Chapter 17
Critical Mapping for Researching and Acting Upon Environmental Conflicts – The Case of the EJAtlas

Daniela Del Bene and Sofia Ávila

17.1 Introduction

Cartography and mapping practices hold a close connection to Environmental Justice (hereafter, EJ). Since the inception and mobilization of the concept of EJ in the 1980s, EJ scholars have developed maps to expose the unequal distribution of environmental burdens and benefits, showing how toxic dumpsites and polluting industries are largely located adjacent to vulnerable and disadvantaged communities (Bullard, 1990, 1999; Pellow et al., 2002; Mohai et al., 2009). Environmental Justice Organizations (EJOs) and activist scholars have also engaged in mapping work as both a research and mobilizing tool (Walker, 2009; Drozdz, 2020).

The Global Atlas of Environmental Justice (hereafter EJAtlas) is a reflection of an evolving approach taking place in the field of EJ studies and activism. The EJAtlas was created in 2011 to collect and systematize data around socio-environmental conflicts arising in response to multiple forms of environmental degradation across the globe. Initially made possible by the EJOLT project,[1] the work of the EJAtlas has continued through two milestone projects led by directors Joan Martinez-Alier (ERC Advanced Grant ENVJUSTICE 2016–2021) and Leah Temper (ISSC-sponsored ACKnowl-EJ project, codirected with Ashish Kothari 2016–2018). These projects have expanded the scope of the conflicts database and

[1] EJOLT (Environmental Justice Organizations, Liabilities, and Trade) was a European FP7 project, coordinated by Prof. Joan Martinez Alier at ICTA-UAB (2011–14).

D. Del Bene (✉)
Institute of Environmental Science and Technology (ICTA),
Autonomous University of Barcelona (UAB), Catalonia, Spain

S. Ávila
Institute of Social Studies in the National Autonomous University of Mexico (UNAM),
Mexico City, Mexico

S. Villamayor-Tomas, R. Muradian (eds.), *The Barcelona School of Ecological Economics and Political Ecology*, Studies in Ecological Economics 8,
https://doi.org/10.1007/978-3-031-22566-6_17

its engagement in both academic research and activist advocacy, providing the most comprehensive database on EJ conflicts globally (Scheidel et al., 2020).

Based on the work of Martínez-Alier and O'Connor (1996), the EJAtlas conceptualizes "socio-environmental conflicts" or "ecological distribution conflicts" as the result of the unfair distribution of environmental 'goods' -i.e. clean water and air, as well as access to fertile land – and 'bads' – i.e. exposure to pollution, as well as risks and threats to health, livelihoods, and social and cultural identities (Scheidel et al., 2020; Temper et al., 2015). However, it also expands this definition to encompass those situations where conflicting worldviews or planes de vida clash and reveal antagonizing political ontologies and epistemologies around the environment, the territory, and all its life forms (Álvarez & Coolsaet, 2020). At its core, the EJAtlas seeks to bridge ecological economics and political ecology to shed light on conflicts that emerge from a changing global social metabolism (Martínez-Alier et al., 2010). By covering a large set of activities and commodities, the EJAtlas dataset offers a socio-metabolic approach to environmental justice, identifying how and why energy and materials are increasingly consumed, but also how they are unevenly allocated, consumed, and disposed of within and across geographical scales and social groups (Scheidel et al., 2018).

As an academic and activist platform, the main aim of the EJAtlas is twofold. First, it offers empirical materials coupled with a methodology that fosters systematic, comparative, and statistical research on socio-environmental conflicts (Temper et al., 2018). Second, it provides an action-oriented tool for organizing, campaigning, and teaching. The ongoing process of data collection is extensive and collaborative, involving several hundreds of individuals and organizations worldwide. The EJAtlas has now become the largest existing global database of socio-environmental conflicts, with over 3800 documented cases by December 2022, and with plans to continue to expand its thematic and geographical coverage over the coming years.

The codified information for each case (including both qualitative and quantitative data) as well as the diversity of cases covered by the database has provided empirical data for several academic publications, and has supported specific campaigns around the world (Avila, 2018; Del Bene et al., 2018; Navas et al., 2018; Scheidel et al., 2020; Špirić, 2018; Temper et al., 2020; Le Tran et al., 2020; Walter & Wagner, 2021). This has enabled conversations around the scale and scope of the EJ movement (Martínez-Alier et al., 2016), the growing relevance of popular environmental concerns spanning different geographical scales, and the connections of EJ with other emerging debates around environmental sustainability (Akbulut et al., 2019; Scheidel et al., 2020; Temper et al., 2018).

This chapter offers an overview of the EJAtlas trajectory and reflections over the theoretical, methodological, and political backgrounds, implications, and challenges of this tool for Environmental Justice studies. We write this chapter using plural pronouns as we reflect and acknowledge the work, reflections, and contributions of the large team of colleagues and collaborators that builds and sustains the EJAtlas.

17.2 Critical Cartography and Environmental Justice

Environmental Justice is both a movement and a community-led science emphasizing how environmental injustices are unequally distributed across social groups and space (Walker, 2009; Temper et al., 2015). As such, the connections between critical cartography and environmental justice are long standing and have evolved over time as the movement has expanded.

The concept of EJ originated in struggles during the 1960's–1980's against the disproportionate effects of toxic chemical use and dumping on people of color in the US. This led to increased academic attention on studying unequal exposures to risks and hazards resulting from policies and practices that discriminated against individuals and communities based on class and race (Bullard, 1990, 1994; Pellow et al., 2002). Key to this "first generation of EJ studies" was the use of spatial analysis – providing critical evidence on the "proximity" of industrial and waste-disposal facilities to particular individuals and communities (Hurley, 1995; Dobson, 1998; Bullard et al., 2007; Mohai et al., 2009).

