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THE GREEK EEZ: PRINCIPLES OF A GEOPOLITICAL ANALYSIS⁴⁷

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Abstract

This paper comprises three parts. The first part presents and substantiates Greece's legal position with regard to the process of unilaterally establishing an EEZ and analyses the basic concepts, the terms and conditions of this process before resorting to the International Court of the Law of the Sea (International Court of Hamburg). The second part presents the various scenarios, based on the Voronoi chartographic method, with regard to the delineation of the Greek-Turkish-Cypriot EEZ, with or without the complex of island Megisti-Strongyli and Ro. Moreover, Greece's losses in methane hydrates are presented in relation to the submarine mountains of Anaximenes, Anaxagoras and Anaximander, for both cases. The third part includes our geopolitical conclusions, through an analysis of Turkey's political behaviour, depending on its geo-strategic aims.

Keywords: Greek EEZ, Davutoğlu, Cyprus-Turkey EEZ, Geopolitics, Strategic Depth, Kastelorizo, Megisti-Strogyli-Ro, Aegean Sea, hydrocarbons.

JEL classification R10, R40, R30

1. Introduction

The latest developments in the geopolitical complex of the Eastern Mediterranean, and more in particular in the dipole of Greece and Turkey, correspond to the implementation stage for Turkey's geo-strategic goals. This is witnessed, inter alia, by the declarations of the Turkish Foreign Minister, A. Davutoğlu, during his latest visit in Greece, in March 2011. The sincerity of these declarations should be taken for granted, and should have been expected by the Greek diplomacy. Needless to remind, that Davutoğlu's positions had appeared already in the 2001 first edition of his book, *Stratejik Derinlik. Türkiye'nin Uluslararası Konumu*, Küre Yayınları (İstanbul 2004). The book has already been reprinted... 18 times, in Turkey only⁴⁸. The author presents, inter alia, his known theory of “zero friction with Turkey's neighbours”. However, he rejects his theory with regard to Greece, and refers to the so-called strategic choke point of transport and defence-related flows in the Dardanelles, as well as to the strategic importance of Thrace and of Phanari (tr, Fener)!

In other words, he posits that:

(a) At this geopolitical and geographical point of Turkish geo-strategic influence on the Balkan Peninsula and the Aegean Sea, Turkey is faced with two, geo-strategically competitive, poles of power: Greece and Russia. It also sees the “Patriarchate of Phanari” (sic) as a geopolitical catalyst of Greece's geo-strategic goals in this choke point and considers that the Patriarchate, together with “the small Rum [Greek] community aims to acquire an ecumenical character (sic!)¹”. With regard to Russia and its claims on the Straits, Turkey's officials posit that Russia “tries to exercise influence on

47 First published in Greek: Η Ελληνική ΑΟΖ και το Καστελόριζο. Αρχές μιας Γεωπολιτικής Ανάλυσης. Επικάιρα (Epikera, special edition), 2011 Translated into English by Ioannis E. Saridakis.

48 The book has been published also in Greek: Το Στρατηγικό Βάθος και η Διεθνής Θέση της Τουρκίας [Strategic Depth and Turkey's International Position], Athens, 2010.

the Orthodox Slavs in the region of the Balkans and of Caucasus”⁴⁹.

(b) Thrace is the extension portal for Turkey's neo-Ottoman influence in the Balkans. He considers that it is part of a “security zone created in Eastern Thrace during the Cold War”, which must be “expanded further to the West, based on multilateral and bilateral agreements that will be concluded on the level of the Balkans”⁵⁰. Moreover, he posits that this expansion is highly competitive vis-a-vis Russia, in absolute Cold War terms, as a necessary element for the creation of “security aegises in the periphery or outside it, aiming to counterbalance the Russian factor in the region and mainly to prepare a master plan to guarantee the internal security and the territorial integrity of Albania, of Bosnia and of Macedonia (sic!)”⁵¹.

On the Dardanelles-Aegean Sea trade corridor, however, it is reasonable for the Turkish Foreign Minister to include the Greek Dodecanese and to posit, clearly and unreservedly, that “at this point, the geopolitical and military reality must be aligned with the economic and political reality. **In the same way, it is necessary to increase the dependence of the Dodecanese on the continental plate of Asia Minor...** (NB: the author refers to Turkey and provides also a geopolitical dimension, which he aims to utilise so as to disallow Kastelorizo from claiming an EEZ or a continental shelf, even though the geopolitical dimension is currently absent from the 1982 Convention on the Law of the Sea”⁵².

Three questions arise from the text of Davutoğlu:

1. What constitutes the danger for internal security and integrity of these three nation-state entities?
2. Which is Turkey's influence on the non-completion of the Russia-Burgas (Bulgaria)-Alexandroupolis (Greece, Thrace) pipeline?
3. To what extent does Davutoğlu think that the designation of FYROM as “Macedonia” reduces the friction between his country and Greece?

It is of course reasonable, in the context of the said geo-strategic Turkish framework, for Ankara to invest in naval bases in Albania, since it insists on being involved as a “protective power” for the interests of Bosnia, and because it has recognised FYROM with its constitutional name “Macedonia”.

However, and in order to fully explicate the intentions and the meaning of Mr. Davutoğlu's text, when referring to “zero friction with Greece”, it is worth noting his remark that “effort is being put so that Turkey familiarises itself with tensions in its relations with Greece and Syria: this corresponds to the training of a heavyweight wrestling athlete to face a mid-weight athlete (sic!)”⁵³. This results in the country not being able to utilise its full potential. Turkey is now obliged to upgrade itself, so as to treat its relations with these countries from a higher level, and only exercise policies from above towards them (sic!)”⁵⁴.

However, in the geo-complex of the SE Mediterranean, the Turkish Foreign Minister is right to include also Cyprus. It is where Davutoğlu's cynicism is clear in adopting the harshest possible classical principles of “Geopolitik”.

Citing from the FM's text:

1. “The latest developments have shown that] the US, by creating a dynamic relation between their Eastern European and Middle Eastern policies, aim to control Europe's Hinterland and to fill the gap in the geopolitical field that emerged after the dissolution of Soviet Union. The Aegean Sea and Cyprus are two important elements, both on the Eastern Europe - Middle East axis, in terms of land connection, and on the Adriatic Sea - Eastern Mediterranean - Gulf axis, in terms of sea connection”⁵⁵.
2. “(...) Within this strategic planning, the Cyprus issue will come to the foreground in a more drastic manner. (...) Nowadays, a field of a highly dynamic interaction is formed between Eastern Europe, the Balkan Peninsula, the Adriatic, the Aegean, Eastern Mediterranean, Middle East and the Gulf. (...) On this line, unifying the Balkans and the Middle East, the development of new onsets will be

49 A. Davutoğlu, op. cit.

50 A. Davutoğlu, op. cit., p. 202.

51 A. Davutoğlu, op. cit., p. 202.

52 Op. cit. p. 235.

53 NB: What a...“delicate” and “peaceful” approach!

54 A. Davutoğlu, op. cit., p. 235.

55 *Stratejik Derinlik. Türkiye'nin Uluslararası Konumu*, Küre Yayınları, İstanbul 2004, 18th edition, 1st edition 2001, p. 174.

unavoidable”.

3. “[chapter section title] 'The strategic Gordian knot of Turkey: Cyprus”

“Cyprus, having a central position within the global continent, and being located at an almost equal distance from Europe, Asia and Africa, is located together with Crete on a line traversing the maritime corridors. Cyprus holds a location between the Straits separating Europe and Asia, the Suez Canal, separating Asia and Africa, while it also acts as a stable base and an aircraft carrier catching the pulse of the sea corridors of Aden and Ormuz, together with the basins of the Gulf and the Caspian Sea, i.e. the most important routes connecting Eurasia with Africa”⁵⁶.

4. “A country ignoring Cyprus cannot be active in world and peripheral politics. In world politics, it cannot be active, since this small island occupies a position that (can) influence(s) directly the strategic connections between Asia - Africa, Europe - Africa and Europe - Asia. In peripheral politics, it cannot be active, because Cyprus, with its Eastern nose, stands as an arrow turned to the Middle East, while with its Eastern back, it is the cornerstone of the strategic balances existing in the Eastern Mediterranean, in the Balkans and in Northern Africa”⁵⁷.

5. “Turkey, affected because of its location by a multitude of balances, is obliged to evaluate its policy on Cyprus, withdrawing it from the equation of Turkish - Greek relations. Cyprus is increasingly becoming a matter of Eurasia and Middle East - Balkans (Western Asia - Eastern Europe). Turkey's policy on Cyprus must be placed in a new strategic framework, and in a manner compatible with this new strategic framework. On the Cyprus issue, and from Turkey's point of view, emphasis can be put on two main axes. One of these axes is human value, and is oriented towards safeguarding the security of the Muslim community, as a result of Turkey's historic responsibility. (...)”⁵⁸.

