

■ EXPERIENCE

- May 2023 – now **Researcher / Data Scientist**
National Observatory of Athens
Member of a research team focused on atmospheric composition and numerical weather prediction.
- Mar 2018 – Apr 2023 **Software engineer**
National Observatory of Athens
Technological support of a research team. Worked on a global aerosol climatology produced from satellite observations, the development of a full-stack observation management platform for the climate change observatory of Antikythera (PANGEA), websites for projects and campaigns, as well as data management and administration of HPC projects under the PRACE framework.

■ EDUCATION

- May 2023 – now **PhD Candidate in Physics**
Aristotle University of Thessaloniki
- Sep 2020 – Sep 2022 **MSc in Data Science**
Athens University of Economics and Business
- Sep 2014 – Sep 2020 **BSc in Electrical & Electronic Engineering with Integrated MSc**
University of West Attica

■ PUBLICATIONS

11 peer-reviewed articles

- 2026
Atmospheric Dust as an Air Quality Hazard to the World Population
Emmanouil Proestakis, Sofia Eirini Chatoutsidou, Ioannis Binietoglou, Thanos Kourantos, **Thanasis Georgiou**, Mihalis Lazaridis, Vassilis Amiridis
Remote Sensing doi:10.3390/rs18142403
- Derivation and validation of a refined dust product from Aeolus (L2A+)
Konstantinos Rizos, Emmanouil Proestakis, **Thanasis Georgiou**, Antonis Gkikas, Eleni Marinou, Peristera Paschou, Kalliopi Artemis Voudouri, Athanasios Tsikerdekis, David P. Donovan, Gerd-Jan van Zadelhoff *et al.*
Atmospheric Measurement Techniques doi:10.5194/amt-19-699-2026
- 2025
Atmospheric dust and air quality over large-cities and megacities of the world
Emmanouil Proestakis, Kyriakoula Papachristopoulou, **Thanasis Georgiou**, Sofia Eirini Chatoutsidou, Mihalis Lazaridis, Antonis Gkikas, Ilias Fountoulakis, Ioanna Tsikoudi, Manolis P. Petrakis, Vassilis Amiridis
Atmospheric Chemistry and Physics doi:10.5194/acp-25-14777-2025
- Quantifying dust deposition over the Atlantic Ocean
Emmanouil Proestakis, Vassilis Amiridis, Carlos Pérez García-Pando, Svetlana Tsyro, Jan Griesfeller, Antonis Gkikas, **Thanasis Georgiou**, Maria Gonçalves Ageitos, Jeronimo Escribano, Stelios Myriokefalitakis *et al.*
Earth System Science Data doi:10.5194/essd-17-4351-2025
- Volcanic emission estimates from the inversion of ACTRIS lidar observations and their use for quantitative dispersion modeling
Anna Kampouri, Vassilis Amiridis, **Thanasis Georgiou**, Stavros Solomos, Anna Gialitaki, Maria Tschla, Michael Rennie, Simona Scollo, Prodromos Zanis
Atmospheric Chemistry and Physics doi:10.5194/acp-25-7343-2025
- CALIPSO Overpasses During Three Atmospheric Pollen Events Detected by Hirst-Type Volumetric Samplers in Two Urban Cities in Greece
Archontoula Karageorgopoulou, Elina Giannakaki, Christos Stathopoulos, **Thanasis Georgiou**, Eleni Marinou, Vassilis Amiridis, Ioanna Pyrri, Maria-Christina Gatou, Xiaoxia Shang, Athanasios Charalampopoulos *et al.*
Atmosphere doi:10.3390/atmos16030317
- 2024
A near-global multiyear climate data record of the fine-mode and coarse-mode components of atmospheric pure dust
Emmanouil Proestakis, Antonis Gkikas, **Thanasis Georgiou**, Anna Kampouri, Eleni Drakaki, Claire L. Ryder, Franco Marengo, Eleni Marinou, Vassilis Amiridis
Atmospheric Measurement Techniques doi:10.5194/amt-17-3625-2024

Natural Aerosols, Gaseous Precursors and Their Impacts in Greece: A Review from the Remote Sensing Perspective
Vassilis Amiridis, Stelios Kazadzis, Antonis Gkikas, Kalliopi Artemis Voudouri, Dimitra Kouklaki, Maria-Elissavet Koukouli, Katerina Garane, Aristeidis K. Georgoulas, Stavros Solomos, George Varlas *et al.*
Atmosphere doi:10.3390/atmos15070753