Over the last two decades, the EJ movement has flourished globally through multiple place-based struggles and the creation of large alliances between communities, organizations, and networks at different scales. In the process, material and sociological concerns have extended beyond the local distribution of pollution, risk, and race to include many other environmental concerns and forms of social difference (Chaix et al., 2006; Charles & Thomas, 2007; Stein, 2004; Wolch et a., 2014; Whyte, 2016). What emerged is the "second generation" of EJ studies, commonly characterized by different features. Firstly, it embraces a wider understanding of justice, in which the distribution of environmental "goods" and "bads" goes hand in hand with the recognition and participation of communities affected by environmental change (Schlosberg, 2013). Secondly, it demands deeper understandings on how specific investments and forms of environmental change are not isolated objects, but are rather connected spaces where value flows, accumulation occurs, and injustices expand (Robbins, 2014). Thirdly, "second generation" EJ studies demand more granular spatial analysis of these processes, through critical mapping interventions at different scales (Pellow, 2017). An increasing literature is today pushing critical EJ research to further engage with decolonial and, ecofeminist studies, and emotional political ecology from research of all continents, languages, and cultural traditions (González-Hidalgo et al., 2022; McGregor et al., 2020; Rodríguez & Inturias, 2018; Pulido & De Lara, 2018; Álvarez & Coolsaet, 2020).

This evolution of EJ studies happened alongside the development of multiple activist-oriented spatial research and cartographic platforms. The production of cartographic knowledge for Environmental Justice has been part of a wider movement to contest, challenge and revert dominant representations of space produced by state and corporate actors (Crampton, 2009). Critical mapping for EJ follows the assumption that, as powerful representations of the world, maps are in fact not neutral

depictions of space, but rather are filled with political content (Wainwright & Bryan, 2009). If maps have been a unique source of power for the powerful, then they can also be effective tools of protest and support for social movements reclaiming space (Drozdz, 2020; Lee Peluso, 2011).

In recent decades, EJ research and activism has taken advantage of the spread and accessibility of spatial information and software (such as GIS), providing new epistemological tools for questioning, confronting, and reestablishing the legitimacy of claims for EJ (Elwood & Leszczynski, 2013). Examples of spatial analysis in activist academia include the map of conflicts related to environmental injustices and health by FIOCRUZ in Brazil (Porto et al., 2013; Da Rocha et al., 2018), the spatial analysis on green gentrification in cities by the Barcelona Lab for Urban Environmental Justice and Sustainability – BCNUEJ (Anguelovski et al., 2018), and the mapping work by the CICADA project around extractivism in indigenous territories (cicada.world), among others.

The EJAtlas is positioned in this context as a global-scale project on critical cartography and Environmental Justice, with the aim of mapping and systematizing information on mobilizations against contentious projects and activities happening along the commodity chain, from extraction to disposal.

As we will discuss in the following sections, the EJAtlas has evolved since its creation, becoming a large collaborative dataset with multiple possibilities for academic and activist outlets, some of which are presented in detail hereafter. We take the next sections as a space to reflect on the ways in which the EJAtlas is becoming a "repository of environmental justice stories" (Martinez-Alier dixit), that raises new opportunities for EJ, critical cartography, and activist research development. As a large team of collaborators, we are particularly interested in exploring the challenges and possibilities of spatial, comparative, and statistical political ecology (Scheidel et al., 2020), as well as grassroots cartographic approaches to big data (Mah, 2017; Robinson et al., 2017).

17.3 The EJAtlas. Origins, Goals, and Methods

17.3.1 Origins, Motivations, and Scope

The EJAtlas draws on initiatives led by social movements and organizations in mapping conflicts. These include the aforementioned *Fundacao Oswaldo Cruz* (FIOCRUZ) with its work on health and environment with the *Rede Brasileira de Justiça Ambiental* in Brazil, the *Centro di Documentazione sui Conflitti Ambientali* (CDCA-A Sud) in Italy which has been documenting emblematic ecological conflicts globally since 2007, the *Observatorio Latino-Americano de Conflictos Ambientales* (OCMAL), GRAIN, the World Rainforest Movement (WRM), and Oilwatch.

These databases represent impressive sets of cases but are often limited to specific geographic regions or themes and activities (oil extraction, mining, etc). They provide excellent overviews and understanding of specific sectors, cover a country or a region in great detail, and are important references in their field. Thus, they constituted the main source of inspiration for embarking on the ambitious effort of creating a global and transversal database able to draw trends of trade flows, corporate investments, the internationalization of EJ struggles or features of mobilization that increasingly transcend national borders and single continents (Pellow, 2007; Walker, 2009; Sikor & Newell, 2014).

While in-depth case study analysis is a common approach for academic EJ and political ecology studies (Urkidi, 2010; Veuthey & Gerber, 2012), a spatial, comparative, and statistical political ecology can develop tools for identifying patterns and relationships between cases as well as how these cases are shaped by the larger political economy. The EJAtlas aims therefore to provide such a platform to complement previous work with a global and cross-sectorial dataset.

Comparative or statistical approaches have recently been proposed in political ecology (Gerber, 2011; Haslam et al., 2018). Without dismissing the importance and richness of in-depth case studies, these new approaches represent an effort towards a greater plurality in EJ and political ecology research methodology. Moreover, they call for the integration of (critical) cartographic tools in the spatial analysis of environmental conflicts, as well as in data collection.

Based on the EJAtlas dataset, academic articles have provided global overviews on EJ conflicts (Martinez-Alier et al., 2016), as well as regional and thematic analyses on topics such as resistance and violence in Central America (Navas et al., 2018), struggles against mega wind power projects (Ávila, 2018), violence around hydropower dams (Del Bene et al., 2018), resistance to conventional and non-conventional energy projects (Temper et al., 2020), and global patterns of violence against environmental defenders and their role in building sustainability (Scheidel et al., 2020).

