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Salinity and density of seawater: Tables for high salinities (42 to 50)

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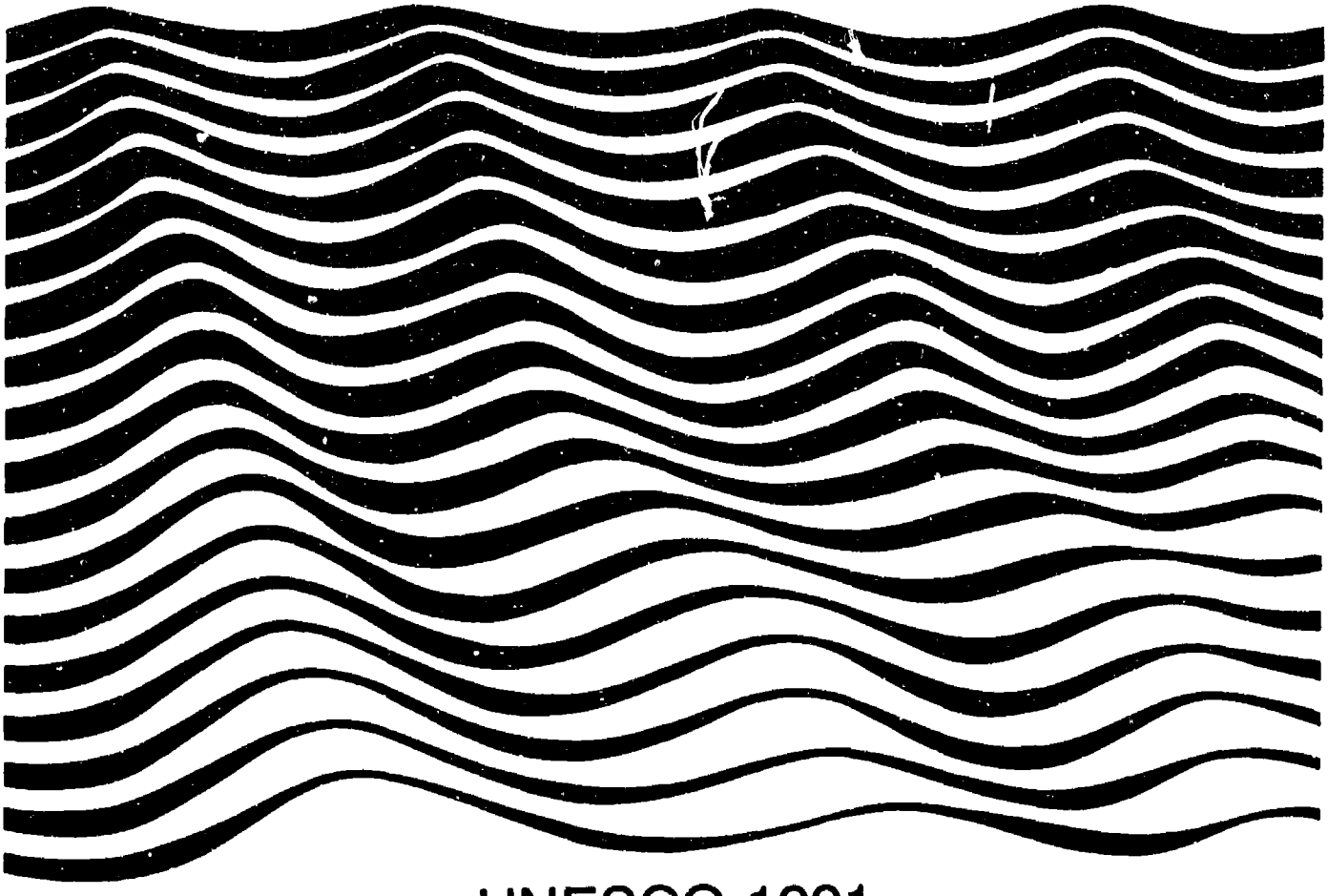

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35	Determination of chlorophyll in seawater Report of intercalibration tests sponsored by SCOR and carried out by C J Lorenzen and S W. Jeffrey, CSIRO Cronulla, N S W , Australia, September-October 1978	1980	—
36	The practical salinity scale 1978 and the international equation of state of seawater 1980 Tenth report of the Joint Panel on Oceanographic Tables and Standards, (JPOTS) Sidney, B.C , Canada, 1-5 September 1980 Sponsored by UNESCO, ICES, SCOR, IAPSO Available in Ar, Ch, F, R, S (*Примечание* Этот доклад (текст идентичен) был первоначально издан только на английском языке под заголовком *Tenth report of the Joint Panel on Oceanographic Tables and Standards* (Десятый доклад Объединенной группы по океанографическим таблицам и стандартам)) Имеется на арабском, испанском, китайском, русском и французском языках	1981	WG 10
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Salinity and density of seawater: Tables for high salinities (42 to 50)

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PREFACE

This series, the *UNESCO Technical Papers in Marine Science,* is produced by UNESCO as a means of informing the scientific community of recent advances in oceanographic research and on recommended research programmes and methods.

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ABSTRACT

The Joint Panel on Oceanographic Tables and Standards (JPOTS), appointed jointly by the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Council for the Exploration of the Sea (ICES), the Scientific Committee on Oceanic Research (SCOR) and the International Association for the Physical Sciences of the Ocean (IAPSO), defined practical salinity in 1978 and established Volume 3 of the corresponding International Oceanographic Tables. In 1980, the Joint Panel established the new Equation of State of Seawater and Volume 4 of the corresponding International Oceanographic Tables.

Since practical salinity was defined up to 42 only, new measures of electrical conductivity and density were carried out on standard seawater concentrated up to a salinity of 50.

The tables presented in this report were established with the help of equations calculated on the basis of these measures; they allow the calculation of salinity on the one hand, and of density anomaly of seawater on the other, for salinity between 42 and 50, and temperatures from 15 to 30°C.

RESUME

Le Groupe Mixte d'experts sur les tables et normes océanographiques (JPOTS), désigné conjointement par l'Organisation des Nations Unies pour l'éducation, la science et la culture (UNESCO), le Conseil international pour l'exploration de la mer (CIEM), le Comité scientifique de la recherche océanique (SCOR) et l'Association internationale pour les sciences physiques de l'océan (AISPO), a défini en 1978 la salinité pratique et a établi le volume 3 des Tables océanographiques internationales correspondantes. En 1980, le Groupe d'experts a établi la nouvelle equation d'état de l'eau de mer et le volume 4 des Tables océanographiques internationales correspondantes.

La salinité pratique n'étant définie que jusqu'à 42, de nouvelles mesures de conductivité électrique et de masse volumique ont été réalisées sur de l'eau normale concentrée jusqu'à la salinité de 50.

Les tables présentées dans ce rapport ont été établies à l'aide des équations calculées à partir de ces mesures; elles permettent d'obtenir, d'une part la salinité, et d'autre part l'anomalie de masse volumique de l'eau de mer, pour des salinités comprises entre 42 et 50, et des températures allant de 15 à 30°C.

RESUMEN

El Panel Mixto en Tablas y Normas Oceanográficas (JPOTS), creado conjuntamente por la Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (UNESCO), el Consejo Internacional para la Exploración del Mar (ICES), el Comité Científico de Investigaciones Oceánicas (SCOR) y la Asociación Internacional para las Ciencias Físicas del Océano (AICFO), definió en 1978 la salinidad práctica y elaboró el Volumen 3 de las correspondientes Tablas Oceanográficas Internacionales. En 1980 el Panel Mixto estableció la nueva ecuación de estado de las aguas marinas y el Volumen 4 de las correspondientes Tablas Oceanográficas Internacionales.

Teniendo en cuenta que la salinidad práctica se definió sólo hasta 42, se efectuaron nuevas mediciones de la conductividad eléctrica y de la densidad del agua marina normal concentrada hasta la salinidad de 50.

Las tablas que figuran en este informe se elaboraron utilizando ecuaciones calculadas a partir de esas mediciones; gracias a ellas se puede calcular, por una parte, la salinidad y, por otra, la anomalía de densidad del agua marina, para salinidades entre 42 y 50 y temperaturas entre 15 y 30°C.

РЕЗЮМЕ

Объединенная группа по океанографическим таблицам и датам (ОГОТС), назначенная совместно Организацией Объединенных Наций по вопросам образования, науки и культуры (ЮНЕСКО), Международным советом по исследованию моря (МСИМ), Научным комитетом по океаническим исследованиям (СКОР) и Международной ассоциацией физических наук об океане (МАФНО), определила в 1978 г. практическую соленость и подготовила том 3 соответствующих международных океанографических таблиц. В 1980 г. Объединенная группа составила новое уравнение состояния морской воды и подготовила том 4 соответствующих международных океанографических таблиц.

Поскольку практическая соленость была определена лишь до уровня 42, были проведены новые измерения электропроводимости и плотности стандартной морской воды, сконцентрированной до солености, равной 50.

Таблицы, приведенные в этом докладе, были составлены с помощью уравнений, рассчитанных на основе этих измерений; они позволяют рассчитывать соленость, с одной стороны, и с другой - аномалию плотности морской воды для солености в пределах между 42 и 50 и при температурах от 15 до 30°C.

ملخص

قام الفريق المشترك للجداول والمعايير الأقيانوغرافية الذي اشترك في تعيينه كل من منظمة الأمم المتحدة للتربية والعلم والثقافة (اليونسكو) والمجلس الدولي لاستكشاف البحار (ايكس) واللجنة العلمية لبحوث المحيطات (سكور). والرابطة الدولية للعلوم الفيزيائية للمحيطات (يابسو)، بتحديد الملوحة العملية في عام ١٩٧٨ وباعداد المجلد الثالث للجداول الاقيانوغرافية الدولية المناظرة . وفي ١٩٨٠ حدد الفريق المشترك المعادلة الجديدة لحالة ماء البحر وأعدّ المجلد الرابع للجداول الاقيانوغرافية الدولية المناظرة لها.

ونظرا لأن معدلات الملوحة العملية حددت حتى درجة ٤٢ فقط، فقد أجريت قياسات جديدة للموصلية الكهربائية والكثافة في عينات نموذجية من ماء البحر بمعدلات ملوحة تصل الى ٥٠.

وقد أستعين في اعداد الجداول المبنية في هذا التقرير بمعادلات حسبت على أساس عمليات القياس المذكورة؛ وهي تتيح حساب الملوحة من جهة، وحيود كثافة ماء البحر من جهة أخرى، وذلك عندما تتراوح معدلات الملوحة ما بين ٤٢ و ٥٠، ودرجات الحرارة ما بين ١٥ و ٣٠ مئوية .

概　　要

由联合国教育、科学及文化组织（UNESCO）、国际海洋考察理事会（ICES）、海洋研究科学委员会（SCOR）和国际海洋物理科学协会（IAPSO）共同指定的海洋学表格和标准联合专家组（JPOTS）于1978年确定了可行的含盐量，并制定了相应的国际海洋学表格第3卷。1980年，专家组制定了新的海水状态方程和相应的国际海洋学表格第4卷。

由于可行的含盐量仅确定到42，于是对浓缩到含盐量为50的标准海水的电传导率和浓度进行了新的测量。

本报告中所列的表格是根据这些测量计算出的方程制定的；它们一方面可以得出含盐量在42--50之间、温度从15℃到30℃的海水的含盐量，另一方面可测出其浓度的异常。

FOREWORD

The present report is published in response to the many requests received by UNESCO from scientists, mostly from the Red Sea and the adjacent gulfs of the Indian Ocean, who are working on the upper limit of salinity exceeding the conventional oceanographic tables. The most recent tables, volume 3 of the International Oceanographic Tables (UNESCO, 1981) is used for calculating the practical salinity for values between 2 and 42 from the measurements for electrical conductivity ratio R_t. Volume 4 of the International Oceanographic Tables (UNESCO, 1981) gives the properties derived from the International Equation of State of Seawater.

The tables presented in this report are designed to allow the users to calculate the salinity and density of seawater in the higher range of salinity between 42 and 50. They are applicable to all seawater in this range of salinity regardless of their origin. However, the chemical composition of seawater particularly in semi-closed seas which have high salinity, is different from that of standard seawater. This may result in slight errors in the determination of salinity when using the tables and equations in this report, which are based on concentrated samples of standard seawater.

Alain POISSON and Selim MORCOS
Paris, 21 June 1991

AVANT - PROPOS

Le présent rapport a été publié en réponse à de nombreuses requêtes reçues par l'UNESCO, émanant de scientifiques, dont la plupart sont dans la région de la Mer Rouge et des golfes adjacents à l'océan Indien, qui travaillent dans des eaux dont la salinité est au delà de la limite supérieure des Tables océanographiques conventionnelles. Des tables les plus récentes, le volume 3 des Tables Océanographiques Internationales (UNESCO, 1981) est utilisé pour calculer la salinité pratique pour des valeurs comprises entre 2 et 42 obtenues par mesure du rapport de conductivité électrique R_t. Le volume 4 des Tables Océanographiques Internationales (UNESCO, 1981) donne les propriétés dérivées de l'Equation internationale d'état de l'eau de mer.

Les tables présentées dans ce rapport ont été dressées pour permettre aux utilisateurs de calculer la salinité et la densité de l'eau de mer dans la gamme de salinité la plus élevée, comprise entre 42 et 50. Elles peuvent être utilisées pour toutes les eaux de mer dont la salinité est comprise dans cette gamme, quelle que soit leur origine. Toutefois, la composition chimique de l'eau de mer, particulièrement dans les mers semi-fermées dont la salinité est élevée, est différente de celle de l'eau Normale. Il peut en résulter de petites erreurs dans la détermination de la salinité quand on utilise les tables et les équations présentées dans ce rapport qui sont basées sur des échantillons obtenus par concentration de l'eau de mer Normale.

Alain POISSON et Selim MORCOS
Paris, le 21 juin 1991

SALINITY AND DENSITY OF SEAWATER OF SALINITY BETWEEN 42 AND 50

INTRODUCTION

In 1981, UNESCO published Volume 3 of the International Oceanographic Tables, which was prepared under the supervision of the Joint Panel on Oceanographic Tables and standards (JPOTS). Volume 3 gives the value of electrical conductivity ratio (R_t) and the corresponding value of practical salinity of seawater which was adopted by JPOTS in 1978. The Tables in Volume 3 are valid for a practical salinity S from 2 to 42, and a temperature t (°C) from -2 to 35 °C.

In 1987, UNESCO published Volume 4 of the International Oceanographic Tables giving proprieties derived from the International Equation of State of Seawater, which was adopted by JPOTS in 1980.

In the present report the practical salinity and the equation of state of seawater were determined and presented for seawater of high salinity between 42 and 50 and temperature between 10 and 35°C.

DETERMINATION OF SALINITY FOR SEAWATER OF SALINITY BETWEEN 42 AND 50.

Seven solutions of seawater of salinities between 30 and 35 were prepared by dilution with distilled water of a quantity of seawater having a salinity 50 obtained by controlled evaporation of standard seawater P101 (Poisson, 1980). The measurements of conductivity ratio were made by a salinometer AGE, Type Minisal, Model 2100, in which the bath temperature was regulated by a thermostat. The measurements were made down to salinity 35 so as to relate the results obtained for the high salinity water with the practical salinity (Gadhoumi, 1990). The temperature was measured by quartz thermometer Hewlett-Packard, type HP 2810, after being calibrated by comparison with a platinum thermometer Tinsley, type 5649.

Four measurements of conductivity ratio (R_t) were made at five temperatures (t°C) for each of the seven solutions of seawater, i. e. a total of 140 determinations, which were used to calculate the constants of a polynomium of the following form

$$(1)\quad S = 35R_t + R_t\,(R_t\text{-}1)\,(A_0 + A_1R_t + A_2t + A_3R_t^2 + A_4R_t.t + A_5t^2 + A_6R_t^3 + A_7R_t^2.t + A_8R_t.t^2 + A_9t^3)$$

Although the temperature scale was redefined in 1990, we have used the 1968 scale for calculating the constants of this polynomium so as to keep the coherence with the definition of the pratical salinity of 1978.

These constants are the following :

$A_0 = 7.737$ $\quad A_1 = -9.819$ $\quad A_2 = 3.473\ 10^{-2}$
$A_3 = 8.663$ $\quad A_4 = -10.01\ 10^{-2}$ $\quad A_5 = 3.188\ 10^{-3}$
$A_6 = -2.625$ $\quad A_7 = 4.82\ 10^{-2}$ $\quad A_8 = -6.682\ 10^{-4}$
$A_9 = -4.655\ 10^{-5}$

The standard deviation between the values of salinity calculated by the polynomium and the measured values used for calculating these constants is $3\ 10^{-3}$. When the measurement is made at 15 °C, the polynomium becomes

$$(2)\quad S = 35R_{15} + (R_{15} - 1)\,[A_0 + 15A_2 + 225A_5 + 3375A_9 + R_{15}\,(A_1 + 15A_4 + 225A_8) + R_{15}^2\,(A_3 + 15\,A_7) + A_6\,R_{15}^3]$$

The constants are those given above. Table 1a is prepared using this polynomium. Table 1a can be used directly to get the salinity from conductivity ratio R_{15} when the latter is measured at 15°C. Table 1a gives also the uncorrected salinity ($S_{uncorrected}$) corresponding to conductivity ratio R_t measured at any temperature between 10 and 30°C. The uncorrected salinity obtained from Table 1a is then corrected by the addition of the term ΔS to obtain the salinity of seawater. For R_t values found in Table 2a, the correction term ΔS is computed from the following equation :

$$(3)\quad \Delta S = R_t\,(1 - R_t)\,[15\,(A_2 + 15A_5 + 225A_9) + t\,(A_2 + A_5t + A_9t^2) + (t - 15)\,(A_4 + A_8\,\{t + 15\} + A_7R_t)]$$

This equation was used for the computation of Table 2a which gives $10^3 \Delta S$ for a conductivity ratio R_t between 1.17 and 1.38 and at temperatures between 10 and 30°C.

DETERMINATION OF EQUATION OF STATE AT ATMOSPHERIC PRESSURE FOR SEAWATER OF SALINITY BETWEEN 42 AND 50.

Seven solutions of seawater of salinities between 50 and 35 were prepared from Standard Sea Water P101 in the same way that was used in the preceeding operation to extend the practical salinity. The density was measured using a densimeter Anton Paar, type DMA 02C, in which the principle of measurement is based on the properties of a mechanical oscillator. The densimeter was calibrated with precision according to the procedure applied by Poisson (1978) using two liquids of precisely known densities : one is distilled water which was calibrated beforehand with respect to SMOW (Standard Mean Ocean Water) and the other is Standard Sea Water (P101). The variation of density as a function of temperature was calculated by the equation recommended by IUPAC (1976) for the reference pure water and by the equation of State of Seawater at one atmosphere pressure (Millero and Poisson, 1981) for the Standard Sea Water. The salinity was determined by measuring the conductivity ratio using a salinometer A.G.E. and equation 1 given above. The temperature was measured by the same thermometer as before. Three measurements of the seven solutions of seawater were made at four temperatures i.e. a total of 84 determinations which were used to calculate the constants of a polynomium of the form :

$$(4)\quad [\rho(S,t,0) - \rho_w]\ 10^{-3} = S\,(A_0 + A_1 t + A_2 S + A_3 t^2 + A_4 tS + A_5 S^2 + A_6 t^3 + A_7 t^2 S + A_8 t S^2 + A_9 S^3)$$

where S is the salinity determined by the polynomium 1, t is the temperature on 1968 scale, and ρ (S, t, 0) "$kg.m^{-3}$" is the density of pure water. The constants of this polynomium are the following :

$A_0 = 0.824427$	$A_5 = -0.1479 \quad 10^{-4}$
$A_1 = -0.52753 \quad 10^{-2}$	$A_6 = 0.67901 \quad 10^{-6}$
$A_2 = -0.51175 \quad 10^{-3}$	$A_7 = -0.15886 \quad 10^{-5}$
$A_3 = 0.4026 \quad 10^{-4}$	$A_8 = -0.52228 \quad 10^{-6}$
$A_4 = 0.1151146 \quad 10^{-3}$	$A_9 = 0.2075 \quad 10^{-6}$

The standard deviation of the difference between the values calculated by that polynomium and the measured values used for calculating these constants is 4 10^{-3} kg.m^{-3}.

The variation of ρ_w as a function of temperature, is obtained ' he equation (IUPAC, 1976)

(5) $\rho_w \times 10^{-3} = B_0 + B_1 t + B_2 t^2 + B_3 t^3 + B_4 t^4 + B_5 t^5$

where t is the temperature measured according to the international scale of 1968. The values of the constants are the following :

$B_0 = 999.842594$ $B_1 = 6.793952\ 10^{-2}$ $B_2 = -9.095290\ 10^{-3}$
$B_3 = 1.001685\ 10^{-4}$ $B_4 = -1.120083\ 10^{-6}$ $B_5 = 6.536332\ 10^{-9}$

Equations 4 and 5 were used to establish Table 3a which gives the density anomaly of seawater for salinities between 42 and 50 and temperatures between 15 and 30°C. The density anomaly [$\gamma(S, t, 0)$] was defined in Volume 4 of the International Oceanographic Tables (UNESCO, 1987) as :

$$\gamma(S,t,0) = \rho(S,t,0) - 1000 \text{ kg.m}^{-3}$$

It is noted that this density anomaly is different from that defined by M. Knudsen in 1901. The reader is referred to Volume 4 of the International Oceanographic Tables for more details.

The tables and the equations presented in this report are applicable to all seawater of salinity between 42 and 50 regardless of their origin. However, the chemical composition of seawater particularly in the semiclosed seas which have high salinities, is different from that of standard seawater. This may result in slight errors in the determination of salinity when using the tables and equations in this report.

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SALINITE ET MASSE VOLUMIQUE DES EAUX DE MER DE SALINITE COMPRISE ENTRE 42 ET 50

INTRODUCTION

En 1981, l'UNESCO a publié le volume 3 des tables océanographiques internationales, dressées sous la direction du Comité d'experts pour les Tables et normes océanographiques, donnant la correspondance entre la conductivité électrique (rapport de conductivité) et la salinité pratique de l'eau de mer définie en 1978. Ces tables peuvent être utilisées pour une salinité pratique comprise entre 2 et 42, et une température allant de 2 à 35°C.

En 1987, l'UNESCO publiait le volume 4 des tables océanographiques internationales dans lequel sont présentées les propriétés dérivées de l'équation internationale d'état de l'eau de mer qui avaient été établies par le même groupe d'experts en 1980.

Dans le présent rapport, la salinité pratique et l'équation d'état pour des eaux de mer de salinité élevée comprise entre 42 et 50 sont déterminées et présentées pour des températures allant de 10 à 30°C.

DETERMINATION DE LA SALINITE COMPRISE ENTRE 42 ET 50.

Sept échantillons d'eaux de mer de salinités comprises entre 50 et 35 ont été préparées en diluant un stock d'eau de mer de salinité 50 obtenue par évaporation contrôlée d'eau de mer Normale P101 (Poisson,1980). Les mesures du rapport de conductivité ont été

effectuées à l'aide d'un salinomètre A.G.E., type Minisal, modèle 2100, dont le bain était régulé en température par un thermostat. Les mesures ont été effectuées jusqu'à la salinité de 35 de façon à recaler les données obtenues sur les eaux très salées avec la salinité pratique (Gadhoumi, 1990). La température a été mesurée à l'aide d'un thermomètre à quartz Hewlett-Packard, Type HP2810, préalablement étalonné par rapport à un thermomètre de platine Tinsley, type 5649.

Quatre mesures du rapport de conductivité (R_t) ont été réalisées à cinq températures (t °C) sur sept échantillons d'eau de mer, soit au total 140 données qui ont servi à calculer les constantes d'un polynôme de la forme :

$$(1)\quad S = 35R_t + R_t\,(R_t-1)\,(A_0 + A_1R_t + A_2t + A_3R_t^2 + A_4R_t.t + A_5t^2 + A_6R_t^3 + A_7R_t^2.t + A_8R_t.t^2 + A_9t^3)$$

Bien que l'échelle de température ait été redéfinie en 1990, c'est l'échelle de 1968 qui a été utilisée pour calculer les constantes de ce polynôme de façon à rester cohérent avec la définition de la salinité pratique de 1978.

Ces constantes sont les suivantes:

$A_0 = 7{,}737$ $\quad A_1 = -9{,}819$ $\quad A_2 = 3{,}473\ 10^{-2}$
$A_3 = 8{,}663$ $\quad A_4 = -10{,}01\ 10^{-2}$ $\quad A_5 = 3{,}188\ 10^{-3}$
$A_6 = -2{,}625$ $\quad A_7 = 4{,}82\ 10^{-2}$ $\quad A_8 = -6{,}682\ 10^{-4}$
$A_9 = -4{,}655\ 10^{-5}$

L'écart quadratique moyen entre les valeurs de salinités calculées par ce polynôme et les valeurs mesurées utilisées pour calculer ses constantes est de 3.10^{-3} Quand la température de mesure est de 15°C, ce polynôme devient:

$$(2)\quad S = 35R_{15} + (R_{15} - 1)\,[A_0 + 15A_2 + 225A_5 + 3375A_9 + R_{15}\,(A_1 + 15A_4 + 225A_8) + R_{15}^2\,(A_3 + 15\,A_7) + A_6\,R_{15}^3]$$

Les constantes sont celles données ci-dessus.

La Table 1a a été dressée à partir de ce polynôme. Elle permet d'obtenir directement la salinité à partir du rapport de conductivité R_{15} si celui-ci a été mesuré à 15 °C. Cette Table 1a donne également la salinité non corrigée ($S_{uncorrected}$) à partir du rapport de conductivité R_t mesuré à une température comprise entre 10 et 30 °C. Il faut ensuite corriger cette salinité ($S_{uncorrected}$) du terme ΔS pour obtenir la salinité de l'eau de mer. Pour les valeurs de R_t contenues dans la Table 1a la correction est calculée par l'équation suivante:

$$(3)\quad \Delta S = R_t (1 - R_t) [15 (A_2 + 15A_5 + 225A_9) + t (A_2 + A_5 t + A_9 t^2) + (t - 15) (A_4 + A_8 \{t + 15\} + A_7 R_t)]$$

Cette équation a été utilisée pour établir la Table 2a qui donne 10^3 ΔS pour un rapport de conductivité R_t compris entre 1,17 et 1,38 à des températures comprises entre 10 et 30°C.

DETERMINATION DE L'EQUATION D'ETAT A LA PRESSION ATMOSPHERIQUE DES EAUX DE MER DE SALINITE COMPRISE ENTRE 42 ET 50

Sept échantillons d'eaux de mer de salinités comprises entre 50 et 35 ont été préparées à partir de l'eau normale P101 de la même façon que celles qui ont été utilisées précédemment pour étendre la salinité pratique. La masse volumique a été mesurée à l'aide d'un densimètre Anton Paar, type DMA 02C, dont le principe de mesure est basé sur les propriétés d'un oscillateur mécanique. L'étalonnage du densimètre a été effectué par deux liquides de masse volumique connue avec précision selon le procédé utilisé par Poisson (1978): une eau distillée préalablement étalonnée par rapport au SMOW (Standard Mean Ocean Water) et une eau de mer normale (P101). La variation en fonction de la température de la masse volumique de l'eau pure de référence a été calculée par l'équation recommandée par l'IUPAC (1976) et celle de l'eau normale par l'équation d'état de l'eau de mer à la pression atmospherique (Millero and Poisson, 1981). La salinité a été obtenue en mesurant le rapport de conductivité à l'aide du conductimètre A.G.E. et

en utilisant l'équation 1; La température était mesurée par le même thermomètre que précédemment.