6. “A possible incompetence of Turkey which will [eventually] become prominent as pertains to safeguarding and protecting the Turkish minority of Cyprus could expand as a wave in Western Thrace and in Bulgaria, and indeed also in Azerbaijan and Bosnia. The second important axis of the Cyprus issue is the importance of this island from a geo-strategic point of view. (...) Even if there were no Muslim Turks on Cyprus, Turkey would be obliged to have a Cyprus issue. No country can be indifferent vis-a-vis such an island, located at the heart of its own vital space. (...)”⁵⁹.

7. This geo-strategic importance has two dimensions. One of these has a major strategic importance and relates to the balances between Turkey and Greece, and TRNC and Greek Territories (sic!) in the Eastern Mediterranean. The second dimension of the geo-strategic importance is major and relates to position of the island within the world and peripheral strategies”⁶⁰.

8. No peripheral or world power having strategic prospects in the Middle East, the Eastern Mediterranean, the Aegean Sea, Suez, the Red Sea and the Gulf can ignore Cyprus. Cyprus is located at an ideal distance from all those regions and acts as a parameter that can influence each and every one of them. Turkey should exploit the strategic advantage it gained in the 1970s on this parameter, not as an element of defensive Cyprus policy aimed to safeguard the status quo, but as a fundamental support of an aggressive sea strategy of a diplomatic nature”⁶¹.

During his visit to Greece, the Foreign Minister's statements went no further than his academic publications. Therefore, there is no room for surprise in Athens. And the criticism by the mass media and Greek diplomatic commentators should not relate to his... bourgeois politeness and his... good manners! Any criticism should relate to the level of geopolitical and geo-strategic perception of the System of SE Mediterranean. It would be better to have no criticism at all, than to have this kind of criticism. One of the issues that must be taken seriously into consideration by Turkey, in response to the theories of Ahmet Hodja, is its proper position with regard to the demarcation of a Greek EEZ, which should not be delayed, given that the intents of Turkey have now been made clear, and are posited by officials, even in scientific contexts... In other words, in the context of the greater geopolitical game and the geopolitical reforms developing in the Eastern Mediterranean and the oil-bearing Muslim world, both on and beyond the Mediterranean coastline, three are the main focal

56 Op. cit.

57 Op. cit., *Stratejik Derinlik. Türkiye'nin Uluslararası Konumu, Küre Yayınları*, İstanbul 2004, p. 176.

58 Op. cit., *Stratejik Derinlik. Türkiye'nin Uluslararası Konumu, Küre Yayınları*, İstanbul 2004, p. 178.

59 Op. cit., *Stratejik Derinlik. Türkiye'nin Uluslararası Konumu, Küre Yayınları*, İstanbul 2004, p. 179.

60 Op. cit., *Stratejik Derinlik. Türkiye'nin Uluslararası Konumu, Küre Yayınları*, İstanbul 2004, p. 179.

61 Op. cit., *Stratejik Derinlik. Türkiye'nin Uluslararası Konumu, Küre Yayınları*, İstanbul 2004, p. 180.

points for demarcating a Greek EEZ:

(a) Greece's significant relations with Israel and the important political support that is openly offered by Jerusalem to Athens is a major political trust, which should not be consumed without a reason or be limited to the exchange of official visits between the two states. Greece's current state of economy urges in this direction, while waiting and navel-gazing are no aid at all. On the contrary, they diminish the level of trust shown by Jerusalem to Athens.

(b) The discovery of natural gas reserves in Israel's EEZ should be channelled to the European market, as soon as possible, particularly amidst the energy instability caused by the explosion of national social formations in Tunisia (natural gas), Libya (natural gas and high quality crude oil) and Egypt (new natural gas reserves in the Nile Delta region and in the submarine areas north of the Delta, within the Egyptian EEZ). Consequently, the axis of flow of non Arab-Muslim and non-Russian hydrocarbons towards the EU is the one defined by the Israel - Cyprus - Greece (Kastelorizo - Crete - Ionian Sea) - EU route.

(c) Recent geophysical explorations in Cyprus would lead, mathematically and within the next 5 to 10 years, to corresponding processes also in the Greek space, both on land and on sea, either willingly by Athens and with the corresponding benefits for the stalling Greek economy, either unwillingly and without such benefits⁶²!

The said 5 to 10 year period is defined as the time necessary for the commencement of the exploitation of the Leviathan reserve in the Israeli EEZ, given that the Noble Energy & Delek (Israel) consortium is currently preparing a storage facility for LNG derived from this reserve, as well as a storage facility for carbon monoxide produced from the completion of the drilling. However, achieving this target requires the demarcation of the Greek EEZ, properly timed and in consultation with the Cypriot and the Israeli authorities. However, any timing on the part of Greece should take into consideration the developments in the region and make proper use of them, together with the said 5 to 10- year period, within which any legal arrangements before international judicial bodies (Hamburg) must be finalised. Moreover, Greece resorting to international adjudications for the final settlement of the boundaries between the Greek and the Turkish EEZs, even if this would mean partly waiving Greece's EEZ, e.g. about 25% of its total area, would be preferable to waiving its rights over the entire area, together with the corresponding prospective methane hydrate deposits of the Anaximander Mountains⁶³. In this paper, our effort is to exemplify the evolution of the geopolitical game, in the context of delineating Greece's EEZ by applying the 1982 Convention on the Law of the Sea.

2. Current Situation: Measures and Estimations for the Greek EEZ

Before discussing the size and the geopolitical importance of the EEZ, it is necessary to give an account of the most important elements of its legal definition, so as to avoid doubts and misinterpretations. We shall refer to the new Convention of the Law of the Sea, i.e. the 1982 Montego Bay Convention⁶⁴.

1. Article 55. "The exclusive economic zone is an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention [Montego Bay, 1982]".

2. Article 56. "In the exclusive economic zone, the coastal State has: (a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or

⁶² On the condition, of course, that there will be a government body for the exploitation of these deposits in Greece.

⁶³ As pertains to methane hydrates, see our publication in *Epikera*, 26 (15-21 April 2010).

⁶⁴ The 1982 UN Convention of the Law of the Sea (UNCLOS) includes precise definitions of the Territorial Sea, the Contiguous Zone, and the Exclusive Economic Zone (EEZ). UNCLOS was signed in Montego Bay of Jamaica and its implementation started on 16 November 1994, replacing four precedent international treaties. In a vote that took place on 30 April 1982 in New York on the ratification of the new convention, 130 states voted for, 4 voted against and 17 abstained. Turkey was one of the states that voted against the convention. By the end of 2008, UNCLOS had been ratified by 157 states, including Cyprus (12 December 1988) and Greece (21 July 1005).

non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds; (b) jurisdiction as provided for in the relevant provisions of this Convention with regard to: (i) the establishment and use of artificial islands, installations and structures; (ii) marine scientific research; (iii) the protection and preservation of the marine environment; (c) other rights and duties provided for in this Convention”⁶⁵.

3. Article 57. “The exclusive economic zone shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured”⁶⁶.

An example from the Greek case is the following: Breadth of the territorial sea + width of the EEZ = 200 nm. In the present. In the current state of affairs, i.e. of the Greek territorial sea extending to 6 nm, this equation reads as follows: 6 nm + 194 nm = 200 nm = EEZ!

“This means that the notion of the EEZ currently includes both the traditional sovereign rights which the coastal state exercised on the continental shelf, i.e. on the natural resources of the seabed and the subsoil of its adjacent marine areas, and the new sovereign rights related to research, exploitation and preservation of the natural resources of the overlying waters, i.e. mainly of fish catches. Moreover, additional jurisdictions were given to the coastal state (i.e. exclusive authorisations) with regard to installing and using artificial islands and other constructions, to conducting scientific research and to protecting the marine environment from pollution. There was no consequence for the traditional freedoms of international communication of the other states within the limits (navigation, overflights, and placement of cables and pipelines). This new institution, that was already applied extensively in the practice of states, even before its contractual establishment, constitutes already part of the customary international law”⁶⁷.

However, as pertains to the continental shelf, the formulations are quite clear and are indeed reinforced by the 1982 Montego Bay Convention. On the basis of this Convention⁶⁸, one of the most vexed issues of the Law of the Sea was resolved: an agreement was reached on the breadth of the territorial sea, which can no reach a limit of 12 nautical miles (nm). Indeed, this rule has also become customary, owing to its extensive use. Moreover, in view of delineating overlapping territorial seas, the median line principle was adopted, with very few exceptions (article 15). This principle can cover fully the case of Greece and Turkey.

Moreover, it should be mentioned that the rights exercised by the coastal state having the said continental shelf are exercised in the form of “sovereign rights”: in other words, no other state can lay claim to such rights, even if the coastal state in question fails to exercise such rights in practice. Also, it should be stressed that, based on a resolution of the International Court of Justice in Hague (North Sea Continental Shelf case⁶⁹), such rights exist in favour of the coastal state, ipso jure and ab initio, without this state having to take any legal action in this respect⁷⁰.

