



CircumBoreal Vegetation Mapping (CBVM)

Helsinki workshop
November 3-6, 2008

Resolutions and work plan



Photo: Frédérique Saucier



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This synthesis is extracted from a report presented by Nemoralis to the Canadian Forest Service, December 29, 2008.



Project Initiative

The CBVM mission is to develop a global map of the circumboreal forest biome with a common legend.

Need for a Circumboreal Vegetation Map (CBVM)

Our goal is to provide a common international framework for understanding the boreal region. Currently, various maps already exist of the boreal biome, but they do not rely on a unified international method for classifying and mapping boreal vegetation. By recognizing the boreal region as a single geo-ecosystem with a common set of cultural, political and economic issues, the CBVM project will be the first detailed vegetation map of the entire global biome. Such a map is needed for a wide variety of purposes related to resource development, land-use planning, studies of boreal biota and biodiversity, education, anticipated global changes and human interaction. A common legend and language for describing boreal ecosystems is essential for answering questions at a global scale. Boreal forests are particularly appropriate for unified classification because of their high level of floristic, physiognomic and syntaxonomic similarity across the entire biome. A circumboreal vegetation map will have numerous other application uses for boreal scientists and managers such as impact studies on wildlife and feedback mechanisms in models or increased emission of greenhouse gases. The CBVM will also contribute to global efforts to improve understanding and communication with policy-makers.

A secondary goal is to make the map compatible with the Circumpolar Arctic Vegetation Map (CAVM, scale 1:7,500,000) to the north. Linking these two global-scale maps is necessary because very few issues relevant to the Arctic or the boreal regions stop at tree line. For example, most rivers flowing into the Arctic Ocean have their origin far to the south of the tree line. Climate and vegetation-change models, analysis of animal migrations, roads and industrial developments, and arctic-human interaction all require maps that include both the Arctic tundra and boreal forest regions.

Toward these goals we held an international workshop in Helsinki, Finland, during the period November 3-6, 2008, to develop a strategy to map the vegetation of the circumboreal zone. 50 vegetation scientists from 10 northern countries attended. A workshop summary follows with our resolution; outline of the project objectives; organizational chart; composition of mapping teams that includes thematic, remote sensing, biogeoclimatic, funding, regional and subregional divisions; and process and timeline.



Resolution from the Circumboreal vegetation mapping (CBVM) workshop, Helsinki, November 3-6, 2008

Whereas the «Boreal Biome» is one global geo-ecosystem with a common set of cultural, political, nature conservation and economic issues, and whereas it is under pressure from human influence and climate change, it is of primary importance: 1) to better express the nature and diversity of the ecosystems adapted to cold climate; 2) to depict their distribution and their extent; 3) to better know and protect this biome that is also the home of indigenous people; and 4) to promote the sustainable use of its natural resources; let it be resolved to:

- a) Develop a Circumboreal Vegetation Map (CBVM) at a scale of 1:7 500 000, depicting the nature and the boundaries of boreal vegetation south of the arctic zone by using recent and traditional vegetation classification and maps, remote sensing and GIS tools, and a legend that is accepted by the international community of vegetation scientists.
- b) Publish and present the Circumboreal Vegetation Map with the ancillary information developed for the project to the international scientific community and other potential users.
- c) Publish the mapping methods and descriptions of the mapping units, including vegetation structure, composition, dynamics, and ecological context.
- d) Achieve goals a) to c) by harmonizing concepts in a spirit of international collaboration among and between regional mapping teams.
- e) That this CBVM group will reconvene in 2010 for a workshop in Russia to accept the mapping legend, biogeoclimatic framework, mapping tools, and prototype maps to be presented by thematic teams.