Beyond the academic scope, the EJAtlas also serves as a tool for organizing and mobilizing around EJ struggles, including creating alliances and analyzing threats and common patterns of impacts by specific activities or companies. Cartographic information can also be integrated into Featured Maps for visualizing and analyzing spatial implications of such alliances, threats, and impacts (see https://ejatlas.org/featured) (see also Sect. 17.4.1).

Lastly, the pedagogical use of the EJAtlas has also been consolidated in the last few years. Teachers and professors increasingly use the online platform in their courses for illustrating patterns of injustices and resistance, for encouraging their students to engage with EJ issues, and eventually to write about struggles they might be directly involved in (Walter et al., 2020).

17.3.2 Methodology and Co-production of Knowledge

> We collect the contemporary history of the global environmental justice movement. We are like recycling scavengers. Environmental activists might not spend hours with a microphone in hand or on a computer, they have to be active in the demonstrations, they travel to remote places, etc., but they publish blogs, statements, petitions, pictures with banners, sometimes they write songs and poems. We are making an archive of this material to be studied now and in the future. – Joan Martínez Alier

The role of scavengers in nature is to search for and to digest unwanted scraps on the ground, and release them back into the ecological cycle after death. According to Martínez Alier, the EJAtlas takes up a similar role, especially with old cases, or those conflicts that remain unreported, or forgotten, either by scientists, the media, or even by concerned groups.

Like the work of historians, data collection at the EJAtlas includes relevant pieces of evidence and information from online sources, including scientific articles, books, literature produced by EJOs, governments, and international agencies. Both general and specialized media is collected, along with offline archive material such as interviews from fieldwork or from the personal experience and knowledge of academic researchers, activists on the ground, journalists, etc. For cases that are ongoing, or relatively recent, reaching out to local people and activists offers a unique chance to include first-hand information; when this is not feasible, the entry draws on the material produced by local groups and EJOs.

The data is organized into an online database form and sent to one or more rounds of moderation by the EJAtlas editors. This process is intended to ensure that the entry meets a high standard for quality, clarity, and adequate referencing to related sources. The entry can also be translated into different languages and updated whenever necessary.

In 2016, a new feature was introduced to allow co-authorship and co-moderation of entries. Far from being a mere technical add to the platform, it encouraged further collaboration and exchanges among users and fostered a plurality of views and perspectives. An increasing number of entries are today being reviewed, enriched with information, or commented upon by local authors and social movements that become key collaborator and creators of grounded and situated knowledge (Ashwood et al., 2014).

This ‘co-production of knowledge’ allows for more relational-symmetrical approaches between researchers and local activists, facilitates the integration of diverse experiences and knowledges around environmental conflicts, and contributes to the blurring of established scientific boundaries between academic and activist research (Temper & Del Bene, 2016).

17.4 Towards Statistical and Spatial Political Ecologies: Political and Methodological Challenges

17.4.1 Digging into the Dots: Featured Maps and Multi-layered Analysis

> We have been trying for a long time to mobilize rural communities over the imminent sell out of their lands to the agribusiness sector. However, it was hard for people to grasp the magnitude of this land grabbing process. We then showed people a map showing the time lapse of land concessions given away to corporations. That was stunning to them. We all realized how serious the situation was and the mobilization became then stronger. – Thailand-based researcher and activist[2]

With these words, in 2015, a Thailand-based researcher shared insights and experiences about the relevance of maps in organizing and training communities around socio-environmental injustices with the EJAtlas team. At that time, we had already been collecting and systematizing data around ecological conflicts over a span of four years. Filling in information about the dynamics of conflicts and georeferencing contentious projects was certainly a valuable task. However, to grasp their complexity, the dots sometimes need to be interconnected and their relations explained. How can such a large georeferenced database generate atlas maps that properly explore the complexity around EJ issues while mobilizing EJ research and action?

To respond to this need, the EJAtlas Featured Maps focus on specific topics or questions, trying to 'make sense of the dots' and explain the interlinkages between conflicts, as well as their geospatial features. Explanatory texts are published along with the maps to provide an analysis of the data, research methodology, and references.

Examples include maps of conflicts involving specific corporations, such as Chevron-Texaco, Vale (Saes et al., 2021), Pan American Silver, and Salini-Impregilo/WeBuild (Bontempi et al., 2021), which highlight the systematic violations perpetrated in different localities across the world. These maps were created with the active participation of local communities and transnational organizations, thus strengthening mutual knowledge and networking. This body of work also contributes to the field of Business Economics and Management, by providing examples of environmental liability and corporate social irresponsibility (CSIR) (Riera & Iborra, 2017).

Other featured maps focus on specific features and dimensions of environmental injustices, such as discrimination and environmental racism against the Roma people, or the Blockadia map, depicting politics of mobilization and resistance (Roy & Martínez Alier, 2017). The featured maps on hydropower-related mobilization in

[2] For reasons of safety and privacy, the identity of this person is not disclosed.

