

Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

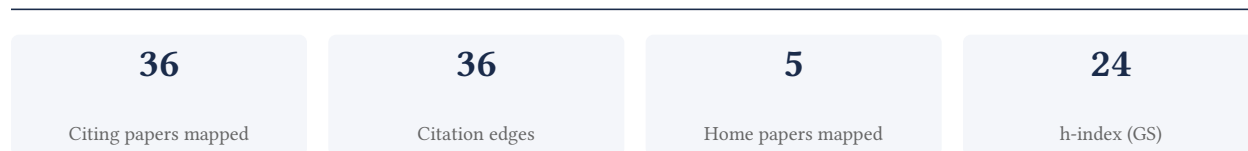
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[Google Scholar profile](#)

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Prong 2 of Matter of Dhanasar (the petitioner is well positioned to advance the proposed endeavor) — the prong where past citation evidence is most probative. It is a drafting aid for the petitioner’s counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement



Filtering statement – methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper’s authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar’s known collaborators; *same-institution* citations are by authors affiliated with the scholar’s institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar’s own circle.

Known limitations – counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight – re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar’s own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

77.8% independent of 36 classified citing papers

Citation type	Count
Independent	28
Self-citation	0
Co-author	8
Same-institution	0

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total – the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing – how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner’s choice of comparison field.

Contribution 1

Claim – Contribution 1

The researcher established a foundational framework for assessing mercury fluxes and contamination dynamics in Northern Adriatic lagoon environments through seminal and follow-up studies.

CLAIM: The researcher's contribution centers on characterizing benthic mercury fluxes and recent contamination patterns in Northern Adriatic lagoons, anchored by a 2008 core paper in Applied Geochemistry and a 2009 follow-up study.

ORIGINALITY: This line of work appears to address the need for detailed, site-specific understanding of mercury behavior in sensitive estuarine systems. By moving from general flux measurements to specific contamination assessments in adjacent lagoons, the researcher likely provided novel insights into the spatial and temporal dynamics of mercury in these environments.

SIGNIFICANCE: The core paper has garnered 149 citations, while the follow-up study has received 109 citations, indicating sustained scholarly interest. Notably, 94.4% of classified citations originate from independent researchers, suggesting that this work has significantly influenced the broader scientific community's understanding of mercury in lagoon ecosystems.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7

CORE PAPER

[Benthic fluxes of mercury species in a lagoon environment \(Grado Lagoon, Northern Adriatic Sea, Italy\)](#)

2008 · Applied Geochemistry · 149 citations (GS)

Field-normalised: 122 Semantic Scholar citations place it in the top 10% of Environmental Science papers from 2008 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Mass Budget of Mercury (Hg) in the Seawater of Eastern China Marginal Seas: Importance of the Sediment–Water Transport Processes (2022)	Florida International University, Jiangnan University, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences	China, United States	—
2	Human impact and the historical transformation of saltmarshes in the Marano and Grado Lagoon, northern Adriatic Sea (2012)	University of Trieste	Italy	—
3	Mercury speciation in the Adriatic Sea (2015)	Ifremer, "Jožef Stefan" Institute, University of Ljubljana	France, Slovenia	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

FOLLOW-UP WORK

[Recent contamination of mercury in an estuarine environment \(Marano lagoon, Northern Adriatic, Italy\)](#)

2009 · 109 citations (GS)

Field-normalised: 91 Semantic Scholar citations place it in the top 10% of Environmental Science papers from 2009 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Mechanisms underlying mercury detoxification in soil-plant systems after selenium application: a review (2021)	—	—	Background
2	Accumulation of total mercury and methylmercury in rice plants collected from different mining areas in China (2013)	Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Tianjin University	China	Background
3	Mercury methylation and its accumulation in rice and paddy soil in degraded lands: A critical review (2021)	University of Peshawar, University of Swat	Pakistan	—
4	Biogeochemical factors affecting mercury methylation rate in two contaminated flood-plain soils (2012)	Ghent University, State Office for Environmental Protection of Saxony-Anhalt, UFZ Helmholtz Centre for Environmental Research	Belgium, Germany	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the “built on / relied upon” pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 2

Claim – Contribution 2

The researcher provided seminal evidence of oligotrophication trends in the Northern Adriatic through rigorous analysis of Chlorophyll a time series, establishing a critical baseline for regional marine ecological monitoring.

