

ION GEOPHYSICAL CORP

Form S-3ASR

December 21, 2007

As filed with the Securities and Exchange Commission on December 21, 2007
Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

ION Geophysical Corporation
(Exact name of Registrant as specified in its charter)

Delaware
*(State or other jurisdiction of
incorporation or organization)*

22-2286646
*(I.R.S. Employer
Identification No.)*

**2105 CityWest Blvd.
Suite 400
Houston, Texas 77042-2839
(281) 933-3339**
*(Address, Including Zip Code, and Telephone Number,
Including Area Code, of Registrant's Principal Executive Offices)*

**David L. Roland, Esq.
Senior Vice President, General Counsel and Corporate Secretary
ION Geophysical Corporation
2105 CityWest Blvd.
Suite 400
Houston, Texas 77042-2839
(281) 933-3339**
*(Name, Address, Including Zip Code, and Telephone Number,
Including Area Code, of Agent for Service)*

Copy to:

**Marc H. Folladori, Esq.
Mayer Brown LLP
700 Louisiana, Suite 3400
Houston, Texas 77002-2730
(713) 238-3000**

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price per Unit(2)	Proposed Maximum Aggregate Offering Price(2)	Amount of Registration Fee
Common Stock, par value \$.01 per share	550,000 shares	\$15.48	\$8,514,000	\$261.38

(1) The shares of our common stock that may be offered pursuant to this Registration Statement consist of our good faith estimate of shares issuable upon conversion or redemption of and as dividends on shares of Series D-2 Cumulative Convertible Preferred Stock par value \$.01 per share, issuable under the Agreement dated February 15, 2005, as amended, by and between ION Geophysical Corporation, formerly known as Input/Output Inc., and Fletcher International, Ltd. Initially, the Series D-2 Cumulative Convertible Preferred Stock may be converted into up to 311,664 shares of our common stock, subject to adjustment, at an initial conversion price of

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\$16.0429 per share, also subject to adjustment in certain events. Pursuant to Rule 416 under the Securities Act of 1933, this Registration Statement also covers an indeterminable number of shares of common stock issued or issuable by reason of stock splits, stock dividends and similar transactions contemplated by Rules 416 under the Securities Act of 1933, as amended.

- (2) Estimated pursuant to Rule 457(c) under the Securities Act of 1933, as amended, solely for the purpose of calculating the registration fee, based upon the average of the high and low sales prices of our common stock on December 18, 2007, as reported by the New York Stock Exchange.
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PROSPECTUS

550,000 Shares

ION Geophysical Corporation

Common Stock

This prospectus covers the potential resale of up to 550,000 shares of common stock, \$0.01 par value, of ION Geophysical Corporation (formerly known as Input/Output, Inc.), issuable by us pursuant to rights of conversion or redemption, or in payment of quarterly dividends, on 5,000 shares of our Series D-2 Cumulative Convertible Preferred Stock (the "Series D-2 Preferred Stock") issued under the Agreement dated February 15, 2005, as amended, between ION Geophysical Corporation and Fletcher International, Ltd. (including the entities and persons described elsewhere in this prospectus, "Fletcher"). Some or all of the common stock so issued may be sold from time to time in market transactions or in other transactions by Fletcher. Fletcher may sell the shares of common stock described in this prospectus in various ways and at different times as described in this prospectus, but it is not required to sell any of these shares. We do not know if any of these shares of common stock will ultimately be issued or whether any of them will be sold pursuant to this prospectus or otherwise. The price to the public for the shares and the proceeds to the selling stockholder at any time will depend upon the terms of such sale. We will not receive any of the proceeds from the sale of the common stock by the selling stockholder, but have agreed to bear the expense of registration of the shares. See "Plan of Distribution".

Investing in our common stock involves risks. Please read carefully the section entitled "Risk Factors" beginning on page 5 of this prospectus, and the sections entitled "Item 1A. Risk Factors" beginning on page 14 of our Annual Report on Form 10-K for the fiscal year ended December 31, 2006 and "Item 1A. Risk Factors" beginning on page 20 of our Quarterly Report on Form 10-Q for the quarter ended June 30, 2007, previously filed with the Securities and Exchange Commission and incorporated by reference into this prospectus.

Our common stock is listed on the New York Stock Exchange under the symbol "IO". On December 19, 2007, the last reported sale price of our common stock on the New York Stock Exchange was \$15.16 per share.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is December 21, 2007.

