

**TENTATIVE LISTING OF ALL EOI'S SORTED INTO TOPICS (OR MISSIONS)**

**EOI CLUSTERING 1**

| <b>Topics</b>                                                    | <b>Sub-Topics or Regions</b> | <b>Potential Lead Projects or Lead Organisations</b> | <b>Other Eoi's</b>                                                           | <b>Cross-Cutting</b>                                                                                                                                                                                                                     |
|------------------------------------------------------------------|------------------------------|------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MARINE BIODIVERSITY</b>                                       | <b>Arctic</b>                | 64 (Arc-OD)                                          | 77; 95; 126; 293; 307; 364; 460; 602; 621; 624; 640; 713; 752; 801; 814; 881 | geology (156)<br>oceanography (80; 109; 269; 605; 139; 211)<br>space (172; 554; 197; 807)<br>education and outreach (159; 409)                                                                                                           |
|                                                                  | <b>Antarctic</b>             | 83; CAML                                             | 148; 189; 192; 205; 219; 236; 330; 379; 817; 818; 863;                       |                                                                                                                                                                                                                                          |
|                                                                  | <b>Antarctic Deep</b>        | 111 ANDEEP-SYTECO                                    |                                                                              |                                                                                                                                                                                                                                          |
|                                                                  | <b>Bipolar</b>               | <b>397</b>                                           | 144; 204, 287                                                                |                                                                                                                                                                                                                                          |
| <b>TERRESTRIAL AND LIMNETIC BIODIVERSITY AND ENVIRONMENTS</b>    | <b>Arctic</b>                | 60 (Arctic soil Microbes)<br>252 Arctic biota        | 328; 569; 649; 676; 706; 707; 753; 754; 815                                  | space (172; 554; 197; 807)<br>human (505; 531; 556)<br>education and outreach (159; 409)                                                                                                                                                 |
|                                                                  | <b>Antarctic</b>             | SCAR-RiSCC                                           | 205 (Antarctic Microbiology)                                                 |                                                                                                                                                                                                                                          |
|                                                                  | <b>Bipolar</b>               | 429 Polar Microbes                                   | 110; 231; 429                                                                |                                                                                                                                                                                                                                          |
| <b>LIFE IN POLAR REGIONS: PATTERNS, EVOLUTION AND ADAPTATION</b> | <b>Arctic</b>                | 61 BIRDHEALTH                                        | 61; 75; 222; 335; 460; 490; 525; 703; 705; 733; 735; 744; 758; 774; 785; 827 | geology (37; 20)<br>oceanography (80; 109; 139; 211)<br>glaciology (392; 764; 766 .)<br>space ( 172; 554; 197; 807)<br>meteorology & climate:<br>human (620; 217; 435; 454; 793; 177; 71; 466; 541)<br>education and outreach (159; 409) |
|                                                                  | <b>Antarctic</b>             | 577 EBA                                              | 153; 161; 379; 479; 714<br>405<br>533<br>591<br>189                          |                                                                                                                                                                                                                                          |
|                                                                  | <b>Bipolar</b>               |                                                      | 49; 119; 257; 543; 565; 589                                                  |                                                                                                                                                                                                                                          |