Assessing Lidar Ratio Impact on CALIPSO Retrievals Utilized for the Estimation of Aerosol SW Radiative Effects across North Africa, the Middle East, and Europe
Anna Moustaka, Marios-Bruno Korras-Carraca, Kyriakoula Papachristopoulou, Michael Stamatidis, Ilias Fountoulakis, Stelios Kazadzis, Emmanouil Proestakis, Vassilis Amiridis, Kleareti Tourpali, **Thanasis Georgiou** *et al.*
Remote Sensing doi:10.3390/rs16101689

2023 Aeolus winds impact on volcanic ash early warning systems for aviation
Vassilis Amiridis, Anna Kampouri, Antonis Gkikas, Stergios Misios, Anna Gialitaki, Eleni Marinou, Michael Rennie, Angela Benedetti, Stavros Solomos, Prodromos Zanis *et al.*
Scientific Reports doi:10.1038/s41598-023-34715-6

2021 Polarization lidar for detecting dust orientation: system design and calibration
Alexandra Tsekeri, Vassilis Amiridis, Alexandros Louridas, George Georgoussis, Volker Freudenthaler, Spiros Metallinos, George Doxastakis, Josef Gasteiger, Nikolaos Siomos, Peristera Paschou, **Thanasis Georgiou**, George Tsaknakis, Christos Evangelatos, Ioannis Binietoglou
Atmospheric Measurement Techniques doi:10.5194/amt-14-7453-2021

■ CONFERENCES

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- Sep 2026 Impact of dust optical modelling on atmospheric lidar assimilation
Thanasis Georgiou, Anna Gialitaki, Athanasios Tsikerdekis, Alexandra Tsekeri, Areti Bantouna, Vassilis Spyarakos, Eleni Marinou, Dimitris Melas, Vassilis Amiridis
Presentation at *ISDA 2026 & WMO DA Symposium*, Nanjing, China
- Jun 2026 Advances in dust optical modelling and EarthCARE Dust Data Assimilation
Thanasis Georgiou, Anna Gialitaki, Athanasios Tsikerdekis, Alexandra Tsekeri, Areti Bantouna, Vassilis Spyarakos, Eleni Marinou, Dimitris Melas, Vassilis Amiridis
Presentation at *EarthCARE Science and Validation Workshop 2026*, Oxford, United Kingdom
- May 2026 Advanced retrieval of aerosol vertical profiles using synergy of EarthCARE ATLID and various passive spaceborne observations
Anton Lopatin, Anna Gialitaki, Chong Li, Dimitra Karkani, Alexandra Tsekeri, Alejandro García-Gómez, **Thanasis Georgiou**, Oleg Dubovik, Edward Malina
EGU 2026, Vienna, Austria
- May 2026 Investigating dust mixing state, using the backscatter of realistic dust shapes
Alexandra Tsekeri, Anna Gialitaki, Josef Gasteiger, Natalia Kustova, Alexander Konoshonkin, Maxim Yurkin, **Thanasis Georgiou**, Johanne Ekue, Anna Kampouri, Maria Tschla *et al.*
EGU 2026, Vienna, Austria
- Apr 2026 Impact of combined wind and aerosol Aeolus product assimilation
Thanasis Georgiou, Athanasios Tsikerdekis, Konstantinos Rizos, Emmanouil Proestakis, Anna Gialitaki, Alexandra Tsekeri, Eleni Marinou, Dimitris Melas, Vassilis Amiridis
Presentation at *AEOLUS Conference 2026*, Lipari, Italy
- Dec 2025 EarthCARE Data Assimilation in regional dust models and impact on transport
Thanasis Georgiou, Athanasios Tsikerdekis, Alexandra Tsekeri, Anna Gialitaki, Areti Bantouna, Vassilis Spyarakos, Eleni Marinou, Dimitris Melas, Vassilis Amiridis
Poster at *EarthCARE Science & Validation Workshop 2025*, Tokyo, Japan
- Sep 2025 Cloud Condensation Nuclei (CCN) and Ice Nucleating Particles (INP) Conversion Factors Based on Thessaloniki and Leipzig AERONET Stations Using CALIPSO Aerosol Typing
Archontoula Karageorgopoulou, Vassilis Amiridis, **Thanasis Georgiou**, Eleni Marinou, Eleni Giannakaki
Poster at *COMECAP 2025*, Nicosia, Cyprus, with proceedings
- Sep 2025 AtmoHub: A National Atmospheric Composition Hub for Air Quality Monitoring and Forecasting in Greece
Anna Kampouri, Stergios Kartsios, Thanos Kourantos, Maria Tschla, Kalliopi Artemis Voudouri, Anna Gialitaki, **Thanasis Georgiou**, Eleni Drakaki, Marios Mermigkas, Vassilis Spyarakos *et al.*
Presentation at *COMECAP 2025*, Nicosia, Cyprus, with proceedings
- Sep 2025 Assimilation of Satellite Dust Optical Depth in the CiROCCO System: Methodology and Initial Results
Eleni Drakaki, **Thanasis Georgiou**, Vassilis Amiridis
Presentation at *COMECAP 2025*, Nicosia, Cyprus, with proceedings
- Jun 2025 Advances in space-borne lidar data assimilation for atmospheric composition and NWP
Thanasis Georgiou, Athanasios Tsikerdekis, Alexandra Tsekeri, Anna Gialitaki, Areti Bantouna, Thanos Kourantos, Dimitris Melas, Vassilis Amiridis
Poster at *ESA Living Planet Symposium*, Vienna, Austria