TABLE OF CONTENTS

	Page
<u>ABOUT THIS PROSPECTUS</u>	ii
<u>PROSPECTUS SUMMARY</u>	1
<u>FORWARD-LOOKING STATEMENTS</u>	2
<u>RISK FACTORS</u>	4
<u>USE OF PROCEEDS</u>	5
<u>SELLING STOCKHOLDER</u>	5
<u>PLAN OF DISTRIBUTION</u>	7
<u>LEGAL MATTERS</u>	9
<u>EXPERTS</u>	9
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	9
<u>INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</u>	10

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission utilizing a shelf registration process or continuous offering process. Under this shelf registration process, the selling stockholder may, from time to time, sell the securities described in this prospectus in one or more offerings. This prospectus provides you with a general description of the securities that may be offered by the selling stockholder. Each time the selling stockholder sells securities, the selling stockholder is required to provide you with this prospectus and, in certain cases, a prospectus supplement containing specific information about the selling stockholder and the terms of the securities being offered. That prospectus supplement may include additional risk factors or other special considerations applicable to those securities. Any prospectus supplement may also add, update or change information in this prospectus. If there is any inconsistency between the information in this prospectus and any prospectus supplement, you should rely on the information in that prospectus supplement. You should read both this prospectus and any prospectus supplement together with additional information described under Incorporation of Certain Information by Reference.

The selling stockholder referred to in this prospectus may offer and sell from time to time up to 550,000 outstanding shares of our common stock. The shares of common stock registered for resale in this prospectus are issuable upon the conversion or redemption of (or in payment of dividends on) 5,000 shares of our Series D-2 Preferred Stock. The shares of common stock registered for resale in this prospectus may also include additional shares of common stock that become issuable due to potential Series D-2 Preferred Stock anti-dilution adjustments.

A similar shelf registration statement on Form S-3 (Registration No. 333-123632) was filed with the SEC in 2005 covering resales by the selling stockholder of up to 7,500,000 shares of our common stock that are issuable upon the conversion or redemption of, or as dividends on, 30,000 shares of our Series D-1 Cumulative Convertible Preferred Stock, \$0.01 par value per share (the Series D-1 Preferred Stock), which shares were purchased by Fletcher in February 2005. Except for the conversion prices, the terms and conditions of the Series D-1 Preferred Stock and the Series D-2 Preferred Stock are substantially the same.

This prospectus does not cover the issuance of any shares of common stock by us to the selling stockholder, and we will not receive any of the proceeds from any sale of shares by the selling stockholder. Except for any underwriting discounts and selling commissions, which may be paid by the selling stockholder, we have agreed to pay the expenses incurred in connection with the registration of the shares of common stock covered by this prospectus.

Information about the selling stockholder may change over time. Any changed information given to us by the selling stockholder will be set forth in a prospectus supplement if and when necessary. Further, in some cases, the selling stockholder will also be required to provide a prospectus supplement containing specific information about the terms on which it or its permitted assignees are offering and selling our common stock. If a prospectus supplement is provided and the description of the offering in the prospectus supplement varies from the information in this prospectus, you should rely on the information in the prospectus supplement.

We have not authorized the selling stockholder or any dealer, salesman or other person to give you any information or to make any representations other than the information contained in the documents that we incorporate by reference into this prospectus or provided in this prospectus or any prospectus supplement. You should not rely on any information that is not incorporated by reference into or provided in this prospectus or in any prospectus supplement.

This prospectus (and any prospectus supplement) should not be construed as an offer to sell, or a solicitation of an offer to buy, the securities offered hereby in any jurisdiction to any person to whom it is unlawful to make an offer or solicitation in that jurisdiction.

Delivery of this prospectus or any prospectus supplement at any time does not imply that the information contained herein is correct as of any time subsequent to its respective date.

As used in this prospectus, the terms ION, company, we, our, ours and us refer to ION Geophysical Corporation and its consolidated subsidiaries, except where the context otherwise requires or as otherwise indicated.

PROSPECTUS SUMMARY

This summary highlights selected information about us and this offering by the selling stockholder contained elsewhere in this prospectus and the documents incorporated by reference into this prospectus. This summary is not complete and may not contain all of the information that is important to you. We encourage you to read this prospectus and all information incorporated by reference into this prospectus (including the Risk Factors information incorporated by reference herein), and the documents to which we refer you in their entirety.

Our Company

We are a leading seismic solutions company, providing the global oil and natural gas industry with a variety of seismic products and services, including:

- seismic data acquisition equipment,
- navigation and data management software products,
- survey design planning services,
- seismic data processing services, and
- seismic data libraries.

We have been a manufacturer of seismic equipment since the late 1960s. In recent years, we have transformed our business from being solely a seismic equipment manufacturer to being a provider of a full range of seismic imaging products and services including providing seismic equipment, designing and planning a seismic survey, overseeing the acquisition of seismic data by experienced contractors, and processing the acquired seismic data using advanced algorithms and mode workflows. During 2004, we completed two acquisitions as part of our strategy to expand the range of products and services we provide. This expanded offering, including seismic data management software and advanced imaging services, has enabled us to broaden our customer base beyond seismic acquisition contractors to also include oil and natural gas exploration and production (E&P) companies. We do not own vessels or maintain crews used in the field to acquire seismic data.

On September 21, 2007, we changed our corporate name from Input/Output, Inc. to ION Geophysical Corporation.