Let us make, however, one more clarification with regard to the continental shelf: the continental shelf and its regime, as is currently defined in the International Law, is ceded to the coastal state, for both practical and political reasons. How is this notion distinguished from its geological definition? Based on the 1982 Montego Bay Convention on the Law of the Sea, the continental shelf of a coastal state comprises basically the seabed, within a distance of 200 nautical miles from the coast. This principle applies regardless of the geological formation of the seabed. However, in case the continental margin (continental shelf, continental slope and continental rise) extends beyond 200 miles from the baseline, the continental shelf is deemed to extend either up to 350 nm, or up to 100 nm beyond the 2,500 metre

65 B. Καρακωστανόγλου, *Η Αποκλειστική Οικονομική Ζώνη στο Νέο Δίκαιο της Θάλασσας*, Σάκκουλας, Θεσσαλονίκη [in Greek; V. Karakostanoglou, *The Exclusive Economic Zone in the New Law of the Sea*, Sakoulas publications, Thessaloniki], 2001, pp. 54, 559, (Section V, Provisions of the 1982 Convention on the EEZ; source: Act no. 2321 (Greek Government Gazette A136/23.6.1995).

66 V. Karakostanoglou, op. cit., p. 54.

67 V. Karakostanoglou, op. cit., p. 53-54.

68 V. Karakostanoglou, op. cit., p. 53-54.

69 See *ICJ Reports* (1969), par. 19 in: V. Karakostanoglou, op. cit., p. 42.

70 See K. Οικονομίδης, *Βασικές Ρυθμίσεις του Νέου Δικαίου της Θάλασσας, Δίκαιο και Πολιτική, Παρατηρητής*, [in Greek: K. Economides, *Main Provisions of the New Law of the Sea, Dikeo ke Politiki (Law and Politics)*, Paratiritis publications], vol. 9., 1985, p. 176-177. In: V. Karakostanoglou, op. cit., p. 42.

isobath, or up to 60 nm from the base of the continental rise⁷¹ 72.

Until today, all mentions of the Exclusive Economic Zone have as their point of reference the database of the Flanders Marine Institute, which is to date used widely in all publications in the press that relate to the issue of the EEZ. However, as mentioned by the Flanders Marine Institute, the construction of the EEZ is theoretical. In practice, this implies that a scientifically accepted method has indeed been adopted, albeit without accuracy or safeguards for the detailed demarcation of the EEZ.

It is however obvious that Greece has to date relied on the map published by the said institute (searoundus.org). It is worth mentioning, however, that this post includes the following:

1. “Disclaimer: Maritime limits and boundaries depicted on Sea Around Us Project maps are not to be considered as an authority on the delimitation of international maritime boundaries. These maps are drawn on the basis of the best information available to us. Where no maritime boundary has been agreed, theoretical equidistant lines have been constructed. Where a boundary is in dispute, we attempt to show the claims of the respective parties where these are known to us and show areas of overlapping claims. In areas where a maritime boundary has yet to be agreed, it should be emphasized that our maps are not to be taken as the endorsement of one claim over another”.

2. With regard to the accuracy of demarcation: “The EEZ boundaries we use in our database were adapted from the public domain “Maritime Boundaries Geodatabase” available from the Flanders Marine Institute (VLIZ, Belgium), overlaid onto the ½ degree x ½ degree spatial cells GIS system of our database. Given the ½ x ½ degree nature of our GIS system, area measurements of EEZs based on our data may differ slightly from those of other systems, and should be considered approximations. Note also that we deal with major disputed areas and unsettled boundary disputes by presenting the areas as non-country specific ‘disputed areas’ with reference to those countries involved in the claim. Also note (1) that some countries (e.g., around the Mediterranean) have not declared EEZ, in which case we defined EEZ boundaries for these countries based on data and the general methods used by the Flanders Marine Institute, as if these countries were to apply the UNCLOS rules to their definitions, (2) that some countries (notably European Union member states) do not use EEZ for fisheries management. Surface areas are expressed in km² and were obtained by overlaying a global 2-minute cell ESRI GRID of surface area values with a matching ESRI GRID of EEZs (based on General Dynamics Advanced Information Systems database, see above). For each EEZ the intersecting surface area based on the 2-minute raster was extracted and summed. The area of each ‘EEZ shelf’ was prepared in a similar way but was truncated at 200 m depth, i.e., at the shelf edge, based on the United States National Geophysical Data Center’s ETOPOS GLOBAL 2’ ELEVATION data”.

The general conclusion drawn from these paragraphs is as follows:

The maps have been drawn using the best information available, without reference to the degree of accuracy of such information. For this reason, any reference to this database is without legal documentation. In spite of this fact, data gathered from official Internet sources leads to the conclusion that the delimitation of the EEZ, even in the context performed by the Flanders Marine Institute, have been derived from a database created by a pertinent European research programme focused on the erosion of coasts⁷³. In the said database, Turkey's coastline is generic, to such an extent so as not to follow the geomorphology of the Turkish coastline with accuracy. However, there is a specific delimitation of baselines by Turkey (see Figs. 2 and 3). The Flanders Marine Institute does not clarify if this form of the Turkish coastline was used for calculating the median line or the baselines.

As pertains to the accuracy of the demarcation of the EEZ, there is no clear conclusion to be drawn from the information provided on the said website (searoundus.org). However, as regards the Greek insular coastline in particular, as well as the coastline of Turkey, which is characterised by a clearly notched geomorphology, it is obvious that more accuracy is indispensable, so as to specify both

71 Unofficially, it has been argued that in the case of Greece, e.g. south of Crete, where the physiography and the steep bathymetry exceed 2,500 m., the extension of the continental shelf reaches only 100 nm. This is of course a misunderstanding. Based on the definition of this paragraph, the 100 nm extension is possible only beyond the 200 nm line. The authors hope they have aided in the resolution of this ambiguity.

72 See Εμμανουήλ Ρούκουνας, *Διεθνές Δίκαιο, τεύχος II (Το κράτος και το έδαφος - Το Δίκαιο της Θάλασσας)* [in Greek: E. Roukounas, *International Law: vol.2: The State and the Territory. The Law of the Sea*], Athens, Sakoulas publications, 2005.

73 Erosion GIS Database, <http://www.eea.europa.eu/data-and-maps/data/maritime-boundaries>.

the points and the drawing lines.

Consequently, there is no guarantee for Greece that the map proposed by the above-mentioned institute is a sound legal basis, that could be used by the Greek authorities to safeguard national sovereignty (sea borders between Greece and Turkey, Greece and Albania, Greece and Libya, Greece and Cyprus, Greece and Egypt). For reasons of scientific method, the authors have considered that the same procedure should be applied, with the required accuracy and by necessarily taking into consideration the legal clauses that govern the geometrical drawing. This method proves that there should be no room for complacency on the Greek side, while also providing the Greek authorities with examples of geometrical drawings, which Greece would probably have to confront, if and when it resorts, without prior preparation, to the international judicial fora or if it relies on its common arguments about the continental shelf or the EEZ (an issue that is, surprisingly, stressful for Greek politics). For example, in the maps below (Figs. 4, 5), the deviations are clear between the sea borders that are drawn using the Voronoi diagram method and by respecting the said accuracy of geometrical drawing, on the one hand, and the non-accurate borders proposed by the Flanders Marine Institute, subject to the said reservations, on the other.

3. Demarcation of an EEZ between Greece and Turkey. Requirements and limitations subject to the 1982 International Law of the Sea

In view of demarcating the EEZ between Greece and Turkey, we have taken into consideration all of the international rules emanating from the said Articles 55 and 56 of the Law of the Sea. Besides, the process is based also on corresponding cases of application of the Law of the Sea, in delineating the EEZ of other countries as well, particularly in cases where the “median line”⁷⁴ method was implemented. In particular, and given that this is a geographical process⁷⁵, the following rules and limitations were taken into consideration:

- (a) For Greece: Points of the physical coastline were taken into consideration, on the bases of which straight lines were drawn according to the definitions derived from the Law of the Sea. Therefore, the basic level of information is the list of points that make up the line segments of the baselines.
- (b) For purely technical reasons, we performed also an analysis of the Turkish baselines. Where possible, we increased the number of points of Turkey's physical coastline, particularly at areas where the distance between the two coastlines is very small. In other words, we increased the number of points, so as to increase the accuracy of the baseline calculation. Using special mapping software, we georeferenced the map depicted in Fig. 3. The endpoints of the baseline segments are the second basic level of information.

⁷⁴ Cosquer, G., Hangouët, J.- F. (2003). *Delimitation of Land and Sea Boundaries: Geodetic and Geometric Bases*. FIG Working Week 2003, Paris, France, April 13-17, 2003. This article refers to the separation of the EEZs between Qatar and S. Arabia in 1999, using Voronoi transformations. See also: Christensen, A.H.J., A Fully Automated Sea Boundary Delineator, *Proceedings of FIG XXII International Congress*, Washington, D.C. USA, 19-26 April 2002”, Session JS12 Marine Cadastre [www.fig.net/figtree/pub/fig_2002/Js12/JS12_christensen.pdf].