Trois mesures de la masse volumique ont été effectuées à quatre températures sur sept échantillons d'eau de mer, soit au total 84 données qui ont servi à calculer les constantes d'un polynôme de la forme :

$$(4)\quad [\rho(S,t,0) - \rho_w]\ 10^{-3} = S\,(A_0 + A_1 t + A_2 S + A_3 t^2 + A_4 tS + A_5 S^2 + A_6 t^3 + A_7 t^2 S + A_8 tS^2 + A_9 S^3)$$

où S est la salinité déterminée par l'équation 1, t est la température dans l'échelle de 1968 et $\rho(S,t,0)$ "$kg.m^{-3}$" la masse volumique de l'eau pure. Les constantes de ce polynôme sont les suivantes:

A_0 =	0,824427	A_5 =	-0,1479 10^{-4}
A_1 =	-0,52753 10^{-2}	A_6 =	0,67901 10^{-6}
A_2 =	-0,51175 10^{-3}	A_7 =	-0,15886 10^{-5}
A_3 =	0,4026 10^{-4}	A_8 =	-0,52228 10^{-6}
A_4 =	0,1151146 10^{-3}	A_9 =	0,2075 10^{-6}

L'écart quadratique moyen entre les valeurs calculées par ce polynôme et les valeurs mesurées utilisées pour calculer ses constantes est de 4 10^{-3} $kg.m^{-3}$.

La variation de ρ_w en fonction de la température est obtenue par l'équation (IUPAC, 1976):

$$(5)\quad \rho_w \times 10^{-3} = B_0 + B_1 t + B_2 t^2 + B_3 t^3 + B_4 t^4 + B_5 t^5$$

où t est la température mesurée dans l'échelle internationale de 1968, les valeurs des constantes étant les suivantes:

B_0 =	999,842594	B_1 =	6,793952 10^{-2}	B_2 =	-9,095290 10^{-3}
B_3 =	1,001685 10^{-4}	B_4 =	-1,120083 10^{-6}	B_5 =	6,536332 10^{-9}

Les équations 4 et 5 ont été utilisées pour établir la Table 3a qui donne l'anomalie de la masse volumique de l'eau de mer pour des

salinités comprises entre 42 et 50 à des températures allant de 15 à 30 °C. L'anomalie de masse volumique [$\gamma(S,t,0)$] a été définie dans le volume 4 des Tables océanographiques internationales (Unesco, 1987) par :

$$\gamma(S,t,0) = \rho(S,t,0) - 1000 \text{ kg.m}^{-3}$$

Il est à noter que cette anomalie de masse volumique est différente de celle qui avait été définie par M. Knudsen en 1901. Se reporter au volume 4 des Tables océanographiques internationales pour avoir de plus amples détails.

Les tables et les équations présentées dans ce rapport sont destinées à toutes les eaux de mer de salinité comprises entre 42 et 50 quelle que soit leur origine. Toutefois la composition chimique de l'eau de mer, spécialement pour les mers fermés dont la salinité est élevée, est différente de celle de l'eau de mer Normale. Il peut en résulter de légère erreurs dans la détermination de la salinité et de la masse volumique en utilisant les tables et les équations de ce rapport.

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TABLES 1 and 2

DETERMINATION OF SALINITY FROM TABLES 1 AND 2

1 - When the conductivity Ratio is measured as 15°C (R_{15}) it is sufficient to use Table 1a with the interpolation Table 1b to obtain directly the value of salinity

Example 1

The conductivity ratio measured at 15°C is 1.23454

From Table 1a :

$$R_{15} = 1.23450 \longrightarrow S = 44.372$$

The correction of interpolation to be applied is :

$$1.23454 - 1.23450 = 4\ 10^{-5},$$
$$\text{thus } 10^5\ \Delta R_t = 4$$

From interpolation Table 1b

$$10^5\ \Delta R_t = 4 \longrightarrow 10^3\ \Delta S = 2$$

Therefore for a conductivity ratio R_{15} of 1.23454, salinity is :

$$44.372+0.002 = 44.374$$

2 - When the conductivity ratio Rt is measured at a temperature other then 15 °C, the temperature must be measured with a precision 0.1 °C, and the temperature of the sample should be identical to that of standard seawater used in calibrating the salinometer.

Table 1a gives the uncorrected salinity ($S_{uncorrected}$) from R_t. The interpolation is made in the same way as in example (1) given for R_{15} above. The correction ΔS_{cor} of the effect of temperature is determined using Table 2a. The salinity is calculated by adding

$$S = S_{uncorrected} + \Delta S_{cor}$$

Example 2

The conductivity ratio measured at 21.4 °C is 1.23436.From Tables 1 a and 1b:

$$R_t = 1.23426 \longrightarrow S_{uncorrected} = 44.362$$

Determination of the correction ΔS_{cor}.

From Table 2 a, for t = 21.4°C

$$R_t = 1.23 \longrightarrow 10^3\,\Delta S = 43$$
$$R_t = 1.24 \longrightarrow 10^3\,\Delta S = 45$$
$$10^3\,\Delta S = 2$$

The difference (δR_t) between the measured value of R_t and that of R_t available in Table 2a is $1.23426 - 1.23 = 4 \times 10^{-3}$

From Table 2b

$$10^3\,\delta R_t = 4 \longrightarrow \delta' S = 1 \times 10^{-3}$$
$$10^3\,\delta S = 2$$

The Correction for temperature, ΔS_{cor}, is $43\ 10^{-3} + 1\ 10^{-3} = 44\ 10^{-3}$ and the salinity S is therefore 44.362 + 0.044 = 44.406

DETERMINATION DE LA SALINITE

A PARTIR DES TABLES 1 et 2

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1 - Quand le rapport de conductivité est mesuré à 15°C (R_{15}) il suffit d'utiliser la Table 1a avec la Table d'interpolation 1b pour obtenir directement la valeur de la salinité.

Exemple : 1

Le rapport de conductivité mesuré à 15°C est 1,23454.
Dans la Table 1a on trouve :

$$R_{15} = 1{,}23450 \longrightarrow S = 44{,}372$$

La correction d'interpolation à appliquer est de :

$$1{,}23454 - 1{,}23450 = 4\ 10^{-5},$$

soit $10^5\ \Delta R_t = 4$

Dans la Table 1b d'interpolation on trouve :

$$10^5\ \Delta R_t = 4 \longrightarrow 10^3\ \Delta S = 2$$

Donc pour un rapport de conductivité R_{15} égal à 1,23454 la salinité est de 44,372 + 0,002 = 44,374

2 - Quand le rapport de conductivité R_t est mesuré à une température différente de 15°C, la température doit être connue avec une précision de 0,1°C et la température de l'échantillon doit être identique à celle de l'eau Normale utilisée pour étalonner le salinomètre

La Table 1a permet de déterminer la valeur de la salinité non corrigée ($S_{uncorrected}$) à partir de R_t. L'interpolation se fait de la même façon que dans l'exemple donné pour R_{15} ci-dessus. La correction ΔS_{cor} de l'effet de la température est obtenue à l'aide de la Table 2a. La salinité est calculée en ajoutant ΔS_{cor} à $S_{uncorrected}$

$$S = S_{uncorrected} + \Delta S_{cor}$$

Exemple : 2

Le rapport de conductivité mesuré à 21,4°C est de 1,23426.
A l'aide les Tables 1a et 1b on trouve :

$$R_t = 1{,}23426 \longrightarrow S_{uncorrected} = 44{,}362$$

Détermination de la correction ΔScor :
Dans la Table 2a, pour t = 21,4°C, on trouve :

$$R_t = 1{,}23 \longrightarrow 10^3\,\Delta S = 43$$
$$R_t = 1{,}24 \longrightarrow 10^3\,\Delta S = 45$$
$$10^3\,\Delta S = 2$$

La différence (δR_t) entre R_t mesuré et la valeur de R_t figurant dans la table 2a est de $1{,}23426 - 1{,}23 = 4 \times 10^{-3}$.

Dans la Table 2b on trouve:

$$10^3\,\delta R_t = 4 \;\Big|$$
$$\Big| \longrightarrow \delta'S = 1 \times 10^{-3}$$
$$10^3\,\delta S = 2 \;\Big|$$

La correction de température ΔScor est $43\ 10^{-3} + 1\ 10^{-3} = 44\ 10^{-3}$ et la salinité S est donc de 44,362 + 0,044 = 44,406

Table 1 a

R_t ⟶ S uncorrected (Or R_{15} ⟶ S)

Range of Practical Salinity

R_t ↓

		0	1	2	3	4	5	6	7	8	9
1,15	0										
	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
	9										
1,16	0										
	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
	9										
1,17	0										
	1										
	2										
	3										
	4										
	5										
	6	41 . 996	1000	004	008	012	016	020	024	028	032
	7	42 . 036	040	044	048	053	057	061	065	069	073
	8	077	081	085	089	093	097	101	105	109	113
	9	117	121	125	129	133	137	141	145	150	154
1,18	0	42 . 158	162	166	170	174	178	182	186	190	194
	1	198	202	206	210	214	218	222	226	230	234
	2	238	243	247	251	255	259	263	267	271	275
	3	279	283	287	291	295	299	303	307	311	315
	4	319	323	327	332	336	340	344	348	352	356
	5	360	364	368	372	376	380	384	388	392	396
	6	400	404	408	412	416	421	425	429	433	437
	7	441	445	449	453	457	461	465	469	473	477
	8	481	485	489	493	497	502	506	510	514	518
	9	522	526	530	534	538	542	546	550	554	558
1,19	0	42 . 562	566	570	574	578	583	587	591	595	599
	1	603	607	611	615	619	623	627	631	635	639
	2	643	647	651	655	659	664	668	672	676	680
	3	684	688	692	696	700	704	708	712	716	720
	4	724	728	732	736	741	745	749	753	757	761
	5	765	769	773	777	781	785	789	793	797	801
	6	805	809	814	818	822	826	830	834	838	842
	7	846	850	854	858	862	866	870	874	878	882
	8	887	891	895	899	903	907	911	915	919	923
	9	927	931	935	939	943	947	951	955	960	964

Table 1 a

R_t ⟶ S uncorrected (Or R_{15} ⟶ S)

			0	1	2	3	4	5	6	7	8	9
1,20	0	42 .	968	972	976	980	984	988	992	996	000	004
	1	43 .	008	012	016	020	024	029	033	037	041	045
	2		049	053	057	061	065	069	073	077	081	085
	3		089	093	098	102	106	110	114	118	122	126
	4		130	134	138	142	146	150	154	158	163	167
	5		171	175	179	183	187	191	195	199	203	207
	6		211	215	219	223	227	232	236	240	244	248
	7		252	256	260	264	268	272	276	280	284	288
	8		292	297	301	305	309	313	317	321	325	329
	9		333	337	341	345	349	353	358	362	366	370
1,21	0	43 .	374	378	382	386	390	394	398	402	406	410
	1		414	418	423	427	431	435	439	443	447	451
	2		455	459	463	467	471	475	479	484	488	492
	3		496	500	504	508	512	516	520	524	528	532
	4		536	540	545	549	553	557	561	565	569	573
	5		577	581	585	589	593	597	602	606	610	614
	6		618	622	626	630	634	638	642	646	650	654
	7		658	663	667	671	675	679	683	687	691	695
	8		699	703	707	711	715	720	724	728	732	736
	9		740	744	748	752	756	760	764	768	772	777
1,22	0	43 .	781	785	789	793	797	801	805	809	813	817
	1		821	825	829	834	838	842	846	850	854	858
	2		862	866	870	874	878	882	887	891	895	899
	3		903	907	911	915	919	923	927	931	935	939
	4		944	948	952	956	960	964	968	972	976	980
	5		984	988	992	997	001	005	009	013	017	021
	6	44 .	025	029	033	037	041	045	050	054	058	062
	7		066	070	074	078	082	086	090	094	098	103
	8		107	111	115	119	123	127	131	135	139	143
	9		147	151	156	160	164	168	172	176	180	184
1,23	0	44 .	188	192	196	200	204	209	213	217	221	225
	1		229	233	237	241	245	249	253	258	262	266
	2		270	274	278	282	286	290	294	298	302	306
	3		311	315	319	323	327	331	335	339	343	347
	4		351	355	360	364	368	372	376	380	384	388
	5		392	396	400	404	409	413	417	421	425	429
	6		433	437	441	445	449	453	458	462	466	470
	7		474	478	482	486	490	494	498	502	507	511
	8		515	519	523	527	531	535	539	543	547	551
	9		556	560	564	568	572	576	580	584	588	592
1,24	0	44 .	596	600	605	609	613	617	621	625	629	633
	1		637	641	645	650	654	658	662	666	670	674
	2		678	682	686	690	694	699	703	707	711	715
	3		719	723	727	731	735	739	744	748	752	756
	4		760	764	768	772	776	780	784	789	793	797
	5		801	805	809	813	817	821	825	829	834	838
	6		842	846	850	854	858	862	866	870	874	879
	7		883	887	891	895	899	903	907	911	915	919
	8		924	928	932	936	940	944	948	952	956	960
	9		964	969	973	977	981	985	989	993	997	001

R_t ↓

Table 1 a

R_t ⟶ S uncorrected (Or R_{15} ⟶ S)

			0	1	2	3	4	5	6	7	8	9
1,25	0	45 .	005	009	014	018	022	026	030	034	038	042
	1		046	050	054	059	063	067	071	075	079	083
	2		087	091	095	100	104	108	112	116	120	124
	3		128	132	136	140	145	149	153	157	161	165
	4		169	173	177	181	185	190	194	198	202	206
	5		210	214	218	222	226	231	235	239	243	247
	6		251	255	259	263	267	272	276	280	284	288
	7		292	296	300	304	308	312	317	321	325	329
	8		333	337	341	345	349	353	358	362	366	370
	9		374	378	382	386	390	394	399	403	407	411
1,26	0	45 .	415	419	423	427	431	435	440	444	448	452
	1		456	460	464	468	472	476	481	485	489	493
	2		497	501	505	509	513	517	522	526	530	534
	3		538	542	546	550	554	558	563	567	571	575
	4		579	583	587	591	595	600	604	608	612	616
	5		620	624	628	632	636	641	645	649	653	657
	6		661	665	669	673	677	682	686	690	694	698
	7		702	706	710	714	719	723	727	731	735	739
	8		743	747	751	755	760	764	768	772	776	780
	9		784	788	792	797	801	805	809	813	817	821
1,27	0	45 .	825	829	833	838	842	846	850	854	858	862
	1		866	870	875	879	883	887	891	895	899	903
	2		907	911	916	920	924	928	932	936	940	944
	3		948	953	957	961	965	969	973	977	981	985
	4		990	994	998	002	006	010	014	018	022	027
	5	46 .	031	035	039	043	047	051	055	059	064	068
	6		072	076	080	084	088	092	096	101	105	109
	7		113	117	121	125	129	133	138	142	146	150
	8		154	158	162	166	170	175	179	183	187	191
	9		195	199	203	207	212	216	220	224	228	232
1,28	0	46 .	236	240	244	249	253	257	261	265	269	273
	1		277	281	286	290	294	298	302	306	310	314
	2		318	323	327	331	335	339	343	347	351	355
	3		360	364	368	372	376	380	384	388	393	397
	4		401	405	409	413	417	421	425	430	434	438
	5		442	446	450	454	458	462	467	471	475	479
	6		483	487	491	495	500	504	508	512	516	520
	7		524	528	532	537	541	545	549	553	557	561
	8		565	570	574	578	582	586	590	594	598	602
	9		607	611	615	619	623	627	631	635	640	644
1,29	0	46 .	648	652	656	660	664	668	673	677	681	685
	1		689	693	697	701	705	710	714	718	722	726
	2		730	734	738	743	747	751	755	759	763	767
	3		771	776	780	784	788	792	796	800	804	808
	4		813	817	821	825	829	833	837	841	846	850
	5		854	858	862	866	870	874	879	883	887	891
	6		895	899	903	907	912	916	920	924	928	932
	7		936	940	945	949	953	957	961	965	969	973
	8		978	982	986	990	994	998	002	006	011	015
	9	47 .	019	023	027	031	035	039	044	048	052	056

R_t ↓

Table 1 a

R_t ⟶ S uncorrected (Or R_{15} ⟶ S)

			0	1	2	3	4	5	6	7	8	9
1,30	0	47 .	060	064	068	072	077	081	085	089	093	097
	1		101	105	110	114	118	122	126	130	134	138
	2		143	147	151	155	159	163	167	171	176	180
	3		184	188	192	196	200	204	209	213	217	221
	4		225	229	233	237	242	246	250	254	258	262
	5		266	270	275	279	283	287	291	295	299	303
	6		308	312	316	320	324	328	332	337	341	345
	7		349	353	357	361	365	370	374	378	382	386
	8		390	394	398	403	407	411	415	419	423	427
	9		432	436	440	444	448	452	456	460	465	469
1,31	0	47 .	473	477	481	485	489	493	498	502	506	510
	1		514	518	522	527	531	535	539	543	547	551
	2		555	560	564	568	572	576	580	584	589	593
	3		597	601	605	609	613	617	622	626	630	634
	4		638	642	646	651	655	659	663	667	671	675
	5		679	684	688	692	696	700	704	708	713	717
	6		721	725	729	733	737	741	746	750	754	758
	7		762	766	770	775	779	783	787	791	795	799
	8		804	808	812	816	820	824	828	832	837	841
	9		845	849	853	857	861	866	870	874	878	882
1,32	0	47 .	886	890	895	899	903	907	911	915	919	923
	1		928	932	936	940	944	948	952	957	961	965
	2		969	973	977	981	986	990	994	998	002	006
	3	48 .	010	015	019	023	027	031	035	039	044	048
	4		052	056	060	064	068	072	077	081	085	089
	5		093	097	101	106	110	114	118	122	126	130
	6		135	139	143	147	151	155	159	164	168	172
	7		176	180	184	188	193	197	201	205	209	213
	8		217	222	226	230	234	238	242	246	251	255
	9		259	263	267	271	275	280	284	288	292	296
1,33	0	48 .	300	304	309	313	317	321	325	329	333	338
	1		342	346	350	354	358	362	367	371	375	379
	2		383	387	391	396	400	404	408	412	416	420
	3		425	429	433	437	441	445	449	454	458	462
	4		466	470	474	478	483	487	491	495	499	503
	5		507	512	516	520	524	528	532	536	541	545
	6		549	553	557	561	566	570	574	578	582	586
	7		590	595	599	603	607	611	615	619	624	628
	8		632	636	640	644	648	653	657	661	665	669
	9		673	677	682	686	690	694	698	702	707	711
1,34	0	48 .	715	719	723	727	731	736	740	744	748	752
	1		756	760	765	769	773	777	781	785	789	794
	2		798	802	806	810	814	819	823	827	831	835
	3		839	843	848	852	856	860	864	868	872	877
	4		881	885	889	893	897	902	906	910	914	918
	5		922	926	931	935	939	943	947	951	956	960
	6		964	968	972	976	980	985	989	993	997	001
	7	49 .	005	009	014	018	022	026	030	034	039	043
	8		047	051	055	059	063	068	072	076	080	084
	9		088	093	097	101	105	109	113	117	122	126

R_t ↓

Table 1 a

R_t ⟶ S uncorrected (Or R_{15} ⟶ S)

			0	1	2	3	4	5	6	7	8	9
1,35	0	49 .	130	134	138	142	147	151	155	159	163	167
	1		171	176	180	184	188	192	196	201	205	209
	2		213	217	221	225	230	234	238	242	246	250
	3		255	259	263	267	271	275	279	284	288	292
	4		296	300	304	309	313	317	321	325	329	333
	5		338	342	346	350	354	358	363	367	371	375
	6		379	383	388	392	396	400	404	408	412	417
	7		421	425	429	433	437	442	446	450	454	458
	8		462	467	471	475	479	483	487	491	496	500
	9		504	508	512	516	521	525	529	533	537	541
1,36	0	49 .	546	550	554	558	562	566	570	575	579	583
	1		587	591	595	600	604	608	612	616	620	625
	2		629	633	637	641	645	649	654	658	662	666
	3		670	674	679	683	687	691	695	699	704	708
	4		712	716	720	724	729	733	737	741	745	749
	5		754	758	762	766	770	774	778	783	787	791
	6		795	799	803	808	812	816	820	824	828	833
	7		837	841	845	849	853	858	862	866	870	874
	8		878	883	887	891	895	899	903	907	912	916
	9		920	924	928	932	937	941	945	949	953	957
1,37	0	49 .	962	966	970	974	978	982	987	991	995	999
	1	50 .	003	007	012	016	020	024	028	032	037	041
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
1,38	0											
	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
1,39	0											
	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											

R_t ↓

Outside the range of equation

Table 1 b

$10^5 \Delta R_t$	$10^3 \Delta S$
1	0
2	1
3	1
4	2
5	2
6	2
7	3
8	3
9	4

Table 2 a

$\Delta s \cdot 10^3$

R_t →

t°,C ↓	1,17	1,18	1,19	1,20	1,21	1,22	1,23	1,24	1,25	1,26
10,0	-21	-23	-24	-26	-27	-29	-30	-32	-34	-35
10,1	-21	-22	-24	-25	-27	-28	-30	-31	-33	-35
10,2	-21	-22	-24	-25	-26	-28	-29	-31	-33	-34
10,3	-20	-22	-23	-24	-26	-27	-29	-30	-32	-34
10,4	-20	-21	-23	-24	-25	-27	-28	-30	-31	-33
10,5	-20	-21	-22	-24	-25	-26	-28	-29	-31	-32
10,6	-19	-21	-22	-23	-25	-26	-27	-29	-30	-32
10,7	-19	-20	-21	-23	-24	-25	-27	-28	-30	-31
10,8	-19	-20	-21	-22	-24	-25	-26	-28	-29	-30
10,9	-18	-19	-21	-22	-23	-24	-26	-27	-28	-30
11,0	-18	-19	-20	-21	-23	-24	-25	-26	-28	-29
11,1	-17	-18	-20	-21	-22	-23	-25	-26	-27	-29
11,2	-17	-18	-19	-20	-22	-23	-24	-25	-27	-28
11,3	-17	-18	-19	-20	-21	-22	-23	-25	-26	-27
11,4	-16	-17	-18	-19	-21	-22	-23	-24	-25	-27
11,5	-16	-17	-18	-19	-20	-21	-22	-23	-25	-26
11,6	-15	-16	-17	-18	-19	-21	-22	-23	-24	-25
11,7	-15	-16	-17	-18	-19	-20	-21	-22	-23	-25
11,8	-15	-15	-16	-17	-18	-19	-21	-22	-23	-24
11,9	-14	-15	-16	-17	-18	-19	-20	-21	-22	-23
12,0	-14	-15	-15	-16	-17	-18	-19	-20	-21	-22
12,1	-13	-14	-15	-16	-17	-18	-19	-20	-21	-22
12,2	-13	-14	-15	-15	-16	-17	-18	-19	-20	-21
12,3	-12	-13	-14	-15	-16	-17	-18	-18	-19	-20
12,4	-12	-13	-14	-14	-15	-16	-17	-18	-19	-20
12,5	-12	-12	-13	-14	-15	-15	-16	-17	-18	-19
12,6	-11	-12	-13	-13	-14	-15	-16	-17	-17	-18
12,7	-11	-11	-12	-13	-14	-14	-15	-16	-17	-17
12,8	-10	-11	-12	-12	-13	-14	-14	-15	-16	-17
12,9	-10	-10	-11	-12	-12	-13	-14	-15	-15	-16

Table 2 a

Δ S . 10^3

R_t →

t°,C ↓	1,27	1,28	1,29	1,30	1,31	1,32	1,33	1,34	1,35	1,36	1,37
10,0	-37	-39	-41	-43	-45	-47	-49	-51	-53	-55	-57
10,1	-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56
10,2	-36	-38	-39	-41	-43	-45	-47	-49	-51	-53	-55
10,3	-35	-37	-39	-40	-42	-44	-46	-48	-50	-52	-54
10,4	-35	-36	-38	-40	-41	-43	-45	-47	-49	-51	-53
10,5	-34	-36	-37	-39	-41	-43	-44	-46	-48	-50	-52
10,6	-33	-35	-37	-38	-40	-42	-44	-45	-47	-49	-51
10,7	-33	-34	-36	-37	-39	-41	-43	-44	-46	-48	-50
10,8	-32	-33	-35	-37	-38	-40	-42	-44	-45	-47	-49
10,9	-31	-33	-34	-36	-37	-39	-41	-43	-44	-46	-48
11,0	-31	-32	-34	-35	-37	-38	-40	-42	-43	-45	-47
11,1	-30	-31	-33	-34	-36	-37	-39	-41	-42	-44	-46
11,2	-29	-31	-32	-34	-35	-37	-38	-40	-42	-43	-45
11,3	-29	-30	-31	-33	-34	-36	-37	-39	-41	-42	-44
11,4	-28	-29	-31	-32	-33	-35	-36	-38	-40	-41	-43
11,5	-27	-28	-30	-31	-32	-34	-35	-37	-38	-40	-42
11,6	-26	-28	-29	-30	-32	-33	-34	-36	-37	-39	-41
11,7	-26	-27	-28	-29	-31	-32	-34	-35	-36	-38	-40
11,8	-25	-26	-27	-29	-30	-31	-33	-34	-35	-37	-38
11,9	-24	-25	-27	-28	-29	-30	-32	-33	-34	-36	-37
12,0	-24	-25	-26	-27	-28	-29	-31	-32	-33	-35	-36
12,1	-23	-24	-25	-26	-27	-28	-30	-31	-32	-34	-35
12,2	-22	-23	-24	-25	-26	-28	-29	-30	-31	-33	-34
12,3	-21	-22	-23	-24	-26	-27	-28	-29	-30	-31	-33
12,4	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30	-32
12,5	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30
12,6	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29
12,7	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28
12,8	-18	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27
12,9	-17	-18	-18	-19	-20	-21	-22	-23	-24	-25	-26

Table 2 a

Δ S . 10^3

R_t →

t°,C ↓	1,17	1,18	1,19	1,20	1,21	1,22	1,23	1,24	1,25	1,26
13,0	-9	-10	-11	-11	-12	-13	-13	-14	-15	-15
13,1	-9	-9	-10	-11	-11	-12	-13	-13	-14	-15
13,2	-8	-9	-10	-10	-11	-11	-12	-13	-13	-14
13,3	-8	-9	-9	-10	-10	-11	-11	-12	-12	-13
13,4	-8	-8	-9	-9	-10	-10	-11	-11	-12	-12
13,5	-7	-8	-8	-8	-9	-9	-10	-10	-11	-12
13,6	-7	-7	-7	-8	-8	-9	-9	-10	-10	-11
13,7	-6	-7	-7	-7	-8	-8	-9	-9	-10	-10
13,8	-6	-6	-6	-7	-7	-8	-8	-8	-9	-9
13,9	-5	-6	-6	-6	-7	-7	-7	-8	-8	-9
14,0	-5	-5	-5	-6	-6	-6	-7	-7	-7	-8
14,1	-4	-5	-5	-5	-5	-6	-6	-6	-7	-7
14,2	-4	-4	-4	-5	-5	-5	-5	-6	-6	-6
14,3	-3	-4	-4	-4	-4	-4	-5	-5	-5	-5
14,4	-3	-3	-3	-3	-4	-4	-4	-4	-4	-5
14,5	-2	-3	-3	-3	-3	-3	-3	-4	-4	-4
14,6	-2	-2	-2	-2	-2	-3	-3	-3	-3	-3
14,7	-1	-2	-2	-2	-2	-2	-2	-2	-2	-2
14,8	-1	-1	-1	-1	-1	-1	-1	-1	-1	-2
14,9	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
15,0	0	0	0	0	0	0	0	0	0	0
15,1	0	1	1	1	1	1	1	1	1	1
15,2	1	1	1	1	1	1	1	1	2	2
15,3	1	2	2	2	2	2	2	2	2	2
15,4	2	2	2	2	2	3	3	3	3	3
15,5	2	3	3	3	3	3	3	4	4	4
15,6	3	3	3	3	4	4	4	4	5	5
15,7	3	4	4	4	4	5	5	5	5	6
15,8	4	4	4	5	5	5	5	6	6	6
15,9	4	5	5	5	6	6	6	6	7	7