- Apr 2025 Enhancing WRF-Chem Dust Predictions Through Assimilation of Satellite-Based MIDAS Dust Optical Depth Data
Eleni Drakaki, Antonis Gkikas, **Thanasis Georgiou**, Hesham El-Askary, Vassilis Amiridis
EGU 2025, Vienna, Austria
- Apr 2025 Volcanic Emission Estimation and Dispersion Modeling Using Inversion of ACTRIS Lidar Observations
Anna Kampouri, Vassilis Amiridis, **Thanasis Georgiou**, Stavros Solomos, Anna Gialitaki, Maria Tschla, Antonis Gkikas, Emmanouil Proestakis, Michael Rennie, Simona Scollo *et al.*
EGU 2025, Vienna, Austria
- Apr 2025 Earth Observations and Atmospheric Dust: unveiling Atlantic Ocean deposition
Jan-Berend Stuut, Emmanouil Proestakis, Vassilis Amiridis, Carlos Pérez García-Pando, Svetlana Tsyro, Jan Griesfeller, Antonis Gkikas, **Thanasis Georgiou**, Maria Gonçalves Ageitos, Jeronimo Escribano *et al.*
EGU 2025, Vienna, Austria
- Apr 2025 Assessment of Atmospheric Pollen Presence in Urban Areas of Greece During CALIPSO Overpasses
Archontoula Karageorgopoulou, Christos Stathopoulos, **Thanasis Georgiou**, Xiaoxia Shang, Ioanna Pyrri, Vassilis Amiridis, Elina Giannakaki
EGU 2025, Vienna, Austria
- Oct 2024 Joint Aerosol & Wind Data Assimilation of AEOLUS and impact on Numerical Weather Prediction
Thanasis Georgiou, Athanasios Tsikerdekis, Konstantinos Rizos, Emmanouil Proestakis, Antonis Gkikas, Alexandra Tsekeri, Eleni Drakaki, Anna Kampouri, Holger Baars, Athena Augousta Floutsi, Eleni Marinou, Angela Benedetti, Will McLean, Edward Malina, Christian Retscher, Dimitris Melas, Vassilis Amiridis
Poster at *ISDA 2024*, Kobe, Japan
- Sep 2024 A near-global multiyear climate data record of the submicrometer-mode and supermicrometer-mode components of atmospheric pure-dust
Emmanouil Proestakis, Antonis Gkikas, **Thanasis Georgiou**, Anna Kampouri, Eleni Drakaki, Claire L. Ryder, Franco Marengo, Eleni Marinou, Vassilis Amiridis
EMS Annual Meeting 2024, Barcelona, Spain
- Jul 2024 From AEOLUS to EarthCARE Aerosol Assimilation in Regional Models
Thanasis Georgiou, Athanasios Tsikerdekis, Konstantinos Rizos, Emmanouil Proestakis, Antonis Gkikas, Anna Kampouri, Eleni Drakaki, Holger Baars, Athena Augousta Floutsi, Eleni Marinou, Angela Benedetti, Will McLean, Christian Retscher, Dimitris Melas, Vassilis Amiridis
Presentation at *IGARSS 2024*, Athens, Greece
- Jul 2024 Joint Aerosol & Wind Data Assimilation of AEOLUS and preparing for EarthCARE
Thanasis Georgiou, Athanasios Tsikerdekis, Konstantinos Rizos, Emmanouil Proestakis, Antonis Gkikas, Alexandra Tsekeri, Eleni Drakaki, Anna Kampouri, Holger Baars, Athena Augousta Floutsi, Eleni Marinou, Angela Benedetti, Will McLean, Christian Retscher, Dimitris Melas, Vassilis Amiridis
Poster at *ESA ATMOS 2024*, Bologna, Italy
- Apr 2024 A near-global multiyear climate data record of the fine-mode and coarse-mode components of atmospheric pure-dust
Emmanouil Proestakis, Antonis Gkikas, **Thanasis Georgiou**, Anna Kampouri, Eleni Drakaki, Claire L. Ryder, Franco Marengo, Eleni Marinou, Vassilis Amiridis
EGU 2024, Vienna, Austria
- Apr 2024 Using AEOLUS Aerosol Assimilation to pave the way for EarthCARE
Thanasis Georgiou, Athanasios Tsikerdekis, Konstantinos Rizos, Emmanouil Proestakis, Antonis Gkikas, Anna Kampouri, Eleni Drakaki, Holger Baars, Athena Augousta Floutsi, Eleni Marinou, Angela Benedetti, Will McLean, Christian Retscher, Dimitris Melas, Vassilis Amiridis
Poster at *EGU 2024*, Vienna, Austria
- Sep 2023 Development and Validation of an Enhanced Aerosol Product for Aeolus (L2A+)
Konstantinos Rizos, Antonis Gkikas, Emmanouil Proestakis, **Thanasis Georgiou**, Vassilis Amiridis, Eleni Marinou, David P. Donovan, Nikos Benas, Martin Stengel, Christian Retscher *et al.*
Poster at *COMECAP 2023*, Athens, Greece, with proceedings
- Sep 2023 Evaluation of a Commercial Aerosol Lidar Scanner for Urban Pollution Monitoring
Vassilis Kostopoulos, Ourania Soupiona, Georgios Georgoussis, **Thanasis Georgiou**, Anna Kampouri, Eleni Drakaki, Vassilis Amiridis
Poster at *COMECAP 2023*, Athens, Greece, with proceedings
- Sep 2023 Inversion Techniques on Etna's Volcanic Emissions and the Impact of Aeolus on Quantitative Dispersion Modeling
Anna Kampouri, Vassilis Amiridis, **Thanasis Georgiou**, Stavros Solomos, Ioannis Biniotoglou, Anna Gialitaki, Eleni Marinou, Antonis Gkikas, Emmanouil Proestakis, Michael Rennie *et al.*
Presentation at *COMECAP 2023*, Athens, Greece, with proceedings