⁷⁵ This is distinguished from Topography or any other measurement method, since Geography examines the solution of the problem in its entirety, and in the most comprehensive way, both topographically and from a legal and historical viewpoint.

(c) The information below is addressed to readers who are unfamiliar with the notion of baselines. According to the Law of the Sea⁷⁶, there are two types of baselines:

- i. Normal baselines, calculated from the low-waterline (Article 5);
- ii. Straight baselines, in cases where the coastline presents an irregular geomorphology (Article 7), for example if it is notched. The method of calculation used with regard to baselines in cases of rivers, bays, ports and generally of any other geomorphological irregularities depending, for example, by the tidal, wave or wind regime, is defined in Articles 8 to 15 of the Law of the Sea. Based on the above, every state can define its baselines in order to delineate its territorial sea and, by extension, the EEZ.

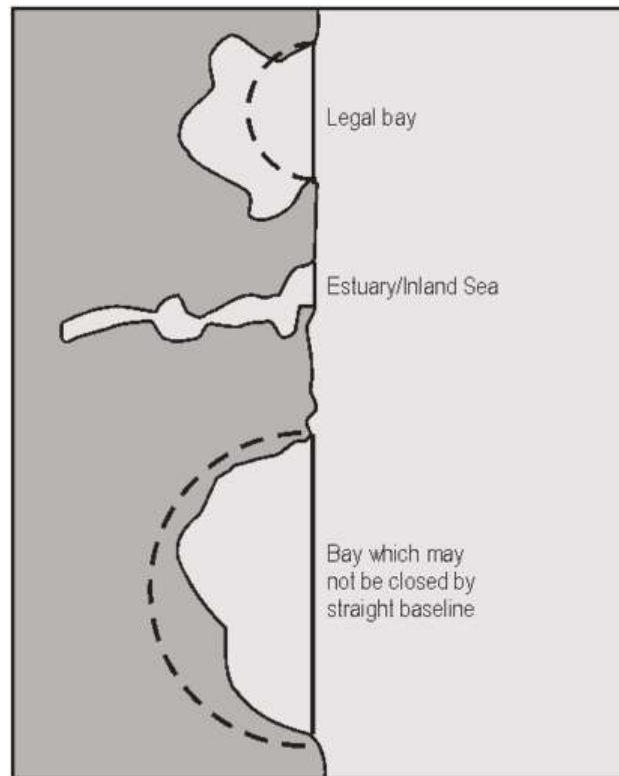


Fig. 1. Depiction of the baseline drawing method, according to the UNCLOS. Source: Harold D. Palmer, H., Pruett, L., (1999) GIS Applications In Maritime Boundary Delimitation [<http://proceedings.esri.com/library/userconf/proc99/proceed/papers/pap938/p938.htm>].

⁷⁶ Articles 5 and 7 of the UNCLOS refer to the preconditions for drawing the baselines, as follows: **“Normal baseline** . Except where otherwise provided in this Convention, the normal baseline for measuring the breadth of the territorial sea is the low- water line along the coast as marked on large-scale charts officially recognized by the coastal State. **Straight baseline** . In localities where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity, the method of straight baselines joining appropriate points may be employed in drawing the baseline from which the breadth of the territorial sea is measured. Where because of the presence of a delta and other natural conditions the coastline is highly unstable, the appropriate points may be selected along the furthest seaward extent of the low-water line and, notwithstanding subsequent regression of the low-water line, the straight baselines shall remain effective until changed by the coastal State in accordance with this Convention. The drawing of straight baselines must not depart to any appreciable extent from the general direction of the coast, and the sea areas lying within the lines must be sufficiently closely linked to the land domain to be subject to the regime of internal waters. Straight baselines shall not be drawn to and from low-tide elevations, unless lighthouses or similar installations which are permanently above sea level have been built on them or except in instances where the drawing of baselines to and from such elevations has received general international recognition. Where the method of straight baselines is applicable under paragraph 1, account may be taken, in determining particular baselines, of economic interests peculiar to the region concerned, the reality and the importance of which are clearly evidenced by long usage. The system of straight baselines may not be applied by a State in such a manner as to cut off the territorial sea of another State from the high seas or an exclusive economic zone.



Fig. 2. The Turkish Baselines (marked in red). Source: Office of the Geographer, US Department of State.

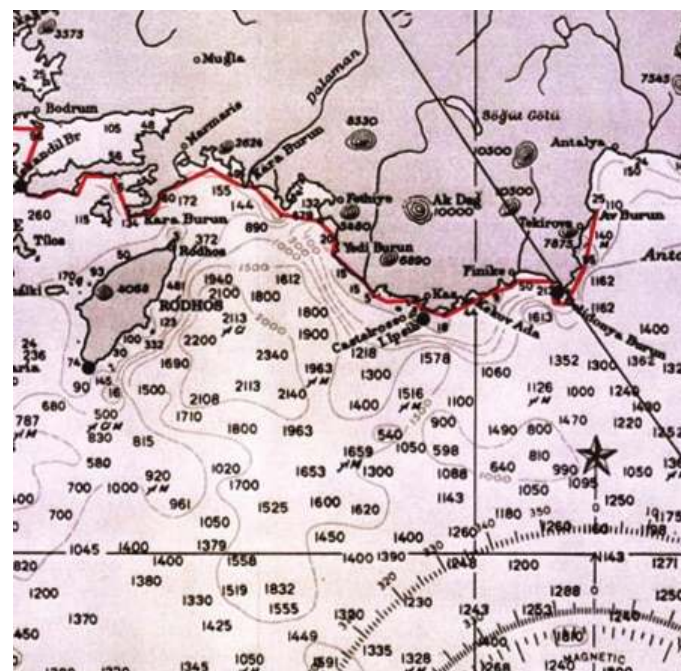


Fig. 3. The Turkish Baselines (detail; marked in red). Source: Office of the Geographer, US Department of State.

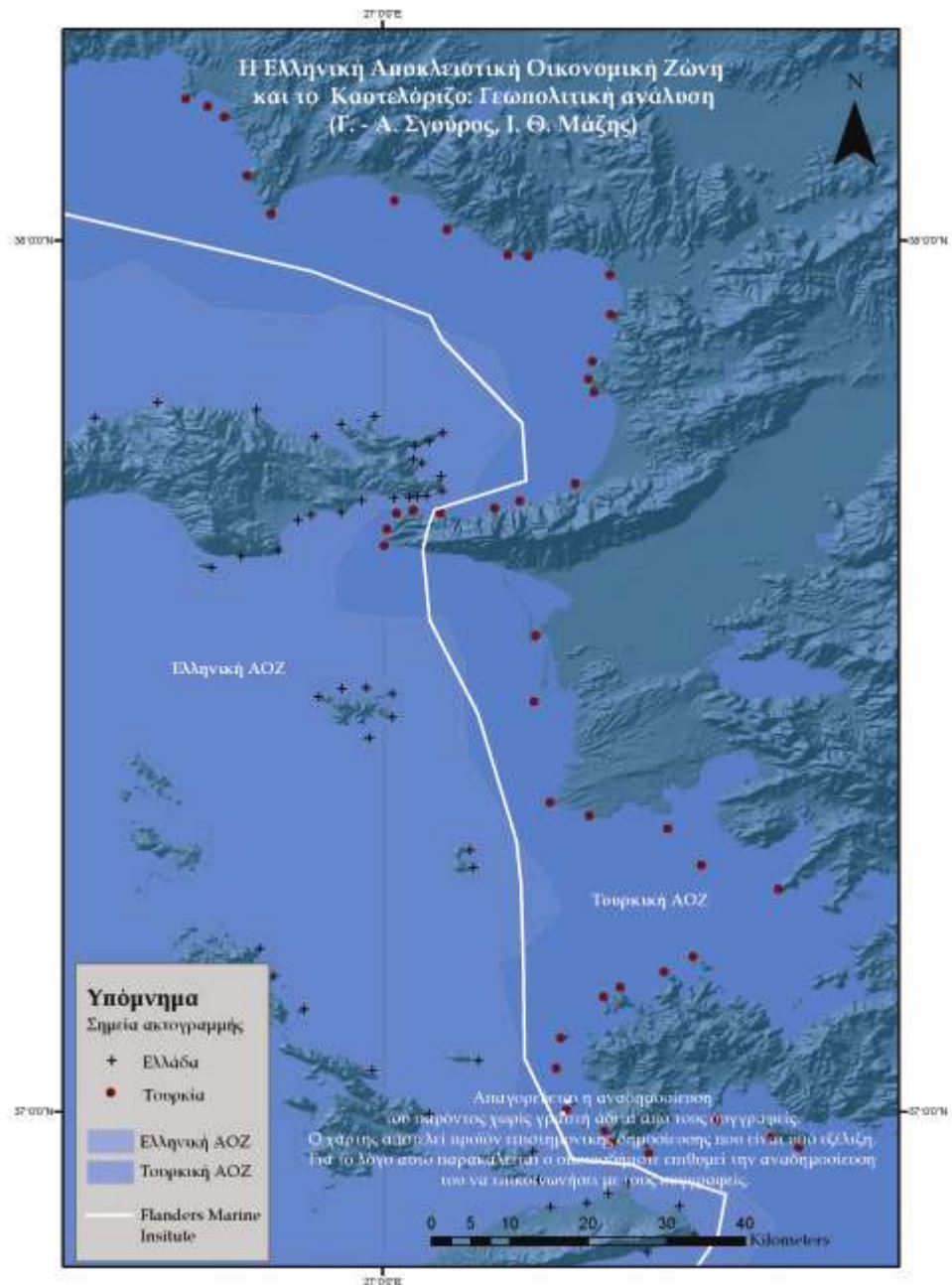


Fig. 4. The white dotted line represents the median line of the EEZ, as calculated by the Flanders Marine Institute. The mistakes are obvious, since this median line coincides with land, within the Turkish territory!. The second drawing was performed by the authors, based on points of the physical coastline and using Voronoi transformations.