Table 2 a

Δ S . 10^3

R_t →

t°,C ↓	1,27	1,28	1,29	1,30	1,31	1,32	1,33	1,34	1,35	1,36	1,37
13,0	-16	-17	-18	-18	-19	-20	-21	-22	-23	-24	-25
13,1	-15	-16	-17	-17	-18	-19	-20	-21	-22	-22	-23
13,2	-14	-15	-16	-17	-17	-18	-19	-20	-20	-21	-22
13,3	-14	-14	-15	-16	-16	-17	-18	-19	-19	-20	-21
13,4	-13	-14	-14	-15	-15	-16	-17	-17	-18	-19	-20
13,5	-12	-13	-13	-14	-14	-15	-16	-16	-17	-18	-19
13,6	-11	-12	-12	-13	-14	-14	-15	-15	-16	-17	-17
13,7	-11	-11	-12	-12	-13	-13	-14	-14	-15	-15	-16
13,8	-10	-10	-11	-11	-12	-12	-13	-13	-14	-14	-15
13,9	-9	-9	-10	-10	-11	-11	-12	-12	-13	-13	-14
14,0	-8	-9	-9	-9	-10	-10	-11	-11	-11	-12	-12
14,1	-7	-8	-8	-8	-9	-9	-10	-10	-10	-11	-11
14,2	-7	-7	-7	-7	-8	-8	-8	-9	-9	-10	-10
14,3	-6	-6	-6	-7	-7	-7	-7	-8	-8	-8	-9
14,4	-5	-5	-5	-6	-6	-6	-6	-7	-7	-7	-7
14,5	-4	-4	-4	-5	-5	-5	-5	-6	-6	-6	-6
14,6	-3	-3	-4	-4	-4	-4	-4	-4	-5	-5	-5
14,7	-2	-3	-3	-3	-3	-3	-3	-3	-3	-4	-4
14,8	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-3
14,9	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
15,0	0	0	0	0	0	0	0	0	0	0	0
15,1	1	1	1	1	1	1	1	1	1	1	1
15,2	2	2	2	2	2	2	2	2	2	2	3
15,3	2	3	3	3	3	3	3	3	3	4	4
15,4	3	3	4	4	4	4	4	4	5	5	5
15,5	4	4	5	5	5	5	5	6	6	6	6
15,6	5	5	5	6	6	6	6	7	7	7	8
15,7	6	6	6	7	7	7	8	8	8	8	9
15,8	7	7	7	8	8	8	9	9	9	10	10
15,9	7	8	8	9	9	9	10	10	10	11	11

Table 2 a

$\Delta S \cdot 10^3$

R_t →

t°,C ↓	1,17	1,18	1,19	1,20	1,21	1,22	1,23	1,24	1,25	1,26
16,0	5	5	6	6	6	7	7	7	8	8
16,1	5	6	6	6	7	7	8	8	8	9
16,2	6	6	7	7	7	8	8	9	9	10
16,3	6	7	7	8	8	8	9	9	10	10
16,4	7	7	8	8	9	9	10	10	11	11
16,5	7	8	8	9	9	10	10	11	11	12
16,6	8	8	9	9	10	10	11	12	12	13
16,7	8	9	9	10	11	11	12	12	13	14
16,8	9	9	10	11	11	12	12	13	14	14
16,9	9	10	11	11	12	12	13	14	14	15
17,0	10	10	11	12	12	13	14	14	15	16
17,1	10	11	12	12	13	14	14	15	16	17
17,2	11	12	12	13	14	14	15	16	17	18
17,3	11	12	13	14	14	15	16	17	18	18
17,4	12	13	13	14	15	16	17	17	18	19
17,5	12	13	14	15	16	16	17	18	19	20
17,6	13	14	14	15	16	17	18	19	20	21
17,7	13	14	15	16	17	18	19	20	21	22
17,8	14	15	16	17	17	18	19	20	21	22
17,9	14	15	16	17	18	19	20	21	22	23
18,0	15	16	17	18	19	20	21	22	23	24
18,1	15	16	17	18	19	20	21	22	24	25
18,2	16	17	18	19	20	21	22	23	24	26
18,3	16	17	18	19	21	22	23	24	25	26
18,4	17	18	19	20	21	22	23	25	26	27
18,5	17	18	19	21	22	23	24	25	27	28
18,6	18	19	20	21	22	24	25	26	27	29
18,7	18	19	21	22	23	24	26	27	28	29
18,8	19	20	21	22	24	25	26	28	29	30
18,9	19	20	22	23	24	26	27	28	30	31

Table 2 a

Δ S . 10^3

R_t →

t°,C ↓	1,27	1,28	1,29	1,30	1,31	1,32	1,33	1,34	1,35	1,36	1,37
16,0	8	9	9	9	10	10	11	11	12	12	13
16,1	9	10	10	10	11	11	12	12	13	13	14
16,2	10	10	11	11	12	12	13	13	14	15	15
16,3	11	11	12	12	13	13	14	15	15	16	16
16,4	12	12	13	13	14	14	15	16	16	17	18
16,5	12	13	14	14	15	16	16	17	18	18	19
16,6	13	14	15	15	16	17	17	18	19	19	20
16,7	14	15	15	16	17	18	18	19	20	21	21
16,8	15	16	16	17	18	19	19	20	21	22	23
16,9	16	17	17	18	19	20	20	21	22	23	24
17,0	17	17	18	19	20	21	22	22	23	24	25
17,1	18	18	19	20	21	22	23	24	25	26	27
17,2	18	19	20	21	22	23	24	25	26	27	28
17,3	19	20	21	22	23	24	25	26	27	28	29
17,4	20	21	22	23	24	25	26	27	28	29	30
17,5	21	22	23	24	25	26	27	28	29	30	32
17,6	22	23	24	25	26	27	28	29	30	32	33
17,7	23	24	25	26	27	28	29	30	32	33	34
17,8	23	24	26	27	28	29	30	31	33	34	35
17,9	24	25	26	28	29	30	31	33	34	35	37
18,0	25	26	27	29	30	31	32	34	35	36	38
18,1	26	27	28	29	31	32	33	35	36	38	39
18,2	27	28	29	30	32	33	34	36	37	39	40
18,3	28	29	30	31	33	34	35	37	38	40	42
18,4	28	30	31	32	34	35	37	38	40	41	43
18,5	29	31	32	33	35	36	38	39	41	42	44
18,6	30	31	33	34	36	37	39	40	42	44	45
18,7	31	32	34	35	37	38	40	41	43	45	46
18,8	32	33	35	36	38	39	41	42	44	46	48
18,9	32	34	35	37	39	40	42	44	45	47	49

Table 2 a

Δ S . 10^3

R_t →

t°,C ↓	1,17	1,18	1,19	1,20	1,21	1,22	1,23	1,24	1,25	1,26
19,0	20	21	22	24	25	26	28	29	30	32
19,1	20	22	23	24	25	27	28	30	31	33
19,2	21	22	23	25	26	27	29	30	32	33
19,3	21	23	24	25	27	28	30	31	33	34
19,4	22	23	24	26	27	29	30	32	33	35
19,5	22	24	25	26	28	29	31	32	34	36
19,6	23	24	26	27	29	30	32	33	35	36
19,7	23	25	26	28	29	31	32	34	36	37
19,8	24	25	27	28	30	31	33	35	36	38
19,9	24	26	27	29	30	32	34	35	37	39
20,0	25	26	28	29	31	33	34	36	38	39
20,1	25	27	28	30	32	33	35	37	38	40
20,2	26	27	29	30	32	34	36	37	39	41
20,3	26	28	29	31	33	34	36	38	40	42
20,4	26	28	30	32	33	35	37	39	41	42
20,5	27	29	30	32	34	36	38	39	41	43
20,6	27	29	31	33	34	36	38	40	42	44
20,7	28	30	31	33	35	37	39	41	43	45
20,8	28	30	32	34	36	38	39	41	43	45
20,9	29	31	32	34	36	38	40	42	44	46
21,0	29	31	33	35	37	39	41	43	45	47
21,1	30	32	33	35	37	39	41	43	45	48
21,2	30	32	34	36	38	40	42	44	46	48
21,3	31	33	34	36	38	40	43	45	47	49
21,4	31	33	35	37	39	41	43	45	48	50
21,5	31	33	35	38	40	42	44	46	48	50
21,6	32	34	36	38	40	42	44	47	49	51
21,7	32	34	36	39	41	43	45	47	50	52
21,8	33	35	37	39	41	43	46	48	50	53
21,9	33	35	37	40	42	44	46	49	51	53

Table 2 a

Δ S . 10^3

R_t →

t°,C ↓	1,27	1,28	1,29	1,30	1,31	1,32	1,33	1,34	1,35	1,36	1,37
19,0	33	35	36	38	40	41	43	45	46	48	50
19,1	34	36	37	39	40	42	44	46	48	49	51
19,2	35	36	38	40	41	43	45	47	49	51	53
19,3	36	37	39	41	42	44	46	48	50	52	54
19,4	37	38	40	42	43	45	47	49	51	53	55
19,5	37	39	41	42	44	46	48	50	52	54	56
19,6	38	40	42	43	45	47	49	51	53	55	57
19,7	39	41	42	44	46	48	50	52	54	56	58
19,8	40	42	43	45	47	49	51	53	55	57	60
19,9	41	42	44	46	48	50	52	54	56	59	61
20,0	41	43	45	47	49	51	53	55	57	60	62
20,1	42	44	46	48	50	52	54	56	59	61	63
20,2	43	45	47	49	51	53	55	57	60	62	64
20,3	44	46	48	50	52	54	56	58	61	63	65
20,4	44	46	48	51	53	55	57	59	62	64	67
20,5	45	47	49	51	54	56	58	60	63	65	68
20,6	46	48	50	52	54	57	59	61	64	66	69
20,7	47	49	51	53	55	58	60	62	65	67	70
20,8	48	50	52	54	56	59	61	63	66	69	71
20,9	48	50	53	55	57	60	62	64	67	70	72
21,0	49	51	53	56	58	60	63	65	68	71	73
21,1	50	52	54	57	59	61	64	66	69	72	74
21,2	51	53	55	57	60	62	65	67	70	73	76
21,3	51	54	56	58	61	63	66	68	71	74	77
21,4	52	54	57	59	62	64	67	69	72	75	78
21,5	53	55	57	60	62	65	68	70	73	76	79
21,6	53	56	58	61	63	66	69	71	74	77	80
21,7	54	57	59	62	64	67	69	72	75	78	81
21,8	55	57	60	62	65	68	70	73	76	79	82
21,9	56	58	61	63	66	69	71	74	77	80	83

Table 2 a

$\Delta S \cdot 10^3$

R_t →

t°,C ↓	1,17	1,18	1,19	1,20	1,21	1,22	1,23	1,24	1,25	1,26
22,0	34	36	33	40	42	45	47	49	51	54
22,1	34	36	38	41	43	45	47	50	52	55
22,2	35	37	39	41	43	46	48	50	53	55
22,3	35	37	39	42	44	46	49	51	53	56
22,4	35	38	40	42	44	47	49	52	54	57
22,5	36	38	40	43	45	47	50	52	55	57
22,6	36	39	41	43	45	48	50	53	55	58
22,7	37	39	41	44	46	48	51	53	56	59
22,8	37	39	42	44	47	49	51	54	57	59
22,9	37	40	42	45	47	49	52	55	57	60
23,0	38	40	43	45	48	50	53	55	58	60
23,1	38	41	43	46	48	51	53	56	58	61
23,2	39	41	44	46	49	51	54	56	59	62
23,3	39	42	44	46	49	52	54	57	60	62
23,4	39	42	44	47	49	52	55	57	60	63
23,5	40	42	45	47	50	53	55	58	61	63
23,6	40	43	45	48	50	53	56	58	61	64
23,7	41	43	46	48	51	54	56	59	62	65
23,8	41	44	46	49	51	54	57	60	62	65
23,9	41	44	47	49	52	55	57	60	63	66
24,0	42	44	47	50	52	55	58	61	63	66
24,1	42	45	47	50	53	55	58	61	64	67
24,2	42	45	48	50	53	56	59	62	65	67
24,3	43	46	48	51	54	56	59	62	65	68
24,4	43	46	49	51	54	57	60	63	66	69
24,5	44	46	49	52	55	57	60	63	66	69
24,6	44	47	49	52	55	58	61	64	67	70
24,7	44	47	50	53	55	58	61	64	67	70
24,8	45	47	50	53	56	59	62	65	68	71
24,9	45	48	50	53	56	59	62	65	68	71

Table 2 a

Δ s . 10^3

R_t →

t°,C ↓	1,27	1,28	1,29	1,30	1,31	1,32	1,33	1,34	1,35	1,36	1,37
22,0	56	59	61	64	67	69	72	75	78	81	84
22,1	57	60	62	65	67	70	73	76	79	82	85
22,2	58	60	63	66	68	71	74	77	80	83	86
22,3	58	61	64	66	69	72	75	78	81	84	87
22,4	59	62	64	67	70	73	76	79	82	85	88
22,5	60	62	65	68	71	74	77	80	83	86	89
22,6	60	63	66	69	72	74	77	80	84	87	90
22,7	61	64	67	69	72	75	78	81	85	88	91
22,8	62	65	67	70	73	76	79	82	85	89	92
22,9	62	65	68	71	74	77	80	83	86	90	93
23,0	63	66	69	72	75	78	81	84	87	91	94
23,1	64	67	69	72	75	78	82	85	88	91	95
23,2	64	67	70	73	76	79	82	86	89	92	96
23,3	65	68	71	74	77	80	83	86	90	93	97
23,4	66	69	72	75	78	81	84	87	91	94	98
23,5	66	69	72	75	78	82	85	88	92	95	99
23,6	67	70	73	76	79	82	86	89	92	96	100
23,7	68	71	74	77	80	83	86	90	93	97	100
23,8	68	71	74	77	80	84	87	90	94	98	101
23,9	69	72	75	78	81	84	88	91	95	98	102
24,0	69	72	75	79	82	85	89	92	96	99	103
24,1	70	73	76	79	83	86	89	93	96	100	104
24,2	70	74	77	80	83	87	90	94	97	101	105
24,3	71	74	77	81	84	87	91	94	98	102	105
24,4	72	75	78	81	85	88	91	95	99	102	106
24,5	72	75	79	82	85	89	92	96	99	103	107
24,6	73	76	79	82	86	89	93	96	100	104	108
24,7	73	76	80	83	86	90	93	97	101	105	109
24,8	74	77	80	84	87	91	94	98	102	105	109
24,9	74	78	81	84	88	91	95	98	102	106	110

Table 2 a

Δ S . 10^3

R_t →

t°,C ↓	1,17	1,18	1,19	1,20	1,21	1,22	1,23	1,24	1,25	1,26
25,0	45	48	51	54	57	60	62	65	69	72
25,1	46	48	51	54	57	60	63	66	69	72
25,2	46	49	52	54	57	60	63	66	69	73
25,3	46	49	52	55	58	61	64	67	70	73
25,4	47	49	52	55	58	61	64	67	70	74
25,5	47	50	53	56	59	62	65	68	71	74
25,6	47	50	53	56	59	62	65	68	71	74
25,7	47	50	53	56	59	62	65	69	72	75
25,8	48	51	54	57	60	63	66	69	72	75
25,9	48	51	54	57	60	63	66	69	73	76
26,0	48	51	54	57	60	63	67	70	73	76
26,1	49	52	55	58	61	64	67	70	73	77
26,2	49	52	55	58	61	64	67	70	74	77
26,3	49	52	55	58	61	64	68	71	74	77
26,4	49	52	55	59	62	65	68	71	74	78
26,5	50	53	56	59	62	65	68	72	75	78
26,6	50	53	56	59	62	65	69	72	75	79
26,7	50	53	56	59	63	66	69	72	76	79
26,8	50	53	57	60	63	66	69	73	76	79
26,9	51	54	57	60	63	66	70	73	76	80
27,0	51	54	57	60	63	67	70	73	77	80
27,1	51	54	57	60	64	67	70	73	77	80
27,2	51	54	58	61	64	67	70	74	77	81
27,3	52	55	58	61	64	67	71	74	77	81
27,4	52	55	58	61	64	68	71	74	78	81
27,5	52	55	58	61	65	68	71	75	78	81
27,6	52	55	59	62	65	68	71	75	78	82
27,7	52	56	59	62	65	68	72	75	79	82
27,8	53	56	59	62	65	69	72	75	79	82
27,9	53	56	59	62	66	69	72	76	79	82

Table 2 a

$\Delta s \cdot 10^3$

$R_t \longrightarrow$

t°,C ↓	1,27	1,28	1,29	1,30	1,31	1,32	1,33	1,34	1,35	1,36	1,37
25,0	75	78	81	85	88	92	95	99	103	107	111
25,1	75	79	82	85	89	92	96	100	104	108	112
25,2	76	79	82	86	89	93	97	100	104	108	112
25,3	76	80	83	86	90	94	97	101	105	109	113
25,4	77	80	84	87	91	94	98	102	106	110	114
25,5	77	81	84	88	91	95	98	102	106	110	114
25,6	78	81	85	88	92	95	99	103	107	111	115
25,7	78	82	85	89	92	96	100	103	107	111	116
25,8	79	82	86	89	93	96	100	104	108	112	116
25,9	79	83	86	90	93	97	101	105	109	113	117
26,0	80	83	86	90	94	97	101	105	109	113	117
26,1	80	83	87	90	94	98	102	106	110	114	118
26,2	80	84	87	91	95	98	102	106	110	114	119
26,3	81	84	88	91	95	99	103	107	111	115	119
26,4	81	85	88	92	96	99	103	107	111	115	120
26,5	82	85	89	92	96	100	104	108	112	116	120
26,6	82	85	89	93	96	100	104	108	112	116	121
26,7	82	86	89	93	97	101	105	109	113	117	121
26,8	83	86	90	93	97	101	105	109	113	117	122
26,9	83	87	90	94	98	101	105	109	114	118	122
27,0	83	87	91	94	98	102	106	110	114	118	123
27,1	84	87	91	95	98	102	106	110	114	119	123
27,2	84	88	91	95	99	103	107	111	115	119	124
27,3	84	88	92	95	99	103	107	111	115	120	124
27,4	85	88	92	96	99	103	107	111	116	120	124
27,5	85	89	92	96	100	104	108	112	116	120	125
27,6	85	89	93	96	100	104	108	112	116	121	125
27,7	86	89	93	97	100	104	108	112	117	121	125
27,8	86	89	93	97	101	105	109	113	117	121	126
27,9	86	90	93	97	101	105	109	113	117	122	126

Table 2 a

$\Delta S \cdot 10^3$

R_t →

t°,C ↓	1,17	1,18	1,19	1,20	1,21	1,22	1,23	1,24	1,25	1,26
28,0	53	56	59	63	66	69	72	76	79	83
28,1	53	56	59	63	66	69	73	76	79	83
28,2	53	56	60	63	66	69	73	76	80	83
28,3	53	57	60	63	66	70	73	76	80	83
28,4	54	57	60	63	67	70	73	77	80	84
28,5	54	57	60	63	67	70	73	77	80	84
28,6	54	57	60	64	67	70	74	77	80	84
28,7	54	57	60	64	67	70	74	77	81	84
28,8	54	57	61	64	67	70	74	77	81	84
28,9	54	57	61	64	67	71	74	77	81	84
29,0	54	58	61	64	67	71	74	77	81	84
29,1	55	58	61	64	67	71	74	78	81	85
29,2	55	58	61	64	68	71	74	78	81	85
29,3	55	58	61	64	68	71	74	78	81	85
29,4	55	58	61	65	68	71	74	78	81	85
29,5	55	58	61	65	68	71	75	78	81	85
29,6	55	58	61	65	68	71	75	78	81	85
29,7	55	58	61	65	68	71	75	78	82	85
29,8	55	58	62	65	68	71	75	78	82	85
29,9	55	58	62	65	68	71	75	78	82	85
30,0	55	58	62	65	68	71	75	78	82	85

Table 2 a

$\Delta S \cdot 10^3$

$R_t \longrightarrow$

t°,C ↓	1,27	1,28	1,29	1,30	1,31	1,32	1,33	1,34	1,35	1,36	1,37
28,0	86	90	94	97	101	105	109	113	118	122	126
28,1	86	90	94	98	101	105	109	114	118	122	127
28,2	87	90	94	98	102	106	110	114	118	122	127
28,3	87	91	94	98	102	106	110	114	118	123	127
28,4	87	91	94	98	102	106	110	114	119	123	127
28,5	87	91	95	98	102	106	110	115	119	123	128
28,6	87	91	95	99	102	106	111	115	119	123	128
28,7	88	91	95	99	103	107	111	115	119	124	128
28,8	88	91	95	99	103	107	111	115	119	124	128
28,9	88	92	95	99	103	107	111	115	119	124	128
29,0	88	92	95	99	103	107	111	115	120	124	128
29,1	88	92	96	99	103	107	111	115	120	124	129
29,2	88	92	96	99	103	107	111	115	120	124	129
29,3	88	92	96	99	103	107	111	116	120	124	129
29,4	88	92	96	100	103	107	111	116	120	124	129
29,5	88	92	96	100	103	107	112	116	120	124	129
29,6	89	92	96	100	104	107	112	116	120	124	129
29,7	89	92	96	100	104	108	112	116	120	124	129
29,8	89	92	96	100	104	108	112	116	120	124	129
29,9	89	92	96	100	104	108	112	116	120	124	129
30,0	89	92	96	100	104	107	112	116	120	124	129

Table 2 b

$10^3\ \delta'S$

$\delta R_t \longrightarrow$

$\delta S \downarrow$	1	2	3	4	5	6	7	8	9
1	0	0	0	0	1	1	1	1	1
2	0	0	1	1	1	1	1	2	2
3	0	1	1	1	2	2	2	2	3
4	0	1	1	2	2	2	3	3	4
5	1	1	2	2	3	3	4	4	5
6	1	1	2	2	3	4	4	5	5
7	1	1	2	3	4	4	5	6	6
8	1	2	2	3	4	5	6	6	7
9	1	2	3	4	5	5	6	7	8

TABLE 3

DETERMINATION OF DENSITY FROM TABLE 3

1 - When the values of the temperature and salinity are given to the first decimal only, as they appear in Table 1c, the corresponding density anomaly of seawater can be obtained directly from this Table.

Example 1 :

The measured practical salinity is 45.10 and the temperature is 28.7 °C.

Table 3a gives directly the corresponding density anomaly 29.753. The density is therefore 1.029753 $Kg.m^{-3}$.

2 - When the temperature is given as an intermediate value, e.g to the second or third decimal, the correction $\Delta\gamma_t$ should be applied to the density anomaly due to the difference δt between the measured temperature and the temperature found in Table 3a. $\Delta\gamma_t$ is given in the interpolation Table 3b. Similarly, when the salinity value is given as an intermediate value e.g to the second or third decimal, the correction $\Delta\gamma_S$ should be applied to the density anomaly due to the difference ∂S between the measured salinity and that found in Table 3a. $\Delta\gamma_S$ is given in the interpolation Table 3c. The density anomaly is therefore the algebraic sum of the value of the "uncorrected" density anomaly ($\gamma_{uncorrected}$) found in Table 3a, corresponding to the closest values of the measured temperature and salinity, and the two corrections $\Delta\gamma_t$ and $\Delta\gamma s$:

$$\gamma(S,t,0) = \gamma_{uncorrected} - \Delta\gamma_t + \Delta\gamma_S$$

The correction due to the temperature $\Delta\gamma_t$ should be substracted from the density anomaly while that due to salinity $\Delta\gamma_S$ should be added.

Example 2 :

The measured practical salinity is 44.314 and the observed temperature is 28.484 °C.

From Table 3a

	t = 28.4	$\gamma(S,t,0)$	= 29.256
S = 44.3			
	t = 28.5	$\gamma(S,t,0)$	= 29.222
		$10^3\ \delta\gamma_t$	= 34

	S = 44.3	$\gamma(S,t,0)$	= 29.256
t = 28.4			
	S = 44.4	$\gamma(S,t,0)$	= 29.331
		$10^3\ \delta\gamma_s$	= 75

Determination of the correction $\Delta\gamma_t$:

The difference between the value of measured temperature and that in Table 3a is 28.484-28.4 = 0084°C, hence $10^3\ \delta t = 84$.

In Table 3b, for $10^3\ \delta\gamma t\ (S, t, 0) = 34$ and $10^3\ \delta t = 84$, the corresponding value of $103\ \Delta\gamma_t$ is 29.

Since the density decreases by the increase in temperature, this correction is negative and should be substracted from the density anomaly.

Determination of the correction $\Delta\gamma_s$:

The difference between the measured salinity and that which appears in Table 3a is 44.314-44.3=0.014, therefore $10^3\ \delta S = 14$.

In Table 3c for $10^3\ \delta\gamma s\ (S, t, O) = 75$ and $10^3\ \delta S = 14$, the corresponding value of $10^3\ \Delta\gamma_s = 11$.

Determination of the density anomaly :

$$\gamma(S,t,0) = \gamma_{uncorrected} - \Delta\gamma_t + \Delta\gamma_s$$

$$\gamma(S,t,0) = 29.256 - 29\ 10^{-3} + 11\ 10^{-3} = 29.238$$

The density is therefore 1.029238 $kg.m^{-3}$

DETERMINATION DE LA MASSE VOLUMIQUE

A PARTIR DE LA TABLE 3

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1 - Quand la température et la salinité ont des valeurs qui figurent dans la Table 3a, cette Table donne directement l'anomalie de masse volumique de l'eau de mer correspondante.

Exemple : 1

La salinité mesurée est 45,10 et la température est 28,7°C. La Table 3a donne directement l'anomalie de masse volumique 29,753. La masse volumique est donc de 1,029753 $kg.m^{-3}$.

2 - Quand la température a une valeur intermédiaire, la correction $\Delta\gamma_t$ sur l'anomalie de masse volumique, due à la différence δt entre la température mesurée et la température indiquée dans la Table 3a, est obtenue dans la Table d'interpolation 3b. De la même façon, quand la salinité a une valeur intermédiaire, la correction $\Delta\gamma_s$ sur l'anomalie de masse volumique due à la différence ∂S entre la salinité mesurée et celle qui est indiquée dans la table 3a, est obtenue dans la table d'interpolation 3c. L'anomalie de masse volumique est alors la somme algébrique de la valeur de l'anomalie "non corrigée" ($\gamma_{uncorrected}$) la plus proche des température et salinité mesurées contenues dans la Table 3a et des deux corrections $\Delta\gamma_t$ et $\Delta\gamma_s$:

$$\gamma(S,t,0) = \gamma_{uncorrected} - \Delta\gamma_t + \Delta\gamma_s$$

La correction de température $\Delta\gamma_t$ doit être soustraite à l'anomalie de masse volumique alors que celle de salinité $\Delta\gamma_s$ doit lui être ajoutée.

Exemple : 2

La salinité mesurée est de 44,314 et la température est de 28,484°C.

Dans la Table 3a on trouve:

	t = 28,4	$\longrightarrow \gamma(S,t,0)$	= 29,256
S = 44,3			
	t = 28,5	$\longrightarrow \gamma(S,t,0)$	= 29,222
		$10^3\ \delta\gamma_t$ =	34
	S = 44,3	$\longrightarrow \gamma(S,t,0)$	= 29,256
t = 28,4			
	S = 44,4	$\longrightarrow \gamma(S,t,0)$	= 29,331
		$10^3\ \delta\gamma_s$ =	75

Détermination de la correction $\Delta\gamma_t$:

La différence entre la valeur de la température mesurée et celle figurant dans la Table 3a est de 28,484 - 28,4 = 0,084°C; d'où $10^3\ \delta t = 84$

Dans la Table 3b pour $10^3\ \delta\gamma_t(S,t,0) = 34$ et $10^3\ \delta t = 84$ on trouve $10^3\ \Delta\gamma_t = 29$.