Our executive headquarters are located at 2105 CityWest Boulevard, Suite 400, Houston, Texas 77042-2839. Our telephone number is (281) 933-3339. Our home page on the Internet is www.iongeo.com. We make our website content available for information purposes only. It should not be relied upon for investment purposes, nor is it incorporated by reference into this Form S-3.

The Offering

Common stock offered by the selling stockholder	550,000 shares
Use of proceeds	All of the proceeds from the sale of common stock covered by this prospectus will be received by the selling stockholder. We will not receive any proceeds from the sale of the shares of common stock covered by this

prospectus.

NYSE symbol

IO

Risk Factors

An investment in our common stock involves a high degree of risk. For a discussion of certain matters that should be considered by prospective purchasers of our common stock offered hereby, see **Risk Factors** beginning on page 5 of this prospectus, **Item 1A. Risk Factors** beginning on page 14 of our Annual Report on Form 10-K for the fiscal year ended December 31, 2006 and **Item 1A. Risk Factors** beginning on page 20 of our Quarterly Report on Form 10-Q for the quarter ended June 30, 2007, which have been previously filed with the Securities and Exchange Commission (SEC) and are incorporated by reference into this prospectus.

FORWARD-LOOKING STATEMENTS

This prospectus contains or incorporates by reference statements concerning our future results and performance and other matters that are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act). These statements involve known and unknown risks, uncertainties, and other factors that may cause our or our industry's results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance, or achievements expressed or implied by such forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as may, will, should, intend, expect, anticipate, believe, estimate, predict, potential, or continue or the negative of such terms or other comparable terminology.

Examples of other forward-looking statements contained or incorporated by reference in this prospectus include statements regarding:

expected net revenues, operating profit and net income;

expected gross margins for our products and services;

future benefits to our customers to be derived from new products and services, such as Scorpion and FireFly;

future growth rates for certain of our products and services;

expectations of oil and natural gas exploration and production companies and contractor end-users purchasing our more expensive, more technologically advanced products and services;

the degree and rate of future market acceptance of our new products and services;

expectations regarding future mix of business and future asset recoveries;

the timing of anticipated sales;

anticipated timing and success of commercialization and capabilities of products and services under development, and start-up costs associated with their development;

expected improved operational efficiencies from our full-wave digital products and services;

success in integrating our acquired businesses;

potential future acquisitions;

future levels of capital expenditures;

future cash needs and future sources of cash, including availability under our new revolving line of credit facility and the retirement of our outstanding convertible senior notes that mature in December 2008;

the outcome of pending or threatened disputes and other contingencies;

future demand for seismic equipment and services;

future seismic industry fundamentals;

the adequacy of our future liquidity and capital resources;

future oil and gas commodity prices;

future opportunities for new products and projected research and development expenses;

future worldwide economic conditions;

expectations regarding realization of deferred tax assets; and

anticipated results regarding accounting estimates we make.

These forward-looking statements reflect our best judgment about future events and trends based on the information currently available to us. Our results of operations can be affected by inaccurate assumptions we make

or by risks and uncertainties known or unknown to us. Therefore, we cannot guarantee the accuracy of the forward-looking statements. Actual events and results of operations may vary materially from our current expectations and assumptions.

Information regarding some of the important factors that could cause actual results to differ, perhaps materially, from those in our forward-looking statements is contained in the sections entitled "Item 1A. Risk Factors" of our Annual Report on Form 10-K for the fiscal year ended December 31, 2006 filed with the SEC on March 15, 2007 and "Item 1A. Risk Factors" of our Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2007 filed with the SEC on August 9, 2007, both of which are incorporated into this prospectus by reference.

We disclaim any obligation, other than as may be imposed by law, to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

RISK FACTORS

In addition to the sections entitled "Item 1A. Risk Factors" from our Annual Report on Form 10-K for the year ended December 31, 2006, and our Quarterly Report on Form 10-Q for the quarter ended June 30, 2007, which have been previously filed with the SEC and are incorporated by reference into this prospectus, we believe the following risk factors that relate to this offering should be considered carefully.

Our stock price may fluctuate, and your investment in our stock could decline in value.

The trading volume of our common stock may contribute to its volatility, and an active trading market may not continue.

If substantial amounts of our common stock were to be sold in the public market, the market price of our common stock could decline. Some of the other factors that can affect our stock price are:

- future demand for seismic equipment and services;
- the announcement of new products, services or technological innovations by us or our competitors;
- the adequacy of our liquidity and capital resources;
- consolidation among our significant customers;
- continued variability in our revenues or earnings;
- changes in quarterly revenue or earnings estimates for us made by the investment community;
- speculation in the press or investment community about our strategic position, financial condition, results of operations, business or significant transactions; and
- general perception of the energy or technology sectors of the economy.

The market price of our common stock may also fluctuate significantly in response to factors that are beyond our control. The stock market in general has recently experienced extreme price and volume fluctuations. These broad market fluctuations could result in extreme fluctuations in the price of our common stock, which could cause a decline in its market value.

