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Authors
Carola Klöck
and Irene Fagotto
Coordination
Philippe Roudier

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The Landscape of Adaptation Aid in SIDS

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The Landscape of Adaptation Aid in SIDS

Carola KLÖCK
CERI (Centre de Recherches Internationales ou Centre for International Studies), Sciences Po Paris, France

Irene FAGOTTO
Paris School of International Affairs (PSIA), Sciences Po Paris

Abstract
Small island developing states (SIDS) are recognised as "particularly" vulnerable to the effects of climate change, and accordingly receive relatively high levels of adaptation assistance as a group. We here analyse bilateral and multilateral adaptation aid committed to SIDS between 2009 and 2018, as reported in the OECD Creditor Reporting System (CRS) to better understand the overall evolution of adaptation aid for SIDS, allocation patterns across regions, countries and sectors, as well as the sources and channels of this aid. Since 2009, more and more aid has gone into adaptation: overall, donors pledged $6.6 billion for adaptation in SIDS between 2009 and 2018, and supported a wide variety of projects, mainly through grants. SIDS benefit to various degrees from adaptation aid, with the smallest countries having the highest levels of adaptation per capita. Although a range of donors provide adaptation aid to SIDS, donors tend to concentrate their support on specific regions, leading to high reliance of countries and regions on individual donors. While adaptation aid can be expected to further grow for SIDS at least in the short to mid-term, these countries first and foremost require ambitious greenhouse gas reductions globally to be able to effectively adapt to a changing climate. At the same time, more transparency in reporting would help to monitor, track, and evaluate investments in adaptation, to ensure scarce funding is spent where it is needed the most.

Keywords
SIDS, adaptation, climate change

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Résumé
Les petits États insulaires en développement (PEID) sont reconnus comme particulièrement vulnérables aux effets du changement climatique et reçoivent par conséquent des niveaux relativement élevés d'aide à l'adaptation. Nous analysons ici l'aide à l'adaptation bilatérale et multilatérale engagée en faveur des PEID entre 2009 et 2018, comme indiqué dans le Système de notification des créanciers de l'OCDE (CRS) pour mieux comprendre l'évolution globale de l'aide à l'adaptation pour les PEID, les modèles d'allocation entre les régions, les pays et secteurs, ainsi que les sources et les canaux de cette aide. Depuis 2009, de plus en plus d'aide est allée à l'adaptation: dans l'ensemble, les donateurs ont promis 6,6 milliards de dollars pour l'adaptation dans les PEID entre 2009 et 2018, et ont soutenu une grande variété de projets, principalement par le biais de subventions. Les PEID bénéficient à divers degrés de l'aide à l'adaptation, les plus petits pays ayant les plus hauts niveaux d'adaptation par habitant. Bien qu'une série de donateurs fournissent une aide à l'adaptation aux PEID, les donateurs ont tendance à concentrer leur soutien sur des régions spécifiques, ce qui conduit à une forte dépendance des pays et des régions à l'égard des donateurs individuels. Si l'aide à l'adaptation devrait continuer d'augmenter pour les PEID, au moins à court et moyen terme, ces pays ont avant tout besoin de réductions ambitieuses de gaz à effet de serre au niveau mondial pour pouvoir s'adapter efficacement à un climat changeant. Dans le même temps, une plus grande transparence dans les rapports aiderait à surveiller, suivre et évaluer les investissements dans l'adaptation, afin de garantir que les maigres financements sont dépensés là où ils sont le plus nécessaires.

Mots-clés
PEID, adaptation, changement climatique

Introduction

Support for climate change adaptation to vulnerable countries has been part of the international response to climate change since its beginnings. The 1992 United Nations Framework Convention on Climate Change (UNFCCC or 'Convention') already commits developed countries to assist 'particularly vulnerable' developing countries in 'meet(ing)[...] the cost of adaptation' (UNFCCC 1992) (art. 4.4). In the 2009 Copenhagen Accord, developed countries promised more concretely to 'mobilise' $100 billion per year by 2020 for both adaptation and mitigation action in developing countries (UNFCCC 2009). The 2015 Paris Agreement confirms this target, and stipulates that a new quantitative target of at least $100 billion be agreed in 2020 (UNFCCC 2015).

Many questions remain around these commitments: what counts toward the $100 billion target? Who should provide how much? How is finance to be distributed, and how is it to be monitored and tracked (Scoville-Simonds 2016; Weikmans and Robert 2017; Carter and le Comte 2018)? The Paris and other climate agreements partially answer the question of distribution by specifying that adaptation finance be prioritised for 'particularly vulnerable' developing countries, notably least developed countries (LDCs) and small island developing states (SIDS). Yet how finance is to be allocated among LDCs and SIDS – which are all uniquely, but not equally vulnerable – is an open question. Accordingly, in recent years a number of studies have tracked finance flows for climate and adaptation projects in SIDS (Betzold 2016; Tortora and Soares 2016; Watson et al. 2016; Atteridge and Canales 2017; Atteridge et al. 2017; Canales et al. 2017; Robinson and Dornan 2017) (Watson et al. 2016).

SIDS are among the countries most adversely affected by climate change (Nurse et al. 2014). At the same time, because of their small economies and limited human, financial and technological resources, SIDS rely disproportionately on external support to deal with these adverse effects. It is thus not surprising to note that SIDS overall receive high levels of support for adaptation projects, on average more than non-island developing countries (Robinson and Dornan 2017).

Yet the amount of support among SIDS varies considerably, in absolute terms, in per capita terms, as well as a share of overall development aid, across SIDS regions as well as within them (Betzold 2016; Robinson and Dornan 2017). Pacific SIDS receive on average more assistance than Caribbean SIDS (Atteridge and Canales 2017), although the Caribbean has secured more multilateral funding than other regions (Watson et al. 2016). Smaller countries (in terms of their population) receive less in absolute terms, but are among the highest recipients of adaptation assistance per capita. Yet, costs do not scale down with population – smaller populations do not necessarily mean lower costs – and are even higher for archipelagic states (Tortora and Soares 2016; Atteridge and Canales 2017; Robinson and Dornan 2017). Again, however, these trends are not uniform, and biased by large individual projects. Particularly in the smaller SIDS, one project can

translate into very high per capita support (Betzold 2016). Atteridge et al. (2017) note that individual donor projects – such as a Norwegian grant of $351 million for forest protection in Guyana – heavily distort the climate finance picture in the Caribbean (see also Watson et al. 2016); Canales et al. (2017) note the same for African and Indian Ocean SIDS.

These studies provide a useful baseline to analyse the distribution of adaptation finance in SIDS, but they only cover the period 2010 through 2015. In the meantime, the OECD released project-level data for the years 2016 through 2018. We hence update and extend the above studies by tracking finance flows to SIDS from 2009 through 2018.

As the previous studies, we use data from the OECD to proxy climate finance. Yet, using OECD data on official development aid means tracking adaptation or climate aid rather than adaptation and climate finance. The distinction between these two types of flows is important conceptually: aid is given out of solidarity, while climate finance is often understood to be an obligation of developed countries in light of their historical contribution to anthropogenic climate change: As climate change poses an additional development challenge for SIDS to which they have barely contributed, climate finance provides additional resources to address that additional challenge. Despite such conceptual distinctions, international support for adaptation has largely been provided through public aid budgets (Scoville-Simonds 2016). In the present paper, we therefore similarly focus on aid data.

We explain the data and our method in more detail in section 2. In section 3, we present the results of our analysis. We focus in particular on changes in adaptation flows over time; on the geographical and sectoral distribution of adaptation aid; as well as its sources. In section 4, we summarise our key findings and conclude.

1. Data and methods

Our analysis uses data from the OECD Creditor Reporting System (CRS). Donors report project-level data to the CRS, including how much funding they committed and/or disbursed, how this funding was channelled, which sector the project covers, and whether the project is considered relevant for climate change adaptation and/or mitigation. This last information is given through the so-called Rio Markers. For each project, donors have to indicate whether climate change adaptation (or mitigation) was the main objective ("principal") or a co-benefit ("significant") (OECD 2011). We seek to maintain the distinction between principal and significant adaptation aid as far as possible in the analysis below. Where this was not feasible, we use total amounts, that is, we do not discount significant adaptation aid, although these projects are not mainly about adaptation.

It should be noted that the Rio Marker classification relies entirely on donors' own reporting, and has repeatedly been found to suffer from over-reporting and mislabelling (Michaelowa and Michaelowa 2011; Junghans and Harmeling 2012; Donner et al. 2016; Weikmans et al. 2017). At the same time, a large number of projects is not classified according to the Rio Markers (see also below). Despite these problems, the OECD data are arguably the most comprehensive database of adaptation finance flows to developing countries, and are widely used in studies of adaptation finance and aid (as the studies above tracking finance flows to SIDS).

The analysis in the present paper uses commitments, expressed in 2017 constant dollars. As previous analyses, we here cover 37 independent island states that are eligible to receive official development assistance (ODA; see map below and table A1 in the appendix). Four SIDS were only eligible to receive ODA for parts of our period of analysis: Barbados and Trinidad and Tobago left the DAC list of ODA recipients in 2011 (and so were able to receive adaptation aid in 2009 and 2010); Saint Kitts and Nevis was removed from the list in 2014, Seychelles in 2018 (OECD 2019). These countries are included below as long as they were eligible for ODA.