Comme la masse volumique diminue quand la température augmente cette correction est négative et doit être retranchée de l'anomalie de masse volumique.

Détermination de la correction $\Delta\gamma_S$:

La différence entre la valeur de la salinité mesurée et celle figurant dans la Table 3a est 44,314 - 44,3 = 0,014; d'où $10^3\ \delta S = 14$.

Dans la Table 3c pour $10^3\ \delta\gamma_S\ (S,t,0) = 75$ et $10^3\ \delta S = 14$ on trouve $10^3\ \Delta\gamma_S = 11$

Détermination de l'anomalie de masse volumique :

$$\gamma(S,t,0) = \gamma_{uncorrected} - \Delta\gamma_t + \Delta\gamma_S$$

$$\gamma(S,t,0) = 29{,}256 - 29\ 10^{-3} + 11\ 10^{-3} = 29{,}238$$

La masse volumique est donc de 1,029238 $kg.m^{-3}$

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	15,0	15,1	15,2	15,3	15,4	15,5	15,6	15,7	15,8	15,9
42,0	31,363	31,341	31,318	31,296	31,273	31,251	31,228	31,205	31,182	31,159
42,1	31,440	31,418	31,395	31,373	31,350	31,328	31,305	31,282	31,259	31,236
42,2	31,517	31,495	31,472	31,450	31,427	31,405	31,382	31,359	31,336	31,313
42,3	31,594	31,572	31,549	31,527	31,504	31,482	31,459	31,436	31,413	31,389
42,4	31,671	31,649	31,626	31,604	31,581	31,559	31,536	31,513	31,490	31,466
42,5	31,748	31,726	31,704	31,681	31,658	31,636	31,613	31,590	31,567	31,543
42,6	31,825	31,803	31,781	31,758	31,735	31,713	31,690	31,667	31,644	31,620
42,7	31,902	31,880	31,858	31,835	31,812	31,790	31,767	31,744	31,721	31,697
42,8	31,979	31,957	31,935	31,912	31,889	31,867	31,844	31,821	31,798	31,774
42,9	32,057	32,034	32,012	31,989	31,967	31,944	31,921	31,898	31,875	31,851
43,0	32,134	32,111	32,089	32,066	32,044	32,021	31,998	31,975	31,952	31,929
43,1	32,211	32,188	32,166	32,143	32,121	32,098	32,075	32,052	32,029	32,006
43,2	32,288	32,265	32,243	32,220	32,198	32,175	32,152	32,129	32,106	32,083
43,3	32,365	32,343	32,320	32,298	32,275	32,252	32,229	32,206	32,183	32,160
43,4	32,442	32,420	32,397	32,375	32,352	32,329	32,306	32,283	32,260	32,237
43,5	32,519	32,497	32,474	32,452	32,429	32,406	32,383	32,360	32,337	32,314
43,6	32,596	32,574	32,551	32,529	32,506	32,483	32,460	32,437	32,414	32,391
43,7	32,673	32,651	32,628	32,606	32,583	32,560	32,537	32,514	32,491	32,468
43,8	32,750	32,728	32,706	32,683	32,660	32,637	32,614	32,591	32,568	32,545
43,9	32,828	32,805	32,783	32,760	32,737	32,714	32,692	32,668	32,645	32,622
44,0	32,905	32,882	32,860	32,837	32,814	32,792	32,769	32,746	32,722	32,699
44,1	32,982	32,959	32,937	32,914	32,892	32,869	32,846	32,823	32,799	32,776
44,2	33,059	33,037	33,014	32,991	32,969	32,946	32,923	32,900	32,876	32,853
44,3	33,136	33,114	33,091	33,069	33,046	33,023	33,000	32,977	32,954	32,930
44,4	33,213	33,191	33,168	33,146	33,123	33,100	33,077	33,054	33,031	33,007
44,5	33,291	33,268	33,246	33,223	33,200	33,177	33,154	33,131	33,108	33,084
44,6	33,368	33,345	33,323	33,300	33,277	33,254	33,231	33,208	33,185	33,162
44,7	33,445	33,422	33,400	33,377	33,354	33,331	33,308	33,285	33,262	33,239
44,8	33,522	33,500	33,477	33,454	33,432	33,409	33,386	33,362	33,339	33,316
44,9	33,599	33,577	33,554	33,532	33,509	33,486	33,463	33,440	33,416	33,393
45,0	33,676	33,654	33,631	33,609	33,586	33,563	33,540	33,517	33,493	33,470
45,1	33,754	33,731	33,709	33,686	33,663	33,640	33,617	33,594	33,571	33,547
45,2	33,831	33,808	33,786	33,763	33,740	33,717	33,694	33,671	33,648	33,624
45,3	33,908	33,886	33,863	33,840	33,817	33,794	33,771	33,748	33,725	33,701
45,4	33,985	33,963	33,940	33,917	33,895	33,872	33,849	33,825	33,802	33,779
45,5	34,063	34,040	34,017	33,995	33,972	33,949	33,926	33,903	33,879	33,856
45,6	34,140	34,117	34,095	34,072	34,049	34,026	34,003	33,980	33,956	33,933
45,7	34,217	34,195	34,172	34,149	34,126	34,103	34,080	34,057	34,034	34,010
45,8	34,294	34,272	34,249	34,226	34,203	34,180	34,157	34,134	34,111	34,087
45,9	34,372	34,349	34,326	34,304	34,281	34,258	34,235	34,211	34,188	34,164

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

S ↓	t°,C → 15,0	15,1	15,2	15,3	15,4	15,5	15,6	15,7	15,8	15,9
46,0	34,449	34,426	34,404	34,381	34,358	34,335	34,312	34,289	34,265	34,242
46,1	34,526	34,504	34,481	34,458	34,435	34,412	34,389	34,366	34,342	34,319
46,2	34,603	34,581	34,558	34,535	34,512	34,489	34,466	34,443	34,420	34,396
46,3	34,681	34,658	34,635	34,613	34,590	34,567	34,543	34,520	34,497	34,473
46,4	34,758	34,735	34,713	34,690	34,667	34,644	34,621	34,597	34,574	34,551
46,5	34,835	34,813	34,790	34,767	34,744	34,721	34,698	34,675	34,651	34,628
46,6	34,913	34,890	34,867	34,844	34,822	34,798	34,775	34,752	34,729	34,705
46,7	34,990	34,967	34,945	34,922	34,899	34,876	34,853	34,829	34,806	34,782
46,8	35,067	35,045	35,022	34,999	34,976	34,953	34,930	34,906	34,883	34,859
46,9	35,145	35,122	35,099	35,076	35,053	35,030	35,007	34,984	34,960	34,937
47,0	35,222	35,199	35,177	35,154	35,131	35,108	35,084	35,061	35,038	35,014
47,1	35,299	35,277	35,254	35,231	35,208	35,185	35,162	35,138	35,115	35,091
47,2	35,377	35,354	35,331	35,308	35,285	35,262	35,239	35,216	35,192	35,169
47,3	35,454	35,431	35,409	35,386	35,363	35,340	35,316	35,293	35,269	35,246
47,4	35,531	35,509	35,486	35,463	35,440	35,417	35,394	35,370	35,347	35,323
47,5	35,609	35,586	35,563	35,540	35,517	35,494	35,471	35,448	35,424	35,401
47,6	35,686	35,664	35,641	35,618	35,595	35,572	35,548	35,525	35,501	35,478
47,7	35,764	35,741	35,718	35,695	35,672	35,649	35,626	35,602	35,579	35,555
47,8	35,841	35,818	35,796	35,773	35,750	35,726	35,703	35,680	35,656	35,633
47,9	35,918	35,896	35,873	35,850	35,827	35,804	35,780	35,757	35,734	35,710
48,0	35,996	35,973	35,950	35,927	35,904	35,881	35,858	35,834	35,811	35,787
48,1	36,073	36,051	36,028	36,005	35,982	35,959	35,935	35,912	35,888	35,865
48,2	36,151	36,128	36,105	36,082	36,059	36,036	36,013	35,989	35,966	35,942
48,3	36,228	36,205	36,183	36,160	36,137	36,113	36,090	36,067	36,043	36,019
48,4	36,306	36,283	36,260	36,237	36,214	36,191	36,167	36,144	36,120	36,097
48,5	36,383	36,360	36,338	36,315	36,291	36,268	36,245	36,221	36,198	36,174
48,6	36,461	36,438	36,415	36,392	36,369	36,346	36,322	36,299	36,275	36,252
48,7	36,538	36,515	36,493	36,470	36,446	36,423	36,400	36,376	36,353	36,329
48,8	36,616	36,593	36,570	36,547	36,524	36,501	36,477	36,454	36,430	36,406
48,9	36,693	36,670	36,648	36,625	36,601	36,578	36,555	36,531	36,508	36,484
49,0	36,771	36,748	36,725	36,702	36,679	36,656	36,632	36,609	36,585	36,561
49,1	36,848	36,825	36,803	36,780	36,756	36,733	36,710	36,686	36,663	36,639
49,2	36,926	36,903	36,880	36,857	36,834	36,811	36,787	36,764	36,740	36,716
49,3	37,003	36,981	36,958	36,935	36,911	36,888	36,865	36,841	36,818	36,794
49,4	37,081	37,058	37,035	37,012	36,989	36,966	36,942	36,919	36,895	36,871
49,5	37,159	37,136	37,113	37,090	37,067	37,043	37,020	36,996	36,973	36,949
49,6	37,236	37,213	37,190	37,167	37,144	37,121	37,097	37,074	37,050	37,026
49,7	37,314	37,291	37,268	37,245	37,222	37,198	37,175	37,151	37,128	37,104
49,8	37,391	37,369	37,346	37,322	37,299	37,276	37,252	37,229	37,205	37,181
49,9	37,469	37,446	37,423	37,400	37,377	37,354	37,330	37,306	37,283	37,259
50,0	37,547	37,524	37,501	37,478	37,454	37,431	37,408	37,384	37,360	37,337

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	16,0	16,1	16,2	16,3	16,4	16,5	16,6	16,7	16,8	16,9
42,0	31,135	31,112	31,088	31,065	31,041	31,017	30,993	30,969	30,945	30,921
42,1	31,212	31,189	31,165	31,142	31,118	31,094	31,070	31,046	31,022	30,998
42,2	31,289	31,266	31,242	31,219	31,195	31,171	31,147	31,123	31,099	31,075
42,3	31,366	31,343	31,319	31,296	31,272	31,248	31,224	31,200	31,176	31,152
42,4	31,443	31,420	31,396	31,373	31,349	31,325	31,301	31,277	31,253	31,229
42,5	31,520	31,497	31,473	31,450	31,426	31,402	31,378	31,354	31,330	31,305
42,6	31,597	31,574	31,550	31,527	31,503	31,479	31,455	31,431	31,407	31,382
42,7	31,674	31,651	31,627	31,604	31,580	31,556	31,532	31,508	31,484	31,459
42,8	31,751	31,728	31,704	31,680	31,657	31,633	31,609	31,585	31,561	31,536
42,9	31,828	31,805	31,781	31,757	31,734	31,710	31,686	31,662	31,637	31,613
43,0	31,905	31,882	31,858	31,834	31,811	31,787	31,763	31,739	31,714	31,690
43,1	31,982	31,959	31,935	31,911	31,888	31,864	31,840	31,816	31,791	31,767
43,2	32,059	32,036	32,012	31,988	31,965	31,941	31,917	31,893	31,868	31,844
43,3	32,136	32,113	32,089	32,065	32,042	32,018	31,994	31,969	31,945	31,921
43,4	32,213	32,190	32,166	32,142	32,119	32,095	32,071	32,046	32,022	31,998
43,5	32,290	32,267	32,243	32,219	32,196	32,172	32,148	32,123	32,099	32,075
43,6	32,367	32,344	32,320	32,296	32,273	32,249	32,225	32,200	32,176	32,152
43,7	32,444	32,421	32,397	32,373	32,350	32,326	32,302	32,277	32,253	32,229
43,8	32,521	32,498	32,474	32,450	32,427	32,403	32,379	32,354	32,330	32,306
43,9	32,598	32,575	32,551	32,528	32,504	32,480	32,456	32,431	32,407	32,383
44,0	32,676	32,652	32,628	32,605	32,581	32,557	32,533	32,508	32,484	32,460
44,1	32,753	32,729	32,705	32,682	32,658	32,634	32,610	32,585	32,561	32,537
44,2	32,830	32,806	32,782	32,759	32,735	32,711	32,687	32,662	32,638	32,614
44,3	32,907	32,883	32,859	32,836	32,812	32,788	32,764	32,739	32,715	32,691
44,4	32,984	32,960	32,937	32,913	32,889	32,865	32,841	32,816	32,792	32,768
44,5	33,061	33,037	33,014	32,990	32,966	32,942	32,918	32,893	32,869	32,845
44,6	33,138	33,114	33,091	33,067	33,043	33,019	32,995	32,970	32,946	32,922
44,7	33,215	33,192	33,168	33,144	33,120	33,096	33,072	33,048	33,023	32,999
44,8	33,292	33,269	33,245	33,221	33,197	33,173	33,149	33,125	33,100	33,076
44,9	33,369	33,346	33,322	33,298	33,274	33,250	33,226	33,202	33,177	33,153
45,0	33,446	33,423	33,399	33,375	33,351	33,327	33,303	33,279	33,254	33,230
45,1	33,524	33,500	33,476	33,452	33,428	33,404	33,380	33,356	33,331	33,307
45,2	33,601	33,577	33,553	33,529	33,505	33,481	33,457	33,433	33,408	33,384
45,3	33,678	33,654	33,630	33,607	33,583	33,558	33,534	33,510	33,485	33,461
45,4	33,755	33,731	33,708	33,684	33,660	33,636	33,611	33,587	33,563	33,538
45,5	33,832	33,808	33,785	33,761	33,737	33,713	33,688	33,664	33,640	33,615
45,6	33,909	33,886	33,862	33,838	33,814	33,790	33,766	33,741	33,717	33,692
45,7	33,986	33,963	33,939	33,915	33,891	33,867	33,843	33,818	33,794	33,769
45,8	34,064	34,040	34,016	33,992	33,968	33,944	33,920	33,895	33,871	33,846
45,9	34,141	34,117	34,093	34,069	34,045	34,021	33,997	33,972	33,948	33,923

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	16,0	16,1	16,2	16,3	16,4	16,5	16,6	16,7	16,8	16,9
46,0	34,218	34,194	34,170	34,147	34,122	34,098	34,074	34,050	34,025	34,000
46,1	34,295	34,272	34,248	34,224	34,200	34,175	34,151	34,127	34,102	34,078
46,2	34,372	34,349	34,325	34,301	34,277	34,253	34,228	34,204	34,179	34,155
46,3	34,450	34,426	34,402	34,378	34,354	34,330	34,305	34,281	34,256	34,232
46,4	34,527	34,503	34,479	34,455	34,431	34,407	34,383	34,358	34,334	34,309
46,5	34,604	34,580	34,556	34,532	34,508	34,484	34,460	34,435	34,411	34,386
46,6	34,681	34,658	34,634	34,610	34,586	34,561	34,537	34,513	34,488	34,463
46,7	34,759	34,735	34,711	34,687	34,663	34,639	34,614	34,590	34,565	34,540
46,8	34,836	34,812	34,788	34,764	34,740	34,716	34,691	34,667	34,642	34,618
46,9	34,913	34,889	34,865	34,841	34,817	34,793	34,769	34,744	34,719	34,695
47,0	34,990	34,967	34,943	34,919	34,894	34,870	34,846	34,821	34,797	34,772
47,1	35,068	35,044	35,020	34,996	34,972	34,947	34,923	34,898	34,874	34,849
47,2	35,145	35,121	35,097	35,073	35,049	35,025	35,000	34,976	34,951	34,926
47,3	35,222	35,198	35,174	35,150	35,126	35,102	35,077	35,053	35,028	35,004
47,4	35,299	35,276	35,252	35,228	35,203	35,179	35,155	35,130	35,105	35,081
47,5	35,377	35,353	35,329	35,305	35,281	35,256	35,232	35,207	35,183	35,158
47,6	35,454	35,430	35,406	35,382	35,358	35,334	35,309	35,285	35,260	35,235
47,7	35,531	35,508	35,484	35,459	35,435	35,411	35,386	35,362	35,337	35,312
47,8	35,609	35,585	35,561	35,537	35,513	35,488	35,464	35,439	35,414	35,390
47,9	35,686	35,662	35,638	35,614	35,590	35,565	35,541	35,516	35,492	35,467
48,0	35,763	35,740	35,716	35,691	35,667	35,643	35,618	35,594	35,569	35,544
48,1	35,841	35,817	35,793	35,769	35,744	35,720	35,696	35,671	35,646	35,621
48,2	35,918	35,894	35,870	35,846	35,822	35,797	35,773	35,748	35,724	35,699
48,3	35,996	35,972	35,948	35,923	35,899	35,875	35,850	35,826	35,801	35,776
48,4	36,073	36,049	36,025	36,001	35,976	35,952	35,928	35,903	35,878	35,853
48,5	36,150	36,126	36,102	36,078	36,054	36,029	36,005	35,980	35,956	35,931
48,6	36,228	36,204	36,180	36,156	36,131	36,107	36,082	36,058	36,033	36,008
48,7	36,305	36,281	36,257	36,233	36,209	36,184	36,160	36,135	36,110	36,085
48,8	36,383	36,359	36,335	36,310	36,286	36,262	36,237	36,212	36,188	36,163
48,9	36,460	36,436	36,412	36,388	36,363	36,339	36,314	36,290	36,265	36,240
49,0	36,537	36,513	36,489	36,465	36,441	36,416	36,392	36,367	36,342	36,317
49,1	36,615	36,591	36,567	36,543	36,518	36,494	36,469	36,444	36,420	36,395
49,2	36,692	36,668	36,644	36,620	36,596	36,571	36,547	36,522	36,497	36,472
49,3	36,770	36,746	36,722	36,697	36,673	36,649	36,624	36,599	36,574	36,549
49,4	36,847	36,823	36,799	36,775	36,751	36,726	36,701	36,677	36,652	36,627
49,5	36,925	36,901	36,877	36,852	36,828	36,803	36,779	36,754	36,729	36,704
49,6	37,002	36,978	36,954	36,930	36,905	36,881	36,856	36,832	36,807	36,782
49,7	37,080	37,056	37,032	37,007	36,983	36,958	36,934	36,909	36,884	36,859
49,8	37,157	37,133	37,109	37,085	37,060	37,036	37,011	36,986	36,962	36,937
49,9	37,235	37,211	37,187	37,162	37,138	37,113	37,089	37,064	37,039	37,014
50,0	37,313	37,288	37,264	37,240	37,215	37,191	37,166	37,141	37,116	37,091

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓	17,0	17,1	17,2	17,3	17,4	17,5	17,6	17,7	17,8	17,9
42,0	30,897	30,872	30,848	30,823	30,798	30,773	30,748	30,723	30,698	30,673
42,1	30,973	30,949	30,924	30,900	30,875	30,850	30,825	30,800	30,775	30,750
42,2	31,050	31,026	31,001	30,977	30,952	30,927	30,902	30,877	30,852	30,826
42,3	31,127	31,103	31,078	31,054	31,029	31,004	30,979	30,954	30,929	30,903
42,4	31,204	31,180	31,155	31,130	31,106	31,081	31,056	31,031	31,005	30,980
42,5	31,281	31,257	31,232	31,207	31,182	31,158	31,132	31,107	31,082	31,057
42,6	31,358	31,333	31,309	31,284	31,259	31,234	31,209	31,184	31,159	31,134
42,7	31,435	31,410	31,386	31,361	31,336	31,311	31,286	31,261	31,236	31,210
42,8	31,512	31,487	31,463	31,438	31,413	31,388	31,363	31,338	31,313	31,287
42,9	31,589	31,564	31,540	31,515	31,490	31,465	31,440	31,415	31,389	31,364
43,0	31,666	31,641	31,616	31,592	31,567	31,542	31,517	31,492	31,466	31,441
43,1	31,743	31,718	31,693	31,669	31,644	31,619	31,594	31,568	31,543	31,518
43,2	31,819	31,795	31,770	31,745	31,721	31,696	31,670	31,645	31,620	31,595
43,3	31,896	31,872	31,847	31,822	31,797	31,772	31,747	31,722	31,697	31,671
43,4	31,973	31,949	31,924	31,899	31,874	31,849	31,824	31,799	31,774	31,748
43,5	32,050	32,026	32,001	31,976	31,951	31,926	31,901	31,876	31,851	31,825
43,6	32,127	32,103	32,078	32,053	32,028	32,003	31,978	31,953	31,927	31,902
43,7	32,204	32,180	32,155	32,130	32,105	32,080	32,055	32,030	32,004	31,979
43,8	32,281	32,257	32,232	32,207	32,182	32,157	32,132	32,107	32,081	32,056
43,9	32,358	32,333	32,309	32,284	32,259	32,234	32,209	32,183	32,158	32,133
44,0	32,435	32,410	32,386	32,361	32,336	32,311	32,286	32,260	32,235	32,209
44,1	32,512	32,487	32,463	32,438	32,413	32,388	32,363	32,337	32,312	32,286
44,2	32,589	32,564	32,540	32,515	32,490	32,465	32,439	32,414	32,389	32,363
44,3	32,666	32,641	32,617	32,592	32,567	32,542	32,516	32,491	32,466	32,440
44,4	32,743	32,718	32,694	32,669	32,644	32,619	32,593	32,568	32,543	32,517
44,5	32,820	32,795	32,771	32,746	32,721	32,695	32,670	32,645	32,619	32,594
44,6	32,897	32,872	32,848	32,823	32,798	32,772	32,747	32,722	32,696	32,671
44,7	32,974	32,949	32,924	32,900	32,875	32,849	32,824	32,799	32,773	32,748
44,8	33,051	33,026	33,001	32,977	32,952	32,926	32,901	32,876	32,850	32,825
44,9	33,128	33,103	33,078	33,054	33,028	33,003	32,978	32,953	32,927	32,902
45,0	33,205	33,180	33,156	33,131	33,105	33,080	33,055	33,030	33,004	32,979
45,1	33,282	33,257	33,233	33,208	33,182	33,157	33,132	33,107	33,081	33,055
45,2	33,359	33,334	33,310	33,285	33,259	33,234	33,209	33,184	33,158	33,132
45,3	33,436	33,411	33,387	33,362	33,336	33,311	33,286	33,261	33,235	33,209
45,4	33,513	33,488	33,464	33,439	33,413	33,388	33,363	33,338	33,312	33,286
45,5	33,590	33,566	33,541	33,516	33,491	33,465	33,440	33,414	33,389	33,363
45,6	33,667	33,643	33,618	33,593	33,568	33,542	33,517	33,491	33,466	33,440
45,7	33,744	33,720	33,695	33,670	33,645	33,619	33,594	33,568	33,543	33,517
45,8	33,822	33,797	33,772	33,747	33,722	33,696	33,671	33,645	33,620	33,594
45,9	33,899	33,874	33,849	33,824	33,799	33,773	33,748	33,723	33,697	33,671

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	17,0	17,1	17,2	17,3	17,4	17,5	17,6	17,7	17,8	17,9
46,0	33,976	33,951	33,926	33,901	33,876	33,850	33,825	33,800	33,774	33,748
46,1	34,053	34,028	34,003	33,978	33,953	33,927	33,902	33,877	33,851	33,825
46,2	34,130	34,105	34,080	34,055	34,030	34,005	33,979	33,954	33,928	33,902
46,3	34,207	34,182	34,157	34,132	34,107	34,082	34,056	34,031	34,005	33,979
46,4	34,284	34,259	34,234	34,209	34,184	34,159	34,133	34,108	34,082	34,056
46,5	34,361	34,336	34,311	34,286	34,261	34,236	34,210	34,185	34,159	34,133
46,6	34,438	34,414	34,389	34,363	34,338	34,313	34,287	34,262	34,236	34,210
46,7	34,516	34,491	34,466	34,441	34,415	34,390	34,364	34,339	34,313	34,287
46,8	34,593	34,568	34,543	34,518	34,492	34,467	34,442	34,416	34,390	34,364
46,9	34,670	34,645	34,620	34,595	34,569	34,544	34,519	34,493	34,467	34,442
47,0	34,747	34,722	34,697	34,672	34,647	34,621	34,596	34,570	34,544	34,519
47,1	34,824	34,799	34,774	34,749	34,724	34,698	34,673	34,647	34,621	34,596
47,2	34,901	34,876	34,851	34,826	34,801	34,775	34,750	34,724	34,699	34,673
47,3	34,979	34,954	34,929	34,903	34,878	34,853	34,827	34,801	34,776	34,750
47,4	35,056	35,031	35,006	34,981	34,955	34,930	34,904	34,879	34,853	34,827
47,5	35,133	35,108	35,083	35,058	35,032	35,007	34,981	34,956	34,930	34,904
47,6	35,210	35,185	35,160	35,135	35,110	35,084	35,059	35,033	35,007	34,981
47,7	35,287	35,262	35,237	35,212	35,187	35,161	35,136	35,110	35,084	35,058
47,8	35,365	35,340	35,315	35,289	35,264	35,238	35,213	35,187	35,161	35,135
47,9	35,442	35,417	35,392	35,367	35,341	35,316	35,290	35,264	35,238	35,213
48,0	35,519	35,494	35,469	35,444	35,418	35,393	35,367	35,341	35,316	35,290
48,1	35,596	35,571	35,546	35,521	35,496	35,470	35,444	35,419	35,393	35,367
48,2	35,674	35,649	35,623	35,598	35,573	35,547	35,522	35,496	35,470	35,444
48,3	35,751	35,726	35,701	35,675	35,650	35,624	35,599	35,573	35,547	35,521
48,4	35,828	35,803	35,778	35,753	35,727	35,702	35,676	35,650	35,624	35,598
48,5	35,906	35,881	35,855	35,830	35,805	35,779	35,753	35,728	35,702	35,676
48,6	35,983	35,958	35,933	35,907	35,882	35,856	35,831	35,805	35,779	35,753
48,7	36,060	36,035	36,010	35,985	35,959	35,933	35,908	35,882	35,856	35,830
48,8	36,138	36,112	36,087	36,062	36,036	36,011	35,985	35,959	35,933	35,907
48,9	36,215	36,190	36,165	36,139	36,114	36,088	36,062	36,036	36,011	35,984
49,0	36,292	36,267	36,242	36,216	36,191	36,165	36,140	36,114	36,088	36,062
49,1	36,370	36,344	36,319	36,294	36,268	36,243	36,217	36,191	36,165	36,139
49,2	36,447	36,422	36,397	36,371	36,346	36,320	36,294	36,268	36,242	36,216
49,3	36,524	36,499	36,474	36,448	36,423	36,397	36,371	36,346	36,320	36,294
49,4	36,602	36,577	36,551	36,526	36,500	36,475	36,449	36,423	36,397	36,371
49,5	36,679	36,654	36,629	36,603	36,578	36,552	36,526	36,500	36,474	36,448
49,6	36,757	36,731	36,706	36,681	36,655	36,629	36,603	36,578	36,552	36,525
49,7	36,834	36,809	36,783	36,758	36,732	36,707	36,681	36,655	36,629	36,603
49,8	36,911	36,886	36,861	36,835	36,810	36,784	36,758	36,732	36,706	36,680
49,9	36,989	36,964	36,938	36,913	36,887	36,861	36,836	36,810	36,784	36,757
50,0	37,066	37,041	37,016	36,990	36,965	36,939	36,913	36,887	36,861	36,835