If we, our optionholders or our existing stockholders holding registration rights, sell additional shares of our common stock in the future, the market price of our common stock could decline.

The market price of our common stock could decline as a result of sales of a large number of shares of common stock in the market in the future, or the perception that such sales could occur. These sales, or the possibility that these sales may occur, could make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate.

At September 30, 2007, we had outstanding stock options to purchase up to 5,983,142 shares of our common stock. In addition, there was a total of 787,969 outstanding shares of restricted stock and shares reserved for outstanding restricted stock units.

Pursuant to our Agreement with Fletcher, Fletcher has the ability to sell the shares of our common stock covered by this prospectus that may be issued to Fletcher upon conversion or redemption of or as dividends on the Series D-2 Preferred Stock. In addition, Fletcher currently has the ability to sell shares of our common stock that may be issued to Fletcher upon conversion or redemption of or as dividends on the Series D-1 Preferred Stock under an effective registration statement.

Shares of our common stock are subject to registration rights held by Laitram, L.L.C. and certain former stockholders of Concept Systems Holdings Limited, which have piggyback registration rights. We also may enter into additional registration rights agreements in the future in connection with any subsequent acquisitions we may undertake. Any sales of our common stock under these registration rights arrangements with Laitram, such certain former stockholders of Concept Systems Holdings Limited or other stockholders could be negatively perceived in the trading markets and negatively affect the price of our common stock. Sales of a substantial number of our shares

of common stock in the public market under these arrangements, or the expectation of such sales, could cause the market price of our common stock to decline.

Conversion of the Series D-1 Preferred Stock, the Series D-2 Preferred Stock or our outstanding convertible notes will dilute the ownership interests of existing stockholders.

The conversion of the Series D-1 Preferred Stock, the Series D-2 Preferred Stock, or any other shares of Series D Preferred Stock that we may issue in the future, into shares of our common stock by Fletcher will dilute the ownership interests of existing stockholders. In addition, in December 2003, we issued \$60.0 million of convertible unsecured notes that mature in December 2008. As a result of the conversion of approximately \$52.76 million in aggregate principal amount of our outstanding convertible senior notes into 12,212,964 shares of common stock in November 2007, the company reduced the outstanding principal amount of the notes to approximately \$7.24 million. The conversion of these convertible notes as well as the remaining convertible notes will dilute the ownership interests of existing stockholders. Sales in the public market of shares of common stock issued upon conversion would apply downward pressure on prevailing market prices of our common stock. In addition, the very existence of the convertible notes and the Series D Preferred Stock represents a future issuance, and perhaps a future sale, of our common stock to be acquired on conversion, which could also depress trading prices for our common stock.

Our certificate of incorporation and bylaws, Delaware law, our stockholder rights plan and contractual provisions under our Agreement with Fletcher contain provisions that could discourage another company from acquiring us.

Provisions of Delaware law, our certificate of incorporation, bylaws, stockholder rights plan and our Agreement with Fletcher may discourage, delay or prevent a merger or acquisition that our stockholders may consider favorable, including transactions in which you might otherwise receive a premium for shares of our common stock. These provisions include:

authorizing the issuance of blank check preferred stock without any need for action by stockholders;

providing for a classified board of directors with staggered terms;

requiring supermajority stockholder voting to effect certain amendments to our certificate of incorporation and by-laws;

eliminating the ability of stockholders to call special meetings of stockholders;

prohibiting stockholder action by written consent;

establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted on by stockholders at stockholder meetings; and

requiring an acquiring party to be obligated to assume all of our obligations under our Agreement with Fletcher and the terms of the Series D-1 Preferred Stock and Series D-2 Preferred Stock set forth in our certificates of rights and designations for those shares, including the dividend, liquidation, conversion, redemption, voting and share registration provisions and the rights of Fletcher to purchase additional series of our Series D Preferred Stock.

USE OF PROCEEDS

We will not receive any proceeds from the sale of the shares of common stock offered and sold by the selling stockholder pursuant to this prospectus.

SELLING STOCKHOLDER

The 550,000 shares of our common stock covered by this prospectus consist of shares of our common stock that may be issued to Fletcher upon conversion or redemption of, or as dividends on, the Series D-2 Preferred Stock that we issued on December 6, 2007. The Series D-2 Preferred Stock is initially convertible into 311,664 shares of

our common stock, subject to adjustment, at an initial conversion price of \$16.0429 per share, also subject to adjustment in certain events. Fletcher purchased the shares of the Series D-2 Preferred Stock pursuant to Fletcher's right, which expires on February 16, 2008, unless extended by the parties, to purchase up to an additional 40,000 shares of one or more additional series of Series D Preferred Stock, having similar terms and conditions as the Series D-1 Preferred Stock that we had issued to Fletcher in February 2005. As used in this prospectus, "selling stockholder" means Fletcher International, Ltd. and donees, pledgees, transferees or other successors-in-interest selling shares received from Fletcher International, Ltd. as a gift, pledge, distribution or other transfer not involving a sale of our common stock pursuant to this prospectus. Fletcher has not held any position or office nor has it had any other material relationship with us or any of our affiliates within the past three years, other than as a result of its ownership of shares of our equity securities.