Figure 1: Map of SIDS included in the analysis. Note: St. Vincent is short for St. Vincent and the Grenadines, Micronesia is short for Federated States of Micronesia

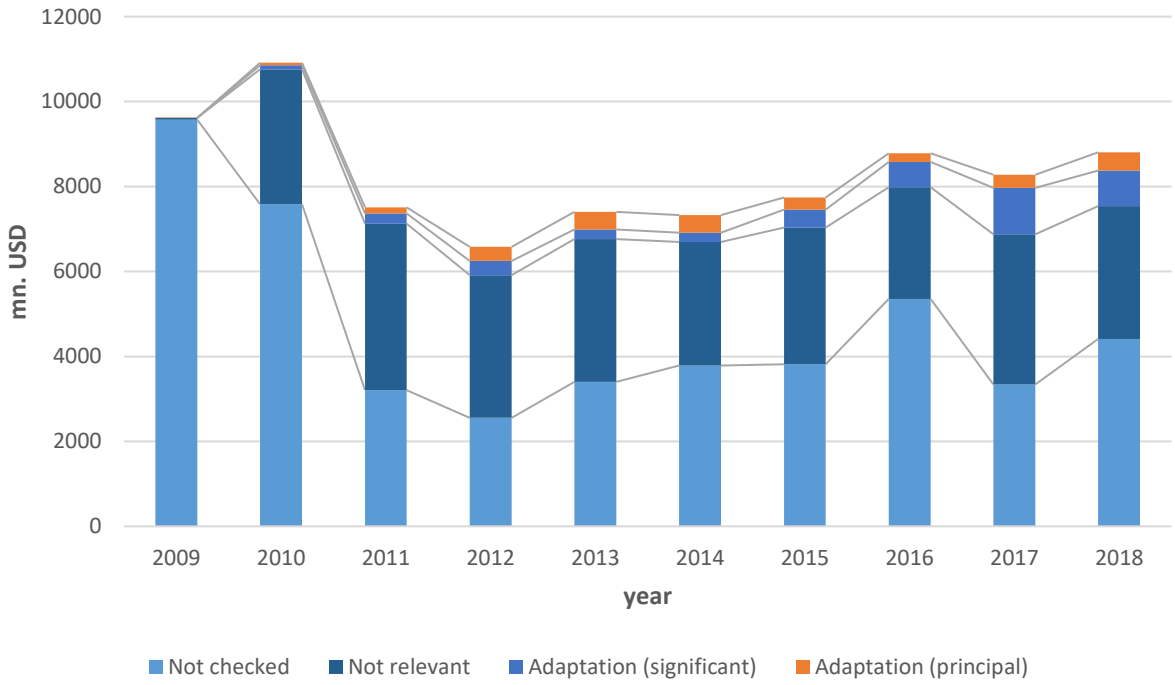
Source: Authors

2. Analysis

2.1. How much adaptation aid for SIDS?

In a first step, let us examine how much ODA SIDS receive for adaptation projects, as compared to other types of development projects. Figure 2 presents aid flows to SIDS from 2009 through 2018, according to the Rio Marker for adaptation, introduced in 2009, but applied only since 2010. In 2009, only one regional project in the West Indies was marked as having adaptation as its principal objective. Of course, other projects may have targeted climate change adaptation, but were not labelled as such. Since 2009, more and more funds have explicitly been earmarked for adaptation projects; in total, donors committed just over $4 billion for significant, and $2.6 billion for principal adaptation projects in SIDS between 2009 and 2018.

Figure 2: Evolution of aid to SIDS by adaptation relevance
Source: OECD CRS



This increase in adaptation funding was not homogeneous across the SIDS regions (see figure A1 in the appendix). In the Caribbean, the increase is relatively linear: adaptation finance grew almost steadily from $1.1 million in 2009 (the regional project just mentioned) and $56.5 million in 2010 to $592 million in 2018. In Oceania, adaptation funding quickly went up from $78.5 million in 2010 to $220 million in 2011, but then remained relatively stable before a spike in 2017, with $879 million. In 2018, the region was promised $558 million – less than in 2017, but significantly more than in previous years. Finally, in African and Indian Ocean SIDS, no clear trend is visible. The region saw a stark increase in adaptation funding from

$18 million in 2010 to $176 million and $178 million in 2012 and 2013, respectively. Funding declined then again to a low of $33.9 million in 2014, and slowly rose again to reach $113.7 million in 2018.

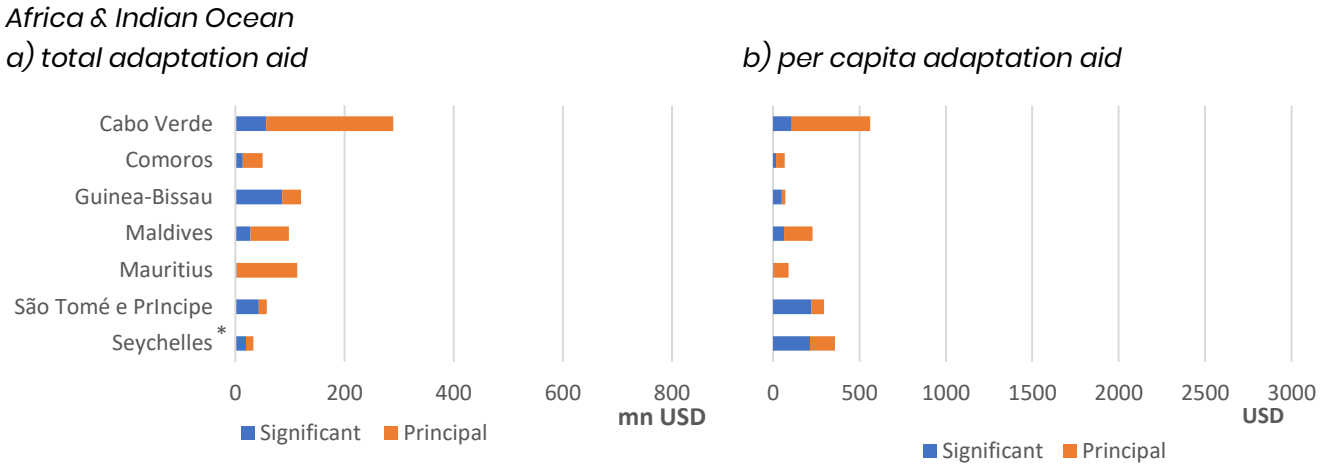
Despite these (uneven) increases, it should be noted that adaptation projects make up only a small share of the total aid. Only about 8% of all ODA commitments went into adaptation projects (ca. 5% for significant and 3% for principal adaptation), although this varies somewhat over the years: in 2017, it reached a record of almost 17% of all ODA (13% for significant, 4% for principal adaptation) and remained relatively high in 2018 (14.5% of all ODA, of which 9.5% for significant and 5% for principal adaptation). It should be noted that over half of all projects were not assessed against their adaptation relevance, although it is likely that these projects are not relevant for adaptation given the pressure on donors to support climate projects in the Global South and associated over-reporting found in the OECD data in different studies (Michaelowa and Michaelowa 2011; Junghans and Harmeling 2012; Donner et al. 2016; Weikmans et al. 2017).

Beyond the $6.6 billion for adaptation projects, donors also made available $3.3 billion additionally for mitigation projects in SIDS (see figure A2 in the appendix). Furthermore, a significant share of the adaptation projects includes mitigation alongside adaptation as objectives: 21% of all adaptation funding in African and Indian Ocean SIDS, 39% of all adaptation funding in Oceania, and 54% of all adaptation funding in the Caribbean also target mitigation. Overall, SIDS thus received $9.9 billion for climate projects between 2010 and 2018, roughly equally shared between "pure" adaptation, "pure" mitigation, and cross-cutting projects, although in African and Indian Ocean SIDS, "pure" mitigation projects are somewhat more important, with 50% of all climate projects targeting mitigation only.

2.2. Which SIDS receive adaptation aid?

We can further break down the adaptation funding for SIDS, and examine who received how much of the total $6.6 billion in adaptation aid committed between 2010 and 2018 (including $2.8 billion for crosscutting projects). Figures 3A-C display absolute adaptation aid (left column) as well as per capita adaptation aid (right column) for all SIDS, by region; they further distinguish between significant and principal adaptation aid (see also figures A3 and A4 in the appendix for a full comparison). The figures clearly show the strong variation among SIDS. Among the three regions, African and Indian Ocean SIDS receive the least support for adaptation, both in absolute amounts and on a per capita level.

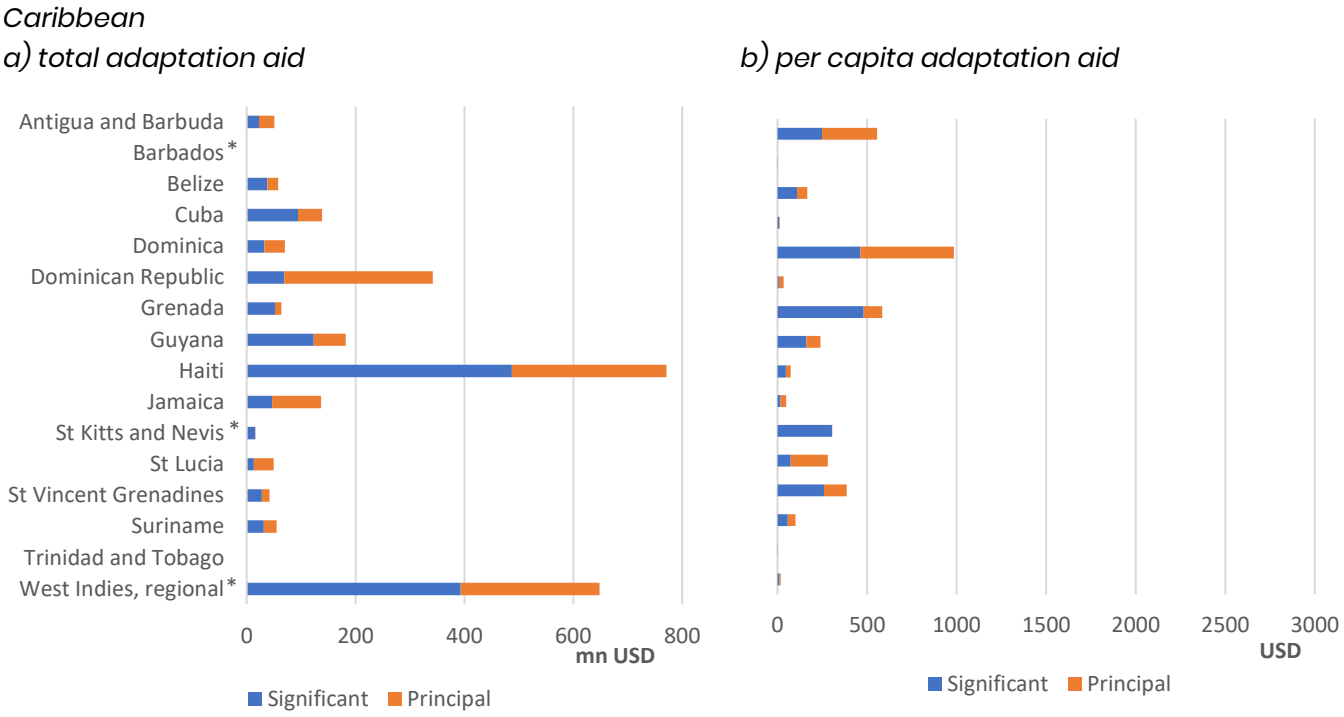
Figure 3a: Adaptation aid to African and Indian Ocean SIDS
Source: OECD CRS



In total, $761 million, or 11% of all adaptation aid committed to SIDS between 2009 and 2018, went to the seven SIDS in Africa and the Indian Ocean (Figure 2A). Cabo Verde was the largest recipient in this region, with $290 million ($233 million for principal and $56 million for significant adaptation projects) – this corresponds to 11% of all ODA Cabo Verde received in the period studied. Similarly, in São Tomé e Príncipe and Guinea-Bissau around 10% of all ODA went into adaptation projects, but given overall lower volumes of aid, this translates into only $57 million for São Tomé e Príncipe and $120 million for Guinea-Bissau. Seychelles obtained the least support in absolute terms in the region, with just under $33 million. However, on a per capita basis, this means $359 for each Seychellois citizen. Only Cabo Verde receives more per capita, with a total of $561 for each citizen. In São Tomé e Príncipe and Maldives, each citizen benefitted from $296 and $228, respectively, for adaptation. In contrast, Guinea-Bissau and the Comoros received only $72 and $67 per capita for adaptation projects.