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	18,0	18,1	18,2	18,3	18,4	18,5	18,6	18,7	18,8	18,9
42,0	30,647	30,622	30,596	30,571	30,545	30,519	30,493	30,467	30,441	30,415
42,1	30,724	30,699	30,673	30,647	30,622	30,596	30,570	30,544	30,517	30,491
42,2	30,801	30,775	30,750	30,724	30,698	30,672	30,646	30,620	30,594	30,568
42,3	30,878	30,852	30,827	30,801	30,775	30,749	30,723	30,697	30,671	30,645
42,4	30,955	30,929	30,903	30,878	30,852	30,826	30,800	30,774	30,748	30,721
42,5	31,031	31,006	30,980	30,954	30,929	30,903	30,877	30,851	30,824	30,798
42,6	31,108	31,083	31,057	31,031	31,005	30,979	30,953	30,927	30,901	30,875
42,7	31,185	31,159	31,134	31,108	31,082	31,056	31,030	31,004	30,978	30,951
42,8	31,262	31,236	31,211	31,185	31,159	31,133	31,107	31,081	31,054	31,028
42,9	31,339	31,313	31,287	31,262	31,236	31,210	31,184	31,157	31,131	31,105
43,0	31,415	31,390	31,364	31,338	31,312	31,286	31,260	31,234	31,208	31,181
43,1	31,492	31,467	31,441	31,415	31,389	31,363	31,337	31,311	31,285	31,258
43,2	31,569	31,543	31,518	31,492	31,466	31,440	31,414	31,388	31,361	31,335
43,3	31,646	31,620	31,595	31,569	31,543	31,517	31,491	31,464	31,438	31,412
43,4	31,723	31,697	31,671	31,646	31,620	31,594	31,567	31,541	31,515	31,488
43,5	31,800	31,774	31,748	31,722	31,696	31,670	31,644	31,618	31,592	31,565
43,6	31,876	31,851	31,825	31,799	31,773	31,747	31,721	31,695	31,668	31,642
43,7	31,953	31,928	31,902	31,876	31,850	31,824	31,798	31,771	31,745	31,719
43,8	32,030	32,004	31,979	31,953	31,927	31,901	31,875	31,848	31,822	31,795
43,9	32,107	32,081	32,056	32,030	32,004	31,978	31,951	31,925	31,899	31,872
44,0	32,184	32,158	32,132	32,106	32,080	32,054	32,028	32,002	31,975	31,949
44,1	32,261	32,235	32,209	32,183	32,157	32,131	32,105	32,079	32,052	32,026
44,2	32,338	32,312	32,286	32,260	32,234	32,208	32,182	32,155	32,129	32,102
44,3	32,414	32,389	32,363	32,337	32,311	32,285	32,259	32,232	32,206	32,179
44,4	32,491	32,466	32,440	32,414	32,388	32,362	32,335	32,309	32,283	32,256
44,5	32,568	32,543	32,517	32,491	32,465	32,438	32,412	32,386	32,359	32,333
44,6	32,645	32,619	32,594	32,568	32,541	32,515	32,489	32,463	32,436	32,410
44,7	32,722	32,696	32,670	32,644	32,618	32,592	32,566	32,539	32,513	32,486
44,8	32,799	32,773	32,747	32,721	32,695	32,669	32,643	32,616	32,590	32,563
44,9	32,876	32,850	32,824	32,798	32,772	32,746	32,720	32,693	32,667	32,640
45,0	32,953	32,927	32,901	32,875	32,849	32,823	32,796	32,770	32,743	32,717
45,1	33,030	33,004	32,978	32,952	32,926	32,900	32,873	32,847	32,820	32,794
45,2	33,107	33,081	33,055	33,029	33,003	32,976	32,950	32,924	32,897	32,870
45,3	33,184	33,158	33,132	33,106	33,080	33,053	33,027	33,001	32,974	32,947
45,4	33,261	33,235	33,209	33,183	33,157	33,130	33,104	33,077	33,051	33,024
45,5	33,338	33,312	33,286	33,260	33,233	33,207	33,181	33,154	33,128	33,101
45,6	33,414	33,389	33,363	33,337	33,310	33,284	33,258	33,231	33,205	33,178
45,7	33,491	33,466	33,440	33,413	33,387	33,361	33,335	33,308	33,281	33,255
45,8	33,568	33,543	33,517	33,490	33,464	33,438	33,411	33,385	33,358	33,332
45,9	33,645	33,619	33,593	33,567	33,541	33,515	33,488	33,462	33,435	33,408

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	18,0	18,1	18,2	18,3	18,4	18,5	18,6	18,7	18,8	18,9
46,0	33,722	33,696	33,670	33,644	33,618	33,592	33,565	33,539	33,512	33,485
46,1	33,799	33,773	33,747	33,721	33,695	33,669	33,642	33,616	33,589	33,562
46,2	33,876	33,850	33,824	33,798	33,772	33,746	33,719	33,693	33,666	33,639
46,3	33,953	33,927	33,901	33,875	33,849	33,823	33,796	33,769	33,743	33,716
46,4	34,030	34,004	33,978	33,952	33,926	33,899	33,873	33,846	33,820	33,793
46,5	34,107	34,081	34,055	34,029	34,003	33,976	33,950	33,923	33,897	33,870
46,6	34,184	34,158	34,132	34,106	34,080	34,053	34,027	34,000	33,974	33,947
46,7	34,261	34,235	34,209	34,183	34,157	34,130	34,104	34,077	34,050	34,024
46,8	34,339	34,313	34,286	34,260	34,234	34,207	34,181	34,154	34,127	34,101
46,9	34,416	34,390	34,363	34,337	34,311	34,284	34,258	34,231	34,204	34,177
47,0	34,493	34,467	34,440	34,414	34,388	34,361	34,335	34,308	34,281	34,254
47,1	34,570	34,544	34,517	34,491	34,465	34,438	34,412	34,385	34,358	34,331
47,2	34,647	34,621	34,595	34,568	34,542	34,515	34,489	34,462	34,435	34,408
47,3	34,724	34,698	34,672	34,645	34,619	34,592	34,566	34,539	34,512	34,485
47,4	34,801	34,775	34,749	34,722	34,696	34,669	34,643	34,616	34,589	34,562
47,5	34,878	34,852	34,826	34,799	34,773	34,746	34,720	34,693	34,666	34,639
47,6	34,955	34,929	34,903	34,876	34,850	34,824	34,797	34,770	34,743	34,716
47,7	35,032	35,006	34,980	34,954	34,927	34,901	34,874	34,847	34,820	34,793
47,8	35,109	35,083	35,057	35,031	35,004	34,978	34,951	34,924	34,897	34,870
47,9	35,187	35,160	35,134	35,108	35,081	35,055	35,028	35,001	34,974	34,947
48,0	35,264	35,237	35,211	35,185	35,158	35,132	35,105	35,078	35,051	35,024
48,1	35,341	35,315	35,288	35,262	35,235	35,209	35,182	35,155	35,128	35,101
48,2	35,418	35,392	35,365	35,339	35,313	35,286	35,259	35,232	35,205	35,178
48,3	35,495	35,469	35,443	35,416	35,390	35,363	35,336	35,309	35,282	35,255
48,4	35,572	35,546	35,520	35,493	35,467	35,440	35,413	35,387	35,360	35,332
48,5	35,649	35,623	35,597	35,570	35,544	35,517	35,491	35,464	35,437	35,410
48,6	35,727	35,700	35,674	35,648	35,621	35,594	35,568	35,541	35,514	35,487
48,7	35,804	35,778	35,751	35,725	35,698	35,672	35,645	35,618	35,591	35,564
48,8	35,881	35,855	35,828	35,802	35,775	35,749	35,722	35,695	35,668	35,641
48,9	35,958	35,932	35,906	35,879	35,853	35,826	35,799	35,772	35,745	35,718
49,0	36,036	36,009	35,983	35,956	35,930	35,903	35,876	35,849	35,822	35,795
49,1	36,113	36,086	36,060	36,034	36,007	35,980	35,953	35,926	35,899	35,872
49,2	36,190	36,164	36,137	36,111	36,084	36,057	36,031	36,004	35,976	35,949
49,3	36,267	36,241	36,215	36,188	36,161	36,135	36,108	36,081	36,054	36,026
49,4	36,345	36,318	36,292	36,265	36,239	36,212	36,185	36,158	36,131	36,104
49,5	36,422	36,395	36,369	36,342	36,316	36,289	36,262	36,235	36,208	36,181
49,6	36,499	36,473	36,446	36,420	36,393	36,366	36,339	36,312	36,285	36,258
49,7	36,576	36,550	36,524	36,497	36,470	36,443	36,417	36,389	36,362	36,335
49,8	36,654	36,627	36,601	36,574	36,548	36,521	36,494	36,467	36,440	36,412
49,9	36,731	36,705	36,678	36,652	36,625	36,598	36,571	36,544	36,517	36,489
50,0	36,808	36,782	36,755	36,729	36,702	36,675	36,648	36,621	36,594	36,567

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓	19,0	19,1	19,2	19,3	19,4	19,5	19,6	19,7	19,8	19,9
42,0	30,388	30,362	30,335	30,308	30,282	30,255	30,228	30,201	30,174	30,146
42,1	30,465	30,438	30,412	30,385	30,358	30,331	30,304	30,277	30,250	30,223
42,2	30,541	30,515	30,488	30,462	30,435	30,408	30,381	30,354	30,327	30,300
42,3	30,618	30,592	30,565	30,538	30,512	30,485	30,458	30,431	30,403	30,376
42,4	30,695	30,668	30,642	30,615	30,588	30,561	30,534	30,507	30,480	30,453
42,5	30,772	30,745	30,718	30,692	30,665	30,638	30,611	30,584	30,557	30,529
42,6	30,848	30,822	30,795	30,768	30,741	30,715	30,688	30,660	30,633	30,606
42,7	30,925	30,898	30,872	30,845	30,818	30,791	30,764	30,737	30,710	30,682
42,8	31,002	30,975	30,948	30,922	30,895	30,868	30,841	30,814	30,786	30,759
42,9	31,078	31,052	31,025	30,998	30,971	30,944	30,917	30,890	30,863	30,836
43,0	31,155	31,128	31,102	31,075	31,048	31,021	30,994	30,967	30,940	30,912
43,1	31,232	31,205	31,178	31,152	31,125	31,098	31,071	31,043	31,016	30,989
43,2	31,308	31,282	31,255	31,228	31,201	31,174	31,147	31,120	31,093	31,065
43,3	31,385	31,359	31,332	31,305	31,278	31,251	31,224	31,197	31,169	31,142
43,4	31,462	31,435	31,408	31,382	31,355	31,328	31,301	31,273	31,246	31,219
43,5	31,539	31,512	31,485	31,458	31,431	31,404	31,377	31,350	31,323	31,295
43,6	31,615	31,589	31,562	31,535	31,508	31,481	31,454	31,427	31,399	31,372
43,7	31,692	31,665	31,639	31,612	31,585	31,558	31,531	31,503	31,476	31,448
43,8	31,769	31,742	31,715	31,688	31,661	31,634	31,607	31,580	31,553	31,525
43,9	31,846	31,819	31,792	31,765	31,738	31,711	31,684	31,657	31,629	31,602
44,0	31,922	31,896	31,869	31,842	31,815	31,788	31,761	31,733	31,706	31,678
44,1	31,999	31,972	31,945	31,919	31,892	31,864	31,837	31,810	31,782	31,755
44,2	32,076	32,049	32,022	31,995	31,968	31,941	31,914	31,887	31,859	31,832
44,3	32,153	32,126	32,099	32,072	32,045	32,018	31,991	31,963	31,936	31,908
44,4	32,229	32,203	32,176	32,149	32,122	32,095	32,067	32,040	32,012	31,985
44,5	32,306	32,279	32,252	32,225	32,198	32,171	32,144	32,117	32,089	32,062
44,6	32,383	32,356	32,329	32,302	32,275	32,248	32,221	32,193	32,166	32,138
44,7	32,460	32,433	32,406	32,379	32,352	32,325	32,297	32,270	32,243	32,215
44,8	32,536	32,510	32,483	32,456	32,429	32,401	32,374	32,347	32,319	32,292
44,9	32,613	32,586	32,560	32,532	32,505	32,478	32,451	32,423	32,396	32,368
45,0	32,690	32,663	32,636	32,609	32,582	32,555	32,528	32,500	32,473	32,445
45,1	32,767	32,740	32,713	32,686	32,659	32,632	32,604	32,577	32,549	32,522
45,2	32,844	32,817	32,790	32,763	32,736	32,708	32,681	32,654	32,626	32,598
45,3	32,921	32,894	32,867	32,840	32,812	32,785	32,758	32,730	32,703	32,675
45,4	32,997	32,970	32,943	32,916	32,889	32,862	32,835	32,807	32,779	32,752
45,5	33,074	33,047	33,020	32,993	32,966	32,939	32,911	32,884	32,856	32,828
45,6	33,151	33,124	33,097	33,070	33,043	33,015	32,988	32,961	32,933	32,905
45,7	33,228	33,201	33,174	33,147	33,120	33,092	33,065	33,037	33,010	32,982
45,8	33,305	33,278	33,251	33,224	33,196	33,169	33,142	33,114	33,086	33,059
45,9	33,382	33,355	33,328	33,300	33,273	33,246	33,218	33,191	33,163	33,135

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓	19,0	19,1	19,2	19,3	19,4	19,5	19,6	19,7	19,8	19,9
46,0	33,458	33,431	33,404	33,377	33,350	33,323	33,295	33,268	33,240	33,212
46,1	33,535	33,508	33,481	33,454	33,427	33,399	33,372	33,344	33,317	33,289
46,2	33,612	33,585	33,558	33,531	33,504	33,476	33,449	33,421	33,393	33,366
46,3	33,689	33,662	33,635	33,608	33,580	33,553	33,526	33,498	33,470	33,442
46,4	33,766	33,739	33,712	33,685	33,657	33,630	33,602	33,575	33,547	33,519
46,5	33,843	33,816	33,789	33,761	33,734	33,707	33,679	33,652	33,624	33,596
46,6	33,920	33,893	33,866	33,838	33,811	33,784	33,756	33,728	33,701	33,673
46,7	33,997	33,970	33,942	33,915	33,888	33,860	33,833	33,805	33,777	33,750
46,8	34,074	34,047	34,019	33,992	33,965	33,937	33,910	33,882	33,854	33,826
46,9	34,151	34,123	34,096	34,069	34,042	34,014	33,986	33,959	33,931	33,903
47,0	34,227	34,200	34,173	34,146	34,118	34,091	34,063	34,036	34,008	33,980
47,1	34,304	34,277	34,250	34,223	34,195	34,168	34,140	34,112	34,085	34,057
47,2	34,381	34,354	34,327	34,300	34,272	34,245	34,217	34,189	34,161	34,134
47,3	34,458	34,431	34,404	34,377	34,349	34,322	34,294	34,266	34,238	34,210
47,4	34,535	34,508	34,481	34,453	34,426	34,398	34,371	34,343	34,315	34,287
47,5	34,612	34,585	34,558	34,530	34,503	34,475	34,448	34,420	34,392	34,364
47,6	34,689	34,662	34,635	34,607	34,580	34,552	34,525	34,497	34,469	34,441
47,7	34,766	34,739	34,712	34,684	34,657	34,629	34,602	34,574	34,546	34,518
47,8	34,843	34,816	34,789	34,761	34,734	34,706	34,678	34,651	34,623	34,595
47,9	34,920	34,893	34,866	34,838	34,811	34,783	34,755	34,727	34,700	34,672
48,0	34,997	34,970	34,943	34,915	34,888	34,860	34,832	34,804	34,776	34,748
48,1	35,074	35,047	35,020	34,992	34,965	34,937	34,909	34,881	34,853	34,825
48,2	35,151	35,124	35,097	35,069	35,042	35,014	34,986	34,958	34,930	34,902
48,3	35,228	35,201	35,174	35,146	35,119	35,091	35,063	35,035	35,007	34,979
48,4	35,305	35,278	35,251	35,223	35,196	35,168	35,140	35,112	35,084	35,056
48,5	35,382	35,355	35,328	35,300	35,273	35,245	35,217	35,189	35,161	35,133
48,6	35,459	35,432	35,405	35,377	35,350	35,322	35,294	35,266	35,238	35,210
48,7	35,537	35,509	35,482	35,454	35,427	35,399	35,371	35,343	35,315	35,287
48,8	35,614	35,586	35,559	35,531	35,504	35,476	35,448	35,420	35,392	35,364
48,9	35,691	35,663	35,636	35,608	35,581	35,553	35,525	35,497	35,469	35,441
49,0	35,768	35,740	35,713	35,685	35,658	35,630	35,602	35,574	35,546	35,518
49,1	35,845	35,817	35,790	35,762	35,735	35,707	35,679	35,651	35,623	35,595
49,2	35,922	35,895	35,867	35,839	35,812	35,784	35,756	35,728	35,700	35,672
49,3	35,999	35,972	35,944	35,917	35,889	35,861	35,833	35,805	35,777	35,749
49,4	36,076	36,049	36,021	35,994	35,966	35,938	35,910	35,882	35,854	35,826
49,5	36,153	36,126	36,098	36,071	36,043	36,015	35,987	35,959	35,931	35,903
49,6	36,231	36,203	36,176	36,148	36,120	36,092	36,064	36,036	36,008	35,980
49,7	36,308	36,280	36,253	36,225	36,197	36,169	36,141	36,113	36,085	36,057
49,8	36,385	36,357	36,330	36,302	36,274	36,246	36,218	36,190	36,162	36,134
49,9	36,462	36,435	36,407	36,379	36,351	36,324	36,295	36,267	36,239	36,211
50,0	36,539	36,512	36,484	36,456	36,429	36,401	36,373	36,344	36,316	36,288

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	20,0	20,1	20,2	20,3	20,4	20,5	20,6	20,7	20,8	20,9
42,0	30,119	30,092	30,064	30,037	30,009	29,981	29,953	29,925	29,897	29,869
42,1	30,196	30,168	30,141	30,113	30,085	30,058	30,030	30,002	29,974	29,946
42,2	30,272	30,245	30,217	30,190	30,162	30,134	30,106	30,078	30,050	30,022
42,3	30,349	30,321	30,294	30,266	30,238	30,211	30,183	30,155	30,127	30,098
42,4	30,425	30,398	30,370	30,343	30,315	30,287	30,259	30,231	30,203	30,175
42,5	30,502	30,474	30,447	30,419	30,391	30,364	30,336	30,308	30,279	30,251
42,6	30,578	30,551	30,523	30,496	30,468	30,440	30,412	30,384	30,356	30,328
42,7	30,655	30,628	30,600	30,572	30,544	30,517	30,489	30,461	30,432	30,404
42,8	30,732	30,704	30,676	30,649	30,621	30,593	30,565	30,537	30,509	30,481
42,9	30,808	30,781	30,753	30,725	30,697	30,670	30,642	30,613	30,585	30,557
43,0	30,885	30,857	30,830	30,802	30,774	30,746	30,718	30,690	30,662	30,633
43,1	30,961	30,934	30,906	30,878	30,851	30,823	30,795	30,766	30,738	30,710
43,2	31,038	31,010	30,983	30,955	30,927	30,899	30,871	30,843	30,815	30,786
43,3	31,115	31,087	31,059	31,031	31,004	30,976	30,948	30,919	30,891	30,863
43,4	31,191	31,164	31,136	31,108	31,080	31,052	31,024	30,996	30,968	30,939
43,5	31,268	31,240	31,212	31,185	31,157	31,129	31,101	31,072	31,044	31,016
43,6	31,344	31,317	31,289	31,261	31,233	31,205	31,177	31,149	31,121	31,092
43,7	31,421	31,393	31,366	31,338	31,310	31,282	31,254	31,225	31,197	31,169
43,8	31,498	31,470	31,442	31,414	31,386	31,358	31,330	31,302	31,274	31,245
43,9	31,574	31,546	31,519	31,491	31,463	31,435	31,407	31,378	31,350	31,322
44,0	31,651	31,623	31,595	31,567	31,539	31,511	31,483	31,455	31,427	31,398
44,1	31,727	31,700	31,672	31,644	31,616	31,588	31,560	31,532	31,503	31,475
44,2	31,804	31,776	31,749	31,721	31,693	31,665	31,636	31,608	31,580	31,551
44,3	31,881	31,853	31,825	31,797	31,769	31,741	31,713	31,685	31,656	31,628
44,4	31,957	31,930	31,902	31,874	31,846	31,818	31,789	31,761	31,733	31,704
44,5	32,034	32,006	31,978	31,950	31,922	31,894	31,866	31,838	31,809	31,781
44,6	32,111	32,083	32,055	32,027	31,999	31,971	31,943	31,914	31,886	31,857
44,7	32,187	32,159	32,132	32,104	32,076	32,047	32,019	31,991	31,962	31,934
44,8	32,264	32,236	32,208	32,180	32,152	32,124	32,096	32,067	32,039	32,010
44,9	32,341	32,313	32,285	32,257	32,229	32,201	32,172	32,144	32,115	32,087
45,0	32,417	32,389	32,362	32,334	32,305	32,277	32,249	32,221	32,192	32,163
45,1	32,494	32,466	32,438	32,410	32,382	32,354	32,326	32,297	32,269	32,240
45,2	32,571	32,543	32,515	32,487	32,459	32,430	32,402	32,374	32,345	32,317
45,3	32,647	32,619	32,591	32,563	32,535	32,507	32,479	32,450	32,422	32,393
45,4	32,724	32,696	32,668	32,640	32,612	32,584	32,555	32,527	32,498	32,470
45,5	32,801	32,773	32,745	32,717	'89	32,660	32,632	32,603	32,575	32,546
45,6	32,877	32,849	32,822	32,793	32,765	32,737	32,709	32,680	32,651	32,623
45,7	32,954	32,926	32,898	32,870	32,842	32,814	32,785	32,757	32,728	32,699
45,8	33,031	33,003	32,975	32,947	32,919	32,890	32,862	32,833	32,805	32,776
45,9	33,108	33,080	33,052	33,023	32,995	32,967	32,938	32,910	32,881	32,853

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	20,0	20,1	20,2	20,3	20,4	20,5	20,6	20,7	20,8	20,9
46,0	33,184	33,156	33,128	33,100	33,072	33,044	33,015	32,987	32,958	32,929
46,1	33,261	33,233	33,205	33,177	33,149	33,120	33,092	33,063	33,035	33,006
46,2	33,338	33,310	33,282	33,254	33,225	33,197	33,168	33,140	33,111	33,082
46,3	33,415	33,387	33,358	33,330	33,302	33,274	33,245	33,216	33,188	33,159
46,4	33,491	33,463	33,435	33,407	33,379	33,350	33,322	33,293	33,264	33,236
46,5	33,568	33,540	33,512	33,484	33,455	33,427	33,398	33,370	33,341	33,312
46,6	33,645	33,617	33,589	33,560	33,532	33,504	33,475	33,446	33,418	33,389
46,7	33,722	33,693	33,665	33,637	33,609	33,580	33,552	33,523	33,494	33,466
46,8	33,798	33,770	33,742	33,714	33,685	33,657	33,628	33,600	33,571	33,542
46,9	33,875	33,847	33,819	33,791	33,762	33,734	33,705	33,676	33,648	33,619
47,0	33,952	33,924	33,896	33,867	33,839	33,810	33,782	33,753	33,724	33,695
47,1	34,029	34,001	33,972	33,944	33,916	33,887	33,859	33,830	33,801	33,772
47,2	34,106	34,077	34,049	34,021	33,992	33,964	33,935	33,907	33,878	33,849
47,3	34,182	34,154	34,126	34,098	34,069	34,041	34,012	33,983	33,954	33,925
47,4	34,259	34,231	34,203	34,174	34,146	34,117	34,089	34,060	34,031	34,002
47,5	34,336	34,308	34,280	34,251	34,223	34,194	34,165	34,137	34,108	34,079
47,6	34,413	34,385	34,356	34,328	34,299	34,271	34,242	34,213	34,185	34,156
47,7	34,490	34,461	34,433	34,405	34,376	34,348	34,319	34,290	34,261	34,232
47,8	34,567	34,538	34,510	34,482	34,453	34,424	34,396	34,367	34,338	34,309
47,9	34,643	34,615	34,587	34,558	34,530	34,501	34,472	34,444	34,415	34,386
48,0	34,720	34,692	34,664	34,635	34,607	34,578	34,549	34,520	34,491	34,462
48,1	34,797	34,769	34,740	34,712	34,683	34,655	34,626	34,597	34,568	34,539
48,2	34,874	34,846	34,817	34,789	34,760	34,732	34,703	34,674	34,645	34,616
48,3	34,951	34,923	34,894	34,866	34,837	34,808	34,780	34,751	34,722	34,693
48,4	35,028	34,999	34,971	34,943	34,914	34,885	34,856	34,828	34,798	34,769
48,5	35,105	35,076	35,048	35,019	34,991	34,962	34,933	34,904	34,875	34,846
48,6	35,182	35,153	35,125	35,096	35,068	35,039	35,010	34,981	34,952	34,923
48,7	35,259	35,230	35,202	35,173	35,145	35,116	35,087	35,058	35,029	35,000
48,8	35,335	35,307	35,279	35,250	35,221	35,193	35,164	35,135	35,106	35,076
48,9	35,412	35,384	35,356	35,327	35,298	35,269	35,241	35,212	35,182	35,153
49,0	35,489	35,461	35,432	35,404	35,375	35,346	35,317	35,288	35,259	35,230
49,1	35,566	35,538	35,509	35,481	35,452	35,423	35,394	35,365	35,336	35,307
49,2	35,643	35,615	35,586	35,558	35,529	35,500	35,471	35,442	35,413	35,384
49,3	35,720	35,692	35,663	35,635	35,606	35,577	35,548	35,519	35,490	35,461
49,4	35,797	35,769	35,740	35,712	35,683	35,654	35,625	35,596	35,567	35,537
49,5	35,874	35,846	35,817	35,788	35,760	35,731	35,702	35,673	35,644	35,614
49,6	35,951	35,923	35,894	35,865	35,837	35,808	35,779	35,750	35,720	35,691
49,7	36,028	36,000	35,971	35,942	35,914	35,885	35,856	35,826	35,797	35,768
49,8	36,105	36,077	36,048	36,019	35,991	35,962	35,933	35,903	35,874	35,845
49,9	36,182	36,154	36,125	36,096	36,067	36,039	36,009	35,980	35,951	35,922
50,0	36,259	36,231	36,202	36,173	36,144	36,115	36,086	36,057	36,028	35,999