|                                                                                        |                           |                                                                       |                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LIFE UNDER NATURAL AND ANTHROPOGENIC CHANGES: STRESS, RESPONSES AND ADAPTATIONS</b> | <b>Arctic terrestrial</b> | 122 (ITEX);<br>427 (MAVCEC)                                           | 38; 93; 102; 115; 130;<br>131; 132; 137; 170;<br>200; 216; 253; 289;<br>291; 329; 340; 366;<br>387; 388; 427; 432;<br>456; 497; 526; 545;<br>552; 556; 611; 633;<br>642; 658; 660; 663;<br>670; 672; 674; 675;<br>677; 680; 701; 704;<br>708; 709; 746; 778;<br>794; 826; 849; | oceanography (80; 109; 269; 605; 139; 211)<br>space (172; 554; 197; 807)<br>meteorology & climate: (89)<br>human (620; 217; 435; 454; 793; 177; 71; 466; 541)<br>education and outreach (159; 409) |
|                                                                                        | <b>Boreal</b>             | 360(Arctic Border)<br>390 (Coco Grande)                               |                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                    |
|                                                                                        | <b>Arctic marine</b>      | 305 (ESSAS)<br>402(DYNAFLUX);<br>403 (HERMES)<br>545 (N. SEAS)<br>569 |                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                    |
|                                                                                        | <b>Antarctic</b>          | 193 (CLICOPEN);<br>543 (HABIPOL)                                      | 194; 248; 290; 356;<br>365; 441; 401; 563;<br>726; 839                                                                                                                                                                                                                         |                                                                                                                                                                                                    |
|                                                                                        | <b>Bipolar</b>            | 10 (RiSCC/ITEX)<br>512 (BTF);<br>821(PMEC)                            | 47; 55; 65; 96; 227;<br>613;                                                                                                                                                                                                                                                   |                                                                                                                                                                                                    |
| <b>MIGRATIONS: INVASIONS, EXPANSIONS, REDUCTIONS</b>                                   | <b>Arctic</b>             |                                                                       | 254; 553; 669; 711; 780                                                                                                                                                                                                                                                        | oceanography (80; 109; 139; 211)<br>space (172; 554; 197; 807)<br>human (181; 516; 791; 760; 495; 518)<br>education and outreach (159; 409)                                                        |
|                                                                                        | <b>Antarctic</b>          | 852 (Antarctic Aliens)                                                |                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                    |
| <b>NATURAL RESOURCES: USES, MANAGEMENT AND CONSERVATION</b>                            | <b>Arctic</b>             | 505 (CARMA)<br>539 CircumArctic Lakes)                                | 217; 252; 661; 737; 773                                                                                                                                                                                                                                                        | oceanography (80; 109; 269; 604; 605; 139; 211)<br>space (172; 554; 197; 807)<br>human (782; 521; 636; 176; 519)<br>education and outreach (159; 409)                                              |
|                                                                                        | <b>Antarctic</b>          | 533(ICEFISH/CCAMLR )                                                  | 243; 264                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                    |
|                                                                                        | <b>Bipolar</b>            |                                                                       | 17; 846                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                    |

## EoI Clustering 2

| Topic                         | Sub-Topic or International Organisation                            | Potential Lead | Other Eols                                                                                                             |
|-------------------------------|--------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------|
| TERRESTRIAL CRYOSPHERE        | Terrestrial Cryosphere                                             | 607            | 639, 644, 790, 831                                                                                                     |
|                               | Processes in the Northern Hemisphere.                              | 392            | 73, 644, 764, 766, 798                                                                                                 |
| PERMAFROST                    | Permafrost studies                                                 | 125            | 15, 140, 175, 191, 199, 228, 230, 316, 391, 431, 439, 492, 627, 651, 718, 738, 799, 824, 836, 882                      |
| GLACIERS AND ICE CAPS         | Arctic glaciers and climate                                        | 30, 654, 756   | 24, 97, 242, 245, 288, 393, 428, 535, 564, 684, 884, 897                                                               |
|                               | Glaciers and sea level                                             | 446            | 143, 233, 664, 716, 717, 728                                                                                           |
| SUBGLACIAL LAKE               | Subglacial Antarctic Lake Exploration                              | 598            | 22, 598, 876                                                                                                           |
| SEA ICE & ICEBERG             | Antarctic Sea-Ice                                                  | 270            | 52, 68, 277, 302, 440, 532                                                                                             |
|                               | Icebergs                                                           | 21             | 239, 249,                                                                                                              |
|                               | Arctic Sea-ice                                                     | 185            | 54, 86, 154, 164, 487, 574, 619, 769, 796, 798, 892                                                                    |
|                               | Observations on "North Pole" Drifting Stations and Arctic Icebergs | 796            | 124, 421, 755                                                                                                          |
| PALEOCLIMATOLOGY (ICE CORE)   | Ice Core Studies                                                   | 203            | 40, 434, 890, 891                                                                                                      |
| ANTARCTIC ICE SHEET           | Mass balance                                                       | 351            | 232, 579, 593, 812, 823                                                                                                |
|                               | Traverse                                                           | 301            | 292, 424, 440, 788, 890                                                                                                |
|                               | West Antarctica                                                    | 226            | 3, 112, 327, 528, 822, 895                                                                                             |
|                               | Antarctic Peninsula                                                | 359            | 87, 178,                                                                                                               |
| GREENLAND ICE SHEET           | Mass balance and ice dynamics                                      | 418            | 74, 94, 423, 579, 812, 813, 136, , 883                                                                                 |
|                               | Stability                                                          | 561            | 2, 69, 187, 245, 334, 376, 381, 445, 765                                                                               |
| EVOLUTION OF POLAR GLACIATION | Evolution of Polar Glaciation                                      | 183            | 105, 171, 190, 210, 220, 276, 284, 357, 411, 433, 486, 622, 873                                                        |
| SNOW PROPERTIES               | Physical properties                                                |                | 141, 202                                                                                                               |
|                               | Chemical properties                                                |                | 184, 272, 626, 630, 631, 653,                                                                                          |
| Glacier geomorphology         |                                                                    |                | 210, 220, 684                                                                                                          |
| NEW TECHNOLOGY                | Autonomous vehicles                                                |                | 302                                                                                                                    |
| NETWORK/OBSERVATORY           |                                                                    |                | 6, 487, 831                                                                                                            |
| CROSS-CUTTING PROJECTS        |                                                                    |                | 184, 272, 626, 630, 631, 653 423, 798, 813, 891, 824 891, 892, 97, 622, 276, 284, 411, 433, 535, 718, 528, 769, 6, 164 |