The Caribbean (Figure 3B) comes second: 39% of all adaptation aid to SIDS in the period studied was for the fifteen Caribbean countries. Again, there is strong variation within the region. Barbados and Trinidad and Tobago are special cases, as they were only eligible for ODA until 2010. Each country benefitted from only two adaptation projects (committed in 2010, worth $23,000 for Barbados and $97,000 for Trinidad and Tobago). St. Kitts and Nevis was removed from the list of countries eligible for ODA in 2014. Until then, it received support for eleven adaptation projects, worth a total of $15.5 million. At the other end of the scale is Haïti, which received $771 million for adaptation projects in total.

Figure 3b: Adaptation aid to Caribbean SIDS
Source: Authors' with OECD CRS data



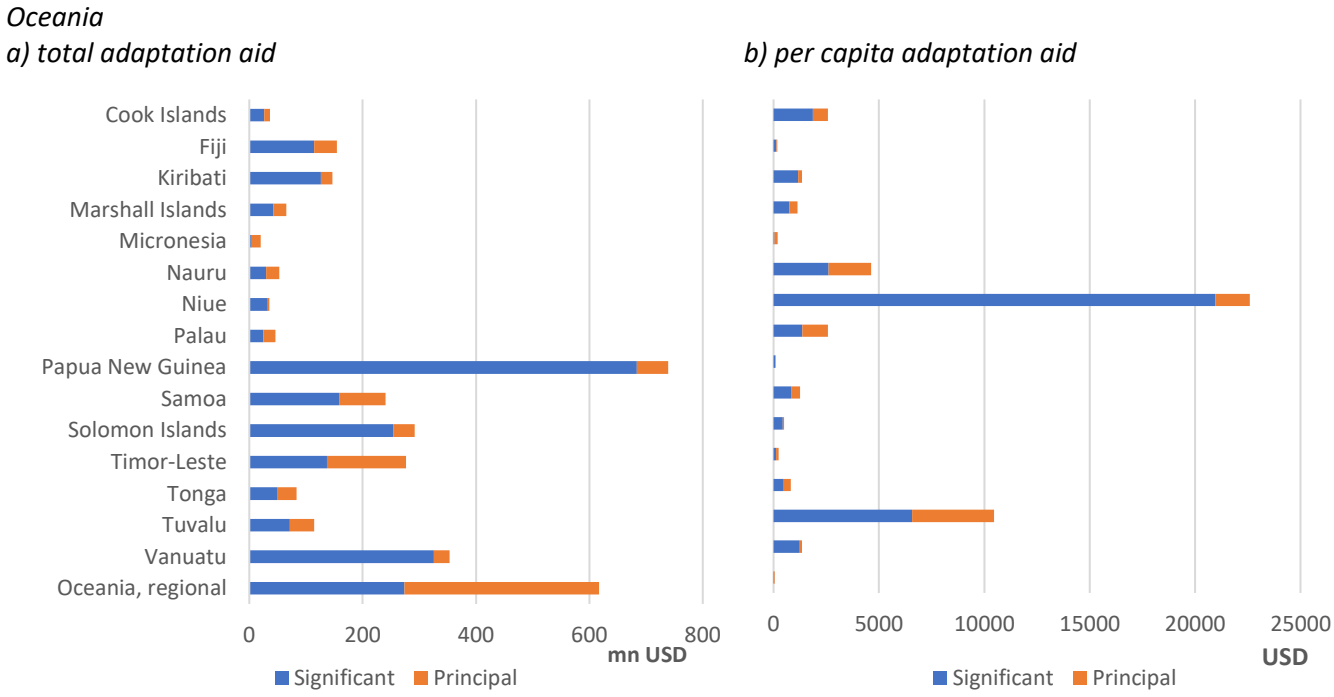
** Barbados and Trinidad and Tobago were only eligible to receive ODA until 2010 (inclusive), St. Kitts and Nevis until 2014.*

On a per capita basis, however, the picture changes. Haïti, Cuba and the Dominican Republic – all of which have large populations of over 10 million – are among the bottom recipients of adaptation aid per capita, at $74, $12 and $34 per capita, respectively. Jamaica – which also has a relatively large population of around 3 million – also obtained only $48 million per capita. In contrast, Dominica, Grenada and Antigua and Barbuda – all among the smallest Caribbean SIDS – benefitted from fairly large amounts per capita, at $986, $585 and $556 respectively.

The fifteen SIDS in Oceania (figure 3C) received the remaining 50% of all adaptation aid in the period of study. More than half of this went to the larger Melanesian SIDS: Papua New Guinea ($739 million), Vanuatu ($353 million) and Solomon Islands ($292 million), as well as Timor-Leste ($276 million) and Samoa ($240 million). In absolute numbers, the smaller SIDS of Polynesia (except Samoa) and Micronesia received relatively little, but because of their small population size, this still translates into high levels of per capita adaptation aid. Niue, which is freely associated with New Zealand and has a local population of only around 1500, was by far the largest recipient of adaptation aid per capita. Each Niuean obtained $22,600 for adaptation projects – the bulk of this (just under $21,000) was for projects with a significant adaptation component. Tuvalu and Nauru also have extremely small populations of only around 11,000 and therefore similarly benefitted from high per capita amounts of adaptation aid: $10,500 for each Tuvaluan and $4,600 for each Nauruan. Cook Islands ($2582), Palau ($2578), Vanuatu ($1355), Kiribati ($1352), Samoa ($1259) and Marshall Islands ($1139) all received over $1000 per capita for adaptation projects. In Papua New Guinea,

in contrast, the large population of over 8 million means that the country receives the least adaptation aid per capita: $94 for each citizen – despite receiving the most adaptation aid in absolute terms.

Figure 3c: Adaptation aid to Oceania
Source: Authors' with OECD CRS data



Overall, Oceanian SIDS are the top adaptation recipients per capita. On average, Oceanian islanders received $3127 per capita for adaptation projects; even when Niue is excluded, the average per capita adaptation aid in the region remains high at $1829 – much higher than the average per capita adaptation aid in the Caribbean ($237) and African and Indian Ocean SIDS ($239).

Regional adaptation projects that target several countries at once also played an important role in the Caribbean, where regional projects were worth a total of $648 million, as well as in Oceania, where regional projects accounted for almost 20% of all adaptation aid, at $617 million. If these regional funds had benefitted all inhabitants equally, they would account for $18 for each islander in the Caribbean, and $54 for each islander in Oceania. While there are also regional programs in Africa, none covers only the African and/or Indian Ocean SIDS, so no regional adaptation programs are included for this region.

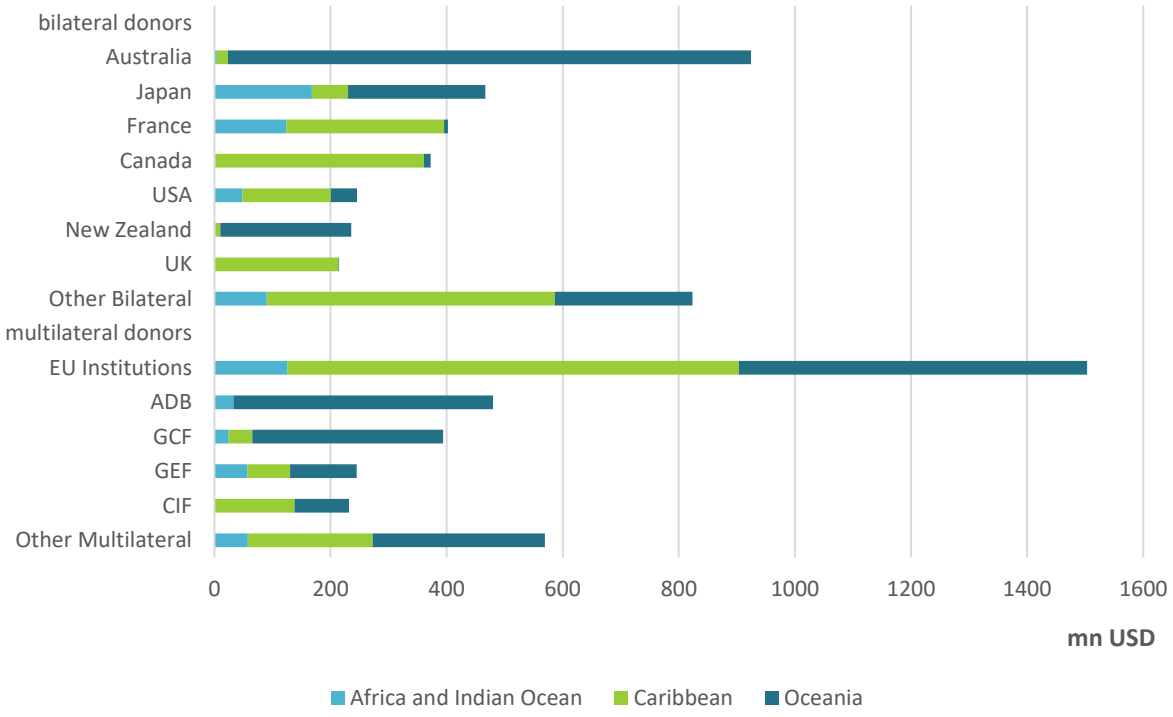
2.3. Who supports adaptation in SIDS?

Where does the $6.6 billion for adaptation in SIDS come from? A large number of donors supports adaptation projects in SIDS: in the period we study, 27 bilateral and 17 multilateral donors committed adaptation aid to at least one SIDS. On average, each donor was active in 13 different SIDS, although some donors are much more present across SIDS than others.

For example, Australia and the EU assisted 37 different SIDS each, while Japan assisted 35 of these countries. In contrast, the Netherlands, Greece and Slovenia only engaged in adaptation in one SIDS each (Suriname, regional projects and Guyana, respectively).

In terms of volume, Figure 4 displays the major bilateral and multilateral adaptation donors for SIDS by region.

Figure 4: Major adaptation donors by SIDS region. ADB = Asian Development Bank; GCF = Green Climate Fund; GEF = Global Environment Facility; CIF = Climate Investment Funds
Source: Authors' with OECD CRS data



Although bilateral donors provide the bulk of adaptation aid overall (Weikmans 2016; Doshi and Garschagen 2020), for SIDS, bilateral and multilateral donors are almost equally important, with 53% of all committed adaptation aid coming from the former, and 57% from the latter. Among the bilateral donors, Australia committed the most adaptation aid, with $924 million, followed by Japan, France and Canada, which committed $466, $402 and $372 million, respectively, for adaptation projects in SIDS.