The following table provides certain information with respect to Fletcher, including Fletcher's beneficial ownership of our common stock as of December 18, 2007, and as adjusted to give effect to the sale of the shares covered by this prospectus. The amounts set forth below are based upon information provided to us by representatives of Fletcher, and our records, as of December 18, 2007, and are accurate to the best of our knowledge. As of the date of this prospectus, Fletcher has not converted or redeemed any of the Series D-1 or Series D-2 Preferred Stock and no shares of common stock have been issued as dividends on the Series D-1 or Series D-2 Preferred Stock. It is possible that Fletcher may have acquired, sold, transferred or otherwise disposed of shares of our common stock in transactions exempt from the registration requirements of the Securities Act since the date on which it provided the information to us regarding the shares beneficially owned by it. This table assumes that Fletcher will offer for sale all of its shares of our common stock. We do not know whether Fletcher will convert or redeem the Series D-1 or Series D-2 Preferred Stock or whether it will offer for sale any or all of the common stock covered by this prospectus.

Beneficial ownership is determined in accordance with Rule 13d-3(d) promulgated by the SEC under the Exchange Act. Unless otherwise noted, each person or group identified possesses sole voting and investment power with respect to the shares, subject to community property laws where applicable.

Name	Common Stock Deemed Beneficially Owned Prior to the Offering(1)		Common Stock to be Owned After Offering(2)	Percentage of All Common Stock to be Owned After Offering
		Common Stock Offered Hereby		
Fletcher International, Ltd.	4,189,134	550,000	40,800	*

* Less than 1%.

- (1) Includes (a) 3,812,428 shares deemed to be beneficially owned due to Fletcher's right to convert the Series D-1 Preferred Stock into common stock and (b) 335,906 shares deemed to be beneficially owned due to Fletcher's right to convert the Series D-2 Preferred Stock into common stock. Does not include any shares of common stock that may be deemed to be beneficially owned by Fletcher due to Fletcher's unexercised right to purchase additional shares of Series D Preferred Stock.

- (2) Assumes Fletcher will receive all shares of common stock included in this table and sell all such shares under this prospectus and, with respect to its Series D-1 Preferred Stock, that Fletcher will sell under a separate prospectus all shares of common stock issuable pursuant to rights of conversion or redemption, or in payment of quarterly dividends on shares of such Series D-1 Preferred Stock covered by the shelf registration statement on Form S-3 (Registration No. 333-123632).

The securities listed above include outstanding securities held in one or more accounts managed by Fletcher Asset Management, Inc. (FAM) for Fletcher. FAM is an investment adviser to Fletcher and is registered under Section 203 of the Investment Advisors Act of 1940, as amended. Pursuant to an investment advisory agreement between FAM and Fletcher, FAM has the authority to vote and dispose of the securities in these accounts. By reason of the provisions of Rule 13d-3 under the Exchange Act, Fletcher and FAM may each be deemed to beneficially own the securities registered under the registration statement of which this prospectus is a part. In addition, by virtue of Alphonse Fletcher, Jr.'s position as Chairman and Chief Executive Officer of FAM, Mr. Fletcher may be deemed to have the shared power to vote or direct the vote of, and the shared power to dispose or direct the disposition of, these securities. For these reasons, Mr. Fletcher may also be deemed to be a beneficial owner of these securities.

PLAN OF DISTRIBUTION

The shares of common stock being offered by the selling stockholder have been or will be issued pursuant to an exemption from the registration provisions of the Securities Act. The shares may be sold or distributed from time to time by the selling stockholder, or by pledgees, donees, or transferees of, or other successors-in-interest to, the selling stockholder, directly to one or more purchasers (including pledgees) or through brokers, dealers or underwriters who may act solely as agents or who may acquire shares as principals and will act independently of us in making decisions with respect to the timing, manner and size of each sale.

The shares may be sold in one or more transactions at:

- fixed prices,
- prevailing market prices at the time of sale,
- prices related to the prevailing market prices,
- varying prices determined at the time of sale, or
- otherwise negotiated prices.

The shares may be sold by one or more of, or a combination of, the following methods, in addition to any other method permitted under this prospectus:

- a block trade in which the broker-dealer so engaged will attempt to sell the offered securities as agent but may position and resell a portion of the block as principal to facilitate the transaction
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account pursuant to this prospectus,
- on any national securities exchange or quotation service on which our common stock may be listed or quoted at the time of sale, including the New York Stock Exchange,
- ordinary brokerage transactions and transactions in which the broker solicits purchasers,
- privately negotiated transactions,
- by pledge to secure debts or other obligations,
- put or call transactions,
 - at the market to or through market makers or into an existing market for our common stock,
- in other ways not involving market makers or established trading markets, including direct sales to purchasers or sales effected through agents,
- to cover hedging transactions made pursuant to this prospectus, or

underwritten offerings.