### EoI Clustering 3

| Topic or Mission                                                       | Sub-Topic or Region | Potential Lead | Eols                                                                                                        |
|------------------------------------------------------------------------|---------------------|----------------|-------------------------------------------------------------------------------------------------------------|
| PALEOCLIMATE<br>(31)                                                   | Arctic              |                | 33, 43, 79, 103, 106, 121, 127, 240, 378, 601, 606, 629, 696, 722, 724, 775, 777, 786, 885                  |
|                                                                        | Antarctic           | 37             | 46, 59, 186                                                                                                 |
|                                                                        | Bipolar             | 20,62          | 53, 62, 491, 511, 529, 816                                                                                  |
| GEOPHYSICAL<br>OBSERVATORIES<br>(18)                                   | Arctic              |                | 34, 400, 412, 464, 659                                                                                      |
|                                                                        | Antarctic           | 536            | 166, 377, 383, 399, 502, 536, 548                                                                           |
|                                                                        | Bipolar             | 234            | 396, 768, 789                                                                                               |
| PLATE TECTONICS<br>AND GATEWAYS (18)                                   | Arctic              |                | 90, 174, 209, 319, 407, 662, 696, 739, 835, 878                                                             |
|                                                                        | Antarctic           |                | 156, 246, 386, 395, 568, 829,                                                                               |
|                                                                        | Bipolar             | 20             | 527                                                                                                         |
| EXPLORATION<br>BENEATH THE ICE,<br>TRAVERSES, EARTH<br>HISTORY<br>(45) | Arctic              |                | 56, 151, 209, 319, 331, 407, 472, 581, 616, 641, 657, 662, 692, 693, 734, 763, 771, 772, 740, 741, 784, 878 |
|                                                                        | Antarctic           |                | 41, 107, 221, 256, 258, 349, 384, 412, 499, 540, 558, 575, 583, 586, 652, 795                               |
|                                                                        | Bipolar             |                | 789, 772                                                                                                    |
|                                                                        | Maps                |                | 85, 295, 375, 576, 877                                                                                      |
| RESOURCES<br>(10)                                                      | Arctic              |                | Gas hydrates 481, 718<br>Petroleum 655, 719<br>Minerals 229, 723, 763<br>Thermal energy 634                 |
|                                                                        | Bipolar             |                | Gas hydrates 104<br>Thermal energy 772                                                                      |

**Possible cross-cutting with other fields:**

Biology: 20, 37, 43, 601,

Glaciology, subglacial lakes: 37, 41, 62, 107, 121, 127, 221, 258, 349, 529, 583, 586, 718,