Many bilateral adaptation donors have regional foci. Almost all of Australia's and New Zealand's adaptation aid ($901 million, or 97% of all Australian adaptation aid, and $226 million, or 86% of New Zealand's adaptation aid) supported SIDS in Oceania. Canada and the UK dedicated similar shares of their adaptation aid to the Caribbean ($359 million, 96% for Canada, and $214 million, 99.5% for the UK). Japan and France are mainly active in two regions each: Japan is largely active in African and Indian Ocean SIDS ($167 million, 36% of Japanese adaptation aid) as well as in Oceania ($236 million, 51% of Japanese adaptation aid), whereas France mostly assists SIDS in the Caribbean ($271 million, 67% of French adaptation aid) and, to a lesser extent, Africa and the Indian Ocean ($124 million, 31% of French adaptation aid).

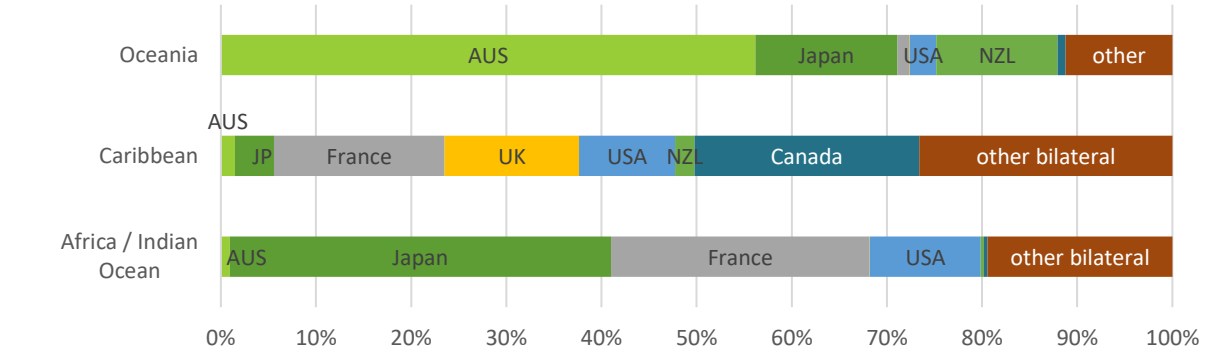
The EU is by far the largest multilateral donor ($1.5 billion in total) and is active across the three SIDS regions. However, a significantly larger share of EU funding goes to Caribbean ($778 million, 52%) and Oceanian SIDS ($600 million, 40%) compared to those in Africa and the Indian Ocean ($126 million, 8%). The second-largest multilateral donor is the Asian Development Bank (ADB), which committed $480 million for adaptation projects, mostly in Oceania ($447 million, 93%). The rest of its adaptation funding ($33 million, 7%) supported the Maldives in the Indian Ocean (the only Asian SIDS alongside Timor-Leste, which is here included in Oceania). ADB is followed by the Green Climate Fund (GCF) with $394 million, mostly in Oceania ($329 million, 83%); the Global Environment Facility (GEF) with $245 million spread across the three SIDS regions ($115 million or 47% for Oceania; $73 million or 30% for the Caribbean; and $57 million or 23% for Africa and the Indian Ocean); and the Climate Investment Funds (CIF) with $232 million for projects in the Caribbean ($138 million or 59%) and Oceania ($94 million or 41%).

If we consider donors' geographic foci from the perspective of the recipients, it becomes clear that specific individual donors – whether bilateral or multilateral – dominate in each region. Figure 5 thus displays the relative share of adaptation funding per donor, for bilateral donors (panel A) and for multilateral donors (panel B).

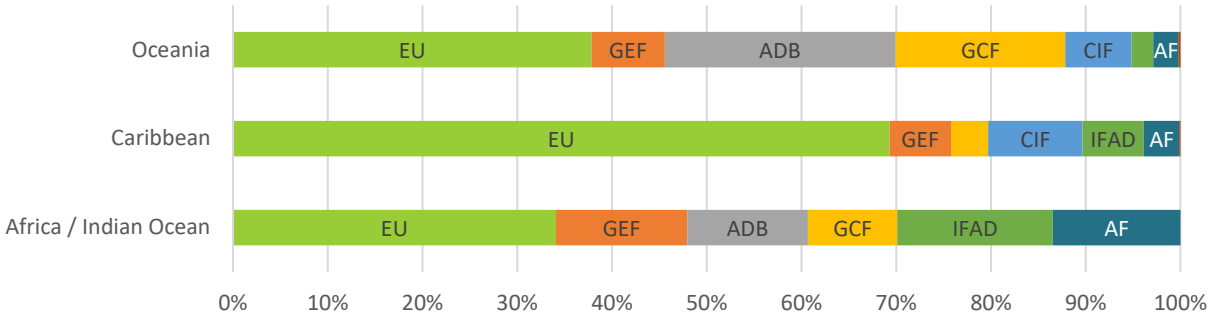
Figure 5: Major adaptation donors in each SIDS region, for bilateral (A) and multilateral (B) donors

Source: authors' with OECD CRS

A. bilateral donors



B. multilateral donors



As we have seen above, the role of individual donors also varies across the three SIDS regions. In each region, there are some predominant donors that provide a large share of overall adaptation funds. In Africa and the Indian Ocean, Japan (25% of all adaptation aid to the region) and France (17%, of all adaptation aid to the region) are key players, alongside the EU (13% of all adaptation aid) and a number of multilateral donors. In the Caribbean, 30% of all adaptation aid is from the EU. Canada (14% of all adaptation aid), France (11%), the UK (8%) and the US (6%) also provide significant shares of adaptation aid in the region, and together account for 38% of all (bilateral and multilateral) adaptation aid in the region. Finally, in Oceania, Australia dominates: of all adaptation aid to the region, 26% is from Australia. Japan and New Zealand are also significant bilateral donors (with 7% and 6% of all adaptation aid), whereas the EU dominates among the multilateral donors (with 20% of all adaptation aid), followed by ADB and GCF (13% and 10% of all adaptation aid, respectively). Australia, the EU and ADB together account for 60% of all adaptation aid to the region.

Despite the strong reliance for the majority of adaptation aid on just a few donors, we still see a large number of donors in each region, sometimes with only one or two adaptation projects. On average, each SIDS receives support from around 12 donors, although this again varies strongly. Barbados obtained adaptation support from one donor only (the UK), and Trinidad and Tobago from only two donors (the UK and Finland) – though these two countries are special given that they only were eligible to receive ODA until 2010. Most countries were supported by at least eight different donors, with Haïti being supported by 23 different donors, Cuba by 19 and Fiji by 18.

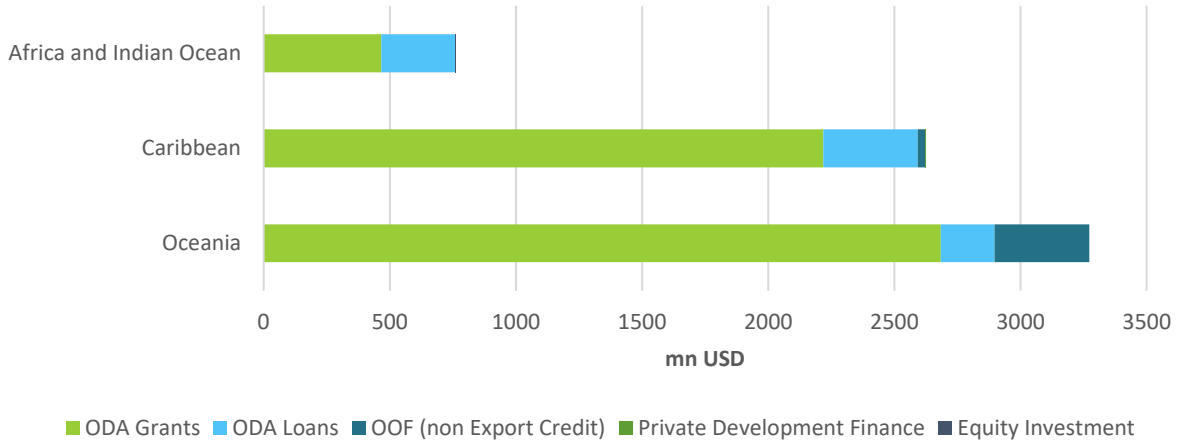
2.4. What type of adaptation is supported?

Let us now turn to the type of adaptation projects supported in SIDS. In a first step, we take a closer look at flow types, before examining the sectoral distribution of adaptation aid.

Figure 6 breaks down adaptation aid by flow type (and SIDS region). Donors can provide their development assistance in the form of grants or as concessional loans (which must include a grant element to count as ODA). The OECD CRS also registers other official flows (OOF; these are either not aimed at development or have a grant element of below 25%) private development finance, and equity investments (OECD 2020). For SIDS, grants are by far most important: 81% of all adaptation aid to SIDS (or $5.4 billion) was given as grants, 13% (or $880 million) came as concessional loans, and 6% (or $405 million) as other official flows.

These shares varied across regions, however. In the Caribbean and Oceania, grants accounted for 85% and 82%, respectively, of all adaptation aid, whereas in African and Indian Ocean SIDS, only 61% of all adaptation aid was given as grans, with 38% of adaptation aid in the region coming as loans (which need to be paid back at least in part). Only very small shares of adaptation aid to SIDS came as private development finance ($880,000 in the Caribbean, or 0.01% of all adaptation aid) or as equity investment ($1.75 million in Africa and the Indian Ocean, or 0.03% of all adaptation aid). Private development finance refers to several small credits of around $30,000 each, from the BBVA Microfinance Foundation to the Dominican Republic, as well as a project by the Wellcome Trust in Haïti (worth just under $150,000). The equity investment refers to a Finnish banking project in Mauritius.