If required, this prospectus may be amended or supplemented on a continual basis to describe a specific plan of distribution. In making sales, broker-dealers engaged by the selling stockholder may arrange for other broker-dealers to participate in the resales.

In connection with the sale of shares, the selling stockholder may, subject to the terms of its Agreement with us, (1) enter into transactions with brokers, dealers or others, who in turn may engage in sales, including short sales, of the shares in the course of hedging the positions they assume, (2) deliver shares to close out positions entered into with brokers, dealers or others or (3) loan shares to brokers, dealers or others that may in turn sell such shares. The brokers, dealers or others referred to in (1) above may engage in those transactions referred to in (1), (2) or (3) above through this prospectus. The selling stockholder may enter into option, swap or other transactions with broker-dealers, other financial institutions or others that require the delivery to the broker-dealers, financial institutions or others of the shares. The broker-dealer or other financial institution or others may then resell or transfer these shares through this prospectus. The selling stockholder may also loan or pledge their shares to a broker-dealer or other

financial institution. The broker-dealer or financial institution may sell the shares which are loaned or pursuant to a right to rehypothecate while pledged or, upon a default, the broker-dealer or other financial institution may sell the pledged shares by use of this prospectus. The broker-dealer or other financial institution may use shares pledged by the selling stockholder or borrowed from the selling stockholder or others to settle those sales or to close out any related open borrowings of shares, and may use securities received from the selling stockholder in settlement of those derivatives to close out any related open borrowings of shares. Some or all of the shares offered in this prospectus may also be sold to or through an underwriter or underwriters. Any shares sold in that manner will be acquired by the underwriters for their own accounts and may be resold at different times in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. These shares may be offered to the public through underwriting syndicates represented by one or more managing underwriters or may be offered to the public directly by one or more underwriters. Any public offering price and any discounts or concessions allowed or disallowed to be paid to dealers may be changed at different times.

The selling stockholder may pay usual and customary or specifically negotiated underwriting discounts and concessions or brokerage fees or commissions in connection with their sales.

The selling stockholder and any dealers or agents that participate in the distribution of the shares may be deemed to be underwriters within the meaning of the Securities Act, and any profit on the sale of shares by them and any commissions received by any such dealers or agents might be deemed to be underwriting discounts and commissions under the Securities Act. Because the selling stockholder may be deemed to be an underwriter within the meaning of the Securities Act, the selling stockholder will be subject to the prospectus delivery requirements of the Securities Act. Neither the delivery of any prospectus, or any prospectus supplement, nor any other action taken by the selling stockholder or any purchaser relating to the purchase or sale of shares under this prospectus shall be treated as an admission that any of them is an underwriter within the meaning of the Securities Act relating to the sale of any shares.

To the extent required by the Securities Act, a prospectus supplement will be filed and disclose the specific number of shares of common stock to be sold, the name of the selling stockholder, the purchase price, the public offering price, the names of any agent, dealer or underwriter, and any applicable commissions paid or discounts or concessions allowed with respect to a particular offering and other facts material to the transaction. Compensation for or to a particular underwriter or broker-dealer might be in excess of customary commissions and will be in amounts to be negotiated at the time of the sale. We have agreed to bear certain expenses of registration of the common stock under federal and state securities laws and of any offering and sale hereunder but not certain other expenses, such as commissions of dealers or agents, and fees attributable to the sale of the shares. The aggregate proceeds to the selling stockholder from the sale of the shares will be the purchase price of the common stock sold less the aggregate agents commissions, if any, and other expenses of issuance and distribution not borne by us. We will not receive any of the proceeds from the sale of the shares of common stock offered by this prospectus.

We also have agreed to indemnify the selling stockholder, and the selling stockholder may agree to indemnify any broker-dealer or agent that participates in transactions involving sales of the shares, from certain damages or liabilities arising out of or based upon any untrue or alleged untrue statement of a material fact contained in, or material omission or alleged omission from, the registration statement of which this prospectus is a part, except to the extent the untrue or alleged untrue statement or omission or alleged omission was made in reliance upon written information furnished for inclusion herein by such selling stockholder.

We have agreed to file this registration statement with the SEC for the benefit of Fletcher and to use our best efforts to keep it effective until the earlier of:

the later of:

the second anniversary of the final issuance of shares of our common stock under our Agreement with Fletcher; and

the date that all of the shares of our common stock issued or issuable to Fletcher can be sold by Fletcher or its affiliates immediately without compliance with the registration requirements of the Securities Act pursuant to Rule 144 of the Securities Act; or

the date that all of the shares of our common stock issued or issuable to Fletcher have been sold by Fletcher and its affiliates.