Project Objectives

- Review of the status of boreal vegetation mapping
- Present examples of possible approaches
- Define the region to be mapped
- Establish the project goals
- Form a mapping team
- Develop a plan for making the map
- Develop a plan for writing a proposal or series of proposals that would result in the final CBVM
- Publish the results of the workshop

Determining Products

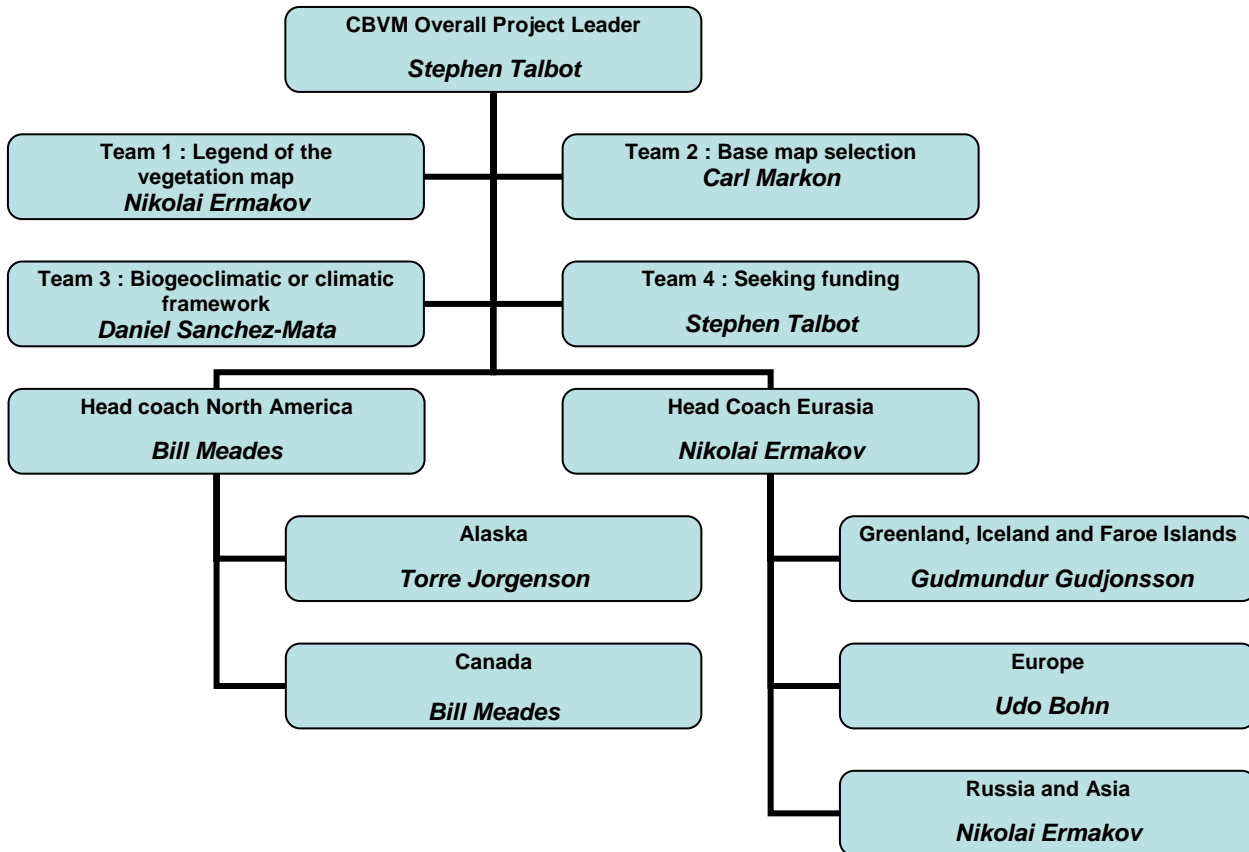
- Decision: Vegetation map or a much larger document that includes a book
- Initially these extras probably should not be included
- Immediate need is a good circumpolar portrayal of boreal vegetation
- Other products could follow

Transboundary Perspective

- Regional environmental cooperation: conserve biodiversity & foster friendly relations
- International approach to achieve more



Organizational Chart





Thematic team composition

Team 1: Vegetation map legend

Objectives: Uniform Classification units, potential vegetation concept, legend prototypes

Team leader: Nikolai Ermakov

Participants: Klaus Dierssen, Annika Hofgaard, Udo Bohn, Jean-Pierre Saucier

Subgroup on Particular vegetation : alpine vegetation, mires and wetlands, flood plains, maritime heath, coastal vegetation