Figure 6: Adaptation aid by flow type in each SIDS region
Source: Authors' with OECD CRS data

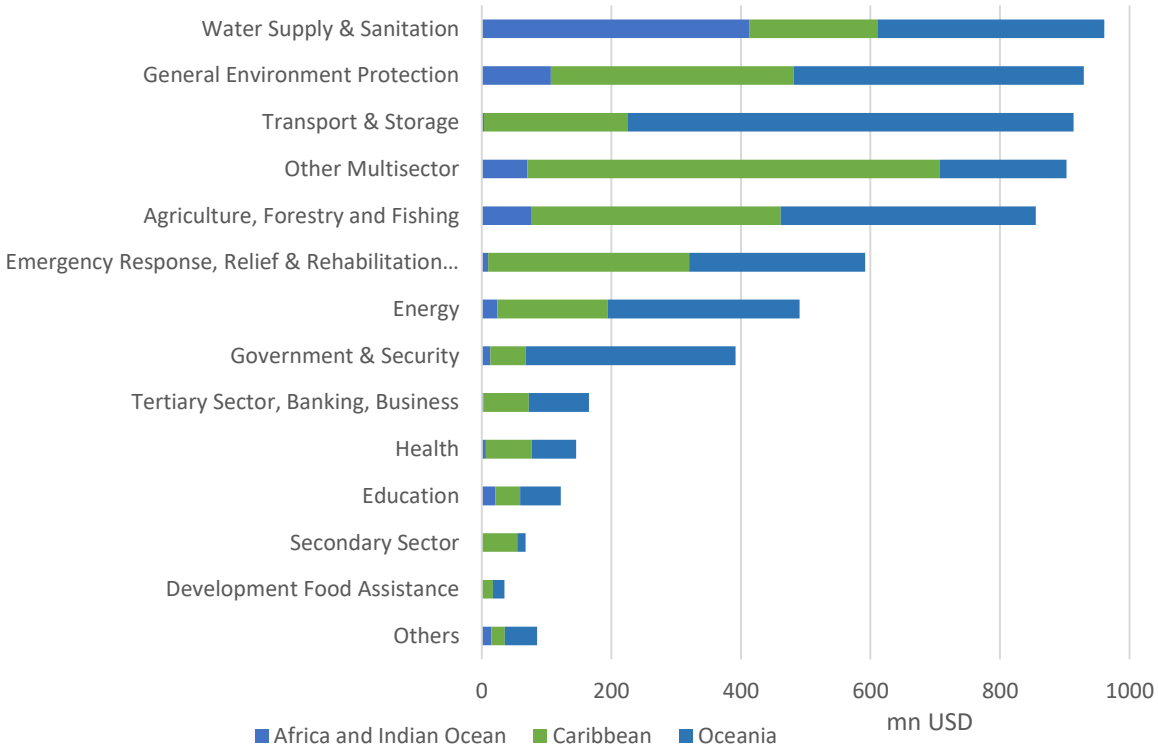


As adaptation is an ill-defined term, adaptation aid can encompass all sorts of projects, from disaster preparedness to agricultural development, from scholarships for master's degrees to support for international dialogue networks, from TV awareness campaigns to training of the local meteorological services. To some extent, this diversity is captured by the sectors indicated in the OECD CRS. Figure 7 lists the sectoral distribution of adaptation aid to

SIDS.[1] Although projects in a wide range of sectors were marked as relevant for adaptation, some sectors stand out as particularly important. Five sectors received by far the largest share of adaptation aid: water supply and sanitation ($961 million), general environment protection ($929 million), transport & storage ($913 million), other multisector projects ($903 million), and the primary sector ($855 million). Together, projects in these five sectors made up 69% of all adaptation in SIDS. Emergency and disaster projects also received a sizeable share of adaptation aid ($592 million, or 9% of all adaptation aid), as did energy projects ($490 million, or 7%).

The relative importance of the different sectors varies across the SIDS regions. Water projects are very common in Africa and Indian Ocean SIDS, where they account for 54% of all adaptation aid ($413 million out of $761 million in total). Transport and storage are particularly important in Oceania, accounting for about one-fifth of all adaptation aid ($688 million of $3.3 billion, or 21%). In the Caribbean, around one-quarter of all adaptation aid went into multisector projects ($636 million of $2.6 billion, or 24%).

Figure 7: Sectoral distribution of adaptation aid, by SIDS region
Source: Authors' with OECD CRS data



[1] Note that we combined several of the sectors (for example, we combined emergency response with reconstruction, relief & rehabilitation as well as disaster prevention & preparedness) listed in the OECD CRS for the sake of readability.

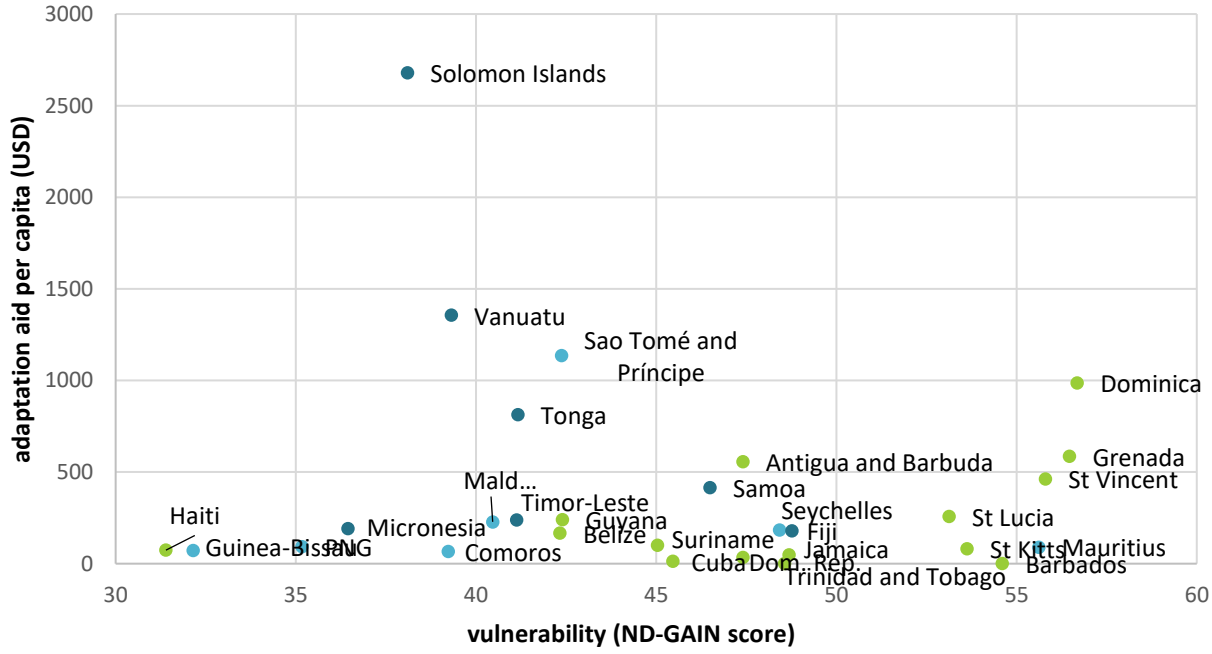
Conclusions

In the previous sections, we have taken a closer look at adaptation aid committed to SIDS between 2009 and 2018, as reported in the OECD CRS. We here cover a longer period than previous studies, yet, our results are remarkably similar to those of previous works, with regard to the geographic distribution, sources, and sectoral distribution of adaptation aid.

As noticed in previous analyses of climate finance in SIDS and beyond (e.g. Robinson and Dornan 2017; Betzold and Weiler 2018), the distribution of adaptation aid across SIDS is uneven, across and within regions. This is unsurprising; after all, SIDS also differ in their level of vulnerability: SIDS are all disproportionately, but not equally, affected by climate change. While a more systematic analysis of adaptation aid allocations is beyond the scope of the present paper, we can correlate adaptation aid per capita with some readily available measure of vulnerability, such as the widely used Notre Dame Global Adaptation Index (ND-GAIN n.d.) or the Environmental Vulnerability Index (EVI), which was specifically developed for SIDS (SOPAC 2004). The results of this correlation are displayed in figure 8A-C below.

Figure 8a: Adaptation aid per capita (2009–2018) vs. level of vulnerability as measured by the ND-GAIN. Note: For data availability, the figure includes 29 SIDS only[2]

Source: Authors'



[2] In Figure 8A-C, St. Kitts is short for St. Kitts and Nevis; St. Vincent for St. Vincent and the Grenadines; Dom. Rep. for Dominican Republic; and PNG for Papua New Guinea

Figure 8b: Adaptation aid per capita (2009–2018) vs. level of vulnerability as measured by the EVI. Note: For data availability, the figure includes 35 SIDS.
Source: Authors'

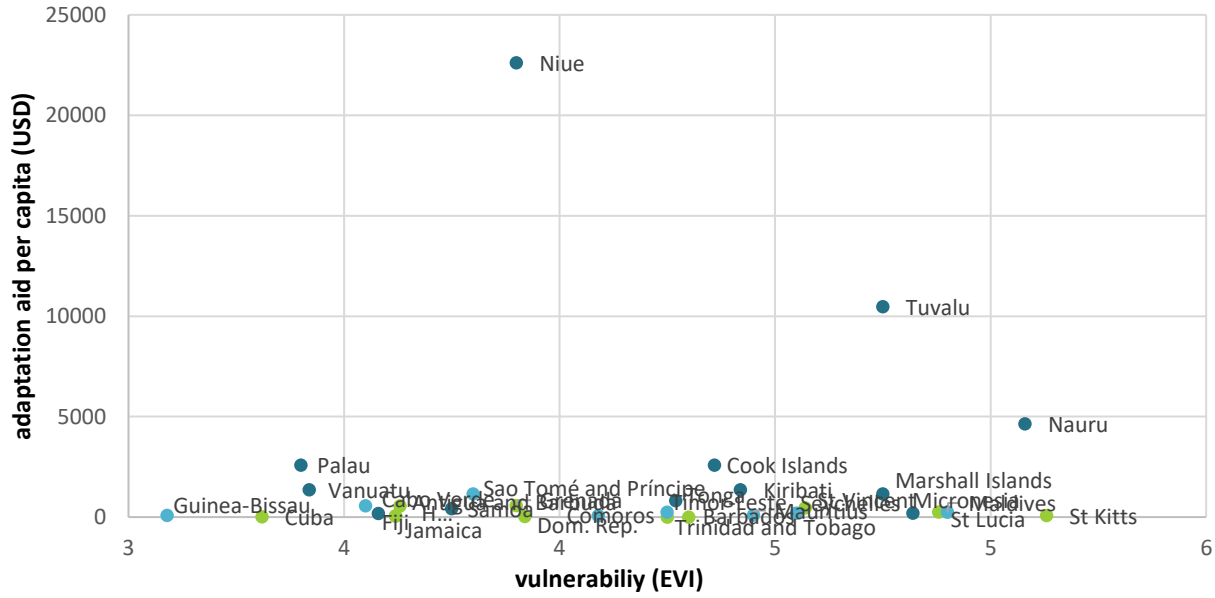
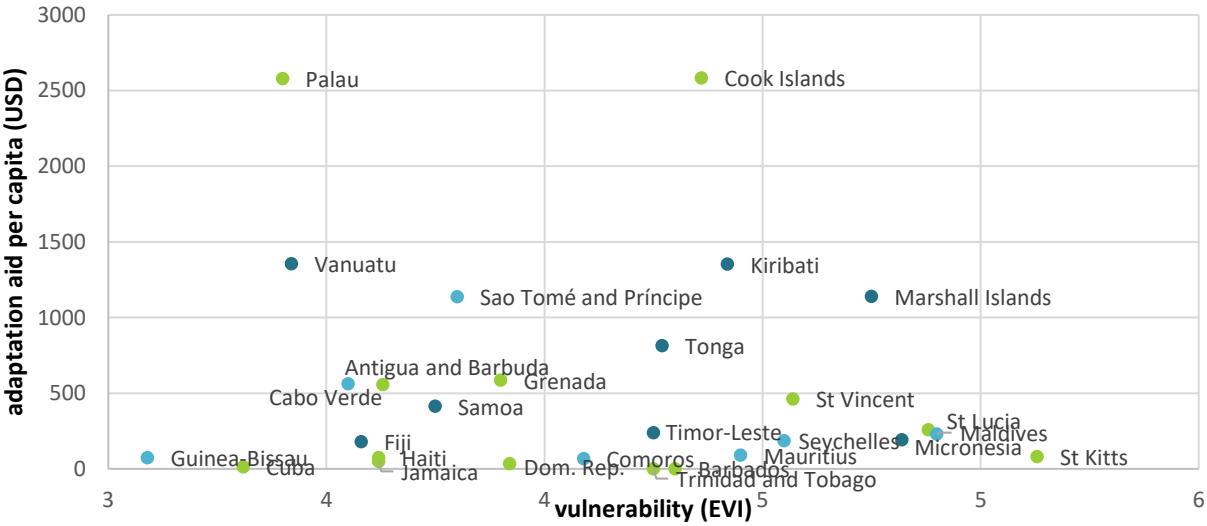