Any securities covered by this prospectus that qualify for sale pursuant to Rule 144 under the Securities Act may be sold under that rule rather than pursuant to this prospectus.

The shares may be sold through registered or licensed brokers or dealers if required under applicable state securities laws. Additionally, in some states the shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with. We cannot assure you that the selling stockholder will sell any or all of the common stock offered hereunder.

LEGAL MATTERS

Mayer Brown LLP, Houston, Texas, has passed on certain legal matters with respect to the shares of common stock offered hereunder.

EXPERTS

The consolidated financial statements of ION Geophysical Corporation appearing in ION Geophysical Corporation's Annual Report (Form 10-K) for the year ended December 31, 2006 (including the schedule appearing therein) as of December 31, 2006 and 2005 and for each of the two years in the period ended December 31, 2006, and ION Geophysical Corporation management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2006 included therein, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports included therein, and incorporated herein by reference. Such consolidated financial statements and management's assessment are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

The consolidated financial statements for the year ended December 31, 2004 incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2006 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the shares. This prospectus, which is included in the registration statement, does not contain all of the information in the registration statement.

In portions of this Form S-3, we incorporate by reference information from parts of other documents filed with the SEC. The SEC allows us to disclose important information by referring to it in this manner, and you should review this information. We make our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, annual reports, and proxy statements for our stockholders' meetings, as well as any amendments to those reports, available free of charge through our website as soon as reasonably practicable after we electronically file those materials with, or furnish them to, the SEC.

You can learn more about us by reviewing our SEC filings on our website. Our SEC reports can be accessed through the investor relations page of our website located at www.iongeo.com. The SEC also maintains a website at www.sec.gov that contains reports, proxy statements, and other information regarding SEC registrants, including our

company.

We furnish holders of our common stock with annual reports containing financial statements audited by our independent registered public accounting firm in accordance with generally accepted accounting principles

following the end of each fiscal year. We file reports and other information with the SEC pursuant to the reporting requirements of the Exchange Act.

Our common stock is listed on the New York Stock Exchange (NYSE) and we are required to file reports, proxy statements and other information with the NYSE. You may obtain information on any document we file with the NYSE at the offices of The New York Stock Exchange, Inc. which is located at 20 Broad Street, New York, New York.

Descriptions in this prospectus of documents are intended to be summaries of the material, relevant portions of those documents, but may not be complete descriptions of those documents. For complete copies of those documents, please refer to the exhibits to the registration statement and other documents filed by us with the SEC.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The following that we have filed with the SEC are incorporated herein by reference:

Our Annual Report on Form 10-K for our fiscal year ended December 31, 2006.

Our Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2007, June 30, 2007, and September 30, 2007.

Our Current Reports on Form 8-K filed on January 8, 2007, February 1, 2007, February 16, 2007, March 28, 2007, July 10, 2007, August 21, 2007, November 28, 2007 and December 6, 2007.

Our Current Report on Form 8-K filed on September 24, 2007 and December 6, 2007, to the extent the information therein was filed with the SEC.

The description of our common stock contained in our Form 8-A dated October 14, 1994 filed under Section 12(b) of the Exchange Act, as amended by our Current Report on Form 8-K filed with the SEC on February 8, 2002, and our Current Report on Form 8-K filed with the SEC on December 20, 2007.

All documents we file with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus but before the termination of the offering by this prospectus shall be deemed to be incorporated herein by reference and to be a part hereof from the date of the filing of those documents.

Any statement contained in a document incorporated by reference herein shall be deemed to be modified or superseded for all purposes to the extent that a statement contained in this prospectus, or in any other subsequently filed document which is also incorporated or deemed to be incorporated by reference, modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We will provide, without charge, to each person to whom a copy of this prospectus has been delivered, upon written or oral request of such person, a copy of any or all of the documents incorporated by reference herein (other than certain exhibits to such documents not specifically incorporated by reference). Requests for such copies should be directed to:

ION Geophysical Corporation
2105 CityWest Blvd.
Suite 400
Houston, Texas 77042-2839

Edgar Filing: ION GEOPHYSICAL CORP - Form S-3ASR

Tel: (281) 933-3339
Attention: Corporate Secretary

10

PART II**INFORMATION NOT REQUIRED IN PROSPECTUS****Item 14. *Other Expenses of Issuance and Distribution.***

An estimate (other than the SEC registration fee) of the fees and expenses of issuance and distribution of the securities offered hereby (all of which will be paid by ION) is as follows:

SEC registration fee	\$ 261.38
Legal fees and expenses	20,000.00
Accounting fees and expenses	25,000.00
Printing expenses	4,500.00
 Total	 \$ 49,761.38

Item 15. *Indemnification of Directors and Officers.*

The General Corporation Law of the State of Delaware (DGCL) permits ION and its stockholders to limit directors' exposure to liability for certain breaches of the directors' fiduciary duty, either in a suit on behalf of ION or in an action by stockholders of ION. The Restated Certificate of Incorporation of ION, as amended (the Charter) provides that a director of ION shall not be personally liable to ION or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to ION or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the General Corporation Law of the State of Delaware, or (iv) for any transaction from which the director derived an improper personal benefit.