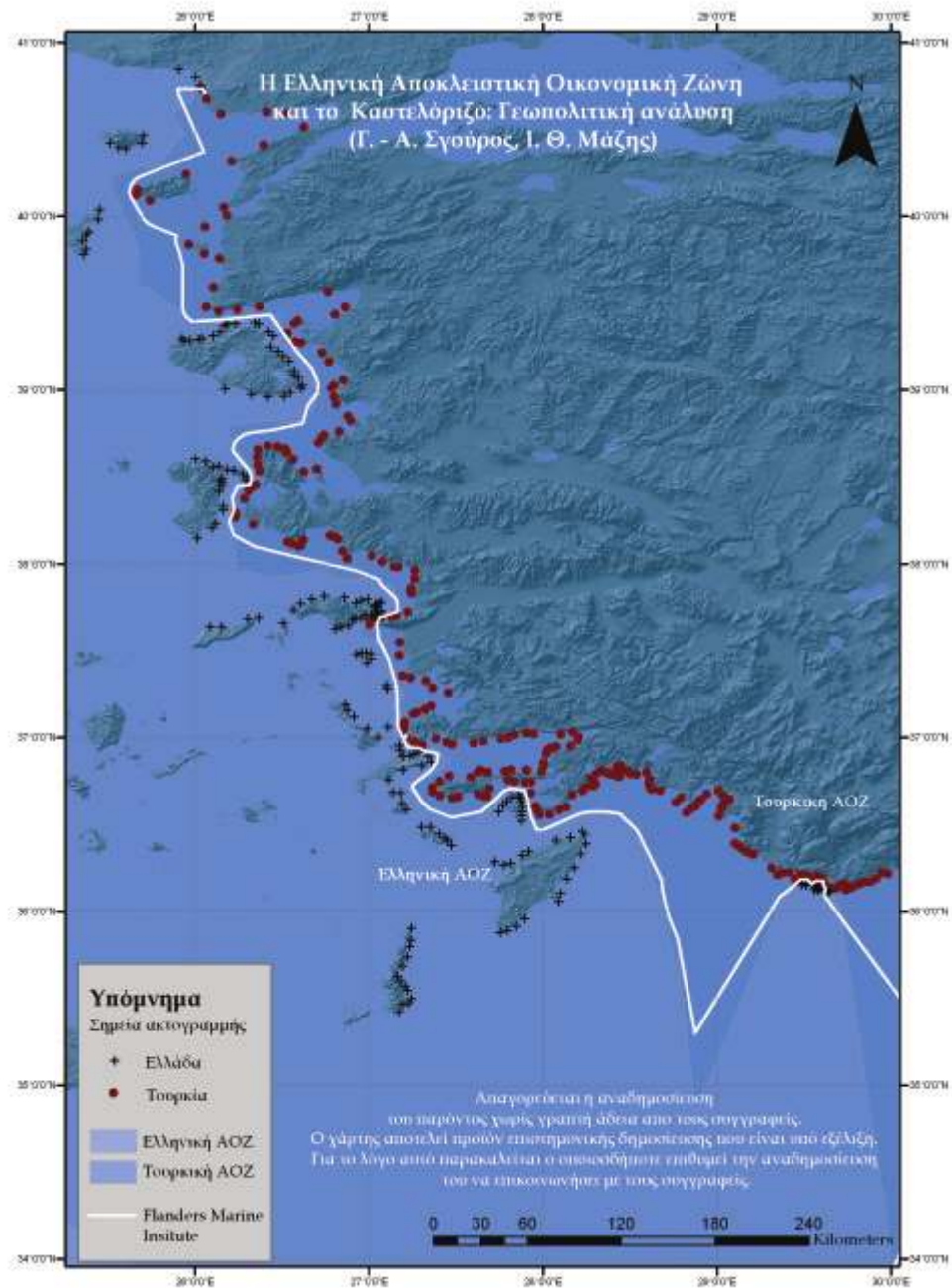


Fig. 5. The limits of the Greek EEZ using the Voronoi method, in the Eastern Aegean, from the Dardanelles to Kastelorizo, based on the already drawn baselines of the Turkish coastline (see Fig. 2), as compared to the (admittedly inaccurate) proposition of the Flanders Marine Institute (searoundus.org). The differences are all but insignificant.

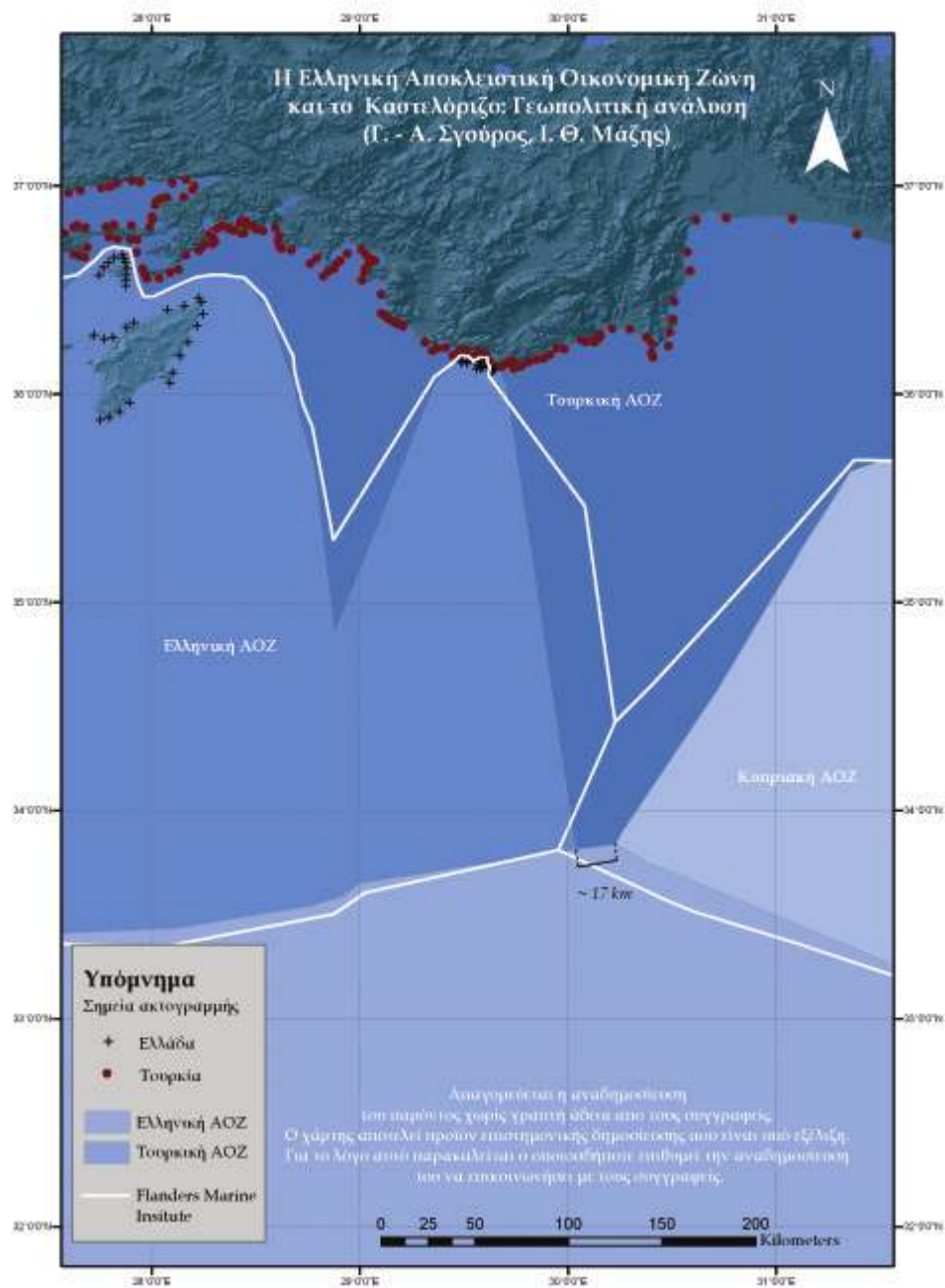


Fig. 6. Using the baselines of the Turkish coastline, it can be seen that Turkey's EEZ contacts the EEZ of Egypt, at a length of 10 nautical miles approximately.

