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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Office of the Secretary Of Defense **Date:** April 2022

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 2: Applied Research	R-1 Program Element (Number/Name) PE 0602675D8Z I Social Science Research for Climate and Environmental Change
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	4.000	-	4.000	4.800	5.600	6.200	6.500	Continuing	Continuing
046: Providing Research and End-user Products to Accelerate Readiness and Environmental Security (PREPARES)	-	0.000	0.000	4.000	-	4.000	4.800	5.600	6.200	6.500	Continuing	Continuing

Note
New Start (Y/N): Yes

A. Mission Description and Budget Item Justification

This program funds Department of Defense physical climate and social science applied research. Climate and environmental change will impact the full range of U.S. military operating environments. DoD capabilities, until recently, have been aligned toward the historical environmental and geopolitical record; failure to anticipate and plan for the security effects of climate and environmental change holds significant potential to not only degrade DoD readiness and effectiveness but also compound the frequency and scope of novel geostrategic risks and surprises. Efforts under this program will focus on interdisciplinary science and technology that spans physical climate modeling and forecasting and social sciences capable of yielding tangible decision support tools that empower operational planners to prepare for and adapt to the complicated, interconnected security and stability challenges of climate and environmental change. Insights derived from this program will enable Combatant Commands to better engage key partners and allies in efforts to plan for and mitigate risks and promote global peace and stability.

This program is in Budget Activity 2, Applied Research because this budget activity includes studies, investigations, and non-system specific technology efforts directed toward general military needs with a view toward developing and evaluating the feasibility and practicality of proposed solutions and determining their parameters.

B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	4.000	-	4.000
Total Adjustments	0.000	0.000	4.000	-	4.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Year	-	-	4.000	-	4.000

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Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Providing Research and End-user Products to Accelerate Readiness and Environmental Security (PREPARES) is a new start in FY 2023.

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Office of the Secretary Of Defense **Date:** April 2022

Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602675D8Z / Social Science Research for Climate and Environmental Change	Project (Number/Name) 046 / Providing Research and End-user Products to Accelerate Readiness and Environmental Security (PREPARES)
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
046: Providing Research and End-user Products to Accelerate Readiness and Environmental Security (PREPARES)	-	0.000	0.000	4.000	-	4.000	4.800	5.600	6.200	6.500	Continuing	Continuing

Note

New Start (Y/N): Yes

A. Mission Description and Budget Item Justification

This program will leverage and integrate expertise from operational end users, physical climate scientists and models, tools, and datasets, and social scientists with deep understanding of designated regional and local communities to anticipate and respond more quickly and precisely to climate and environmental change risks and opportunities. The program aims to explore how specific environmental and social indicators might inform strategic reviews to adapt warfighter training and planning in anticipation of climate global trends. The research program will build upon the products of the 6.1 Minerva Research Initiative with a focus on end-user defined mission, geographic, and timescale priorities to forecast local and regional climate and environmental change effects, assess and predict likely societal impacts and responses, and ultimately provide operations planners technically-relevant and operationally precise scenarios to incorporate into CONPLANS and OPLANS and ISR requirements related to climate change.

B. Accomplishments/Planned Programs (\$ in Millions)

Title: Providing Research and End-user Products to Accelerate Readiness and Environmental Security (PREPARES)	FY 2021	FY 2022	FY 2023
Description: PREPARES will leverage and build upon Minerva products by incorporating their findings into operationally-relevant planning scenarios that accelerate the Department’s understanding of the social, cultural, behavioral, and political dynamics most likely to be affected by climate and environmental change in strategically important areas of the world. By aligning research objectives with the priorities of operational end users who can apply the tools and knowledge products to their areas of responsibility, the proposed enhancement would translate and integrate results from 6.1 strategic and global-centric analyses to provide operational and tactical assessments to inform CONPLANS and OPLANS, focusing on specific regions and detailed scenarios for the warfighter. PREPARES uniquely applies research to integrate physical climate and social sciences and accelerate “research to operations”, directly impacting military operational planning and preparations to mitigate the security risks from climate and environmental change. This effort also will rapidly produce the tools and products the end-users need to sustain data-informed planning and analysis for operations and engagements with partners and allies.	-	-	4.000
FY 2023 Plans:			

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Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602675D8Z / <i>Social Science Research for Climate and Environmental Change</i>	Project (Number/Name) 046 / <i>Providing Research and End-user Products to Accelerate Readiness and Environmental Security (PREPARES)</i>
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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2021	FY 2022	FY 2023
<p>Activities for this first year will include those items necessary for establishing the program, including: creation of an advisory team, governing body and project guidance and execution documentation; identification of priority scenarios for exploration; and selection of performers and initiation of modeling and social science research efforts.</p> <p>To demonstrate technical feasibility and relevance to operational end-users, PREPARES initially will focus on several issues related to climate and environmental change security challenges that are of importance to and identified by the SOCOM Enterprise, affected commands, and operational elements, including Civil Affairs operational planners. For FY 2023, the program will initiate focused research into including – but not limited to – one or more of the following areas identified by the Combatant Command end users:</p> <ul style="list-style-type: none"> (1) Development of data-driven, spatially explicit forecasts of where climate and environmental change risks and opportunities exist now and will occur in the near future, their types, and the dynamics within each; (2) Understanding the sociocultural tensions in a given theater as a result of perceptions of disproportionate climate and environmental change impacts, including shifts in opportunities and challenges; (3) How socioeconomic interdependence and burden sharing to manage climate and environmental change challenges may affect the roles and relationships of DoD alliances and those of our competitors; (4) Assessments of the ability of state and non-state groups to organize, mobilize, strategize, govern, and gain advantage in the face of climate and environmental change and the locations of where this may occur due to pre-existing instabilities and/or other existing risk factors; (5) How climate and environmental change may be leveraged by specific actors in power competition and the emergence of critical threats in contested regions; (6) How climate and environmental change may impact, influence, and interact with other compounding risk factors, including social, political, and economic dynamics; (7) The development of integrated tools and data products (e.g., data-driven scenarios, social-ecological systems models, remote and in-situ observations, statistical guidance) to forecast the emergence of physical phenomenon at relevant time and spatial scales in the context of their sociocultural settings; and (8) Using the aforementioned research topics to rapidly establish an end-user product for decision support and potential early warnings of threats (through precise indicators) so as to guide planning and/or response before such threat impacts defense effectiveness. <p>FY 2022 to FY 2023 Increase/Decrease Statement: PREPARES is a new start for FY 2023.</p>			
Accomplishments/Planned Programs Subtotals	-	-	4.000

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C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
NA