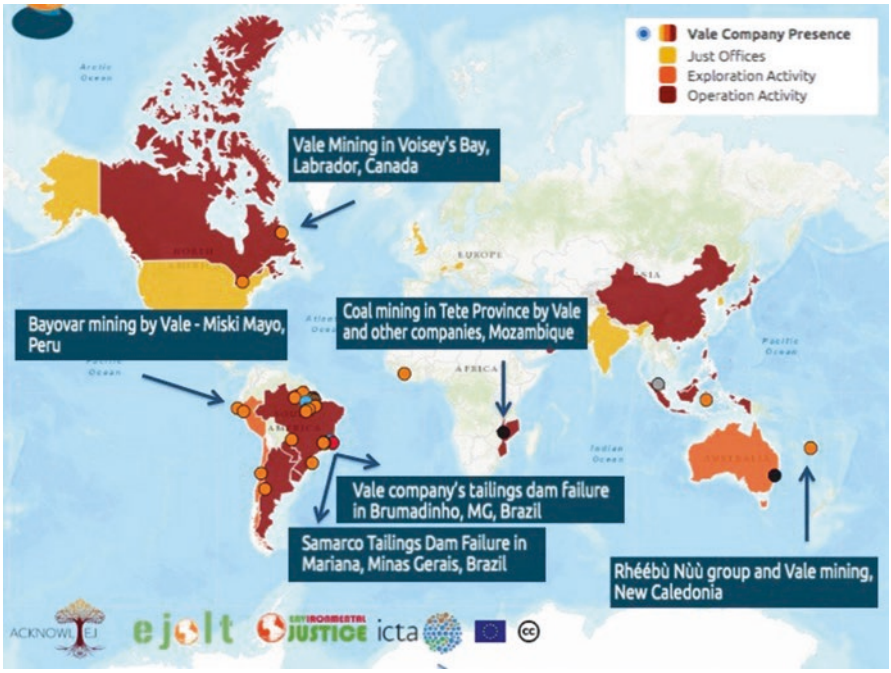

Fig. 17.1 Vale featured map global. (Retrieved from https://ejatlas.org/featured/envconflictsvale. Authors' own elaboration)

the Himalayas, or on conflicts in protected areas in India (Fanari, 2021), also include geospatial data, and allow a better understanding of the geographical and physical context of mobilizations (Fig. 17.1).

17.4.2 Dealing with Spatial Reductionism: Combining Conflict Mapping and GIS Data

Mapping ecological conflicts presents many political and methodological challenges. As critical cartographers pointed out, the cartographic gaze *produces* reality through its representation (Crampton & Krygier, 2006). How can sensitive, delicate, and complex local dynamics be spatially represented by points on a map? How can the extent of the impacted area be represented or even calculated? Spatial representation of complex processes like conflicts can indeed be difficult, and many methodological questions remain unresolved.

For instance, should dam or mining-related conflicts be geolocated on the site of the project infrastructure/concession area, on the impacted land, or on the land where impacted communities live? What if the conflict happens far away from

where impacts are felt and perhaps not in the same spot as the actual damaging activity? What if the damaging activity evicts populations from a very large biodiversity-protected area? What if the socio-environmental conflict actually takes shape around the pollution of a river and around the bad management of contaminated water, but the social claims do not question the original causes of the pollution, like industrial activities or mining sites? What if the conflict happens around public policies or laws that affect the whole national territory? What cartographic representations can provide justice to these complex dynamics?

The ways conflicts are narrated and located in space have important political implications and can give rise to different interpretations. In order to ensure consistency across types of activities and levels of accuracy in data sources, the EJAtlas has to opt as much as possible for a common and transversal methodology across the database. By adopting the socio-metabolic perspective described in previous sections, the EJAtlas geolocates the cases either on the contentious infrastructure, on the place where the impacting activity takes place, or on the location where the main demonstrations occurred (such as in the case of opposition to laws, or national referendum campaigns).

Another way to tackle spatial complexity is by incorporating additional GIS data. For example, in the case of the featured map on Vale, GIS vector data was included on a static map to give a sense of the extension of mining concessions the company has in countries like Brazil (by 2020, Vale had 1630 mining concessions in the country, covering a total area of 53,977 km^2, equivalent to the surface of Croatia). Combining data on resistance, conflictive activity, and GIS information can better capture the spatial dimension of conflicts and claims (Fig. 17.2).

17.4.3 Are there Acceptable Limits in Representation and Coverage?

The issues of representation and thoroughness are another key challenges for conflict mapping. How many conflicts are there in the world? What is a statistically reliable sample – a minimum number per national population, per tons of material extracted, or per other indexes? How is selection bias to be avoided? Is having one global transversal criterion enough for establishing a minimum number?

As was previously pointed out, “it is essential to approach maps of protest with an informed critical understanding and view them in light of the sources involved in their making” (Drozdz, 2020: 368). Nobody actually knows how many conflicts over the environment have occurred and are currently unfolding in the world. Additionally, not all conflicts are being covered or reported by locals or in the news. In statistical terms, the dataset can be therefore defined as a “convenience sample of recent and previously documented conflicts from an unknown total number of environmental conflicts worldwide” (Scheidel et al., 2020: 4).