- Subgroup Leader: Klaus Dierssen
- Participants : Kazue Fujiwara, Del Meidinger, Hans Tommervik, Fred JA Daniels, Raimo Heikkilä, Valentina Neshataeva, Stephen Talbot, Gudmundur Gudjonsson, Anna-Maria Fosaa, Elena Golubeva, Olga Galanina, Yukito Nakamura, Bill Meades, Kharuk Viacheslav

Deadlines

Deadline 1: Legend prototype for December 2009

Deadline 2: Legend test for December 2010



Team 2: Remote sensing

Objectives: Thematic maps, map projection, map scale and resolution, remote sensing products

Team leader: Carl Markon

Participants: Sergei Bartle, Peter Potapov, Ekaterina Ship Gina, Gareth Reeds, Olga Tutubalina, Kelly Dolan

Deadline: December 2010

Team 3: Biogeoclimatic or climatic framework

Objectives: Essential climatic indices, boreal definition, extent of the boreal

Team leader: Daniel Sanchez-Mata

Participants: Torre Jorgenson, Ken Baldwin, Pavel Krestov, Steve Cumming, Galina Ogureeva, Elgene Box, Teuvo Ahti

Deadline: December 2010

Team 4: Funding development

Objectives: Obtain funding for the next workshop and the project

Team leader: Stephen Talbot

Participants: Bill Meades

Deadline: December 2010



Regional team composition

North America Team

Objectives: Mapping North America (Alaska, Canada, Saint-Pierre et Miquelon)

Team leader: Bill Meades

- Participants: To be determined

Alaska Subregion

- Subregion leader: Torre Jorgenson
- Participants : To be determined

Canada Subregion

- Subregion leader: Bill Meades
- Participants: Ken Baldwin and others to be determined

Deadlines

Deadline 1: International correlation excursion in summer 2012

Deadline 2: Regional maps in May 2013



Eurasia Team

Objectives: Mapping Eurasia (Greenland, Iceland and Faroe Islands, Europe, Russia and Asia)

Team leader: Nikolai Ermakov

- Participants: To be determined

Greenland, Iceland and Faroe Islands Subregion

- Subregion leader: Gudmundur Gudjonsson
- Participants : To be determined

Europe (Scandinavia and Finland) Subregion

- Subregion leader: Udo Bohn
- Participants: To be determined

Russia and Asia Subregion

- Subregion leader: Nikolai Ermakov
- Participants: To be determined

Deadlines

Deadline 1: International correlation excursion in summer 2011 and 2012

Deadline 2: Regional maps in May 2013



Process and timeline

Deadline	Team	Deliverable	Timeline
December 2009	Thematic team 1	Preliminary legend	1 year
	Thematic team 2	Base map definition and base image product	
	Thematic team 4	Seeking funding for the next workshop	
December 2010	Thematic team 1	Legend of the vegetation map	2 years
	Thematic team 3	Biogeoclimatic or climatic framework	
	Regional teams	Map prototype with preliminary legend	
May 2011	Russia (Vladivostok?)	2nd CBVM Workshop for adoption of the thematic teams recommendations	2 ½ years
Summer 2012		International correlation excursions according expressed needs	3 ½ years
	Alaska	Anchorage IAVS meeting 2012	
May 2013		Regional team mapping along the principles from the second workshop	4 ½ years
December 2014	Integration team	Integrating regional maps with validation by regional teams	6 years
May 2015	Where? Hosts?	3rd CBVM Workshop for delivery of the CBVM map	6 ½ years
May 2016	Integration team	CBVM Map publication	6 months
	Regional teams	CBVM Map description	

CBVM project organisation

	2009	2010	2011	2012	2013	2014	2015	2016
1 Legend development	■							
2 Biogeoclimatic framework	■							
3 Base image products	■							
4 Regional team prototypes	■							
5 2nd CBVM workshop (decision)		■						
6 Regional teams mapping			■					
7 International correlation excursions			■	■				
8 Integration team mapping					■			
9 3rd CBVM workshop (results)						■		
10 CBVM map publication							■	
11 CBVM map description							■	
IAVS meetings	■ Greece	■ Mexico	■ Lyon	■ Anchorage	■	■	■	■
Other international meetings (special sessions for CBVM)	■ Iceland							