written and directed by CATHEL HUTCHISON narrated by CATHEL HUTCHISON



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NOT STRAIGHT TO DVD!

Extreme event ecology!

A SPATIALLY-EXPLICIT SOCIAL-ECOLOGICAL THRILLER!

WELCOME TO THE DRIEST PLACE ON EARTH...
FEAR THE RAIN!



'Impacts from recent climate-related extremes, such as heat waves, droughts, floods, cyclones, and wildfires, reveal significant vulnerability and exposure of some ecosystems and many human systems to current climate variability (very high confidence).'

***** IPCC Review 2014