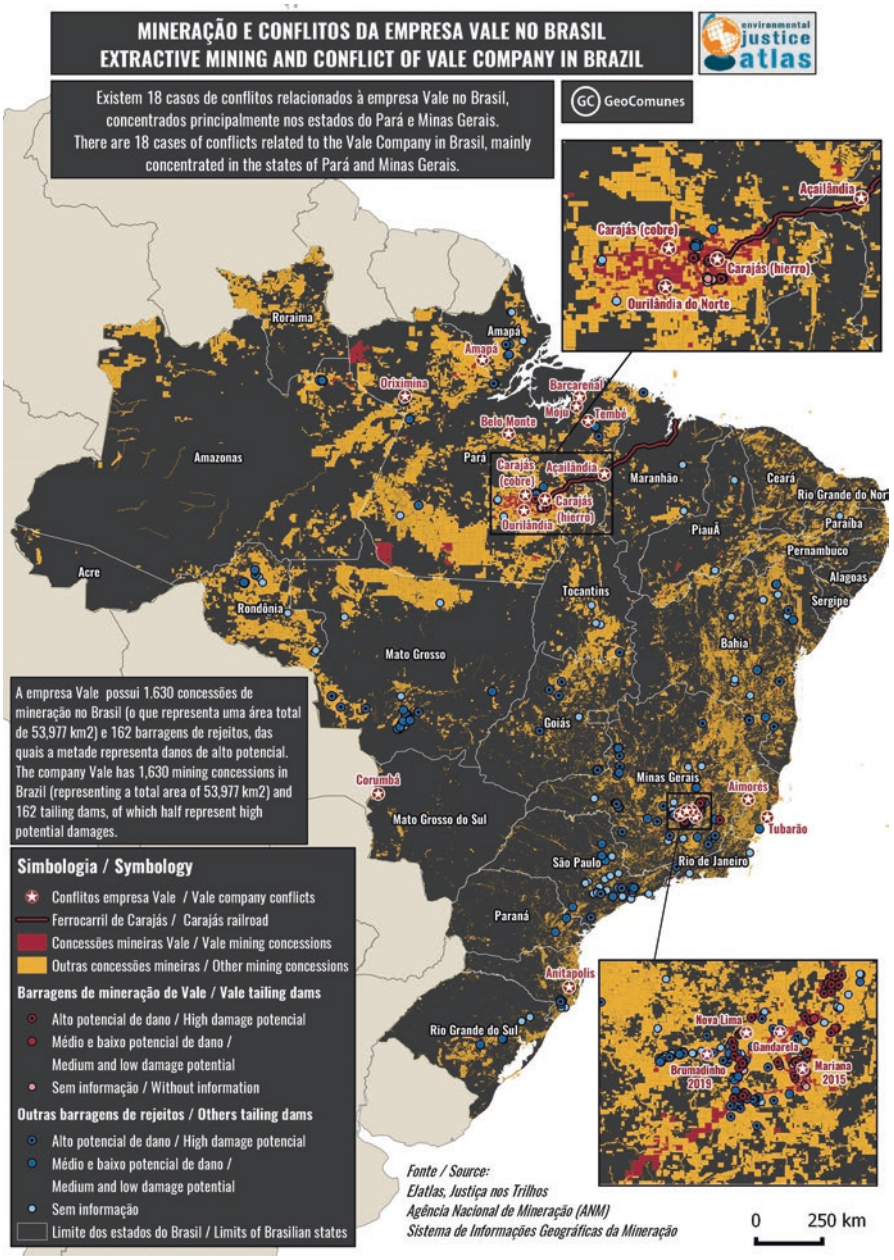

Fig. 17.2 Mining concessions in Brazil. (Map elaboration: Y. Deniau)

Moreover, the EJAtlas, through its ongoing process of documentation and its openness to expanding coverage to more areas and topics, represents a 'litmus test' of current publicly available information on conflicts, of the evolution of conflict types and conflictive sectors, and of the outreach communication capacity of local groups and EJOs. For example, several collaborators have recently expressed concern over emerging urgent issues such as the expansion of large-scale renewable energy technology and its reliance on metal mining, deep-sea mining, geoengineering, and the expansion of the commodity extraction frontier in the Amazon or the Arctic (Hanaček et al., 2022). In terms of geographical coverage, the database shows important gaps such as in the Democratic Republic of the Congo and many other African countries, Pakistan, and former Soviet countries, among others. However, missing data on a map is as interesting as the map itself, as it speaks for the gaps in our knowledge. This is often the case for contexts with weaker local civil society organizations or with difficult political circumstances for resistance, besides the limitations among the EJAtlas team to outreach with these organizations.

17.4.4 Conflicts as Complex Processes and Their Temporal Dimension

As the testimony on the time-lapse map in Cambodia shows, mapping environmental conflicts requires a certain time perspective. Conflicts are not discrete units of analysis; rather they evolve over time. This comes with multiple geographical implications and represents one of the largest challenges for the EJAtlas. One of the ways in which the EJAtlas has partially tackled this issue is by creating a sense of continuity with collaborators when reporting cases in the database. This approach has enabled contributors to update cases when conflicts continue evolving over time. However, updating cases is sometimes difficult to manage considering the size of the database and the resources available to support such a process. From a spatial perspective, this temporal dimension also requires creative ways of representation and specific tools to create such images. A set of geolocated dots of conflicts cannot show, for example, the *process* of the expansion of a commodity extraction frontier (Moore, 2000), i.e. how and where it started and along what routes it evolved.

This is one of the reasons for which critical cartography of environmental conflicts goes beyond geolocating places of resistance towards a process of additional data collection. In the EJAtlas, such temporal dimension has to be searched for inside the database form and often needs the support of other external visualization tools.

A recent collaboration between EJAtlas and Geocomunes, however, sought to overcome part of these spatio-temporal and visual challenges (see also Bracco & Genay, 2021). In aiming to understand the expansion of large-scale wind and solar power and its implications for a just transition, this mapping project included different datasets and cartographic layers. By focusing on the case of Mexico, several