Figure 8c: Adaptation aid per capita (2009–2018) vs. level of vulnerability as measured by the EVI. Note: For readability, only SIDS with adaptation aid per capita below 3000 USD are displayed
Source: Authors'



These figures have to be interpreted with caution, as many other factors beyond vulnerability – which is only partially captured by quantitative indicators (Barnett et al. 2008; Klein 2009) – influence donors' allocation decisions. However, the results confirm our descriptive analysis in section 4.2 above: the most vulnerable SIDS do not receive the most adaptation aid. Indeed, the figures do not suggest any relationship between per capital adaptation aid and vulnerability (as captured by the ND-GAIN

and the EVI). Using LDC status as another proxy for vulnerability, or more precisely, low adaptive capacity, leads to a similar conclusion. As evident from figures 3A-C (as well as figure A4), LDCs even tend to receive lower levels of adaptation aid than their richer peers. For example, Papua New Guinea, Haïti, Guinea-Bissau and Comoros all receive fairly low levels of adaptation aid per capita. This echoes the findings from more qualitative studies of adaptation finance allocation (Betzold and Weiler 2018; Doshi and Garschagen 2020). Based on interviews, these studies highlight the role of recipients' absorptive capacity – which is presumably lower in LDCs and other highly vulnerable countries, even if those countries would require more support.

Another factor that influences the cross-country distribution of adaptation aid is population size: the smaller a country in terms of its population, the more adaptation aid it receives, at least per capita. Niue, Tuvalu and Nauru, as well as Palau and Cook Islands – all SIDS in Oceania with population sizes between 1500 (Niue) and 18,000 (Palau) – are the largest adaptation aid recipients by far. Yet, this does not necessarily mean that the populations of these microstates are better prepared for and more resilient to climate change than larger SIDS. Many adaptation projects do not scale: a cyclone shelter, seawall or solar panel costs roughly the same amount, regardless of the size of the village in which it is built. For remote, rural regions, costs may even be higher, even if the number of beneficiaries is lower, given high transportation costs.

Finally, distribution patterns remain fairly stable over time despite a general growth trend for SIDS overall. Overall, more and more ODA targets adaptation in SIDS, yet as noted above, this does not necessarily reach those most in need of support. We also cannot be sure that the OECD numbers reflect a genuine increase in adaptation aid, as the OECD data relies on donor's own reporting, which has repeatedly been found to overstate the adaptation relevance of projects (Donner et al. 2016; Weikmans and Robert 2017; Weikmans et al. 2017). To what extent adaptation aid, as reported in the OECD CRS, truly helps recipients become more resilient is another open question (Barnett 2008; Dilling et al. 2019; McNamara et al. 2020) that is beyond the scope of this paper. We are also unable to assess the additionality of the adaptation aid reported, that is, the extent to which the projects analysed here reflect additional funds beyond 'regular' development aid. In other words, the numbers should be understood as upper bounds of adaptation aid.

Furthermore, despite an overall growth trend across SIDS, the amount of adaptation aid a single country receives fluctuates strongly from year to year, not least because of the impact that individual projects can have. For example, we described the spike in adaptation aid in African and Indian Ocean SIDS in 2012 and 2013, and the subsequent drop in adaptation aid in 2014 (even below 2011 levels; see Figure A1). This spike was largely due to a water project in Cabo Verde: a loan of $125 million given by Japan in 2013. This corresponds to 43% of all adaptation aid that Cabo Verde received in the period of analysis, and 13% of all adaptation aid to African and Indian Ocean SIDS. Fluctuations and uncertainty of aid flows have been observed and critiqued for a long time, including in the context of adaptation aid in SIDS (Tortora and Soares

2016). In this context, some authors are pessimistic about the future availability of funds for adaptation in SIDS, and therefore call for more preparedness and 'cashless' adaptation (Nunn and Kumar 2019).

We are more optimistic; at least over the next years and possibly decades, we expect OECD donors to continue to provide ODA for adaptation projects in SIDS, in line with current trends as discussed here and with donors' obligations under the Convention and Paris Agreement. Yet, we concur with Nunn and Kumar (2019) that there is a growing need to prepare, and prepare better, for climate change (see also e.g. Robinson 2020). The $6.6 billion committed to adaptation projects in SIDS since 2009 are unlikely to have met demand (Khan et al. 2019), and despite the investments to date, it is not clear that SIDS are better prepared or more resilient to climate change (Korovulavula et al. 2019). On the one hand, there is a need for more transparency as to how adaptation aid is counted, when projects are classified as targeting adaptation, and to what extent these projects are additional to 'regular' development aid. Better data would allow to more reliably track adaptation aid flows and monitor progress.

On the other hand, there is also a need for robust evaluations of aid-funded projects. Donors increasingly invest into project evaluation, yet assessments, in particular over the long term and from local perspectives, are still rare (McNamara et al. 2020), but much needed to better understand when adaptation 'works' and could guide future aid allocations (Klöck and Nunn 2019). Finally, but most importantly, we need more mitigation. Only if greenhouse gas emissions are reduced significantly and rapidly do SIDS and their residents, particularly the most vulnerable ones, have a chance to effectively and sustainably adjust to climate change – and this adjustment should be supported by appropriate adaptation aid.

References

Atteridge, A., & Canales, N. (2017). Climate Finance in the Pacific: An Overview of Flows to the Region's Small Island Developing States. *Stockholm Stockholm Environment Institute Working Paper* 2017-04.

Atteridge, A., Canales, N., & Savvidou, G. (2017). Climate Finance in the Caribbean Region's Small Island Developing States *Stockholm Stockholm Environment Institute Working Paper* 2017-08.

Barnett, J. (2008). The Effect of Aid on Capacity to Adapt to Climate Change: Insights from Niue. *Political Science*, 60(1), 31-45.

Barnett, J., Lambert, S., & Fry, I. (2008). The Hazards of Indicators: Insights from the Environmental Vulnerability Index. *Annals of the Association of American Geographers,* 98(1), 102–119.

Betzold, C. (2016). Aid and Adaptation to Climate Change in Pacific Island Countries.. *Canberra Development Policy Centre Discussion Paper*, 46

Betzold, C., & Weiler, F. (2018). Development Aid and Adaptation to Climate Change in Developing Countries. Heidelberg: Palgrave Macmillan.

Canales, N., Atteridge, A., & Sturesson, A. (2017). Climate Finance for the Indian Ocean and African Small Island Developing States *Stockholm Stockholm Environment Institute Working Paper* 2017-11

.**Carter, T., & le Comte, A. (2018).** Climate Finance Shadow Report 2018: Assessing Progress towards the $100 Billion Commitment. Oxford: Oxfam International.

Dilling, L., Prakash, A., Zommers, Z., Ahmad, F., Singh, N., Wit, S. d., Bowman, K. (2019). Is adaptation success a flawed concept? *Nature Climate Change*, 9, 570–574.

Donner, S. D., Kandlikar, M., & Webber, S. (2016). Measuring and tracking the flow of climate change adaptation aid to the developing world. *Environmental Research Letters*, 11, 054006.

Doshi, D., & Garschagen, M. (2020). Understanding Adaptation Finance Allocation: Which Factors Enable or Constrain Vulnerable Countries to Access Funding? *Sustainability*, 12(10), 4308.

Junghans, L., & Harmeling, S. (2012). Different Tales from Different Countries: A First Assessment of the OECD 'Adaptation Marker'.

Khan, M., Robinson, S.-a., Weikmans, R., Ciplet, D., & Roberts, J. T. (2019). Twenty-five years of adaptation finance through a climate justice lens. *Climatic Change, 161, 251–269*

Klein, R. J. T. (2009). Identifying Countries that are Particularly Vulnerable to the Adverse Effects of Climate Change: An Academic or a Political Challenge? *Carbon & Climate Law Review*, 3(3), 284-291.

Klöck, C., & Nunn, P. D. (2019). Adaptation to Climate Change in Small Island Developing States: A Systematic Literature Review of Academic Research *Journal of Environment & Development*, 28(2), 196–218**.**

Korovulavula, I., Nunn, P. D., Kumar, R., & Fong, T. (2019). Peripherality as Key to Understanding Opportunities and Needs for Effective and Sustainable Climate-change Adaptation: A Case Study from Viti Levu Island, Fiji. *Climate and Development*.

McNamara, D. E., Clissold, R., Westoby, R., Piggott-McKellar, A., Kumar, R., Tahlia Clarke, Nunn, P. D. (2020). An Assessment of Community-based Adaptation Initiatives in the Pacific Islands. *Nature Climate Change* 10, 628–639

Michaelowa, A., & Michaelowa, K. (2011). Coding Error or Statistical Embellishment? The Political Economy of Reporting Climate Aid. *World Development,* 39(11), 2010-2020.

ND-GAIN. (n.d.). ND-GAIN: Notre Dame Global Adaptation Index. Retrieved from http://index.gain.org/

Nunn, P. D., & Kumar, R. (2019). Cashless Adaptation to Climate Change: Unwelcome yet Unavoidable? *One Earth*, 1, 31–34.

Nurse, L. A., McLean, R. F., Agard, J., Briguglio, L. P., Duvat-Magnan, V., Pelesikoti, N., … Webb, A. (2014). Small Islands. In V. R. Barros, C. B. Field, D. J. Dokken, M. D. Mastrandrea, K. J. Mach, T. E. Bilir, M. Chatterjee, K. L. Ebi, Y. O. Estrada, R. C. Genova, B. Girma, E. S. Kissel, A. N. Levy, S. MacCracken, P. R. Mastrandrea, & L. L. White (Eds.), Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (pp. 1613-1654). Cambridge and New York: Cambridge University Press.