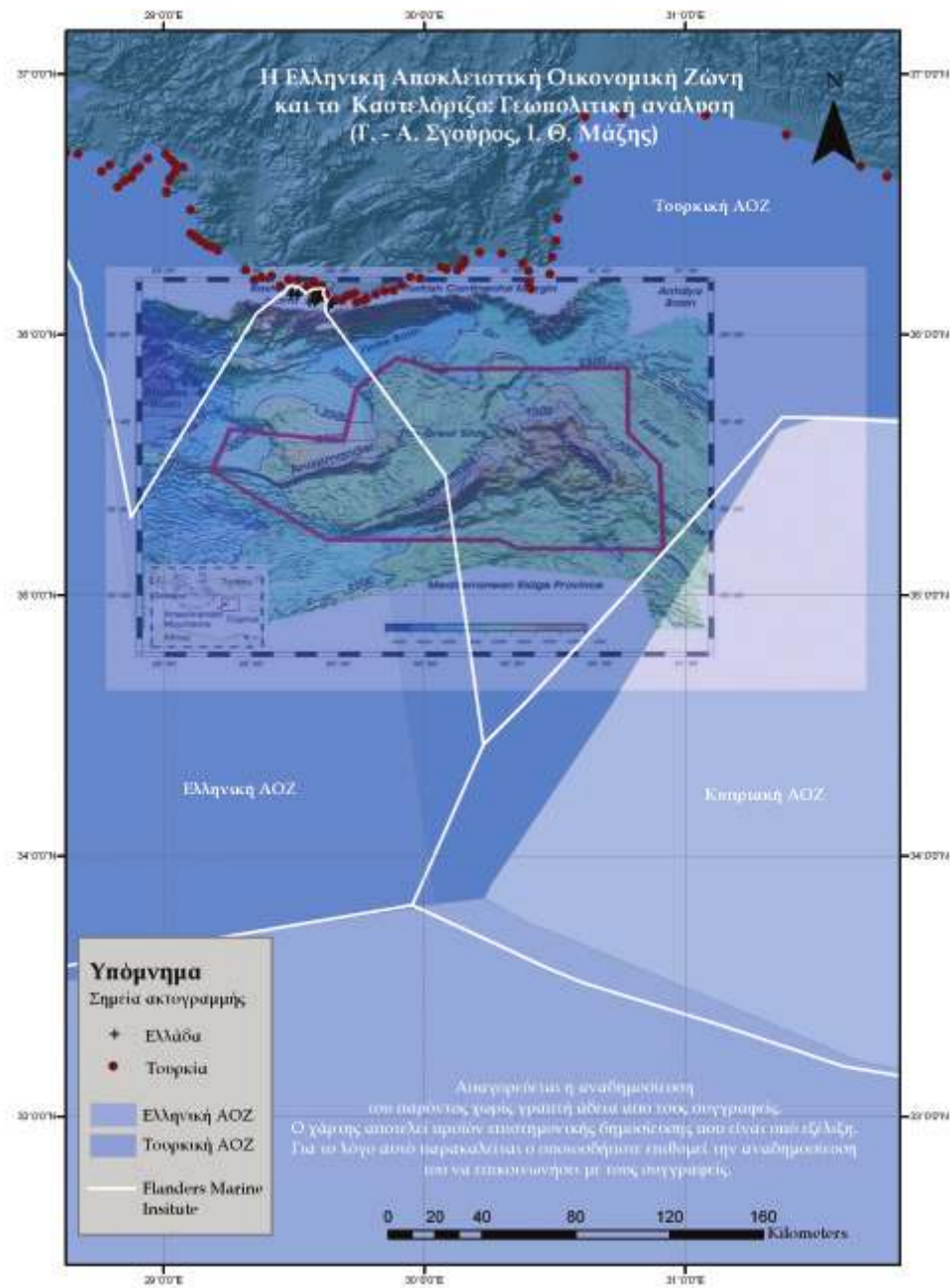


Fig. 7. Distribution of methane hydrates by EEZ (Georeference and overlay of a map included in Lykousis et al., 200977).

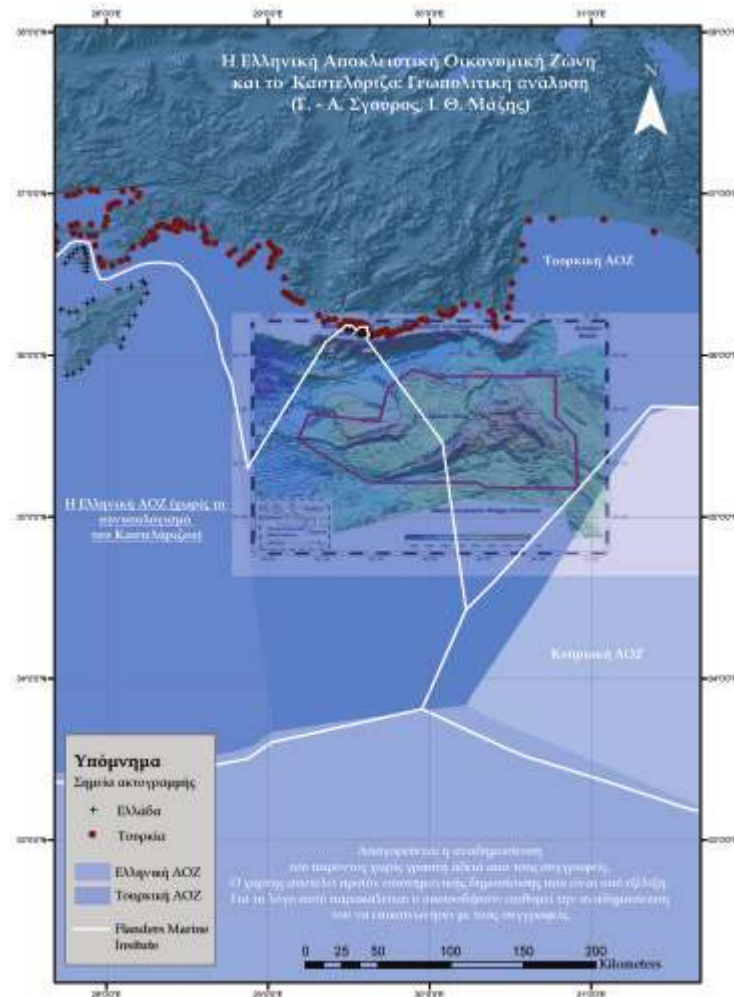


Fig. 8. Distribution of methane hydrates by EEZ without Kastelorizo (Georeference and overlay of a map included in Lykoussis et al., 2009). There are clear differences, compared to Fig. 7.

4. Turkey defines in advance, and without official statements, the limits of the EEZ using its own baselines and its own specification of points on its physical coastline, using the same calculation principle: Obstructing the OGS Explora

The incident that took place with the obstruction of the sailing of the OGS Explora research vessel is an indication that Turkey's competent authorities have already adopted the same method, in view of demarcating their own EEZ. The ship was performing mapping works for the deployment of a submarine cable from Haifa (Israel) to Italy. The incident was reported extensively also in the Greek Press.