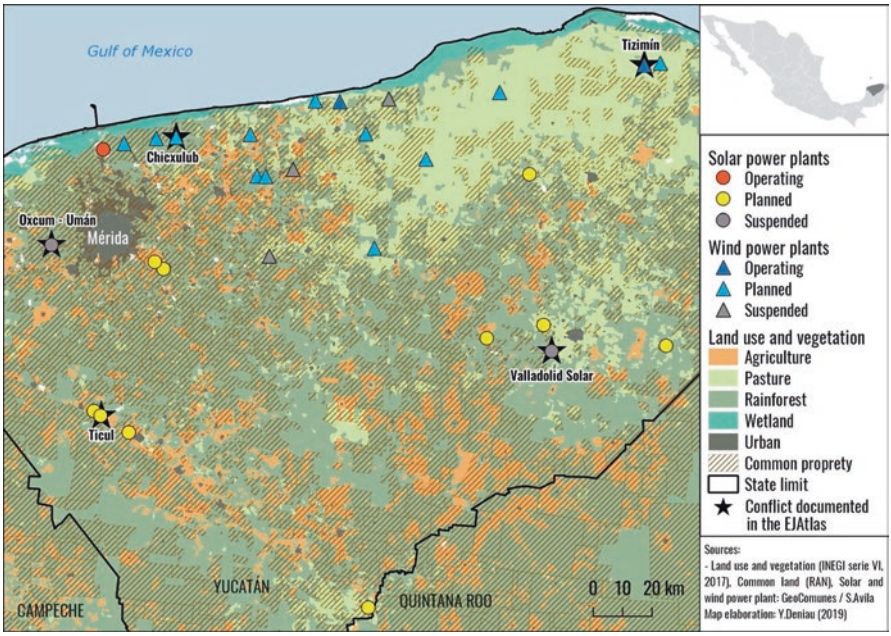

Fig. 17.3 Solar and wind plants in Yucatan, Mexico. (Map elaboration: S. Ávila and Y. Deniau)

maps were produced to juxtapose the polygonal location of mega wind and solar projects with layers on land tenure, land cover, and areas of ecological conservation. This data was produced in parallel with a temporal analysis on the evolution of policies and investments on renewable energies in the country, as well as with the systematization of data on conflicts arising against specific facilities. Together, these elements enabled more granular approaches to the expansion of new energy frontiers and the factors that contribute to the production of environmental injustices on the ground (Avila et al., 2022) (Fig. 17.3).

17.5 Conclusions

In this chapter, we reflect on the origins and evolution of the Global Atlas of Environmental Justice as one of the core components of the Barcelona School of Ecological Economics. The EJAtlas represents a unique global project that seeks to bridge disciplines such as ecological economics, political ecology, environmental justice, and critical cartography for activism and research with the stories, voices, and struggles of local communities, grassroots movements, and transnational networks mobilizing for EJ. As a documentation process, the EJAtlas shows the many challenges associated with the mapping of conflicts and the knots of statistical, comparative, and spatial political ecology, but also its potential.

As the EJAtlas evolves and expands, we find new routes to explore multiple forms of cartographic representations, data analysis, and conceptual approaches. Yet, at the same time, we face renewed challenges and epistemic tensions that, we believe, are intrinsic to activist scholarship and EJ. Do researchers always have the legitimacy to narrate underreported cases or do they sometimes risk exposing people and sensitive processes? Is the EJAtlas an activist tool corroborated by academic research, or is it a platform for scientific research based on activists' knowledge (Escobar, 2008; Martínez-Alier et al., 2014)? How do we overcome the scientific/activist dichotomy, avoid academic data extractivism, and establish methods based on academic and 'political rigor' (Temper et al., 2019)? Should aggregated data access be fully open for all kinds of uses or do EJAtlas editors have the responsibility of ensuring data are correctly interpreted and used under acceptable principles?

These questions do not have straightforward answers and we believe that constant dialogues and bridges between scholars and activists is key to provideing collaborative answers to complex and situated challenges. These questions are themselves part of disputes in the current and future EJ research and action agenda, as well as part of researching and conducting science in an engaged academia. As such, we believe that the EJAtlas not only represents one of the key pillars under which The Barcelona School of Ecological Economics rests. As a theoretical and methodological contribution, the EjAtlas is both a unique space for activists, engaged journalists, teachers and researchers to construct sound campaigns and knowledge around EJ, but also to continue exploring creative and collaborative ways to visually represent and systematically provide knowledge for socio-ecological justice.

References

Akbulut, B., Demaria, F., Gerber, J. F., & Martínez-Alier, J. (2019). Who promotes sustainability? Five theses on the relationships between the degrowth and the environmental justice movements. *Ecological Economics, 165*, 106418.

Álvarez, L., & Coolsaet, B. (2020). Decolonizing environmental justice studies: A Latin American perspective. *Capitalism, Nature, Socialism, 31*(2), 50–69. https://doi.org/10.1080/10455752.2018.1558272

Anguelovski, I., Connolly, J. T., Masip, L., & Pearsall, H. (2018). Assessing green gentrification in historically disenfranchised neighborhoods: A longitudinal and spatial analysis of Barcelona. *Urban Geography, 39*(3), 458–491. https://doi.org/10.1080/02723638.2017.1349987

Ashwood, L., Harden, N., Bell, M. M., & Bland, W. (2014). Linked and situated: Grounded knowledge. *Rural Sociology, 79*, 427–452.

Avila, S. (2018). Environmental justice and the expanding geography of wind power conflicts. *Sustainability Science, 13*, 1–18.

Avila, S., Deniau, Y., Sorman, A. H., & McCarthy, J. (2022). (Counter)mapping renewables: Space, justice, and politics of wind and solar power in Mexico. *Environment and Planning E: Nature and Space, 5*(3), 1056–1085. https://doi.org/10.1177/25148486211060657

Bontempi, A., Del Bene, D., & Di Felice, L. J. (2021). Counter-reporting sustainability from the bottom up: the case of the construction company WeBuild and dam-related conflicts. *Journal of Business Ethics*, 1–26. https://doi.org/10.1007/s10551-021-04946-6