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	21,0	21,1	21,2	21,3	21,4	21,5	21,6	21,7	21,8	21,9
42,0	29,841	29,813	29,784	29,756	29,727	29,698	29,670	29,641	29,612	29,583
42,1	29,917	29,889	29,860	29,832	29,803	29,775	29,746	29,717	29,688	29,659
42,2	29,994	29,965	29,937	29,908	29,880	29,851	29,822	29,793	29,764	29,735
42,3	30,070	30,042	30,013	29,985	29,956	29,927	29,899	29,870	29,841	29,812
42,4	30,147	30,118	30,090	30,061	30,032	30,004	29,975	29,946	29,917	29,888
42,5	30,223	30,195	30,166	30,137	30,109	30,080	30,051	30,022	29,993	29,964
42,6	30,299	30,271	30,242	30,214	30,185	30,156	30,128	30,099	30,070	30,040
42,7	30,376	30,347	30,319	30,290	30,262	30,233	30,204	30,175	30,146	30,117
42,8	30,452	30,424	30,395	30,367	30,338	30,309	30,280	30,251	30,222	30,193
42,9	30,529	30,500	30,472	30,443	30,414	30,386	30,357	30,328	30,299	30,269
43,0	30,605	30,577	30,548	30,519	30,491	30,462	30,433	30,404	30,375	30,346
43,1	30,682	30,653	30,624	30,596	30,567	30,538	30,509	30,480	30,451	30,422
43,2	30,758	30,730	30,701	30,672	30,643	30,615	30,586	30,557	30,528	30,498
43,3	30,834	30,806	30,777	30,749	30,720	30,691	30,662	30,633	30,604	30,575
43,4	30,911	30,882	30,854	30,825	30,796	30,767	30,738	30,709	30,680	30,651
43,5	30,987	30,959	30,930	30,901	30,873	30,844	30,815	30,786	30,757	30,727
43,6	31,064	31,035	31,007	30,978	30,949	30,920	30,891	30,862	30,833	30,804
43,7	31,140	31,112	31,083	31,054	31,025	30,997	30,968	30,938	30,909	30,880
43,8	31,217	31,188	31,160	31,131	31,102	31,073	31,044	31,015	30,986	30,956
43,9	31,293	31,265	31,236	31,207	31,178	31,149	31,120	31,091	31,062	31,033
44,0	31,370	31,341	31,312	31,284	31,255	31,226	31,197	31,168	31,138	31,109
44,1	31,446	31,418	31,389	31,360	31,331	31,302	31,273	31,244	31,215	31,185
44,2	31,523	31,494	31,465	31,437	31,408	31,379	31,350	31,320	31,291	31,262
44,3	31,599	31,571	31,542	31,513	31,484	31,455	31,426	31,397	31,367	31,338
44,4	31,676	31,647	31,618	31,589	31,560	31,531	31,502	31,473	31,444	31,414
44,5	31,752	31,724	31,695	31,666	31,637	31,608	31,579	31,550	31,520	31,491
44,6	31,829	31,800	31,771	31,742	31,713	31,684	31,655	31,626	31,597	31,567
44,7	31,905	31,877	31,848	31,819	31,790	31,761	31,732	31,702	31,673	31,644
44,8	31,982	31,953	31,924	31,895	31,866	31,837	31,808	31,779	31,749	31,720
44,9	32,058	32,030	32,001	31,972	31,943	31,914	31,884	31,855	31,826	31,796
45,0	32,135	32,106	32,077	32,048	32,019	31,990	31,961	31,932	31,902	31,873
45,1	32,211	32,183	32,154	32,125	32,096	32,067	32,037	32,008	31,979	31,949
45,2	32,288	32,259	32,230	32,201	32,172	32,143	32,114	32,084	32,055	32,025
45,3	32,364	32,336	32,307	32,278	32,249	32,219	32,190	32,161	32,131	32,102
45,4	32,441	32,412	32,383	32,354	32,325	32,296	32,267	32,237	32,208	32,178
45,5	32,518	32,489	32,460	32,431	32,402	32,372	32,343	32,314	32,284	32,255
45,6	32,594	32,565	32,536	32,507	32,478	32,449	32,420	32,390	32,361	32,331
45,7	32,671	32,642	32,613	32,584	32,555	32,525	32,496	32,467	32,437	32,408
45,8	32,747	32,718	32,689	32,660	32,631	32,602	32,573	32,543	32,514	32,484
45,9	32,824	32,795	32,766	32,737	32,708	32,678	32,649	32,620	32,590	32,560

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	21,0	21,1	21,2	21,3	21,4	21,5	21,6	21,7	21,8	21,9
46,0	32,900	32,871	32,842	32,813	32,784	32,755	32,725	32,696	32,666	32,637
46,1	32,977	32,948	32,919	32,890	32,861	32,831	32,802	32,772	32,743	32,713
46,2	33,054	33,025	32,996	32,966	32,937	32,908	32,878	32,849	32,819	32,790
46,3	33,130	33,101	33,072	33,043	33,014	32,984	32,955	32,925	32,896	32,866
46,4	33,207	33,178	33,149	33,120	33,090	33,061	33,031	33,002	32,972	32,943
46,5	33,283	33,254	33,225	33,196	33,167	33,137	33,108	33,078	33,049	33,019
46,6	33,360	33,331	33,302	33,273	33,243	33,214	33,185	33,155	33,125	33,096
46,7	33,437	33,408	33,378	33,349	33,320	33,291	33,261	33,231	33,202	33,172
46,8	33,513	33,484	33,455	33,426	33,396	33,367	33,338	33,308	33,278	33,248
46,9	33,590	33,561	33,532	33,502	33,473	33,444	33,414	33,384	33,355	33,325
47,0	33,666	33,637	33,608	33,579	33,550	33,520	33,491	33,461	33,431	33,401
47,1	33,743	33,714	33,685	33,656	33,626	33,597	33,567	33,538	33,508	33,478
47,2	33,820	33,791	33,761	33,732	33,703	33,673	33,644	33,614	33,584	33,554
47,3	33,896	33,867	33,838	33,809	33,779	33,750	33,720	33,691	33,661	33,631
47,4	33,973	33,944	33,915	33,885	33,856	33,826	33,797	33,767	33,737	33,708
47,5	34,050	34,021	33,991	33,962	33,933	33,903	33,873	33,844	33,814	33,784
47,6	34,126	34,097	34,068	34,039	34,009	33,980	33,950	33,920	33,890	33,861
47,7	34,203	34,174	34,145	34,115	34,086	34,056	34,027	33,997	33,967	33,937
47,8	34,280	34,251	34,221	34,192	34,162	34,133	34,103	34,073	34,044	34,014
47,9	34,357	34,327	34,298	34,269	34,239	34,210	34,180	34,150	34,120	34,090
48,0	34,433	34,404	34,375	34,345	34,316	34,286	34,256	34,227	34,197	34,167
48,1	34,510	34,481	34,451	34,422	34,392	34,363	34,333	34,303	34,273	34,243
48,2	34,587	34,557	34,528	34,499	34,469	34,439	34,410	34,380	34,350	34,320
48,3	34,663	34,634	34,605	34,575	34,546	34,516	34,486	34,456	34,426	34,396
48,4	34,740	34,711	34,681	34,652	34,622	34,593	34,563	34,533	34,503	34,473
48,5	34,817	34,788	34,758	34,729	34,699	34,669	34,640	34,610	34,580	34,550
48,6	34,894	34,864	34,835	34,805	34,776	34,746	34,716	34,686	34,656	34,626
48,7	34,970	34,941	34,912	34,882	34,852	34,823	34,793	34,763	34,733	34,703
48,8	35,047	35,018	34,988	34,959	34,929	34,899	34,870	34,840	34,810	34,779
48,9	35,124	35,095	35,065	35,036	35,006	34,976	34,946	34,916	34,886	34,856
49,0	35,201	35,171	35,142	35,112	35,083	35,053	35,023	34,993	34,963	34,933
49,1	35,278	35,248	35,219	35,189	35,159	35,130	35,100	35,070	35,040	35,009
49,2	35,354	35,325	35,295	35,266	35,236	35,206	35,176	35,146	35,116	35,086
49,3	35,431	35,402	35,372	35,343	35,313	35,283	35,253	35,223	35,193	35,163
49,4	35,508	35,479	35,449	35,419	35,390	35,360	35,330	35,300	35,270	35,239
49,5	35,585	35,555	35,526	35,496	35,466	35,436	35,406	35,376	35,346	35,316
49,6	35,662	35,632	35,603	35,573	35,543	35,513	35,483	35,453	35,423	35,393
49,7	35,739	35,709	35,679	35,650	35,620	35,590	35,560	35,530	35,500	35,469
49,8	35,815	35,786	35,756	35,726	35,697	35,667	35,637	35,607	35,576	35,546
49,9	35,892	35,863	35,833	35,803	35,773	35,743	35,713	35,683	35,653	35,623
50,0	35,969	35,940	35,910	35,880	35,850	35,820	35,790	35,760	35,730	35,699

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	22,0	22,1	22,2	22,3	22,4	22,5	22,6	22,7	22,8	22,9
42,0	29,554	29,524	29,495	29,466	29,436	29,407	29,377	29,347	29,318	29,288
42,1	29,630	29,601	29,571	29,542	29,513	29,483	29,453	29,424	29,394	29,364
42,2	29,706	29,677	29,648	29,618	29,589	29,559	29,530	29,500	29,470	29,440
42,3	29,782	29,753	29,724	29,694	29,665	29,635	29,606	29,576	29,546	29,516
42,4	29,859	29,829	29,800	29,771	29,741	29,712	29,682	29,652	29,622	29,592
42,5	29,935	29,906	29,876	29,847	29,817	29,788	29,758	29,728	29,698	29,668
42,6	30,011	29,982	29,953	29,923	29,894	29,864	29,834	29,804	29,775	29,745
42,7	30,088	30,058	30,029	29,999	29,970	29,940	29,910	29,881	29,851	29,821
42,8	30,164	30,135	30,105	30,076	30,046	30,016	29,987	29,957	29,927	29,897
42,9	30,240	30,211	30,181	30,152	30,122	30,093	30,063	30,033	30,003	29,973
43,0	30,316	30,287	30,258	30,228	30,199	30,169	30,139	30,109	30,079	30,049
43,1	30,393	30,363	30,334	30,304	30,275	30,245	30,215	30,185	30,155	30,125
43,2	30,469	30,440	30,410	30,381	30,351	30,321	30,291	30,262	30,232	30,202
43,3	30,545	30,516	30,486	30,457	30,427	30,398	30,368	30,338	30,308	30,278
43,4	30,622	30,592	30,563	30,533	30,503	30,474	30,444	30,414	30,384	30,354
43,5	30,698	30,669	30,639	30,609	30,580	30,550	30,520	30,490	30,460	30,430
43,6	30,774	30,745	30,715	30,686	30,656	30,626	30,596	30,566	30,536	30,506
43,7	30,851	30,821	30,792	30,762	30,732	30,702	30,673	30,643	30,613	30,582
43,8	30,927	30,897	30,868	30,838	30,809	30,779	30,749	30,719	30,689	30,659
43,9	31,003	30,974	30,944	30,915	30,885	30,855	30,825	30,795	30,765	30,735
44,0	31,080	31,050	31,020	30,991	30,961	30,931	30,901	30,871	30,841	30,811
44,1	31,156	31,126	31,097	31,067	31,037	31,007	30,977	30,947	30,917	30,887
44,2	31,232	31,203	31,173	31,143	31,114	31,084	31,054	31,024	30,994	30,963
44,3	31,309	31,279	31,249	31,220	31,190	31,160	31,130	31,100	31,070	31,040
44,4	31,385	31,355	31,326	31,296	31,266	31,236	31,206	31,176	31,146	31,116
44,5	31,461	31,432	31,402	31,372	31,342	31,312	31,282	31,252	31,222	31,192
44,6	31,538	31,508	31,478	31,449	31,419	31,389	31,359	31,329	31,298	31,268
44,7	31,614	31,584	31,555	31,525	31,495	31,465	31,435	31,405	31,375	31,344
44,8	31,690	31,661	31,631	31,601	31,571	31,541	31,511	31,481	31,451	31,421
44,9	31,767	31,737	31,707	31,678	31,648	31,618	31,588	31,557	31,527	31,497
45,0	31,843	31,813	31,784	31,754	31,724	31,694	31,664	31,634	31,603	31,573
45,1	31,919	31,890	31,860	31,830	31,800	31,770	31,740	31,710	31,680	31,649
45,2	31,996	31,966	31,936	31,906	31,877	31,846	31,816	31,786	31,756	31,725
45,3	32,072	32,043	32,013	31,983	31,953	31,923	31,893	31,862	31,832	31,802
45,4	32,149	32,119	32,089	32,059	32,029	31,999	31,969	31,939	31,908	31,878
45,5	32,225	32,195	32,165	32,136	32,106	32,075	32,045	32,015	31,985	31,954
45,6	32,301	32,272	32,242	32,212	32,182	32,152	32,122	32,091	32,061	32,030
45,7	32,378	32,348	32,318	32,288	32,258	32,228	32,198	32,168	32,137	32,107
45,8	32,454	32,424	32,395	32,365	32,335	32,304	32,274	32,244	32,213	32,183
45,9	32,531	32,501	32,471	32,441	32,411	32,381	32,350	32,320	32,290	32,259

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	22,0	22,1	22,2	22,3	22,4	22,5	22,6	22,7	22,8	22,9
46,0	32,607	32,577	32,547	32,517	32,487	32,457	32,427	32,396	32,366	32,335
46,1	32,683	32,654	32,624	32,594	32,564	32,533	32,503	32,473	32,442	32,412
46,2	32,760	32,730	32,700	32,670	32,640	32,610	32,579	32,549	32,519	32,488
46,3	32,836	32,806	32,777	32,746	32,716	32,686	32,656	32,625	32,595	32,564
46,4	32,913	32,883	32,853	32,823	32,793	32,762	32,732	32,702	32,671	32,641
46,5	32,989	32,959	32,929	32,899	32,869	32,839	32,808	32,778	32,747	32,717
46,6	33,066	33,036	33,006	32,976	32,945	32,915	32,885	32,854	32,824	32,793
46,7	33,142	33,112	33,082	33,052	33,022	32,992	32,961	32,931	32,900	32,869
46,8	33,219	33,189	33,159	33,128	33,098	33,068	33,037	33,007	32,976	32,946
46,9	33,295	33,265	33,235	33,205	33,175	33,144	33,114	33,083	33,053	33,022
47,0	33,372	33,342	33,311	33,281	33,251	33,221	33,190	33,160	33,129	33,098
47,1	33,448	33,418	33,388	33,358	33,327	33,297	33,267	33,236	33,205	33,175
47,2	33,525	33,494	33,464	33,434	33,404	33,373	33,343	33,312	33,282	33,251
47,3	33,601	33,571	33,541	33,511	33,480	33,450	33,419	33,389	33,358	33,327
47,4	33,678	33,647	33,617	33,587	33,557	33,526	33,496	33,465	33,434	33,404
47,5	33,754	33,724	33,694	33,663	33,633	33,603	33,572	33,542	33,511	33,480
47,6	33,831	33,800	33,770	33,740	33,710	33,679	33,649	33,618	33,587	33,556
47,7	33,907	33,877	33,847	33,816	33,786	33,756	33,725	33,694	33,664	33,633
47,8	33,984	33,953	33,923	33,893	33,862	33,832	33,801	33,771	33,740	33,709
47,9	34,060	34,030	34,000	33,969	33,939	33,908	33,878	33,847	33,816	33,785
48,0	34,137	34,106	34,076	34,046	34,015	33,985	33,954	33,924	33,893	33,862
48,1	34,213	34,183	34,153	34,122	34,092	34,061	34,031	34,000	33,969	33,938
48,2	34,290	34,260	34,229	34,199	34,168	34,138	34,107	34,076	34,045	34,015
48,3	34,366	34,336	34,306	34,275	34,245	34,214	34,184	34,153	34,122	34,091
48,4	34,443	34,413	34,382	34,352	34,321	34,291	34,260	34,229	34,198	34,167
48,5	34,519	34,489	34,459	34,428	34,398	34,367	34,336	34,306	34,275	34,244
48,6	34,596	34,566	34,535	34,505	34,474	34,444	34,413	34,382	34,351	34,320
48,7	34,673	34,642	34,612	34,581	34,551	34,520	34,489	34,459	34,428	34,397
48,8	34,749	34,719	34,688	34,658	34,627	34,597	34,566	34,535	34,504	34,473
48,9	34,826	34,795	34,765	34,735	34,704	34,673	34,642	34,611	34,580	34,549
49,0	34,902	34,872	34,842	34,811	34,780	34,750	34,719	34,688	34,657	34,626
49,1	34,979	34,949	34,918	34,888	34,857	34,826	34,795	34,764	34,733	34,702
49,2	35,056	35,025	34,995	34,964	34,934	34,903	34,872	34,841	34,810	34,779
49,3	35,132	35,102	35,071	35,041	35,010	34,979	34,948	34,917	34,886	34,855
49,4	35,209	35,178	35,148	35,117	35,087	35,056	35,025	34,994	34,963	34,932
49,5	35,286	35,255	35,225	35,194	35,163	35,132	35,101	35,070	35,039	35,008
49,6	35,362	35,332	35,301	35,271	35,240	35,209	35,178	35,147	35,116	35,085
49,7	35,439	35,408	35,378	35,347	35,316	35,286	35,255	35,223	35,192	35,161
49,8	35,516	35,485	35,454	35,424	35,393	35,362	35,331	35,300	35,269	35,238
49,9	35,592	35,562	35,531	35,500	35,470	35,439	35,408	35,377	35,345	35,314
50,0	35,669	35,638	35,608	35,577	35,546	35,515	35,484	35,453	35,422	35,391

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	23,0	23,1	23,2	23,3	23,4	23,5	23,6	23,7	23,8	23,9
42,0	29,258	29,228	29,198	29,168	29,137	29,107	29,076	29,046	29,015	28,985
42,1	29,334	29,304	29,274	29,244	29,213	29,183	29,152	29,122	29,091	29,061
42,2	29,410	29,380	29,350	29,320	29,289	29,259	29,229	29,198	29,167	29,137
42,3	29,486	29,456	29,426	29,396	29,365	29,335	29,305	29,274	29,243	29,213
42,4	29,562	29,532	29,502	29,472	29,441	29,411	29,381	29,350	29,319	29,289
42,5	29,638	29,608	29,578	29,548	29,518	29,487	29,457	29,426	29,395	29,365
42,6	29,715	29,684	29,654	29,624	29,594	29,563	29,533	29,502	29,471	29,441
42,7	29,791	29,761	29,730	29,700	29,670	29,639	29,609	29,578	29,547	29,517
42,8	29,867	29,837	29,806	29,776	29,746	29,715	29,685	29,654	29,623	29,592
42,9	29,943	29,913	29,883	29,852	29,822	29,791	29,761	29,730	29,699	29,668
43,0	30,019	29,989	29,959	29,928	29,898	29,867	29,837	29,806	29,775	29,744
43,1	30,095	30,065	30,035	30,004	29,974	29,943	29,913	29,882	29,851	29,820
43,2	30,171	30,141	30,111	30,080	30,050	30,019	29,989	29,958	29,927	29,896
43,3	30,248	30,217	30,187	30,157	30,126	30,096	30,065	30,034	30,003	29,972
43,4	30,324	30,293	30,263	30,233	30,202	30,172	30,141	30,110	30,079	30,048
43,5	30,400	30,370	30,339	30,309	30,278	30,248	30,217	30,186	30,155	30,124
43,6	30,476	30,446	30,415	30,385	30,354	30,324	30,293	30,262	30,231	30,200
43,7	30,552	30,522	30,491	30,461	30,430	30,400	30,369	30,338	30,307	30,276
43,8	30,628	30,598	30,568	30,537	30,507	30,476	30,445	30,414	30,383	30,352
43,9	30,704	30,674	30,644	30,613	30,583	30,552	30,521	30,490	30,459	30,428
44,0	30,781	30,750	30,720	30,689	30,659	30,628	30,597	30,566	30,535	30,504
44,1	30,857	30,826	30,796	30,765	30,735	30,704	30,673	30,642	30,612	30,580
44,2	30,933	30,903	30,872	30,842	30,811	30,780	30,749	30,719	30,688	30,657
44,3	31,009	30,979	30,948	30,918	30,887	30,856	30,825	30,795	30,764	30,733
44,4	31,085	31,055	31,024	30,994	30,963	30,932	30,902	30,871	30,840	30,809
44,5	31,162	31,131	31,101	31,070	31,039	31,009	30,978	30,947	30,916	30,885
44,6	31,238	31,207	31,177	31,146	31,115	31,085	31,054	31,023	30,992	30,961
44,7	31,314	31,283	31,253	31,222	31,192	31,161	31,130	31,099	31,068	31,037
44,8	31,390	31,360	31,329	31,298	31,268	31,237	31,206	31,175	31,144	31,113
44,9	31,466	31,436	31,405	31,375	31,344	31,313	31,282	31,251	31,220	31,189
45,0	31,543	31,512	31,481	31,451	31,420	31,389	31,358	31,327	31,296	31,265
45,1	31,619	31,588	31,558	31,527	31,496	31,465	31,434	31,403	31,372	31,341
45,2	31,695	31,664	31,634	31,603	31,572	31,541	31,510	31,479	31,448	31,417
45,3	31,771	31,741	31,710	31,679	31,648	31,617	31,586	31,555	31,524	31,493
45,4	31,847	31,817	31,786	31,755	31,724	31,694	31,663	31,631	31,600	31,569
45,5	31,924	31,893	31,862	31,832	31,801	31,770	31,739	31,708	31,676	31,645
45,6	32,000	31,969	31,938	31,908	31,877	31,846	31,815	31,784	31,752	31,721
45,7	32,076	32,045	32,015	31,984	31,953	31,922	31,891	31,860	31,828	31,797
45,8	32,152	32,122	32,091	32,060	32,029	31,998	31,967	31,936	31,905	31,873
45,9	32,229	32,198	32,167	32,136	32,105	32,074	32,043	32,012	31,981	31,949

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	23,0	23,1	23,2	23,3	23,4	23,5	23,6	23,7	23,8	23,9
45,0	32,305	32,274	32,243	32,212	32,181	32,150	32,119	32,088	32,057	32,025
46,1	32,381	32,350	32,320	32,289	32,258	32,227	32,195	32,164	32,133	32,101
46,2	32,457	32,427	32,396	32,365	32,334	32,303	32,272	32,240	32,209	32,178
46,3	32,534	32,503	32,472	32,441	32,410	32,379	32,348	32,316	32,285	32,254
46,4	32,610	32,579	32,548	32,517	32,486	32,455	32,424	32,393	32,361	32,330
46,5	32,686	32,655	32,624	32,593	32,562	32,531	32,500	32,469	32,437	32,406
46,6	32,762	32,732	32,701	32,670	32,639	32,607	32,576	32,545	32,513	32,482
46,7	32,839	32,808	32,777	32,746	32,715	32,684	32,652	32,621	32,590	32,558
46,8	32,915	32,884	32,853	32,822	32,791	32,760	32,729	32,697	32,666	32,634
46,9	32,991	32,960	32,929	32,898	32,867	32,836	32,805	32,773	32,742	32,710
47,0	33,068	33,037	33,006	32,975	32,943	32,912	32,881	32,850	32,818	32,786
47,1	33,144	33,113	33,082	33,051	33,020	32,988	32,957	32,926	32,894	32,863
47,2	33,220	33,189	33,158	33,127	33,096	33,065	33,033	33,002	32,970	32,939
47,3	33,296	33,266	33,234	33,203	33,172	33,141	33,109	33,078	33,046	33,015
47,4	33,373	33,342	33,311	33,280	33,248	33,217	33,186	33,154	33,123	33,091
47,5	33,449	33,418	33,387	33,356	33,325	33,293	33,262	33,230	33,199	33,167
47,6	33,525	33,494	33,463	33,432	33,401	33,370	33,338	33,307	33,275	33,243
47,7	33,602	33,571	33,540	33,508	33,477	33,446	33,414	33,383	33,351	33,319
47,8	33,678	33,647	33,616	33,585	33,553	33,522	33,491	33,459	33,427	33,396
47,9	33,754	33,723	33,692	33,661	33,630	33,598	33,567	33,535	33,504	33,472
48,0	33,831	33,800	33,769	33,737	33,706	33,675	33,643	33,611	33,580	33,548
48,1	33,907	33,876	33,845	33,814	33,782	33,751	33,719	33,688	33,656	33,624
48,2	33,984	33,952	33,921	33,890	33,859	33,827	33,796	33,764	33,732	33,700
48,3	34,060	34,029	33,998	33,966	33,935	33,903	33,872	33,840	33,808	33,777
48,4	34,136	34,105	34,074	34,043	34,011	33,980	33,948	33,916	33,885	33,853
48,5	34,213	34,181	34,150	34,119	34,087	34,056	34,024	33,993	33,961	33,929
48,6	34,289	34,258	34,227	34,195	34,164	34,132	34,101	34,069	34,037	34,005
48,7	34,365	34,334	34,303	34,272	34,240	34,208	34,177	34,145	34,113	34,081
48,8	34,442	34,411	34,379	34,348	34,316	34,285	34,253	34,221	34,189	34,158
48,9	34,518	34,487	34,456	34,424	34,393	34,361	34,329	34,298	34,265	34,234
49,0	34,595	34,563	34,532	34,501	34,469	34,437	34,406	34,374	34,342	34,310
49,1	34,671	34,640	34,608	34,577	34,545	34,514	34,482	34,450	34,418	34,386
49,2	34,748	34,716	34,685	34,653	34,622	34,590	34,558	34,526	34,495	34,463
49,3	34,824	34,793	34,761	34,730	34,698	34,666	34,635	34,603	34,571	34,539
49,4	34,900	34,869	34,838	34,806	34,774	34,743	34,711	34,679	34,647	34,615
49,5	34,977	34,945	34,914	34,882	34,851	34,819	34,787	34,755	34,723	34,691
49,6	35,053	35,022	34,990	34,959	34,927	34,895	34,864	34,832	34,800	34,768
49,7	35,130	35,098	35,067	35,035	35,004	34,972	34,940	34,908	34,876	34,844
49,8	35,206	35,175	35,143	35,112	35,080	35,048	35,016	34,984	34,952	34,920
49,9	35,283	35,251	35,220	35,188	35,156	35,125	35,093	35,061	35,029	34,996
50,0	35,359	35,328	35,296	35,265	35,233	35,201	35,169	35,137	35,105	35,073

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	24,0	24,1	24,2	24,3	24,4	24,5	24,6	24,7	24,8	24,9
42,0	28,954	28,923	28,892	28,861	28,830	28,799	28,768	28,737	28,705	28,674
42,1	29,030	28,999	28,968	28,937	28,906	28,875	28,844	28,812	28,781	28,750
42,2	29,106	29,075	29,044	29,013	28,982	28,951	28,920	28,888	28,857	28,825
42,3	29,182	29,151	29,120	29,089	29,058	29,027	28,995	28,964	28,933	28,901
42,4	29,258	29,227	29,196	29,165	29,134	29,103	29,071	29,040	29,008	28,977
42,5	29,334	29,303	29,272	29,241	29,210	29,178	29,147	29,116	29,084	29,053
42,6	29,410	29,379	29,348	29,317	29,285	29,254	29,223	29,192	29,160	29,129
42,7	29,486	29,455	29,424	29,393	29,361	29,330	29,299	29,267	29,236	29,204
42,8	29,562	29,531	29,500	29,468	29,437	29,406	29,375	29,343	29,312	29,280
42,9	29,638	29,607	29,576	29,544	29,513	29,482	29,451	29,419	29,388	29,356
43,0	29,714	29,683	29,651	29,620	29,589	29,558	29,526	29,495	29,463	29,432
43,1	29,790	29,759	29,727	29,696	29,665	29,634	29,602	29,571	29,539	29,508
43,2	29,865	29,834	29,803	29,772	29,741	29,710	29,678	29,647	29,615	29,583
43,3	29,941	29,910	29,879	29,848	29,817	29,785	29,754	29,722	29,691	29,659
43,4	30,017	29,986	29,955	29,924	29,893	29,861	29,830	29,798	29,767	29,735
43,5	30,093	30,062	30,031	30,000	29,969	29,937	29,906	29,874	29,843	29,811
43,6	30,169	30,138	30,107	30,076	30,045	30,013	29,982	29,950	29,918	29,887
43,7	30,245	30,214	30,183	30,152	30,120	30,089	30,057	30,026	29,994	29,962
43,8	30,321	30,290	30,259	30,228	30,196	30,165	30,133	30,102	30,070	30,038
43,9	30,397	30,366	30,335	30,304	30,272	30,241	30,209	30,178	30,146	30,114
44,0	30,473	30,442	30,411	30,380	30,348	30,317	30,285	30,253	30,222	30,190
44,1	30,549	30,518	30,487	30,456	30,424	30,393	30,361	30,329	30,298	30,266
44,2	30,625	30,594	30,563	30,532	30,500	30,469	30,437	30,405	30,373	30,342
44,3	30,701	30,670	30,639	30,607	30,576	30,544	30,513	30,481	30,449	30,417
44,4	30,777	30,746	30,715	30,683	30,652	30,620	30,589	30,557	30,525	30,493
44,5	30,853	30,822	30,791	30,759	30,728	30,696	30,665	30,633	30,601	30,569
44,6	30,929	30,898	30,867	30,835	30,804	30,772	30,741	30,709	30,677	30,645
44,7	31,005	30,974	30,943	30,911	30,880	30,848	30,816	30,785	30,753	30,721
44,8	31,081	31,050	31,019	30,987	30,956	30,924	30,892	30,861	30,829	30,797
44,9	31,157	31,126	31,095	31,063	31,032	31,000	30,968	30,936	30,905	30,873
45,0	31,233	31,202	31,171	31,139	31,108	31,076	31,044	31,012	30,980	30,948
45,1	31,310	31,278	31,247	31,215	31,184	31,152	31,120	31,088	31,056	31,024
45,2	31,386	31,354	31,323	31,291	31,259	31,228	31,196	31,164	31,132	31,100
45,3	31,462	31,430	31,399	31,367	31,335	31,304	31,272	31,240	31,208	31,176
45,4	31,538	31,506	31,475	31,443	31,411	31,380	31,348	31,316	31,284	31,252
45,5	31,614	31,582	31,551	31,519	31,487	31,456	31,424	31,392	31,360	31,328
45,6	31,690	31,658	31,627	31,595	31,563	31,532	31,500	31,468	31,436	31,404
45,7	31,766	31,734	31,703	31,671	31,639	31,608	31,576	31,544	31,512	31,479
45,8	31,842	31,810	31,779	31,747	31,715	31,683	31,652	31,620	31,588	31,555
45,9	31,918	31,886	31,855	31,823	31,791	31,759	31,728	31,695	31,663	31,631