The Amended and Restated Bylaws (the Bylaws) of ION provide that ION shall, to the full extent permitted by applicable laws (including the DGCL), indemnify its directors, officers, employees and agents with respect to expenses (including counsel fees), judgments, fines, penalties, other liabilities and amounts incurred by any such person in connection with any threatened, pending or completed action, suit or proceeding to which such person is or was a party, or is or was threatened to be made a party, by reason of the fact that such person is or was serving as a director, officer, employee or agent of ION or any of its subsidiaries, or is or was serving at the request of ION or any of its subsidiaries as a director, officer, employee, agent or trustee of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise. The Bylaws provide that the indemnification provided pursuant to the Bylaws is not exclusive of any other rights to which those seeking indemnification may be entitled under any provision of law, certificate of incorporation, bylaws, governing documents, agreement, vote of stockholders or disinterested directors or otherwise. ION has entered into indemnification agreements with certain of its officers and directors. Pursuant to such indemnification agreements, ION has agreed to indemnify its officers and directors against certain liabilities.

ION maintains a standard form of officers' and directors' liability insurance policy which provides coverage to the officers and directors of ION for certain liabilities, including certain liabilities which may arise out of this Registration Statement.

Item 16. *Exhibits.*

The exhibits listed in the Exhibit Index are filed as part of this Registration Statement.

Exhibit Number	Description
*4.1	Specimen Certificate for shares of common stock.
4.2	Restated Certificate of Incorporation filed as Exhibit 3.4 of the company's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 24, 2007, and incorporated herein by reference.
4.3	Amended and Restated Bylaws of the company filed as Exhibit 3.5 of the company's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 24, 2007, and incorporated herein by reference.

Exhibit Number	Description
4.4	Certificate of Rights and Preferences of Series D-1 Preferred Stock of the company, filed as Exhibit 3.1 of the company's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 17, 2005, and incorporated herein by reference.
4.5	Certificate of Rights and Preferences of Series D-2 Preferred Stock of the company, filed as Exhibit 3.1 of the company's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 6, 2005, and incorporated herein by reference.
*5.1	Opinion of Mayer Brown LLP.
*23.1	Consent of Ernst & Young LLP.
*23.2	Consent of PricewaterhouseCoopers LLP.
*23.3	Consent of Mayer Brown LLP (incorporated by reference to Exhibit 5.1).
24.1	Power of Attorney (included on the signature page hereto).

* Filed herewith

Item 17. Undertakings.

The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement: (i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933; (ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement; and (iii) to include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the registration statement; provided, however, that (i) and (ii) above do not apply if the Registration Statement is on Form S-3 or Form S-8, and the information required to be included in a post-effective amendment by (i) and (ii) is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the Registration Statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act

II-2

shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness and the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of an undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES AND POWER OF ATTORNEY

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Houston, State of Texas, on December 20, 2007.

ION GEOPHYSICAL CORPORATION

By: /s/ Robert P. Peebler

Robert P. Peebler
President, Chief Executive Officer and Director

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Robert P. Peebler, R. Brian Hanson and David L. Roland, and each of them, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including any and all post-effective amendments) to this Registration Statement on Form S-3 and any registration statement for the same offering filed pursuant to Rule 462 under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

Name	Title	Date
/s/ Robert P. Peebler Robert P. Peebler	President, Chief Executive Officer and Director (Principal Executive Officer)	December 20, 2007
/s/ R. Brian Hanson R. Brian Hanson	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	December 20, 2007
/s/ Michael L. Morrison Michael L. Morrison	Vice President and Corporate Controller (Principal Accounting Officer)	December 20, 2007
/s/ James M. Lapeyre, Jr. James M. Lapeyre, Jr.	Chairman of the Board of Directors and Director	December 20, 2007
/s/ Bruce S. Appelbaum	Director	December 20, 2007

Bruce S. Appelbaum

/s/ Theodore H. Elliott, Jr.

Director

December 20, 2007

Theodore H. Elliott, Jr.

/s/ Franklin Myers

Director

December 20, 2007

Franklin Myers

II-4

Name	Title	Date
/s/ S. James Nelson, Jr. S. James Nelson, Jr.	Director	December 20, 2007
/s/ John N. Seitz John N. Seitz	Director	December 20, 2007
/s/ Sam K. Smith Sam K. Smith	Director	December 20, 2007

II-5

INDEX TO EXHIBITS

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*5.1	Opinion of Mayer Brown LLP.
*23.1	Consent of Ernst & Young LLP.
*23.2	Consent of PricewaterhouseCoopers LLP.
*23.3	Consent of Mayer Brown LLP (incorporated by reference to Exhibit 5.1).
24.1	Power of Attorney (included on the signature page hereto).

* Filed herewith