OECD. (2011). Handbook on the OECD-DAC Climate Markers: Available online at www.oecd.org/dac/stats/48785310.pdf.

OECD. (2019). History of DAC Lists of aid recipient countries. Retrieved from http://www.oecd.org/development/financing-sustainable-development/development-finance-standards/historyofdaclistsofaidrecipientcountries.htm#Chronology

OECD. (2020). DAC Glossary of Key Terms and Concepts. Retrieved from http://www.oecd.org/dac/financing-sustainable-development/development-finance-data/dac-glossary.htm#OOF

Robinson, S.-a. (2020). Climate change adaptation in SIDS: A systematic review of the literature pre and post the IPCC Fifth Assessment Report. *Wiley Interdisciplinary Reviews-Climate Change*, e653.

Robinson, S.-a., & Dornan, M. (2017). International Financing for Climate Change Adaptation in Small Island Developing States. *Regional Environmental Change*, 17(4), 1103–1115.

Scoville-Simonds, M. (2016). The Governance of Climate Change Adaptation Finance--An Overview and Critique. International Development Policy | *Revue internationale de politique de développement*, 7.1.

SOPAC. (2004). Building Resilience in SIDS: The Environmental Vulnerability Index. Retrieved from http://www.sopac.org/index.php/environmental-vulnerability-index

Tortora, P., & Soares, R. (2016). Climate and Disaster Resilience Financing in Small Island Developing States. Paris and Washington, DC: Organization for Economic Co-operation and Development and Small Island States Resilience Initiative (SISRI), Climate Change Group, World Bank.

UNFCCC. (1992). United Nations Framework Convention on Climate Change: Document number FCCC/INFORMAL/84.

UNFCCC. (2009). Copenhagen Accord: Document number FCCC/CP/2009/11/Add.1.

UNFCCC. (2015). Paris Agreement: Document number FCCC/CP/2015/L.9/Rev.1.

United Nations. (2020). LDCs at a Glance. Retrieved from https://www.un.org/development/desa/dpad/least-developed-country-category/ldcs-at-a-glance.html

Watson, C., Patel, S., Durand, A., & Schalatek, L. (2016). Climate Finance Briefing: Small Island Developing States Climate Finance Fundamentals 12. London and Washington DC: Overseas Development Institute and Heinrich Böll Stiftung North America.

Weikmans, R. (2016). Le rôle de la coopération au développement dans le financement international de l'adaptation au changement climatique. In A. Zacharie (Ed.), La nouvelle géographie du développement. Coopérer dans un monde en mutation (pp. 175–185). Bruxelles: Le Bord de l'Eau.

Weikmans, R., & Robert, J. T. (2017). The International Climate Finance Accounting Muddle: Is There Hope on the Horizon? *Climate and Development* 11(2), 97-111

Weikmans, R., Robert, J. T., Baum, J., Bustos, M. C., & Durand, A. (2017). Assessing the Credibility of How Climate Adaptation Aid Projects are Categorised. *Development in Practice*, 27(4), 458–471.

World Bank. (2020a). World Bank Country and Lending Groups. Retrieved from https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

World Bank. (2020b). World Development Indicators. Retrieved from http://databank.worldbank.org/Data/Home.aspx

Appendix

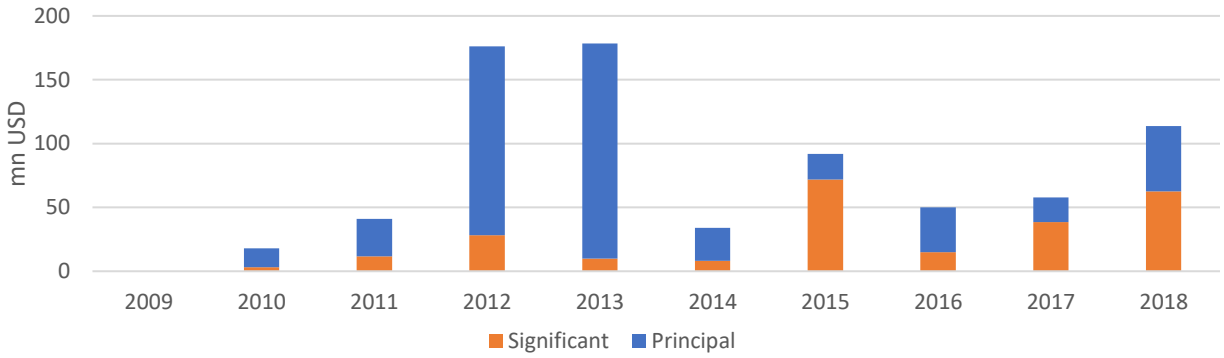
Table a1: List of SIDS included in the analysis

country	population[1]	GDP/cap[1]	income group[2]	LDC[3]	adaptation aid (mn. USD)[4]		
					principal	significant	total
Africa and Indian Ocean							
Cabo Verde	544000	3635	lower-middle	until 2007	56.19	232.89	289.08
Comoros	832000	1415	lower-middle	yes	13.49	36.57	50.07
Guinea-Bissau	1874000	778	low	yes	85.82	34.49	120.32
Maldives	516000	10331	upper-middle	until 2011	27.78	70.21	97.99
Mauritius	1265000	11239	high	no	2.53	110.74	113.27
São Tomé and Príncipe	211000	2001	lower-middle	yes	43.22	14.18	57.40
Seychelles	97000	16434	high	no	19.58	13.23	32.81
Caribbean							
Antigua and Barbuda	96000	16727	high	no	22.79	28.24	51.03
Barbados[5]	287000	17949	high	no		0.02	0.02
Belize	383000	4885	upper-middle	no	37.83	20.11	57.94
Cuba	11338000	8822	upper-middle	no	94.25	44.42	138.67
Dominica	72000	7691	upper-middle	no	32.91	37.21	70.11
Dominican Republic	10627000	8051	upper-middle	no	69.35	272.58	341.93
Grenada	111000	10640	upper-middle	no	52.24	11.27	63.52
Guyana	779000	4979	upper-middle	no	123.19	59.05	182.24
Haïti	11123000	868	low	yes	487.39	283.60	770.99
Jamaica	2935000	5354	upper-middle	no	46.98	89.45	136.43
St. Kitts and Nevis[6]	52000	19275	high	no	15.37	0.07	15.44
St. Lucia	182000	10566	upper-middle	no	13.07	36.78	49.86
St. Vincent & Grenadines	110000	7361	upper-middle	no	28.16	14.00	42.15
Suriname	576000	6234	upper-middle	no	31.56	23.45	55.01
Trinidad and Tobago[5]	1390000	17130	high	no		0.10	0.10
Oceania							
Cook Islands	16000	NA	NA	no	26.36	10.11	36.47
Fiji	883000	6267	upper-middle	no	114.73	39.76	154.49
Kiribati	116000	1625	lower-middle	yes	126.36	20.41	146.77
Marshall Islands	58000	3788	upper-middle	no	42.95	22.18	65.13
Micronesia (Fed. States)	113000	3568	lower-middle	no	4.42	15.99	20.41
Nauru	13000	9889	high	no	29.78	23.09	52.87
Niue	1500	NA	NA	no	32.77	2.58	35.35
Palau	18000	15859	high	no	24.41	21.47	45.88
Papua New Guinea	8606000	2730	lower-middle	no	683.41	55.36	738.77
Samoa	196000	4183	upper-middle	until 2014	158.56	81.81	240.37
Solomon Islands	653000	2138	lower-middle	yes	254.53	37.21	291.74
Timor-Leste	1268000	2036	lower-middle	yes	137.00	139.47	276.47
Tonga	103000	4364	upper-middle	no	48.80	34.45	83.25
Tuvalu	11500	3701	upper-middle	yes	71.83	42.55	114.38
Vanuatu	293000	3124	lower-middle	yes	325.72	27.57	353.29

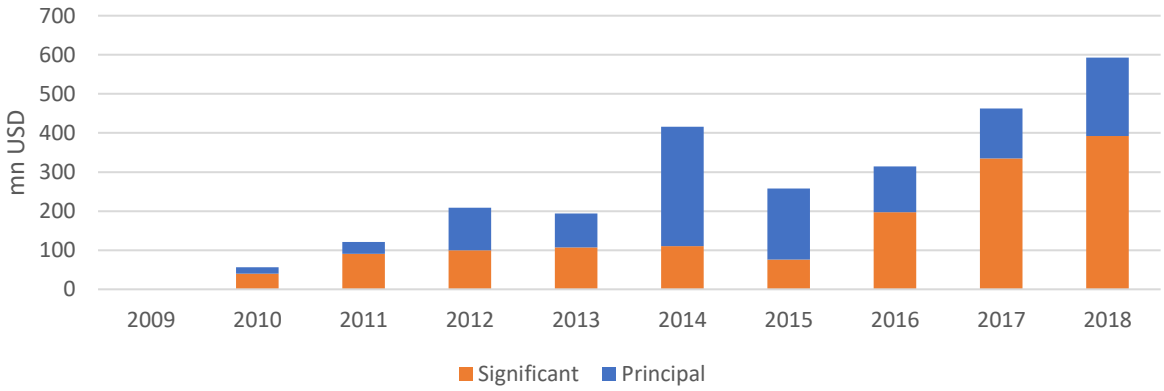
Notes: [1]data for 2018, based on World Bank (2020b); [2] as classified by (World Bank 2020a) ;
[3] as classified by United Nations (2020); [4] commitments 2009–2018, as reported in OECD CRS;
[5] eligible to receive ODA until 2010; [6]eligible to receive ODA until 2014.