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

S ↓	t°,C → 24,0	24,1	24,2	24,3	24,4	24,5	24,6	24,7	24,8	24,9
46,0	31,994	31,962	31,931	31,899	31,867	31,835	31,803	31,771	31,739	31,707
46,1	32,070	32,038	32,007	31,975	31,943	31,911	31,879	31,847	31,815	31,783
46,2	32,146	32,114	32,083	32,051	32,019	31,987	31,955	31,923	31,891	31,859
46,3	32,222	32,191	32,159	32,127	32,095	32,063	32,031	31,999	31,967	31,935
46,4	32,298	32,267	32,235	32,203	32,171	32,139	32,107	32,075	32,043	32,011
46,5	32,374	32,343	32,311	32,279	32,247	32,215	32,183	32,151	32,119	32,087
46,6	32,450	32,419	32,387	32,355	32,323	32,291	32,259	32,227	32,195	32,163
46,7	32,526	32,495	32,463	32,431	32,399	32,367	32,335	32,303	32,271	32,238
46,8	32,603	32,571	32,539	32,507	32,475	32,443	32,411	32,379	32,347	32,314
46,9	32,679	32,647	32,615	32,583	32,551	32,519	32,487	32,455	32,423	32,390
47,0	32,755	32,723	32,691	32,659	32,627	32,595	32,563	32,531	32,499	32,466
47,1	32,831	32,799	32,767	32,735	32,703	32,671	32,639	32,607	32,575	32,542
47,2	32,907	32,875	32,843	32,811	32,779	32,747	32,715	32,683	32,650	32,618
47,3	32,983	32,951	32,919	32,887	32,855	32,823	32,791	32,759	32,726	32,694
47,4	33,059	33,027	32,996	32,964	32,931	32,899	32,867	32,835	32,802	32,770
47,5	33,135	33,104	33,072	33,040	33,008	32,975	32,943	32,911	32,878	32,846
47,6	33,212	33,180	33,148	33,116	33,084	33,051	33,019	32,987	32,954	32,922
47,7	33,288	33,256	33,224	33,192	33,160	33,127	33,095	33,063	33,030	32,998
47,8	33,364	33,332	33,300	33,268	33,236	33,203	33,171	33,139	33,106	33,074
47,9	33,440	33,408	33,376	33,344	33,312	33,280	33,247	33,215	33,182	33,150
48,0	33,516	33,484	33,452	33,420	33,388	33,356	33,323	33,291	33,258	33,226
48,1	33,592	33,560	33,528	33,496	33,464	33,432	33,399	33,367	33,334	33,302
48,2	33,668	33,636	33,604	33,572	33,540	33,508	33,475	33,443	33,410	33,378
48,3	33,745	33,713	33,681	33,648	33,616	33,584	33,551	33,519	33,486	33,454
48,4	33,821	33,789	33,757	33,724	33,692	33,660	33,627	33,595	33,562	33,530
48,5	33,897	33,865	33,833	33,801	33,768	33,736	33,703	33,671	33,638	33,606
48,6	33,973	33,941	33,909	33,877	33,844	33,812	33,779	33,747	33,714	33,682
48,7	34,049	34,017	33,985	33,953	33,920	33,888	33,856	33,823	33,790	33,758
48,8	34,126	34,093	34,061	34,029	33,997	33,964	33,932	33,899	33,866	33,834
48,9	34,202	34,170	34,137	34,105	34,073	34,040	34,008	33,975	33,942	33,910
49,0	34,278	34,246	34,214	34,181	34,149	34,116	34,084	34,051	34,018	33,986
49,1	34,354	34,322	34,290	34,257	34,225	34,192	34,160	34,127	34,094	34,062
49,2	34,430	34,398	34,366	34,334	34,301	34,269	34,236	34,203	34,170	34,138
49,3	34,507	34,474	34,442	34,410	34,377	34,345	34,312	34,279	34,247	34,214
49,4	34,583	34,551	34,518	34,486	34,453	34,421	34,388	34,355	34,323	34,290
49,5	34,659	34,627	34,595	34,562	34,530	34,497	34,464	34,432	34,399	34,366
49,6	34,735	34,703	34,671	34,638	34,606	34,573	34,540	34,508	34,475	34,442
49,7	34,812	34,779	34,747	34,714	34,682	34,649	34,617	34,584	34,551	34,518
49,8	34,888	34,856	34,823	34,791	34,758	34,725	34,693	34,660	34,627	34,594
49,9	34,964	34,932	34,899	34,867	34,834	34,802	34,769	34,736	34,703	34,670
50,0	35,040	35,008	34,976	34,943	34,910	34,878	34,845	34,812	34,779	34,746

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	25,0	25,1	25,2	25,3	25,4	25,5	25,6	25,7	25,8	25,9
42,0	28,642	28,611	28,579	28,547	28,515	28,483	28,452	28,420	28,387	28,355
42,1	28,718	28,686	28,655	28,623	28,591	28,559	28,527	28,495	28,463	28,431
42,2	28,794	28,762	28,730	28,699	28,667	28,635	28,603	28,571	28,539	28,506
42,3	28,870	28,838	28,806	28,774	28,743	28,711	28,679	28,646	28,614	28,582
42,4	28,945	28,914	28,882	28,850	28,818	28,786	28,754	28,722	28,690	28,658
42,5	29,021	28,989	28,958	28,926	28,894	28,862	28,830	28,798	28,766	28,733
42,6	29,097	29,065	29,033	29,002	28,970	28,938	28,906	28,873	28,841	28,809
42,7	29,173	29,141	29,109	29,077	29,045	29,013	28,981	28,949	28,917	28,885
42,8	29,248	29,217	29,185	29,153	29,121	29,089	29,057	29,025	28,993	28,960
42,9	29,324	29,293	29,261	29,229	29,197	29,165	29,133	29,100	29,068	29,036
43,0	29,400	29,368	29,336	29,305	29,273	29,240	29,208	29,176	29,144	29,111
43,1	29,476	29,444	29,412	29,380	29,348	29,316	29,284	29,252	29,219	29,187
43,2	29,552	29,520	29,488	29,456	29,424	29,392	29,360	29,327	29,295	29,263
43,3	29,627	29,596	29,564	29,532	29,500	29,468	29,435	29,403	29,371	29,338
43,4	29,703	29,671	29,639	29,607	29,575	29,543	29,511	29,479	29,446	29,414
43,5	29,779	29,747	29,715	29,683	29,651	29,619	29,587	29,554	29,522	29,490
43,6	29,855	29,823	29,791	29,759	29,727	29,695	29,662	29,630	29,598	29,565
43,7	29,931	29,899	29,867	29,835	29,803	29,770	29,738	29,706	29,673	29,641
43,8	30,006	29,975	29,943	29,910	29,878	29,846	29,814	29,781	29,749	29,716
43,9	30,082	30,050	30,018	29,986	29,954	29,922	29,890	29,857	29,825	29,792
44,0	30,158	30,126	30,094	30,062	30,030	29,998	29,965	29,933	29,900	29,868
44,1	30,234	30,202	30,170	30,138	30,106	30,073	30,041	30,008	29,976	29,943
44,2	30,310	30,278	30,246	30,214	30,181	30,149	30,117	30,084	30,052	30,019
44,3	30,386	30,354	30,321	30,289	30,257	30,225	30,192	30,160	30,127	30,095
44,4	30,461	30,429	30,397	30,365	30,333	30,300	30,268	30,236	30,203	30,170
44,5	30,537	30,505	30,473	30,441	30,409	30,376	30,344	30,311	30,279	30,246
44,6	30,613	30,581	30,549	30,517	30,484	30,452	30,419	30,387	30,354	30,322
44,7	30,689	30,657	30,625	30,592	30,560	30,528	30,495	30,463	30,430	30,397
44,8	30,765	30,733	30,700	30,668	30,636	30,603	30,571	30,538	30,506	30,473
44,9	30,840	30,808	30,776	30,744	30,712	30,679	30,647	30,614	30,581	30,549
45,0	30,916	30,884	30,852	30,820	30,787	30,755	30,722	30,690	30,657	30,624
45,1	30,992	30,960	30,928	30,895	30,863	30,831	30,798	30,765	30,733	30,700
45,2	31,068	31,036	31,004	30,971	30,939	30,906	30,874	30,841	30,808	30,776
45,3	31,144	31,112	31,079	31,047	31,015	30,982	30,949	30,917	30,884	30,851
45,4	31,220	31,187	31,155	31,123	31,090	31,058	31,025	30,993	30,960	30,927
45,5	31,296	31,263	31,231	31,199	31,166	31,134	31,101	31,068	31,035	31,003
45,6	31,371	31,339	31,307	31,274	31,242	31,209	31,177	31,144	31,111	31,078
45,7	31,447	31,415	31,383	31,350	31,318	31,285	31,252	31,220	31,187	31,154
45,8	31,523	31,491	31,458	31,426	31,393	31,361	31,328	31,295	31,263	31,230
45,9	31,599	31,567	31,534	31,502	31,469	31,437	31,404	31,371	31,338	31,305

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	25,0	25,1	25,2	25,3	25,4	25,5	25,6	25,7	25,8	25,9
46,0	31,675	31,643	31,610	31,578	31,545	31,512	31,480	31,447	31,414	31,381
46,1	31,751	31,718	31,686	31,653	31,621	31,588	31,555	31,523	31,490	31,457
46,2	31,827	31,794	31,762	31,729	31,697	31,664	31,631	31,598	31,565	31,532
46,3	31,902	31,870	31,838	31,805	31,772	31,740	31,707	31,674	31,641	31,608
46,4	31,978	31,946	31,913	31,881	31,848	31,815	31,783	31,750	31,717	31,684
46,5	32,054	32,022	31,989	31,957	31,924	31,891	31,858	31,825	31,792	31,759
46,6	32,130	32,098	32,065	32,032	32,000	31,967	31,934	31,901	31,868	31,835
46,7	32,206	32,174	32,141	32,108	32,076	32,043	32,010	31,977	31,944	31,911
46,8	32,282	32,249	32,217	32,184	32,151	32,119	32,086	32,053	32,020	31,986
46,9	32,358	32,325	32,293	32,260	32,227	32,194	32,161	32,128	32,095	32,062
47,0	32,434	32,401	32,369	32,336	32,303	32,270	32,237	32,204	32,171	32,138
47,1	32,510	32,477	32,444	32,412	32,379	32,346	32,313	32,280	32,247	32,214
47,2	32,586	32,553	32,520	32,487	32,455	32,422	32,389	32,356	32,323	32,289
47,3	32,661	32,629	32,596	32,563	32,530	32,498	32,465	32,431	32,398	32,365
47,4	32.737	32,705	32,672	32,639	32,606	32,573	32,540	32,507	32,474	32,441
47,5	32,813	32,781	32,748	32,715	32,682	32,649	32,616	32,583	32,550	32,516
47,6	32,889	32,857	32,824	32,791	32,758	32,725	32,692	32,659	32,626	32,592
47,7	32,965	32,932	32,900	32,867	32,834	32,801	32,768	32,735	32,701	32,668
47,8	33,041	33,008	32,976	32,943	32,910	32,877	32,844	32,810	32,777	32,744
47,9	33,117	33,084	33,051	33,019	32,986	32,952	32,919	32,886	32,853	32,819
48,0	33,193	33,160	33,127	33,094	33,061	33,028	32,995	32,962	32,929	32,895
48,1	33,269	33,236	33,203	33,170	33,137	33,104	33,071	33,038	33,004	32,971
48,2	33,345	33,312	33,279	33,246	33,213	33,180	33,147	33,113	33,080	33,047
48,3	33,421	33,388	33,355	33,322	33,289	33,256	33,223	33,189	33,156	33,122
48,4	33,497	33,464	33,431	33,398	33,365	33,332	33,298	33,265	33,232	33,198
48,5	33,573	33,540	33,507	33,474	33,441	33,408	33,374	33,341	33,307	33,274
48,6	33,649	33,616	33,583	33,550	33,517	33,483	33,450	33,417	33,383	33,350
48,7	33,725	33,692	33,659	33,626	33,593	33,559	33,526	33,493	33,459	33,425
48,8	33,801	33,768	33,735	33,702	33,668	33,635	33,602	33,568	33,535	33,501
48,9	33,877	33,844	33,811	33,778	33,744	33,711	33,678	33,644	33,611	33,577
49,0	33,953	33,920	33,887	33,853	33,820	33,787	33,753	33,720	33,686	33,653
49,1	34,029	33,996	33,963	33,929	33,896	33,863	33,829	33,796	33,762	33,729
49,2	34,105	34,072	34,038	34,005	33,972	33,939	33,905	33,872	33,838	33,804
49,3	34,181	34,148	34,114	34,081	34,048	34,015	33,981	33,948	33,914	33,880
49,4	34,257	34,224	34,190	34,157	34,124	34,090	34,057	34,023	33,990	33,956
49,5	34,333	34,300	34,266	34,233	34,200	34,166	34,133	34,099	34,066	34,032
49,6	34,409	34,376	34,342	34,309	34,276	34,242	34,209	34,175	34,141	34,108
49,7	34,485	34,452	34,418	34,385	34,352	34,318	34,285	34,251	34,217	34,183
49,8	34,561	34,528	34,494	34,461	34,428	34,394	34,361	34,327	34,293	34,259
49,9	34,637	34,604	34,570	34,537	34,504	34,470	34,436	34,403	34,369	34,335
50,0	34,713	34,680	34,646	34,613	34,580	34,546	34,512	34,479	34,445	34,411

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	26,0	26,1	26,2	26,3	26,4	26,5	26,6	26,7	26,8	26,9
42,0	28,323	28,291	28,258	28,226	28,193	28,161	28,128	28,095	28,062	28,030
42,1	28,399	28,366	28,334	28,301	28,269	28,236	28,203	28,171	28,138	28,105
42,2	28,474	28,442	28,409	28,377	28,344	28,312	28,279	28,246	28,213	28,180
42,3	28,550	28,517	28,485	28,452	28,420	28,387	28,354	28,322	28,289	28,256
42,4	28,625	28,593	28,561	28,528	28,495	28,463	28,430	28,397	28,364	28,331
42,5	28,701	28,669	28,636	28,604	28,571	28,538	28,505	28,473	28,440	28,407
42,6	28,777	28,744	28,712	28,679	28,646	28,614	28,581	28,548	28,515	28,482
42,7	28,852	28,820	28,787	28,755	28,722	28,689	28,656	28,624	28,591	28,558
42,8	28,928	28,895	28,863	28,830	28,797	28,765	28,732	28,699	28,666	28,633
42,9	29,003	28,971	28,938	28,906	28,873	28,840	28,807	28,774	28,742	28,708
43,0	29,079	29,047	29,014	28,981	28,949	28,916	28,883	28,850	28,817	28,784
43,1	29,155	29,122	29,089	29,057	29,024	28,991	28,958	28,925	28,892	28,859
43,2	29,230	29,198	29,165	29,132	29,100	29,067	29,034	29,001	28,968	28,935
43,3	29,306	29,273	29,241	29,208	29,175	29,142	29,109	29,076	29,043	29,010
43,4	29,381	29,349	29,316	29,283	29,251	29,218	29,185	29,152	29,119	29,086
43,5	29,457	29,424	29,392	29,359	29,326	29,293	29,260	29,227	29,194	29,161
43,6	29,533	29,500	29,467	29,435	29,402	29,369	29,336	29,303	29,270	29,237
43,7	29,608	29,576	29,543	29,510	29,477	29,444	29,411	29,378	29,345	29,312
43,8	29,684	29,651	29,619	29,586	29,553	29,520	29,487	29,454	29,421	29,387
43,9	29,760	29,727	29,694	29,661	29,628	29,595	29,562	29,529	29,496	29,463
44,0	29,835	29,802	29,770	29,737	29,704	29,671	29,638	29,605	29,572	29,538
44,1	29,911	29,878	29,845	29,812	29,779	29,746	29,713	29,680	29,647	29,614
44,2	29,986	29,954	29,921	29,888	29,855	29,822	29,789	29,756	29,722	29,689
44,3	30,062	30,029	29,996	29,964	29,931	29,897	29,864	29,831	29,798	29,765
44,4	30,138	30,105	30,072	30,039	30,006	29,973	29,940	29,907	29,873	29,840
44,5	30,213	30,180	30,148	30,115	30,082	30,049	30,015	29,982	29,949	29,915
44,6	30,289	30,256	30,223	30,190	30,157	30,124	30,091	30,058	30,024	29,991
44,7	30,365	30,332	30,299	30,266	30,233	30,200	30,166	30,133	30,100	30,066
44,8	30,440	30,407	30,374	30,341	30,308	30,275	30,242	30,209	30,175	30,142
44,9	30,516	30,483	30,450	30,417	30,384	30,351	30,317	30,284	30,251	30,217
45,0	30,591	30,559	30,526	30,492	30,459	30,426	30,393	30,360	30,326	30,293
45,1	30,667	30,634	30,601	30,568	30,535	30,502	30,468	30,435	30,402	30,368
45,2	30,743	30,710	30,677	30,644	30,610	30,577	30,544	30,511	30,477	30,444
45,3	30,818	30,785	30,752	30,719	30,686	30,653	30,619	30,586	30,553	30,519
45,4	30,894	30,861	30,828	30,795	30,762	30,728	30,695	30,662	30,628	30,594
45,5	30,970	30,937	30,904	30,870	30,837	30,804	30,770	30,737	30,704	30,670
45,6	31,045	31,012	30,979	30,946	30,913	30,879	30,846	30,813	30,779	30,745
45,7	31,121	31,088	31,055	31,022	30,988	30,955	30,922	30,888	30,854	30,821
45,8	31,197	31,164	31,130	31,097	31,064	31,030	30,997	30,964	30,930	30,896
45,9	31,272	31,239	31,206	31,173	31,139	31,106	31,073	31,039	31,005	30,972

Table 3 a

Density anomaly γ(S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	26,0	26,1	26,2	26,3	26,4	26,5	26,6	26,7	26,8	26,9
46,0	31,348	31,315	31,282	31,248	31,215	31,182	31,148	31,115	31,081	31,047
46,1	31,424	31,390	31,357	31,324	31,291	31,257	31,224	31,190	31,156	31,123
46,2	31,499	31,466	31,433	31,400	31,366	31,333	31,299	31,266	31,232	31,198
46,3	31,575	31,542	31,508	31,475	31,442	31,408	31,375	31,341	31,307	31,274
46,4	31,651	31,617	31,584	31,551	31,517	31,484	31,450	31,417	31,383	31,349
46,5	31,726	31,693	31,660	31,626	31,593	31,559	31,526	31,492	31,458	31,425
46,6	31,802	31,769	31,735	31,702	31,668	31,635	31,601	31,568	31,534	31,500
46,7	31,878	31,844	31,811	31,778	31,744	31,711	31,677	31,643	31,609	31,576
46,8	31,953	31,920	31,887	31,853	31,820	31,786	31,752	31,719	31,685	31,651
46,9	32,029	31,996	31,962	31,929	31,895	31,862	31,828	31,794	31,760	31,726
47,0	32,105	32,071	32,038	32,004	31,971	31,937	31,904	31,870	31,836	31,802
47,1	32,180	32,147	32,114	32,080	32,046	32,013	31,979	31,945	31,911	31,877
47,2	32,256	32,223	32,189	32,156	32,122	32,088	32,055	32,021	31,987	31,953
47,3	32,332	32,298	32,265	32,231	32,198	32,164	32,130	32,096	32,062	32,028
47,4	32,407	32,374	32,340	32,307	32,273	32,240	32,206	32,172	32,138	32,104
47,5	32,483	32,450	32,416	32,383	32,349	32,315	32,281	32,247	32,213	32,179
47,6	32,559	32,525	32,492	32,458	32,425	32,391	32,357	32,323	32,289	32,255
47,7	32,635	32,601	32,567	32,534	32,500	32,466	32,432	32,399	32,365	32,330
47,8	32,710	32,677	32,643	32,609	32,576	32,542	32,508	32,474	32,440	32,406
47,9	32,786	32,752	32,719	32,685	32,651	32,618	32,584	32,550	32,516	32,481
48,0	32,862	32,828	32,794	32,761	32,727	32,693	32,659	32,625	32,591	32,557
48,1	32,937	32,904	32,870	32,836	32,803	32,769	32,735	32,701	32,667	32,632
48,2	33,013	32,980	32,946	32,912	32,878	32,844	32,810	32,776	32,742	32,708
48,3	33,089	33,055	33,022	32,988	32,954	32,920	32,886	32,852	32,818	32,783
48,4	33,165	33,131	33,097	33,063	33,030	32,996	32,962	32,927	32,893	32,859
48,5	33,240	33,207	33,173	33,139	33,105	33,071	33,037	33,003	32,969	32,935
48,6	33,316	33,282	33,249	33,215	33,181	33,147	33,113	33,079	33,044	33,010
48,7	33,392	33,358	33,324	33,290	33,256	33,222	33,188	33,154	33,120	33,086
48,8	33,468	33,434	33,400	33,366	33,332	33,298	33,264	33,230	33,195	33,161
48,9	33,543	33,510	33,476	33,442	33,408	33,374	33,340	33,305	33,271	33,237
49,0	33,619	33,585	33,551	33,518	33,483	33,449	33,415	33,381	33,347	33,312
49,1	33,695	33,661	33,627	33,593	33,559	33,525	33,491	33,457	33,422	33,388
49,2	33,771	33,737	33,703	33,669	33,635	33,601	33,566	33,532	33,498	33,463
49,3	33,846	33,813	33,779	33,745	33,711	33,676	33,642	33,608	33,573	33,539
49,4	33,922	33,888	33,854	33,820	33,786	33,752	33,718	33,683	33,649	33,614
49,5	33,998	33,964	33,930	33,896	33,862	33,828	33,793	33,759	33,725	33,690
49,6	34,074	34,040	34,006	33,972	33,938	33,903	33,869	33,835	33,800	33,766
49,7	34,150	34,116	34,082	34,047	34,013	33,979	33,945	33,910	33,876	33,841
49,8	34,225	34,191	34,157	34,123	34,089	34,055	34,020	33,986	33,951	33,917
49,9	34,301	34,267	34,233	34,199	34,165	34,130	34,096	34,061	34,027	33,992
50,0	34,377	34,343	34,309	34,275	34,240	34,206	34,172	34,137	34,103	34,068

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

	t°,C →									
	27,0	27,1	27,2	27,3	27,4	27,5	27,6	27,7	27,8	27,9
42,0	27,997	27,964	27,931	27,897	27,864	27,831	27,798	27,764	27,731	27,697
42,1	28,072	28,039	28,006	27,973	27,940	27,906	27,873	27,839	27,806	27,772
42,2	28,147	28,114	28,081	28,048	28,015	27,982	27,948	27,915	27,881	27,848
42,3	28,223	28,190	28,157	28,123	28,090	28,057	28,023	27,990	27,956	27,923
42,4	28,298	28,265	28,232	28,199	28,166	28,132	28,099	28,065	28,032	27,998
42,5	28,374	28,341	28,307	28,274	28,241	28,207	28,174	28,141	28,107	28,073
42,6	28,449	28,416	28,383	28,350	28,316	28,283	28,249	28,216	28,182	28,149
42,7	28,525	28,491	28,458	28,425	28,392	28,358	28,325	28,291	28,257	28,224
42,8	28,600	28,567	28,534	28,500	28,467	28,433	28,400	28,366	28,333	28,299
42,9	28,675	28,642	28,609	28,576	28,542	28,509	28,475	28,442	28,408	28,374
43,0	28,751	28,718	28,684	28,651	28,618	28,584	28,550	28,517	28,483	28,449
43,1	28,826	28,793	28,760	28,726	28,693	28,659	28,626	28,592	28,558	28,525
43,2	28,902	28,868	28,835	28,802	28,768	28,735	28,701	28,667	28,634	28,600
43,3	28,977	28,944	28,910	28,877	28,844	28,810	28,776	28,743	28,709	28,675
43,4	29,052	29,019	28,986	28,952	28,919	28,885	28,852	28,818	28,784	28,750
43,5	29,128	29,095	29,061	29,028	28,994	28,961	28,927	28,893	28,859	28,826
43,6	29,203	29,170	29,137	29,103	29,070	29,036	29,002	28,968	28,935	28,901
43,7	29,279	29,245	29,212	29,178	29,145	29,111	29,078	29,044	29,010	28,976
43,8	29,354	29,321	29,287	29,254	29,220	29,187	29,153	29,119	29,085	29,051
43,9	29,429	29,396	29,363	29,329	29,296	29,262	29,228	29,194	29,160	29,127
44,0	29,505	29,471	29,438	29,404	29,371	29,337	29,303	29,270	29,236	29,202
44,1	29,580	29,547	29,513	29,480	29,446	29,412	29,379	29,345	29,311	29,277
44,2	29,656	29,622	29,589	29,555	29,522	29,488	29,454	29,420	29,386	29,352
44,3	29,731	29,698	29,664	29,631	29,597	29,563	29,529	29,495	29,461	29,427
44,4	29,807	29,773	29,740	29,706	29,672	29,638	29,605	29,571	29,537	29,503
44,5	29,882	29,848	29,815	29,781	29,748	29,714	29,680	29,646	29,612	29,578
44,6	29,957	29,924	29,890	29,857	29,823	29,789	29,755	29,721	29,687	29,653
44,7	30,033	29,999	29,966	29,932	29,898	29,864	29,830	29,796	29,762	29,728
44,8	30,108	30,075	30,041	30,007	29,974	29,940	29,906	29,872	29,838	29,804
44,9	30,184	30,150	30,116	30,083	30,049	30,015	29,981	29,947	29,913	29,879
45,0	30,259	30,225	30,192	30,158	30,124	30,090	30,056	30,022	29,988	29,954
45,1	30,335	30,301	30,267	30,233	30,200	30,166	30,132	30,098	30,063	30,029
45,2	30,410	30,376	30,343	30,309	30,275	30,241	30,207	30,173	30,139	30,104
45,3	30,485	30,452	30,418	30,384	30,350	30,316	30,282	30,248	30,214	30,180
45,4	30,561	30,527	30,493	30,459	30,426	30,392	30,358	30,323	30,289	30,255
45,5	30,636	30,603	30,569	30,535	30,501	30,467	30,433	30,399	30,364	30,330
45,6	30,712	30,678	30,644	30,610	30,576	30,542	30,508	30,474	30,440	30,405
45,7	30,787	30,753	30,720	30,686	30,652	30,618	30,583	30,549	30,515	30,481
45,8	30,863	30,829	30,795	30,761	30,727	30,693	30,659	30,625	30,590	30,556
45,9	30,938	30,904	30,870	30,836	30,802	30,768	30,734	30,700	30,665	30,631