Bracco, D., & Genay, L. (2021). Entretien avec Yannick Deniau: les projets GeoComunes et EJAtlas. In *Contre-cartographier le monde. Collection Espaces Humain*. Université de Limoges.
Bullard, R. D. (1990). *Dumping in Dixie: Race, class, and environmental quality*. Westview Press.
Bullard, R. D. (1994). *Unequal protection: Environmental justice and communities of color*. Random House.
Bullard, R. D. (1999). Dismantling environmental justice in the USA. *Local Environment, 4*(1), 5–20.
Bullard, R. D., Mohai, P., Saha, R., & Wright, B. (2007). *Toxic wastes and race at twenty: 1987–2007*. United Church of Christ Justice and Witness Ministries.
Chaix, B., Gustafsson, S., Jerret, M., Kristerson, H., Lithman, T., Boalt, A., & Merlo, J. (2006). Childrens exposure to nitrogen dioxide in Sweden: Investigating environmental justice in an egalitarian country. *Journal of Epidemiology and Community Health, 60*, 234–241.
Charles, A., & Thomas, H. (2007). Deafness and disability—Forgotten components of environmental justice: Illustrated by the case of Local Agenda 21 in South Wales. *Local Environment, 12*(3), 209–221.
Crampton, J. W. (2009). Cartography: Performative, participatory, political. *Progress in Human Geography, 33*, 840–848.
Crampton, J. W., & Krygier, J. (2006). *An introduction to critical cartography*. ACME.
da Rocha, D. F., Porto, M. F., Pacheco, T., & Leroy, J. P. (2018). The map of conflicts related to environmental injustice and health in Brazil. *Sustainability Science, 13*(3), 709–719.
Del Bene, D., Scheidel, A., & Temper, L. (2018). More dams, more violence? A global analysis on resistances and repression around conflictive dams through co-produced knowledge. *Sustainability Science, 13*, 617–633.
Dobson, A. (1998). *Justice and the environment: Conceptions of environmental sustainability and theories of distributive justice*. Clarendon Press.
Drozdz, M. (2020). Maps and protest. *International Encyclopedia of Human Geography*, 367–378. https://doi.org/10.1016/B978-0-08-102295-5.10575-X
Elwood, S., & Leszczynski, A. (2013). New spatial media, new knowledge politics. *Transactions of the Institute of British Geographers, 38*, 544–559.
Escobar, A. (2008). *Territories of difference: Place, movements, life, redes*. Duke University Press.
Fanari, E. (2021). Struggle for just conservation: An analysis of biodiversity conservation conflicts, India. *Political Ecology, 28*(1).
Gerber, J. F. (2011). Conflicts over industrial tree plantations in the South: Who, how and why? *Global Environmental Change, 21*, 165–176.
González-Hidalgo, M., Del Bene, D., Iniesta-Arandia, I., & Piñeiro, C. (2022). Emotional healing as part of environmental and climate justice processes: Frameworks and community-based experiences in times of environmental suffering. *Political Geography, 98*, 102721.
Hanaček, K., Kröger, M., Scheidel, A., Rojas, F., & Martínez-Alier, J. (2022). On thin ice–The Arctic commodity extraction frontier and environmental conflicts. *Ecological Economics, 191*, 107247. https://doi.org/10.1016/j.ecolecon.2021.107247
Haslam, P. A., Ary Tanimoune, N., & Razeq, Z. M. (2018). Do Canadian mining firms behave worse than other companies? Quantitative evidence from Latin America. *Canadian Journal of Political Science, 51*, 521–551.
Hurley, A. (1995). *Environmental inequalities: Class, race, and industrial pollution in Gary, Indiana, 1945-1980*. Univ of North Carolina Press.
Le Tran, D., Martinez-Alier, J., Navas, G., & Mingorria, S. (2020). Gendered geographies of violence: A multiple case study analysis of murdered women environmental defenders. *Journal of Political Ecology, 27*, 1189–1212.
Lee Peluso, N. (2011). Whose woods are these? Counter-mapping Forest territories in Kalimantan, Indonesia. In M. Dodge, R. Kitchin, & C. Perkins (Eds.), *The map reader: Theories of mapping practice and cartographic representation* (pp. 422–429). John Wiley & Sons. https://doi.org/10.1002/9780470979587.ch55
Mah, A. (2017). Environmental justice in the age of big data: Challenging toxic blind spots of voice, speed, and expertise. *Environmental Sociology, 3*, 122–133.

Martínez-Alier, J., & O'Connor, M. (1996). Economic and ecological distribution conflicts. In R. Costanza, O. Segura, & J. Martinez-Alier (Eds.), *Getting down to earth: Practical applications of ecological economics*. Island Press.

Martinez-Alier, J., Kallis, G., Veuthey, S., Walter, M., & Temper, L. (2010). Social metabolism, ecological distribution conflicts, and valuation languages. *Ecological Economics, 70*, 153–158.

Martinez-Alier, J., Anguelovski, I., Bond, P., Del Bene, D., Demaria, F., Gerber, J. F., Greyl, L., Haas, W., Healy, H., Marín-Burgos, V., Ojo, G., Porto, M., Rijnhout, L., Rodríguez-Labajos, B., Spangenberg, J., Temper, L., Warlenius, R., & Yánez, I. (2014). Between activism and science: Grassroots concepts for sustainability coined by environmental justice organizations. *Journal of Political Ecology, 21*, 19–60.

Martinez-Alier, J., Temper, L., Del Bene, D., & Scheidel, A. (2016). Is there a global environmental justice movement? *Journal of Peasant Studies, 43*, 731–755.

McGregor, D., Whitaker, S., & Sritharan, M. (2020). Indigenous environmental justice and sustainability. *Current Opinion in Environment Sustainability, 43*, 35–40.

Mohai, P., Pellow, D., & Roberts, J. T. (2009). Environmental justice. *Annual Review of Environment and Resources, 34*, 405–430.

Moore, J. W. (2000). Sugar and the expansion of the early modern world-economy. Commodity frontiers, ecological transformation, and industrialization. *Review: A Journal of the Fernand Braudel Center, 23*, 409–433.

Navas, G., Mingorria, S., & Aguilar-González, B. (2018). Violence in environmental conflicts: The need for a multidimensional approach. *Sustainability Science, 13*, 649–660.

Pellow, D. N. (2007). *Resisting global toxics: Transnational movements for environmental justice*. MIT Press.