Figure a1: Adaptation aid over time, by region
Source: Authors' with OECD CRS data

A. Africa and Indian Ocean



B. Caribbean



C. Oceania

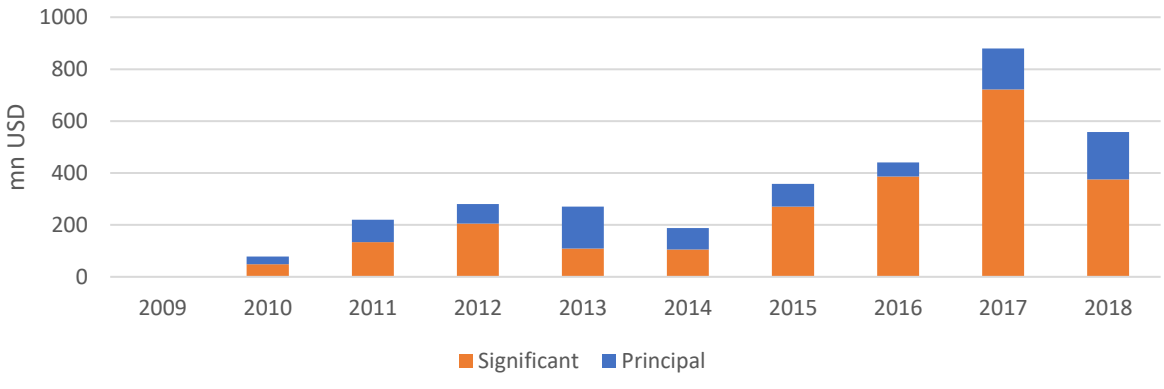


Figure a2: Share of adaptation and mitigation projects in all climate projects committed to SIDS, by region, 2009–2018

Source: Authors' with OECD CRS data

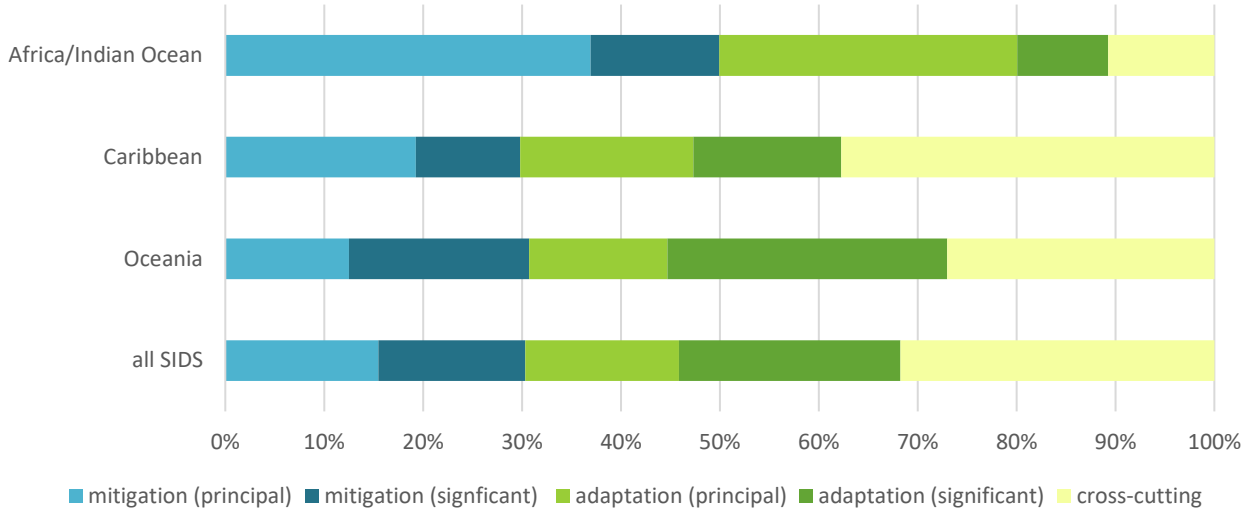
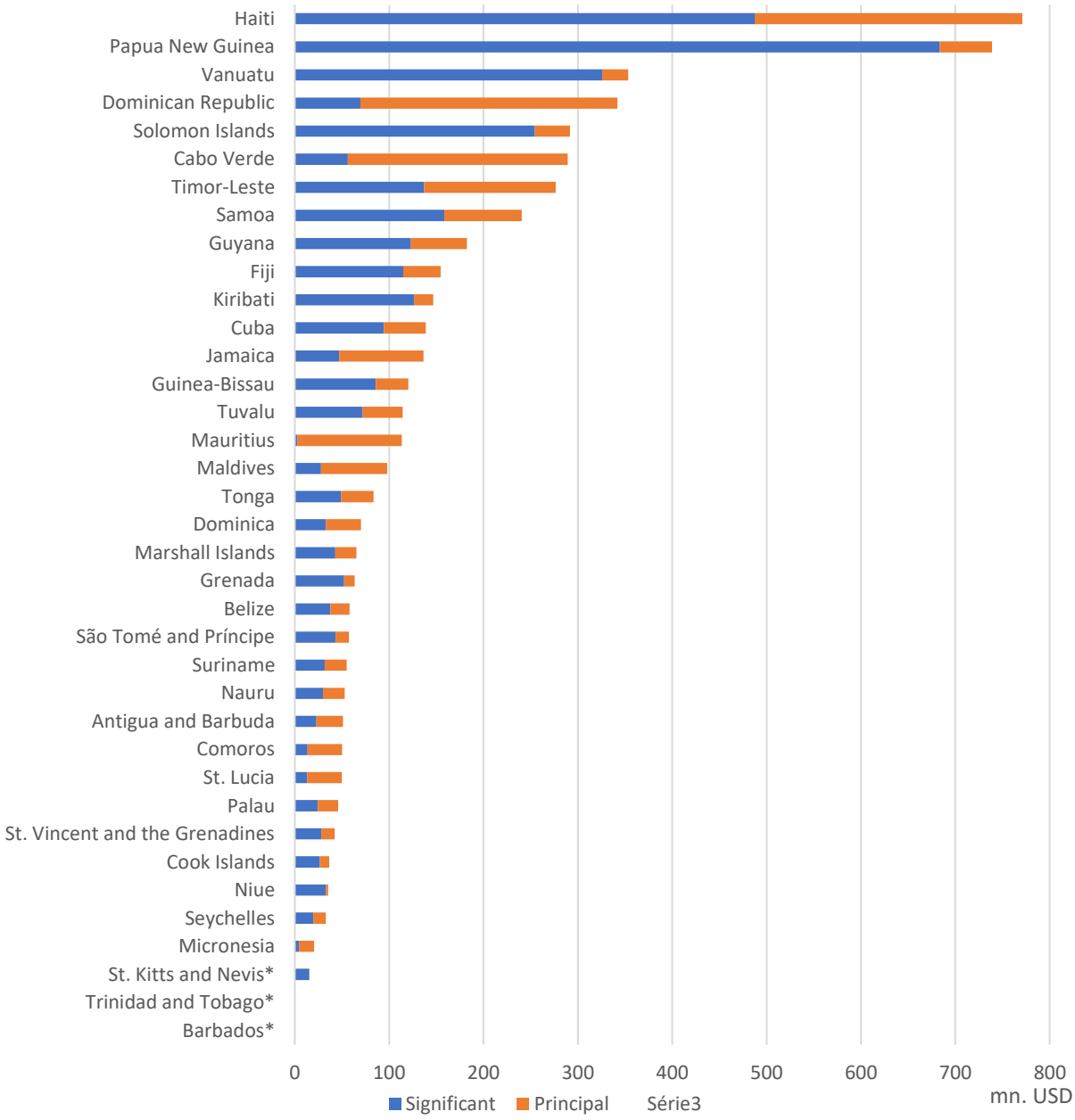


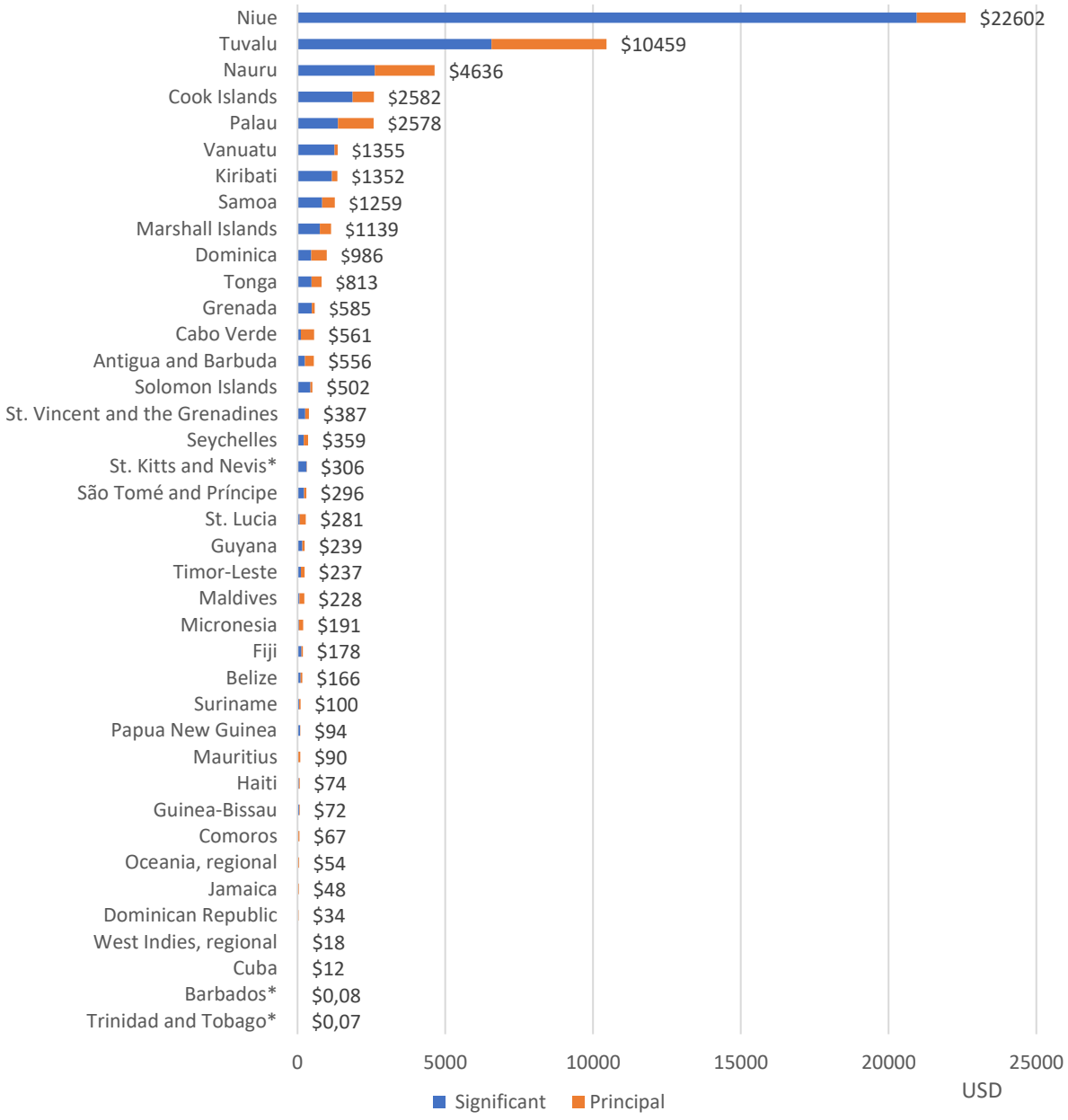
Figure a3: Adaptation aid per capita committed to SIDS 200¬9–2018, by country

Source: Authors' with OECD CRS data



** Barbados and Trinidad and Tobago were only eligible to receive ODA until 2010 (inclusive), St. Kitts and Nevis until 2014.*

Figure a4: Adaptation aid per capita committed to SIDS 2009–2018, by country
Source: Authors' with OECD CRS data



** Barbados and Trinidad and Tobago were only eligible to receive ODA until 2010 (inclusive), St. Kitts and Nevis until 2014.*

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5, rue Roland Barthes
75012 Paris I France
www.afd.fr

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