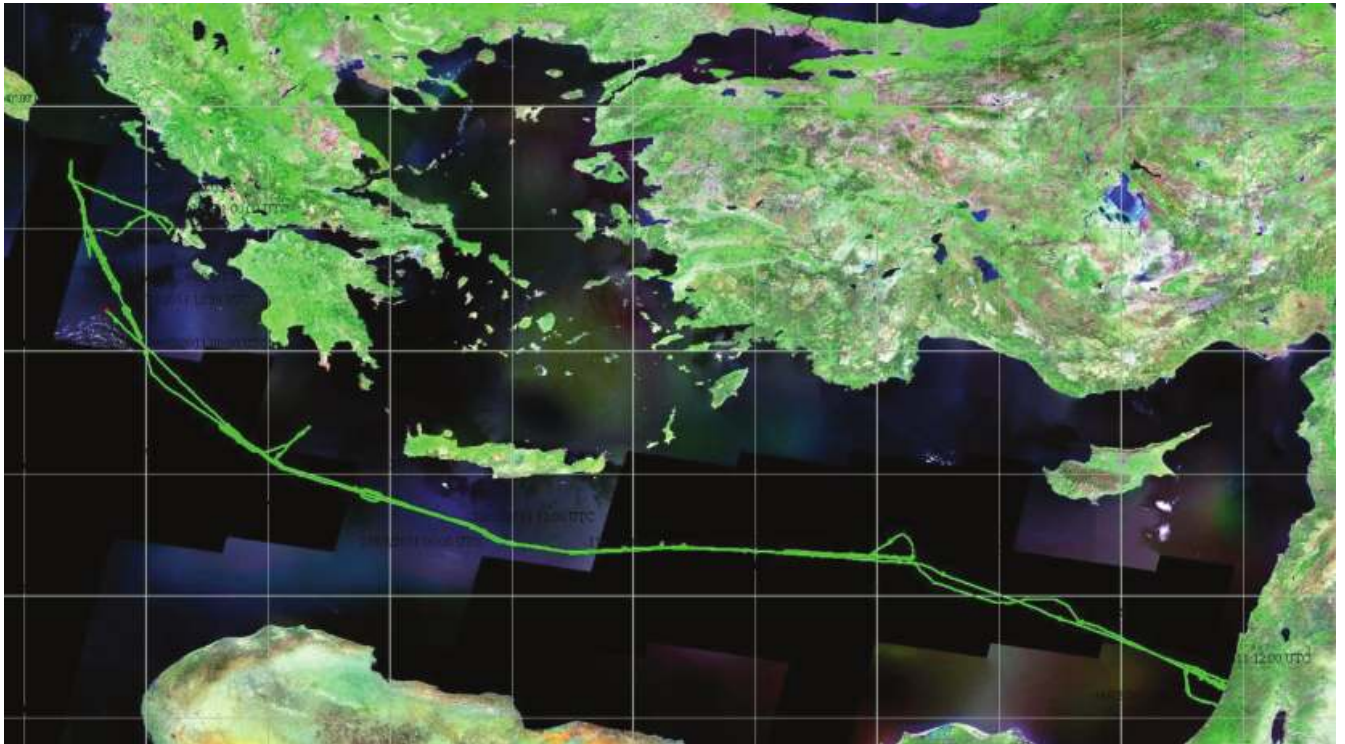


Fig. 9. The mapping course of OGS Explora.

Longitude	Latitude	Date	Time (UTC)
19.54864394	38.75627636	01/03/2011	12:00
34.31461988	32.30308265	16/03/2011	12:00
20.27412338	38.45941995	02/03/2011	00:00
34.69361293	32.10351989	17/03/2011	00:00
19.77606556	38.39994236	02/03/2011	12:00
34.70406405	32.09263813	17/03/2011	12:00
19.23230545	38.18801132	03/03/2011	00:00
34.52614056	32.1893837	18/03/2011	00:00
19.12773265	38.58146818	03/03/2011	12:00
34.74941083	32.09853237	18/03/2011	12:00
19.04123693	38.8907598	04/03/2011	00:00
34.55671241	32.16473256	19/03/2011	00:00
19.26997176	38.19838734	04/03/2011	12:00
34.4409488	32.24399508	19/03/2011	12:00
19.39012291	37.89053869	05/03/2011	00:00
34.46278109	32.22730121	20/03/2011	00:00
19.42593935	37.91982608	05/03/2011	12:00
34.43521931	32.21398326	20/03/2011	12:00
19.56320639	37.53244746	06/03/2011	00:00
34.58121474	32.1616878	21/03/2011	00:00
19.75520449	37.22816118	06/03/2011	12:00
34.69105333	32.10570531	21/03/2011	12:00
19.9995163	36.62879841	07/03/2011	00:00
34.73302836	32.09076871	22/03/2011	00:00

Longitude	Latitude	Date	Time (UTC)
21.25258041	35.51248901	07/03/2011	12:00
34.36973676	32.34036047	22/03/2011	12:00
21.26920029	35.44261358	08/03/2011	00:00
32.50170482	33.02431731	23/03/2011	00:00
21.81561196	35.25304177	08/03/2011	12:00
30.90700531	33.6232053	23/03/2011	12:00
22.13413998	35.55149759	09/03/2011	00:00
30.4880118	33.86267863	24/03/2011	00:00
22.10950901	34.99135279	09/03/2011	12:00
30.18569885	34.07618242	24/03/2011	12:00
22.94419274	34.7589153	10/03/2011	00:00
29.65354848	33.88726912	25/03/2011	00:00
24.45665888	34.26915552	10/03/2011	12:00
29.12024033	33.89065352	25/03/2011	12:00
26.03069533	33.91794011	11/03/2011	00:00
28.33604448	33.9402963	26/03/2011	00:00
27.35336309	34.01424628	11/03/2011	12:00
26.54837781	33.97491121	26/03/2011	12:00
27.05243441	34.02014483	12/03/2011	00:00
24.63182485	34.20557862	27/03/2011	00:00
28.1903392	33.94621999	12/03/2011	12:00
22.86361943	34.79581268	27/03/2011	12:00
30.30942259	33.79252871	13/03/2011	00:00
21.11747214	35.65420847	28/03/2011	00:00
32.79504948	32.97828961	14/03/2011	00:00
19.58844488	37.09085205	28/03/2011	12:00
34.24536097	32.33772488	14/03/2011	12:00
19.45998169	37.21148163	28/03/2011	13:00
34.66414467	32.12105508	16/03/2011	00:00

However, what is not obvious to date, is that this obstruction took place exactly along the EEZ demarcation limits, as detailed in this paper (see Fig. 9).

Let us examine the incident in geographical detail: the said map depicts that the course of the Italian research vessel (Explora) extends tangentially with respect to the demarcation proposed by the authors, i.e. through the narrowest point of contact between the EEZs of Turkey and Cyprus. The course of the steep and unreasonably diverging curve that is marked between points [1. 24/03/2011 00:00 UTC; 2. 24/03/2011 12:00 UTC; and 3. 25/03/2011 00:00 UTC] is, remarkably, located within the EEZ that has been demarcated by the authors using the Voronoi method, which Turkey considers to be its own EEZ. It is for this reason that Turkey annoyed the Italian vessel while it was still within the Cypriot EEZ and before it entered into what Turkey considers to be its own EEZ. Obviously, it is for this reason that the Italian vessel was forced to request a second transit passage permission from the Turkish authorities.

This fact proves that Turkey tries to preoccupy the international community to accept the limits of the EEZ which this country will claim to be its own, if Greece insists on its initial official statements and does not concede to the irrational Turkish claim that the islands of Kastelorizo, Stroggyli and Ro have no EEZ. Of course, this should be taken into serious consideration by Greece, so as to make the appropriate moves and to support its own arguments in a manner analogous to Turkey and thus raise the level of negotiation, if it aims to achieve a final result, better than the one depicted on the above map. In short, the Archipelagic-type baselines in the Aegean insular complex should not be rejected in principle as irrational. They are simply a response to Turkey's legal irrational and arbitrary claim that "the islands of the Aegean have no continental shelf" and that "Kastelorizo is part of the Mediterranean". Let us think clearly: what will we waive before an international court of justice, so as to make Turkey waive such legal nonsense?

5. Geopolitical Conclusions

1. Based on the above, it is concluded that, on the one hand, the EEZ which must be demarcated for its drawing to apply, is an indispensable part of both the conventional and the customary Law of the Sea, which is applicable internationally and, on the other, that it is an unalienable and unique right of the coastal state concerned, to proceed to such a demarcation.

2. Besides, it should be made clear that the European and, mainly, the Anglo-Saxon geostrategic direction have changed. These two international poles of power (the EU and the US-UK [special relationship]) purport to be independent from the Russian, Iranian and Arab-Islamic energy reserves. Also, in the light of this explanation, the Anglo-Saxons of the said special relationship have no positive outlook for a future dependence of the EU on Russia's natural gas, the retailer and distributor of which will be Germany in the EU. This is their chance to avoid this scenario: the deposits of Israel and Cyprus, together with the natural gas deposits of Greece (south of Crete, and in the Ionian Sea and up to the Adriatic) are an ideal solution. Consequently, anyone raising obstacles to this geostrategic development (which in our case is, arguably, Turkey only) would have to face the harsh response of the so-called "West", i.e. of the EU and of the London-Washington Special Relationship. Naturally, the Israeli factor, which is able to influence the Special Relationship, will clearly contribute to the same direction! It should be stressed, however, that Greece should proceed to a tripartite arrangement of its EEZs with Egypt and the Republic of Cyprus, without any further delay, so as to safeguard the contact between the Greek and the Cypriot EEZ. If it fails to do so, Turkey will intervene to render this contact impossible, using the method of the non-calculation of the insular complex of Megisti, Stroggyli and Ro. Moreover, in this way it will be in a position to lay claims on the methane hydrates of the area south and south-east of this insular triangle (see: I.-Θ. Μάζης - Γ.-Α. Σγούρος, *Κοιτάσματα στην Ανατολική Μεσόγειο, Επίκαιρα*, 26, 15-21/4/2010), like in the western side of the EEZ of Cyprus and the eastern side of the EEZ of Crete, at the region of the Herodotus basin, where there is a Greek portion of natural gas deposits of about 1 trillion cubic meters, based on data published already (in the US, in France and in Norway). From a legal standpoint, however, an interfering Turkish EEZ would not obstruct the passage of LNG tankers or the deployment of cables and pipelines through the seabed of the EEZ, even if "political manipulations" end up in this area being considered Turkish subsoil. However, Turkey's behaviour is no guarantee that it will ultimately respect the international rule of law. In this sense, it is imperative to eliminate such an eventuality, through a direct tripartite settlement.