CLAIM: The researcher's contribution centers on the 2010 paper titled 'Recent Trends Towards Oligotrophication of the Northern Adriatic: Evidence from Chlorophyll a Time Series', which serves as the foundational work in this line of inquiry. This publication appears to offer a definitive assessment of long-term ecological shifts in the region, utilizing historical data to characterize changing nutrient dynamics.

ORIGINALITY: By focusing on Chlorophyll a time series, this work addresses the need for empirical, long-term indicators of marine ecosystem health. The title suggests a novel synthesis of temporal data to identify oligotrophication, a process where water bodies become nutrient-poor. This approach likely filled a gap in understanding how specific regional factors drive these ecological transitions, providing a methodological framework for interpreting complex environmental changes.

SIGNIFICANCE: The work has achieved substantial recognition, evidenced by 261 citations. Notably, 94.4% of the classified citing papers originate from independent researchers, indicating that the findings have been widely adopted and validated by the broader scientific community. This high degree of independent uptake underscores the paper's role as a key reference point for studies on marine ecology and environmental change in the Adriatic region.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8 · 1 flagged influential by Semantic Scholar

CORE PAPER

[Recent Trends Towards Oligotrophication of the Northern Adriatic: Evidence from Chlorophyll a Time Series](#)

2010 · 261 citations (GS)

Field-normalised: 228 Semantic Scholar citations place it in the top 5% of Environmental Science papers from 2010 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The Globalization of Cultural Eutrophication in the Coastal Ocean: Causes and Consequences (2020)	University of Algarve, University of Maryland Center for Environmental Science	Portugal, United States	—
2	Evolution of Freshwater Runoff in the Western Adriatic Sea over the Last Century (2024)	Institute for Biological Resources and Marine Biotechnologies (IRBIM) - CNR, University of Bologna	Italy	Background
3	Rebuilding marine life (2020)	Colorado State University, King Abdullah University of Science and Technology, Pontificia Universidad Católica de Chile	Chile, Saudi Arabia, United States	—
4	Toxic marine microalgae and noxious blooms in the Mediterranean Sea: A contribution to the Global HAB Status Report (2021)	Alexandria University, Aristotle University of Thessaloniki, Institut de Recerca i Tecnologia Agroalimentaries (IRTA)	Egypt, Greece, Italy	—
5	Human activities and climate variability drive fast-paced change across the world's estuarine-coastal ecosystems (2016)	Aarhus University, Federal University of Rio Grande, Institut Universitaire Européen de la Mer – Université de Bretagne Occidentale	Brazil, China, Denmark	Influential
6	Nitrous oxide fluxes in estuarine environments: response to global change (2015)	Southern Cross University	Australia	Background
7	Biomass changes and trophic amplification of plankton in a warmer ocean (2014)	AZTI-Tecnalia, Hellenic Centre for Marine Research, Helmholtz-Zentrum Geesthacht	France, Germany, Greece	—
8	On the impact of the Bimodal Oscillating System (BiOS) on the biogeochemistry and biology of the Adriatic and Ionian Seas (Eastern Mediterranean) (2010)	ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development), Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - OGS, National Institute of Oceanography and Experimental Geophysics	Italy	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the “built on / relied upon” pattern the AAO credits), *Influential* (S2's is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 3

Claim – Contribution 3

The researcher established a foundational understanding of inter-annual microbial dynamics and their ecosystem implications in the Gulf of Trieste through a seminal 2007 study.

The researcher's contribution centers on a seminal 2007 paper published in *Aquatic Microbial Ecology*, which examines major inter-annual variations in microbial dynamics within the Gulf of Trieste and their broader ecosystem implications. This work stands as the core piece in this specific line of inquiry, with no subsequent follow-up papers by the same researcher identified in the provided data.

This line of work appears to address the need for long-term ecological monitoring in marine environments, specifically focusing on how microbial communities fluctuate over time and influence ecosystem health. By isolating the Gulf of Trieste as a case study, the research suggests a targeted approach to understanding regional microbial variability, offering a baseline for assessing environmental changes in the northern Adriatic Sea.