- Sep 2023 **An Overview of the ASKOS Campaign in Cabo Verde**
 Eleni Marinou, Peristera Paschou, Ioanna Tsikoudi, Alexandra Tsekeri, Vasiliki Daskalopoulou, Dimitra Kouklaki, Nikolaos Siomos, Vasileios Spanakis-Misirlis, Kalliopi Artemis Voudouri, **Thanasis Georgiou** *et al.*
 Presentation at *COMECAP 2023*, Athens, Greece, with proceedings
- Sep 2023 **Utilizing AEOLUS to improve dust transport modelling**
Thanasis Georgiou, Konstantinos Rizos, Athanasios Tsikerdekis, Emmanouil Proestakis, Antonis Gkikas, Holger Baars, Athena Augousta Floutsi, Eleni Drakaki, Anna Kampouri, Eleni Marinou, David P. Donovan, Angela Benedetti, Will McLean, Christian Retscher, Dimitris Melas, Vassilis Amiridis
 Presentation at *COMECAP 2023*, Athens, Greece, with proceedings
- May 2023 **Improvements in Numerical Weather Prediction and Dust Transport modelling through AEOLUS L2A assimilation**
Thanasis Georgiou, Emmanouil Proestakis, Antonis Gkikas, Konstantinos Rizos, Eleni Drakaki, Anna Kampouri, Athanasios Tsikerdekis, Holger Baars, Athena Augousta Floutsi, Eleni Marinou, Angela Benedetti, Will McLean, Christian Retscher, Vassilis Amiridis
 Poster at *Aeolus Science Conference 2023*, Rhodes, Greece