S ↓

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	27,0	27,1	27,2	27,3	27,4	27,5	27,6	27,7	27,8	27,9
46,0	31,013	30,980	30,946	30,912	30,878	30,844	30,809	30,775	30,741	30,706
46,1	31,089	31,055	31,021	30,987	30,953	30,919	30,885	30,850	30,816	30,782
46,2	31,164	31,130	31,096	31,062	31,028	30,994	30,960	30,926	30,891	30,857
46,3	31,240	31,206	31,172	31,138	31,104	31,070	31,035	31,001	30,967	30,932
46,4	31,315	31,281	31,247	31,213	31,179	31,145	31,111	31,076	31,042	31,007
46,5	31,391	31,357	31,323	31,289	31,254	31,220	31,186	31,152	31,117	31,083
46,6	31,466	31,432	31,398	31,364	31,330	31,296	31,261	31,227	31,192	31,158
46,7	31,542	31,508	31,474	31,439	31,405	31,371	31,337	31,302	31,268	31,233
46,8	31,617	31,583	31,549	31,515	31,481	31,446	31,412	31,377	31,343	31,308
46,9	31,693	31,658	31,624	31,590	31,556	31,522	31,487	31,453	31,418	31,384
47,0	31,768	31,734	31,700	31,666	31,631	31,597	31,562	31,528	31,493	31,459
47,1	31,843	31,809	31,775	31,741	31,707	31,672	31,638	31,603	31,569	31,534
47,2	31,919	31,885	31,851	31,816	31,782	31,748	31,713	31,679	31,644	31,609
47,3	31,994	31,960	31,926	31,892	31,857	31,823	31,788	31,754	31,719	31,685
47,4	32,070	32,036	32,001	31,967	31,933	31,898	31,864	31,829	31,794	31,760
47,5	32,145	32,111	32,077	32,043	32,008	31,974	31,939	31,904	31,870	31,835
47,6	32,221	32,187	32,152	32,118	32,083	32,049	32,014	31,980	31,945	31,910
47,7	32,296	32,262	32,228	32,193	32,159	32,124	32,090	32,055	32,020	31,986
47,8	32,372	32,337	32,303	32,269	32,234	32,200	32,165	32,130	32,096	32,061
47,9	32,447	32,413	32,379	32,344	32,310	32,275	32,240	32,206	32,171	32,136
48,0	32,523	32,488	32,454	32,420	32,385	32,350	32,316	32,281	32,246	32,211
48,1	32,598	32,564	32,529	32,495	32,460	32,426	32,391	32,356	32,321	32,287
48,2	32,674	32,639	32,605	32,570	32,536	32,501	32,466	32,432	32,397	32,362
48,3	32,749	32,715	32,680	32,646	32,611	32,577	32,542	32,507	32,472	32,437
48,4	32,825	32,790	32,756	32,721	32,687	32,652	32,617	32,582	32,547	32,512
48,5	32,900	32,866	32,831	32,797	32,762	32,727	32,692	32,658	32,623	32,588
48,6	32,976	32,941	32,907	32,872	32,837	32,803	32,768	32,733	32,698	32,663
48,7	33,051	33,017	32,982	32,948	32,913	32,878	32,843	32,808	32,773	32,738
48,8	33,127	33,092	33,058	33,023	32,988	32,953	32,919	32,884	32,849	32,814
48,9	33,202	33,168	33,133	33,098	33,064	33,029	32,994	32,959	32,924	32,889
49,0	33,278	33,243	33,209	33,174	33,139	33,104	33,069	33,034	32,999	32,964
49,1	33,353	33,319	33,284	33,249	33,214	33,180	33,145	33,110	33,075	33,039
49,2	33,429	33,394	33,359	33,325	33,290	33,255	33,220	33,185	33,150	33,115
49,3	33,504	33,470	33,435	33,400	33,365	33,330	33,295	33,260	33,225	33,190
49,4	33,580	33,545	33,510	33,476	33,441	33,406	33,371	33,336	33,301	33,265
49,5	33,655	33,621	33,586	33,551	33,516	33,481	33,446	33,411	33,376	33,341
49,6	33,731	33,696	33,661	33,627	33,592	33,557	33,522	33,486	33,451	33,416
49,7	33,806	33,772	33,737	33,702	33,667	33,632	33,597	33,562	33,527	33,491
49,8	33,882	33,847	33,812	33,778	33,743	33,707	33,672	33,637	33,602	33,567
49,9	33,958	33,923	33,888	33,853	33,818	33,783	33,748	33,713	33,677	33,642
50,0	34,033	33,998	33,963	33,928	33,893	33,858	33,823	33,788	33,753	33,717

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	28,0	28,1	28,2	28,3	28,4	28,5	28,6	28,7	28,8	28,9
42,0	27,663	27,630	27,596	27,562	27,528	27,494	27,460	27,426	27,392	27,358
42,1	27,739	27,705	27,671	27,637	27,604	27,570	27,536	27,502	27,467	27,433
42,2	27,814	27,780	27,746	27,713	27,679	27,645	27,611	27,577	27,542	27,508
42,3	27,889	27,855	27,822	27,788	27,754	27,720	27,686	27,652	27,617	27,583
42,4	27,964	27,931	27,897	27,863	27,829	27,795	27,761	27,727	27,693	27,658
42,5	28,040	28,006	27,972	27,938	27,904	27,870	27,836	27,802	27,768	27,733
42,6	28,115	28,081	28,047	28,013	27,979	27,945	27,911	27,877	27,843	27,808
42,7	28,190	28,156	28,122	28,088	28,054	28,020	27,986	27,952	27,918	27,883
42,8	28,265	28,231	28,197	28,164	28,129	28,095	28,061	28,027	27,993	27,958
42,9	28,340	28,307	28,273	28,239	28,205	28,170	28,136	28,102	28,068	28,033
43,0	28,416	28,382	28,348	28,314	28,280	28,246	28,211	28,177	28,143	28,108
43,1	28,491	28,457	28,423	28,389	28,355	28,321	28,286	28,252	28,218	28,183
43,2	28,566	28,532	28,498	28,464	28,430	28,396	28,362	28,327	28,293	28,258
43,3	28,641	28,607	28,573	28,539	28,505	28,471	28,437	28,402	28,368	28,333
43,4	28,716	28,683	28,648	28,614	28,580	28,546	28,512	28,477	28,443	28,408
43,5	28,792	28,758	28,724	28,690	28,655	28,621	28,587	28,552	28,518	28,483
43,6	28,867	28,833	28,799	28,765	28,730	28,696	28,662	28,627	28,593	28,559
43,7	28,942	28,908	28,874	28,840	28,806	28,771	28,737	28,703	28,668	28,634
43,8	29,017	28,983	28,949	28,915	28,881	28,846	28,812	28,778	28,743	28,709
43,9	29,092	29,058	29,024	28,990	28,956	28,922	28,887	28,853	28,818	28,784
44,0	29,168	29,134	29,099	29,065	29,031	28,997	28,962	28,928	28,893	28,859
44,1	29,243	29,209	29,175	29,140	29,106	29,072	29,037	29,003	28,968	28,934
44,2	29,318	29,284	29,250	29,216	29,181	29,147	29,112	29,078	29,043	29,009
44,3	29,393	29,359	29,325	29,291	29,256	29,222	29,187	29,153	29,118	29,084
44,4	29,469	29,434	29,400	29,366	29,331	29,297	29,262	29,228	29,193	29,159
44,5	29,544	29,510	29,475	29,441	29,407	29,372	29,338	29,303	29,268	29,234
44,6	29,619	29,585	29,550	29,516	29,482	29,447	29,413	29,378	29,343	29,309
44,7	29,694	29,660	29,626	29,591	29,557	29,522	29,488	29,453	29,418	29,384
44,8	29,769	29,735	29,701	29,666	29,632	29,597	29,563	29,528	29,493	29,459
44,9	29,845	29,810	29,776	29,741	29,707	29,672	29,638	29,603	29,568	29,534
45,0	29,920	29,885	29,851	29,817	29,782	29,748	29,713	29,678	29,643	29,609
45,1	29,995	29,961	29,926	29,892	29,857	29,823	29,788	29,753	29,718	29,684
45,2	30,070	30,036	30,001	29,967	29,932	29,898	29,863	29,828	29,793	29,759
45,3	30,145	30,111	30,077	30,042	30,007	29,973	29,938	29,903	29,869	29,834
45,4	30,221	30,186	30,152	30,117	30,083	30,048	30,013	29,978	29,944	29,909
45,5	30,296	30,261	30,227	30,192	30,158	30,123	30,088	30,053	30,019	29,984
45,6	30,371	30,337	30,302	30,267	30,233	30,198	30,163	30,128	30,094	30,059
45,7	30,446	30,412	30,377	30,343	30,308	30,273	30,238	30,204	30,169	30,134
45,8	30,521	30,487	30,452	30,418	30,383	30,348	30,313	30,279	30,244	30,209
45,9	30,597	30,562	30,528	30,493	30,458	30,423	30,389	30,354	30,319	30,284

Table 3 a

Density anomaly γ (S,t,0) (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	28,0	28,1	28,2	28,3	28,4	28,5	28,6	28,7	28,8	28,9
46,0	30,672	30,637	30,603	30,568	30,533	30,498	30,464	30,429	30,394	30,359
46,1	30,747	30,713	30,678	30,643	30,608	30,574	30,539	30,504	30,469	30,434
46,2	30,822	30,788	30,753	30,718	30,684	30,649	30,614	30,579	30,544	30,509
46,3	30,898	30,863	30,828	30,793	30,759	30,724	30,689	30,654	30,619	30,584
46,4	30,973	30,938	30,903	30,869	30,834	30,799	30,764	30,729	30,694	30,659
46,5	31,048	31,013	30,979	30,944	30,909	30,874	30,839	30,804	30,769	30,734
46,6	31,123	31,088	31,054	31,019	30,984	30,949	30,914	30,879	30,844	30,809
46,7	31,198	31,164	31,129	31,094	31,059	31,024	30,989	30,954	30,919	30,884
46,8	31,274	31,239	31,204	31,169	31,134	31,099	31,064	31,029	30,994	30,959
46,9	31,349	31,314	31,279	31,244	31,209	31,174	31,139	31,104	31,069	31,034
47,0	31,424	31,389	31,354	31,320	31,285	31,249	31,214	31,179	31,144	31,109
47,1	31,499	31,464	31,430	31,395	31,360	31,325	31,289	31,254	31,219	31,184
47,2	31,574	31,540	31,505	31,470	31,435	31,400	31,365	31,329	31,294	31,259
47,3	31,650	31,615	31,580	31,545	31,510	31,475	31,440	31,404	31,369	31,334
47,4	31,725	31,690	31,655	31,620	31,585	31,550	31,515	31,479	31,444	31,409
47,5	31,800	31,765	31,730	31,695	31,660	31,625	31,590	31,554	31,519	31,484
47,6	31,875	31,840	31,805	31,770	31,735	31,700	31,665	31,629	31,594	31,559
47,7	31,951	31,916	31,881	31,846	31,810	31,775	31,740	31,705	31,669	31,634
47,8	32,026	31,991	31,956	31,921	31,886	31,850	31,815	31,780	31,744	31,709
47,9	32,101	32,066	32,031	31,996	31,961	31,925	31,890	31,855	31,819	31,784
48,0	32,176	32,141	32,106	32,071	32,036	32,001	31,965	31,930	31,894	31,859
48,1	32,252	32,217	32,181	32,146	32,111	32,076	32,040	32,005	31,969	31,934
48,2	32,327	32,292	32,257	32,221	32,186	32,151	32,115	32,080	32,044	32,009
48,3	32,402	32,367	32,332	32,297	32,261	32,226	32,190	32,155	32,119	32,084
48,4	32,477	32,442	32,407	32,372	32,336	32,301	32,266	32,230	32,194	32,159
48,5	32,553	32,517	32,482	32,447	32,412	32,376	32,341	32,305	32,269	32,234
48,6	32,628	32,593	32,557	32,522	32,487	32,451	32,416	32,380	32,344	32,309
48,7	32,703	32,668	32,633	32,597	32,562	32,526	32,491	32,455	32,420	32,384
48,8	32,778	32,743	32,708	32,672	32,637	32,601	32,566	32,530	32,495	32,459
48,9	32,854	32,818	32,783	32,748	32,712	32,677	32,641	32,605	32,570	32,534
49,0	32,929	32,894	32,858	32,823	32,787	32,752	32,716	32,680	32,645	32,609
49,1	33,004	32,969	32,933	32,898	32,862	32,827	32,791	32,755	32,720	32,684
49,2	33,079	33,044	33,009	32,973	32,938	32,902	32,866	32,831	32,795	32,759
49,3	33,155	33,119	33,084	33,048	33,013	32,977	32,941	32,906	32,870	32,834
49,4	33,230	33,195	33,159	33,124	33,088	33,052	33,017	32,981	32,945	32,909
49,5	33,305	33,270	33,234	33,199	33,163	33,127	33,092	33,056	33,020	32,984
49,6	33,381	33,345	33,310	33,274	33,238	33,203	33,167	33,131	33,095	33,059
49,7	33,456	33,420	33,385	33,349	33,313	33,278	33,242	33,206	33,170	33,134
49,8	33,531	33,496	33,460	33,424	33,389	33,353	33,317	33,281	33,245	33,209
49,9	33,606	33,571	33,535	33,500	33,464	33,428	33,392	33,356	33,320	33,284
50,0	33,682	33,646	33,610	33,575	33,539	33,503	33,467	33,431	33,395	33,359

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓	29,0	29,1	29,2	29,3	29,4	29,5	29,6	29,7	29,8	29,9	30,0
42,0	27,324	27,290	27,255	27,221	27,186	27,152	27,117	27,083	27,048	27,013	26,978
42,1	27,399	27,365	27,330	27,296	27,261	27,227	27,192	27,157	27,123	27,088	27,053
42,2	27,474	27,440	27,405	27,371	27,336	27,302	27,267	27,232	27,197	27,163	27,128
42,3	27,549	27,515	27,480	27,446	27,411	27,377	27,342	27,307	27,272	27,237	27,203
42,4	27,624	27,590	27,555	27,521	27,486	27,451	27,417	27,382	27,347	27,312	27,277
42,5	27,699	27,665	27,630	27,596	27,561	27,526	27,492	27,457	27,422	27,387	27,352
42,6	27,774	27,740	27,705	27,670	27,636	27,601	27,566	27,532	27,497	27,462	27,427
42,7	27,849	27,815	27,780	27,745	27,711	27,676	27,641	27,607	27,572	27,537	27,502
42,8	27,924	27,889	27,855	27,820	27,786	27,751	27,716	27,681	27,646	27,612	27,577
42,9	27,999	27,964	27,930	27,895	27,861	27,826	27,791	27,756	27,721	27,686	27,651
43,0	28,074	28,039	28,005	27,970	27,936	27,901	27,866	27,831	27,796	27,761	27,726
43,1	28,149	28,114	28,080	28,045	28,010	27,976	27,941	27,906	27,871	27,836	27,801
43,2	28,224	28,189	28,155	28,120	28,085	28,051	28,016	27,981	27,946	27,911	27,876
43,3	28,299	28,264	28,230	28,195	28,160	28,125	28,091	28,056	28,021	27,986	27,950
43,4	28,374	28,339	28,305	28,270	28,235	28,200	28,165	28,130	28,095	28,060	28,025
43,5	28,449	28,414	28,380	28,345	28,310	28,275	28,240	28,205	28,170	28,135	28,100
43,6	28,524	28,489	28,455	28,420	28,385	28,350	28,315	28,280	28,245	28,210	28,175
43,7	28,599	28,564	28,530	28,495	28,460	28,425	28,390	28,355	28,320	28,285	28,249
43,8	28,674	28,639	28,604	28,570	28,535	28,500	28,465	28,430	28,395	28,359	28,324
43,9	28,749	28,714	28,679	28,645	28,610	28,575	28,540	28,505	28,469	28,434	28,399
44,0	28,824	28,789	28,754	28,719	28,685	28,650	28,615	28,579	28,544	28,509	28,474
44,1	28,899	28,864	28,829	28,794	28,759	28,724	28,689	28,654	28,619	28,584	28,549
44,2	28,974	28,939	28,904	28,869	28,834	28,799	28,764	28,729	28,694	28,659	28,623
44,3	29,049	29,014	28,979	28,944	28,909	28,874	28,839	28,804	28,769	28,733	28,698
44,4	29,124	29,089	29,054	29,019	28,984	28,949	28,914	28,879	28,843	28,808	28,773
44,5	29,199	29,164	29,129	29,094	29,059	29,024	28,989	28,954	28,918	28,883	28,848
44,6	29,274	29,239	29,204	29,169	29,134	29,099	29,064	29,028	28,993	28,958	28,922
44,7	29,349	29,314	29,279	29,244	29,209	29,174	29,138	29,103	29,068	29,032	28,997
44,8	29,424	29,389	29,354	29,319	29,284	29,249	29,213	29,178	29,143	29,107	29,072
44,9	29,499	29,464	29,429	29,394	29,359	29,323	29,288	29,253	29,217	29,182	29,147
45,0	29,574	29,539	29,504	29,469	29,433	29,398	29,363	29,328	29,292	29,257	29,221
45,1	29,649	29,614	29,579	29,544	29,508	29,473	29,438	29,402	29,367	29,332	29,296
45,2	29,724	29,689	29,654	29,618	29,583	29,548	29,513	29,477	29,442	29,406	29,371
45,3	29,799	29,764	29,729	29,693	29,658	29,623	29,587	29,552	29,517	29,481	29,445
45,4	29,874	29,839	29,803	29,768	29,733	29,698	29,662	29,627	29,591	29,556	29,520
45,5	29,949	29,914	29,878	29,843	29,808	29,773	29,737	29,702	29,666	29,631	29,595
45,6	30,024	29,988	29,953	29,918	29,883	29,847	29,812	29,777	29,741	29,705	29,670
45,7	30,099	30,063	30,028	29,993	29,958	29,922	29,887	29,851	29,816	29,780	29,744
45,8	30,174	30,138	30,103	30,068	30,033	29,997	29,962	29,926	29,891	29,855	29,819
45,9	30,248	30,213	30,178	30,143	30,107	30,072	30,036	30,001	29,965	29,930	29,894

Table 3 a

Density anomaly $\gamma(S,t,0)$ (kg.m^{-3})

Or Density anomaly uncorrected, γ uncorrected (kg.m^{-3})

t°,C →

S ↓

	29,0	29,1	29,2	29,3	29,4	29,5	29,6	29,7	29,8	29,9	30,0
46,0	30,323	30,288	30,253	30,218	30,182	30,147	30,111	30,076	30,040	30,004	29,969
46,1	30,398	30,363	30,328	30,293	30,257	30,222	30,186	30,151	30,115	30,079	30,043
46,2	30,473	30,438	30,403	30,367	30,332	30,297	30,261	30,225	30,190	30,154	30,118
46,3	30,548	30,513	30,478	30,442	30,407	30,371	30,336	30,300	30,264	30,229	30,193
46,4	30,623	30,588	30,553	30,517	30,482	30,446	30,411	30,375	30,339	30,303	30,268
46,5	30,698	30,663	30,628	30,592	30,557	30,521	30,485	30,450	30,414	30,378	30,342
46,6	30,773	30,738	30,703	30,667	30,632	30,596	30,560	30,525	30,489	30,453	30,417
46,7	30,848	30,813	30,777	30,742	30,706	30,671	30,635	30,599	30,564	30,528	30,492
46,8	30,923	30,888	30,852	30,817	30,781	30,746	30,710	30,674	30,638	30,602	30,566
46,9	30,998	30,963	30,927	30,892	30,856	30,820	30,785	30,749	30,713	30,677	30,641
47,0	31,073	31,038	31,002	30,967	30,931	30,895	30,860	30,824	30,788	30,752	30,716
47,1	31,148	31,113	31,077	31,042	31,006	30,970	30,934	30,899	30,863	30,827	30,791
47,2	31,223	31,188	31,152	31,116	31,081	31,045	31,009	30,973	30,937	30,901	30,865
47,3	31,298	31,263	31,227	31,191	31,156	31,120	31,084	31,048	31,012	30,976	30,940
47,4	31,373	31,338	31,302	31,266	31,231	31,195	31,159	31,123	31,087	31,051	31,015
47,5	31,448	31,413	31,377	31,341	31,305	31,270	31,234	31,198	31,162	31,126	31,089
47,6	31,523	31,487	31,452	31,416	31,380	31,344	31,308	31,272	31,236	31,200	31,164
47,7	31,598	31,562	31,527	31,491	31,455	31,419	31,383	31,347	31,311	31,275	31,239
47,8	31,673	31,637	31,602	31,566	31,530	31,494	31,458	31,422	31,386	31,350	31,314
47,9	31,748	31,712	31,677	31,641	31,605	31,569	31,533	31,497	31,461	31,425	31,388
48,0	31,823	31,787	31,752	31,716	31,680	31,644	31,608	31,572	31,536	31,499	31,463
48,1	31,898	31,862	31,826	31,791	31,755	31,719	31,683	31,646	31,610	31,574	31,538
48,2	31,973	31,937	31,901	31,865	31,830	31,794	31,757	31,721	31,685	31,649	31,612
48,3	32,048	32,012	31,976	31,940	31,904	31,868	31,832	31,796	31,760	31,724	31,687
48,4	32,123	32,087	32,051	32,015	31,979	31,943	31,907	31,871	31,835	31,798	31,762
48,5	32,198	32,162	32,126	32,090	32,054	32,018	31,982	31,946	31,909	31,873	31,837
48,6	32,273	32,237	32,201	32,165	32,129	32,093	32,057	32,020	31,984	31,948	31,911
48,7	32,348	32,312	32,276	32,240	32,204	32,168	32,132	32,095	32,059	32,022	31,986
48,8	32,423	32,387	32,351	32,315	32,279	32,243	32,206	32,170	32,134	32,097	32,061
48,9	32,498	32,462	32,426	32,390	32,354	32,317	32,281	32,245	32,208	32,172	32,135
49,0	32,573	32,537	32,501	32,465	32,429	32,392	32,356	32,320	32,283	32,247	32,210
49,1	32,648	32,612	32,576	32,540	32,503	32,467	32,431	32,394	32,358	32,321	32,285
49,2	32,723	32,687	32,651	32,615	32,578	32,542	32,506	32,469	32,433	32,396	32,360
49,3	32,798	32,762	32,726	32,690	32,653	32,617	32,581	32,544	32,508	32,471	32,434
49,4	32,873	32,837	32,801	32,764	32,728	32,692	32,655	32,619	32,582	32,546	32,509
49,5	32,948	32,912	32,876	32,839	32,803	32,767	32,730	32,694	32,657	32,620	32,584
49,6	33,023	32,987	32,951	32,914	32,878	32,842	32,805	32,768	32,732	32,695	32,658
49,7	33,098	33,062	33,025	32,989	32,953	32,916	32,880	32,843	32,807	32,770	32,733
49,8	33,173	33,137	33,100	33,064	33,028	32,991	32,955	32,918	32,881	32,845	32,808
49,9	33,248	33,212	33,175	33,139	33,103	33,066	33,030	32,993	32,956	32,919	32,883
50,0	33,323	33,287	33,250	33,214	33,178	33,141	33,104	33,068	33,031	32,994	32,957

Table 3 b

$\Delta \gamma_t$

$\delta \gamma_t (S,t,0) \cdot 10^3 \longrightarrow$

$\delta t \cdot 10^3 \downarrow$

	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2
9	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
12	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4
15	3	3	4	4	4	4	4	4	5	5	5	5	5	5	5	6
18	4	4	4	5	5	5	5	5	5	6	6	6	6	6	6	7
21	5	5	5	5	5	6	6	6	6	7	7	7	7	7	8	8
24	5	6	6	6	6	6	7	7	7	7	8	8	8	8	9	9
27	6	6	6	7	7	7	8	8	8	8	9	9	9	9	10	10
30	7	7	7	8	8	8	8	9	9	9	10	10	10	11	11	11
33	7	8	8	8	9	9	9	10	10	10	11	11	11	12	12	12
36	8	8	9	9	9	10	10	10	11	11	12	12	12	13	13	13
39	9	9	9	10	10	11	11	11	12	12	12	13	13	14	14	14
42	9	10	10	11	11	11	12	12	13	13	13	14	14	15	15	16
45	10	10	11	11	12	12	13	13	14	14	14	15	15	16	16	17
48	11	11	12	12	12	13	13	14	14	15	15	16	16	17	17	18
51	11	12	12	13	13	14	14	15	15	16	16	17	17	18	18	19
54	12	12	13	14	14	15	15	16	16	17	17	18	18	19	19	20
57	13	13	14	14	15	15	16	17	17	18	18	19	19	20	21	21
60	13	14	14	15	16	16	17	17	18	19	19	20	20	21	22	22
63	14	14	15	16	16	17	18	18	19	20	20	21	21	22	23	23
66	15	15	16	17	17	18	18	19	20	20	21	22	22	23	24	24
69	15	16	17	17	18	19	19	20	21	21	22	23	23	24	25	26
72	16	17	17	18	19	19	20	21	22	22	23	24	24	25	26	27
75	17	17	18	19	20	20	21	22	23	23	24	25	26	26	27	28
78	17	18	19	20	20	21	22	23	23	24	25	26	27	27	28	29
81	18	19	19	20	21	22	23	23	24	25	26	27	28	28	29	30
84	18	19	20	21	22	23	24	24	25	26	27	28	29	29	30	31
87	19	20	21	22	23	23	24	25	26	27	28	29	30	30	31	32
90	20	21	22	23	23	24	25	26	27	28	29	30	31	32	32	33
93	20	21	22	23	24	25	26	27	28	29	30	31	32	33	33	34
96	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
99	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
100	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37

Table 3 c

$\Delta \gamma_s$

$\delta \gamma_s (S,t,0) \cdot 10^3$ →

$\delta S \cdot 10^3$ ↓	74	75	76	77	78
0	0	0	0	0	0
2	1	2	2	2	2
4	3	3	3	3	3
6	4	5	5	5	5
8	6	6	6	6	6
10	7	8	8	8	8
12	9	9	9	9	9
14	10	11	11	11	11
16	12	12	12	12	12
18	13	14	14	14	14
20	15	15	15	15	16
22	16	17	17	17	17
24	18	18	18	18	19
26	19	20	20	20	20
28	21	21	21	22	22
30	22	23	23	23	23
32	24	24	24	25	25
34	25	26	26	26	27
36	27	27	27	28	28
38	28	29	29	29	30
40	30	30	30	31	31
42	31	32	32	32	33
44	33	33	33	34	34
46	34	35	35	35	36
48	36	36	36	37	37

Table 3 c

$\Delta \gamma_s$

$\delta S \cdot 10^3$ ↓	$\delta \gamma_s (S,t,0) \cdot 10^3$ →				
	74	75	76	77	78
50	37	38	38	39	39
52	38	39	40	40	41
54	40	41	41	42	42
56	41	42	43	43	44
58	43	44	44	45	45
60	44	45	46	46	47
62	46	47	47	48	48
64	47	48	49	49	50
66	49	50	50	51	51
68	50	51	52	52	53
70	52	53	53	54	55
72	53	54	55	55	56
74	55	56	56	57	58
76	56	57	58	59	59
78	58	59	59	60	61
80	59	60	61	62	62
82	61	62	62	63	64
84	62	63	64	65	66
86	64	65	65	66	67
88	65	66	67	68	69
90	67	68	68	69	70
92	68	69	70	71	72
94	70	71	71	72	73
96	71	72	73	74	75
98	73	74	74	75	76
100	74	75	76	77	78

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