Consequently, there is no excuse for phobic syndromes in Athens, with regard to decisive and targeted actions in the SE Mediterranean.

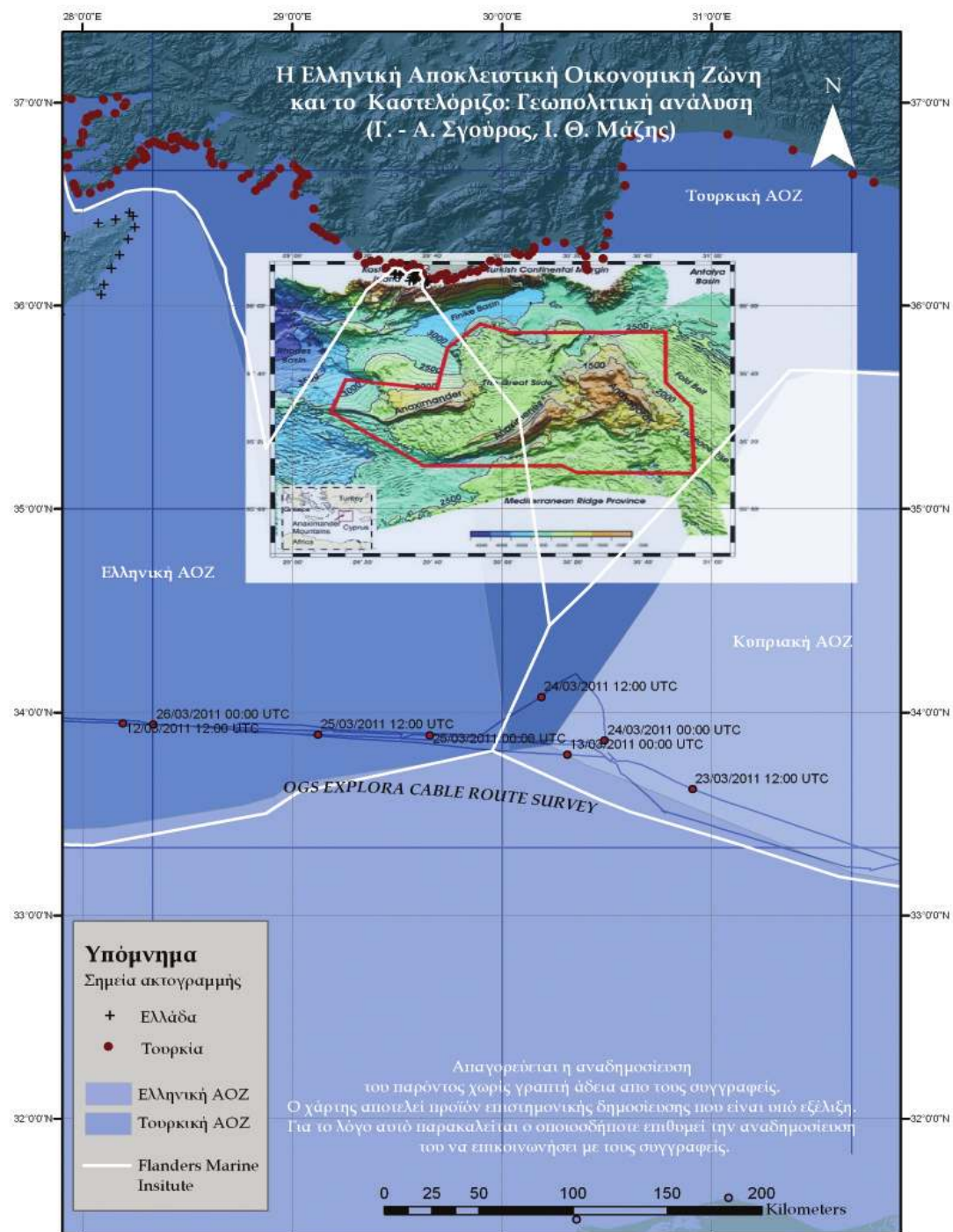


Fig. 10. It is noted that the course of OGS Explora extends tangentially to the drawing presented in this paper, i.e. through the narrowest point of contact of the Cypriot and the Turkish EEZ. The course of the steep curve between points [1. 24/03/2011 00:00 UTC; 2. 24/03/2011 12:00 UTC; and 3. 25/03/2011 00:00 UTC] is, remarkably, located within the EEZ that has been demarcated by the authors using the Voronoi method, which Turkey considers to be its own EEZ.

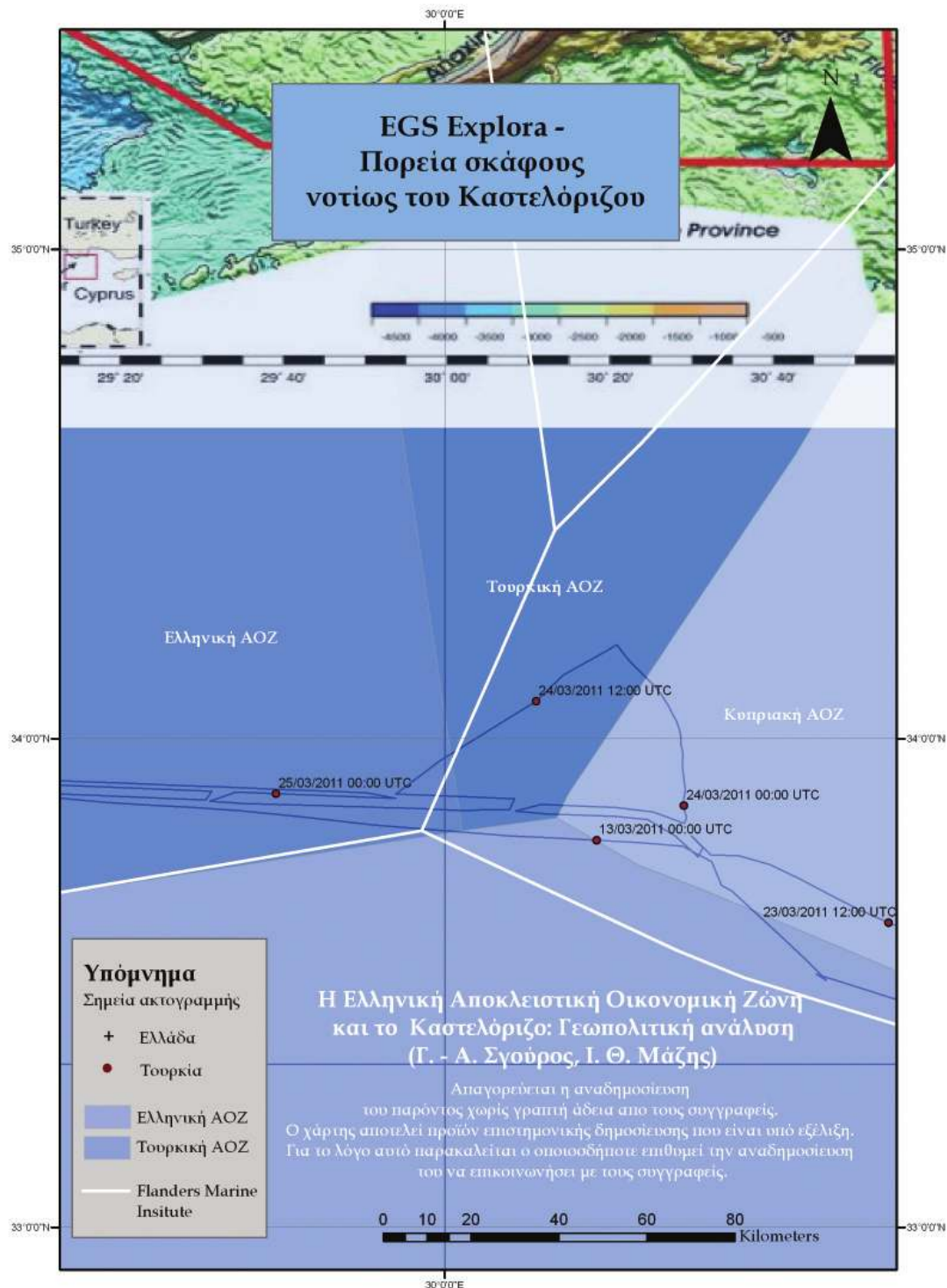


Fig. 11. Detail of Fig. 9. The course of OGS Explora and the location of the said annoyance and deviation from the predefined course (in rectangular frame). Below, the same location with respect to the Turkish perception of the limits of the Turkey-Egypt, Greece-Turkey, Greece-Cyprus and Cyprus-Turkey EEZs.

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