The significance of this contribution is evidenced by its sustained impact, with the core paper accumulating 98 citations. Notably, 94.4% of the citing papers originate from independent researchers, indicating that the work has been widely adopted and utilized by the broader scientific community beyond the researcher's immediate circle, thereby validating its independent merit and influence in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

[Major inter-annual variations in microbial dynamics in the Gulf of Trieste \(northern Adriatic Sea\) and their ecosystem implications](#)

2007 · *Aquatic Microbial Ecology* · 98 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Mucilage Problem in the Semi-Enclosed Seas: Recent Outbreak in the Sea of Marmara (2021)	Istanbul University	Turkey	Background
2	First massive mucilage event observed in deep waters of Çanakkale Strait (Dardanelles), Turkey. (2021)	Çanakkale Onsekiz Mart University	TURKEY	—
3	The Mediterranean Sea Regime Shift at the End of the 1980s, and Intriguing Parallelisms with Other European Basins (2010)	Italian National Research Council	Italy	—
4	Ecological time series and integrative taxonomy unveil seasonality and diversity of the toxic diatom <i>Pseudo-nitzschia H. Peragallo</i> in the northern Adriatic Sea (2020)	Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - OGS, National Institute of Biology	Italy, Slovenia	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Trieste	Italy	SCImago #2103 · THE 501–600 · QS 751-760	6
National Institute of Biology	Slovenia	SCImago #2672	4

Institution	Country	World ranking	Citing papers
National Institute of Oceanography and Applied Geophysics (OGS)	Italy	—	2
University of Maryland Center for Environmental Science	United States	SCImago #5397	2
Plymouth Marine Laboratory	United Kingdom	SCImago #3745	2
Imperial College London	United Kingdom	SCImago #69 · THE 8 · QS 2	2
National Oceanography Centre	United Kingdom	—	2
Université de Toulouse	France	SCImago #1059	2
Princeton University	United States	SCImago #386 · THE =3 · QS =25	2
Woods Hole Oceanographic Institution	United States	SCImago #3606	2
University of California San Diego	United States	SCImago #120 · THE 47 · QS 66	2
Polytechnic University of Marche	Italy	—	2
Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences	China	SCImago #2250	2
University of Bologna	Italy	THE 130	2
Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - OGS	Italy	—	2

Geographic distribution of citing authors

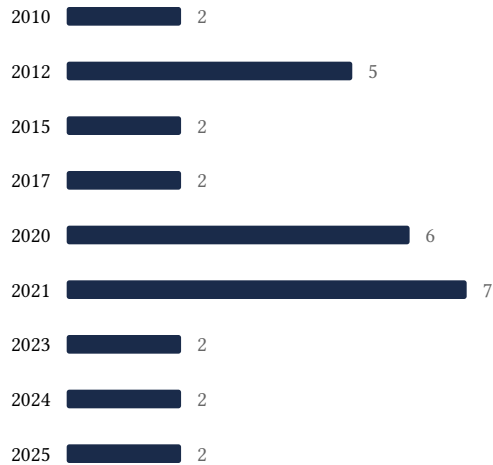
Country	Citing papers
Italy	16
United States	11
China	5
Slovenia	5
France	4
United Kingdom	4
Germany	4
Netherlands	3
Turkey	3
Belgium	2
Greece	2
Spain	2

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** – the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.

2009 ██████████ 2



F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- Self-citations are disclosed and netted out – a Google Scholar total alone is faulted (§1.1).
- Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- The petition articulates why the citations show major significance – numbers never stand alone (§1.5).
- For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- Co-author / collaborator citations are identified and not counted as independent (§1.7).
- Recognition is shown beyond the scholar's own institution and circle (§1.8).
- Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- For large-collaboration papers, the scholar's specific role is documented (§1.13).
- Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

Disclaimer

The AAO decisions referenced here are **non-precedent** – persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	Benthic fluxes of mercury species in a lagoon environment (Grado Lagoon, Northern Adriatic Sea, Italy)	7	Dhanasar – Prong 2 (well-positioned)
Contribution 2	Recent Trends Towards Oligotrophication of the Northern Adriatic: Evidence from Chlorophyll a Time Series	8	Dhanasar – Prong 2 (well-positioned)
Contribution 3	Major inter-annual variations in microbial dynamics in the Gulf of Trieste (northern Adriatic Sea) and their ecosystem implications	4	Dhanasar – Prong 2 (well-positioned)