

2024年度

BX・GX国際教育研究拠点特別 セミナー (BX・GX Special Seminar)

From Subduction to Salmon: Geologic Subsides Drive High Productivity of Volcanic Spring-Fed Rivers

世界的に著名な土壌学者であるRandy先生 (UC.Davis) を
お招きし、山―川―海の窒素循環を地質に着目して解明する

ことで、**おいしいサーモン
が生まれる秘密**

を解明した事例について、セミナーを開催します。



By Randy Dahlgren
Emeritus Professor
University of California – Davis

開催日時 (Date)

2024年 5月 16日 (木)
13:30~14:30

開催場所 (Location)

東京農工大学府中キャンパス 2号館2-22室
ハイブリッド開催・オンライン参加可能
(2-22, Building 2, Fuchu, TUAT & Online)

主対象 (Main target)

博士後期課程学生 (Doctoral course students)
研究者・修士学生・学部生の現地参加も可能です。
(Other participants are welcomed)

要旨 (Abstract)

Critical habitats necessary to support cold-water

species in lotic ecosystems are anticipated to diminish as global climate change reduces summertime availability of cold water in streams. Volcanic spring-fed streams may prove an exception to this habitat loss as large aquifers with high residence times produce reliable stream flow for sustaining cold-water species. Here, we identify a hitherto overlooked exceptionally productive and resilient environment in which large groundwater springs located within volcanic arcs provide consistent cold-water stream flow and ecologically significant nitrogen and phosphorus inputs from geologic sources. In the spring-fed Shasta River of northern California, steelhead trout take advantage of abundant food and stable year-round flow and water temperature regimes to accrue a substantial growth advantage over individuals from an adjacent non-spring-fed stream, exhibiting a six-fold increase in mass and two-fold increase in length. Results demonstrate that geologically-derived nutrients in spring-fed streams are driving aquatic ecosystem productivity and resiliency, making these habitats exceptionally important for conserving cold-water species impacted by global climate change.

参加申込<要事前申込>下記URLまたはQRコードからお申込みください。(Application)

<https://forms.gle/bbjQAhwuhjhuCNEA9> 5/13(月) 締切 (Due date)

お問合せ先 (Contact)

杉原 創 (BX・GX国際教育研究拠点副拠点長) sohs@cc.tuat.ac.jp

主催: 東京農工大学BXGX拠点 共催: 海洋研究開発機構(JAMSTEC)



BX · GX International Education and Research Hub Special Seminar

From Subduction to Salmon: Geologic Subsidies Drive High Productivity of Volcanic Spring-Fed Rivers

By Randy Dahlgren
Emeritus Professor
University of California – Davis



Date

16 May 2024

13 : 30 ~ 14 : 30

Location

2-22, Building 2, Fuchu, TUAT & Online

Main target

Doctoral course students
(Other participants are welcomed)

Abstract

Critical habitats necessary to support cold-water species in lotic ecosystems are anticipated to diminish as global climate change reduces summertime availability of cold water in streams. Volcanic spring-fed streams may prove an exception to this habitat loss as large aquifers with high residence times produce reliable stream flow for sustaining cold-water species. Here, we identify a hitherto overlooked exceptionally productive and resilient environment in which large groundwater springs located within volcanic arcs provide consistent cold-water stream flow and ecologically significant nitrogen and phosphorus inputs from geologic sources. In the spring-fed Shasta River of northern California, steelhead trout take advantage of abundant food and stable year-round flow and water temperature regimes to accrue a substantial growth advantage over individuals from an adjacent non-spring-fed stream, exhibiting a six-fold increase in mass and two-fold increase in length. Results demonstrate that geologically-derived nutrients in spring-fed streams are driving aquatic ecosystem productivity and resiliency, making these habitats exceptionally important for conserving cold-water species impacted by global climate change.

Application is required through this link or QR code

<https://forms.gle/bbjQAhwuhjhuCNEA9> Due date: 13 May



Contact

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Host: BX · GX Hub of TUAT; Co-host: JAMSTEC)