Pellow, D. N. (2017). *What is critical environmental justice?* Wiley.

Pellow, D. N., Weinberg, A., & Schnaiberg, A. (2002). The environmental justice movement: Equitable allocation of the costs and benefits of environmental management outcomes. *Social Justice Research, 14*, 423–439.

Porto, M. F., Pacheco, T., & Leroy, J. (2013). *Injustica Ambiental e Saúde no Brasil: O Mapa de Conflitos*. Fiocruz. https://doi.org/10.7476/9788575415764

Pulido, L., & De Lara, J. (2018). Reimagining 'justice' in environmental justice: Radical ecologies, decolonial thought, and the black radical tradition. *Environment and Planning E: Nature and Space, 1*(1–2), 76–98.

Riera, M., & Iborra, M. (2017). Corporate social irresponsibility: Review and conceptual boundaries. *European Journal of Management and Business Economics, 26*(2), 146–162. Emerald Publishing Limited 2444-8451. https://doi.org/10.1108/EJMBE-07-2017-009

Robbins, P. (2014). Cries along the chain of accumulation. *Geoforum, 54*, 233–235.

Robinson, A. C., Demšar, U., Moore, A. B., Buckley, A., Jiang, B., Field, K., Kraak, M. J., Camboim, S. P., & Sluter, C. R. (2017). Geospatial big data and cartography: Research challenges and opportunities for making maps that matter. *International Journal of Cartography, 3*, 32–60.

Rodríguez, I., & Inturias, M. L. (2018). Conflict transformation in indigenous peoples' territories: Doing environmental justice with a 'decolonial turn'. *Development Studies Research, 5*(1), 90–105.

Roy, B., & Martínez-Alier, J. M. (2017). Blockadia por la justicia climática. *Ecología Política, 53*, 90–93.

Saes, B., Del Bene, D., Neyra, R., Wagner, L., & Martínez-Alier, J. (forthcoming). *Environmental justice and corporate social irresponsibility: The case of the mining company Vale S.A*. Ambiente e Sociedade.

Scheidel, A., Temper, L., Demaria, F., & Martínez-Alier, J. (2018). Ecological distribution conflicts as forces for sustainability: An overview and conceptual framework. *Sustainability Science, 13*, 585–598.

Scheidel, A., Del Bene, D., Liu, J., Navas, G., Mingorría, S., Demaria, F., Avila, S., Roy, B., Ertör, I., Temper, L., & Martínez-Alier, J. (2020). Environmental conflicts and defenders: A global overview. *Global Environmental Change, 63*, 102104.

Schlosberg, D. (2013). Theorising environmental justice: The expanding sphere of a discourse. *Environmental Politics, 22*, 37–55.
Sikor, T., & Newell, P. (2014). Globalizing environmental justice? *Geoforum, 54*, 151–157.
Špirić, J. (2018). Ecological distribution conflicts and sustainability: Lessons from the post-socialist European semi-periphery. *Sustainability Science, 13*, 661–676.
Stein, R. (2004). *New perspectives on environmental justice: Gender, sexuality, and activism*. Rutgers University Press.
Temper, L., & Del Bene, D. (2016). Transforming knowledge creation for environmental and epistemic justice. *Current Opinion in Environment Sustainability, 20*, 41–49.
Temper, L., Del Bene, D., & Martinez-Alier, J. (2015). Mapping the frontiers and front lines of global environmental justice: The EJAtlas. *Journal of Political Ecology, 22*, 256.
Temper, L., Demaria, F., Scheidel, A., Del Bene, D., & Martinez-Alier, J. (2018). The global environmental justice atlas (EJAtlas): Ecological distribution conflicts as forces for sustainability. *Sustainability Science, 13*, 1–12.
Temper, L., McGarry, D., & Weber, L. (2019). From academic to political rigour: Insights from the 'Tarot' of transgressive research. *Ecological Economics, 164*, 106379.
Temper, L., Avila, S., Bene, D., Daniela Gobby, J., Kosoy, N., Billon, L., Philippe Martinez-Alier, J., Perkins, P., Roy, B., Scheidel, A., & Walter, M. (2020). Movements shaping climate futures: A systematic mapping of protests against fossil fuel and low-carbon energy projects. *Environmental Research Letters, 15*, 123004.
Urkidi, L. (2010). A glocal environmental movement against gold mining: Pascua-Lama in Chile. *Ecological Economics, 70*, 219–227.
Veuthey, S., & Gerber, J. F. (2012). Accumulation by dispossession in coastal Ecuador: Shrimp farming, local resistance and the gender structure of mobilizations. *Global Environmental Change, 22*, 611–622.
Wainwright, J., & Bryan, J. (2009). Postcolonial reflections on indigenous counter-mapping in Nicaragua and Belize. *Cultural Geographies, 16*, 153–178.
Walker, G. (2009). Beyond distribution and proximity: Exploring the multiple spatialities of environmental justice. *Antipode, 41*, 614–636.
Walter, M., & Wagner, L. (2021). Mining struggles in Argentina. The keys of a successful story of mobilisation. *The Extractive Industries and Society, 8*, 100940.
Walter, M., Weber, L., & Temper, L. (2020). Learning and teaching through the online environmental justice atlas: From empowering activists to motivating students. *New Directions for Teaching and Learning, 2020*, 101–121.
Whyte, K. P. (2016). Indigenous experience, environmental justice and settler colonialism. In B. Bannon (Ed.), *Nature and experience: Phenomenology and the environment* (pp. 157–174). Rowman and Littlefield.
Wolch, J. R., Byrne, J., & Newell, P. J. (2014). Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough'. *Landscape and Urban Planning, 125*, 234–244. https://doi.org/10.1016/j.landurbplan.2014.01.017