Climate: 62,

Oceanography (also for sampling strategy): 20, 43, 46, 62, 86, 127, 242, 464, 481, 499, 816,

Observatories (see list above)

Social: Education (79, 777), Resources (see list above),

## EoI Clustering 4

| Topic or Mission<br><i>(total number of EoIs)</i>                                                              | Sub-Topic | Potential lead<br>Activity or Project | EoIs                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------|-----------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Clouds, aerosols and atmospheric chemistry</b> (incl ozone depletion and anthropogenic impacts) <b>(34)</b> |           | 89, 213, 244, 268, 299, 542           | 13,28, 48, 50, 89, 116, 165, 198, 212, 213, 244, 268, 299, 309, 318, 322, 325, 347, 371, 438, 484, 530, 542, 557, 566, 595, 720, 725, 748, 797, 808, 819, 820, 833, 834, 847, 900 |
| <b>Multi-discip observing systems</b> <b>(19)</b>                                                              |           | 138, 732, 129, 699                    | 129, 312, 452, 544, 546, 656, 699, 678, 690, 721, 732, 825, 828, 436, 729, 787, 430                                                                                               |
| <b>Weather and climate (including improved forecasts)</b> <b>(27)</b>                                          |           | THORPEX-IPY                           | 70, 133, 146, 167, 179, 206, 339, 410, 810, 113, 134, 294, 638, 811, 394, 582, 600, 618, 805, (382/837), (408), (500), (297), 92, 326, 442, 851                                   |
| <b>Teleconnections between polar and mid-latitude</b> (including modes of climate variability) <b>(5)</b>      |           |                                       | 117, 149, 224, 251, 279, 337, 891                                                                                                                                                 |
| <b>Hydrological cycle and freshwater budget</b> <b>(7)</b>                                                     |           | 362                                   | 67,158, 201, (314), 362, 414, 665                                                                                                                                                 |
| <b>Palaeoclimate and climatic compilations</b> <b>(12)</b>                                                     |           | IPICS                                 | 78, 207, 286, 437, 463, 560, 605, 632, 757, 762, 850                                                                                                                              |
| <b>Ecosystem response to change and variability in the physical environment</b> <b>(6)</b>                     |           |                                       | 313, 353, 668, 695, 792, 853                                                                                                                                                      |

## EOI CLUSTERING 5

| Category                          | Sub-Topic or Region | Lead Project              | EoIs                                                                                                                                                                                                                                                                          |
|-----------------------------------|---------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OCEAN CIRCULATION</b>          | Arctic              | <b>80 - iA00S</b>         | 18, <a href="#">35</a> , 42, 91, <a href="#">98</a> , 114, <a href="#">120</a> , <a href="#">139</a> , 145, 157, 223, 241, <a href="#">324</a> , 343, 363, 367, 385, <a href="#">522</a> , <a href="#">578</a> , 681, <a href="#">688</a> , 691, 712, 731, 804, 832, 855, 896 |
|                                   | Antarctic           | <b>109 - CASO</b>         | 108, 173, 180, 225, 284, 320, 567, 599, 604, 730, 770, 806                                                                                                                                                                                                                    |
|                                   | Bipolar             |                           | 51, 63, 320, 350,                                                                                                                                                                                                                                                             |
| <b>BIOGEOCHEM, AND ECOSYSTEMS</b> | Arctic              | <b>344 -OASIS</b>         | 29, 45, 58, 323, 344, 537, 637, 687, 689, 698, 860, 901                                                                                                                                                                                                                       |
|                                   | Antarctic           | <b>417 -ICCED</b>         | 16, 271, 283, 419, 426, 584, 862                                                                                                                                                                                                                                              |
|                                   | Bipolar             | <b>269 - GEOTRACES</b>    | 147, 269, 321, 406, 880                                                                                                                                                                                                                                                       |
| <b>COASTS AND MARGINS</b>         | Arctic              | <b>182 “ACCO-NET” IPA</b> | 101, <a href="#">182</a> , 280, 300, <a href="#">304</a> , 374, 562, 666, 679, 682, <a href="#">761</a>                                                                                                                                                                       |
|                                   | Antarctic           | <b>9 - SASSI</b>          | 9, 57, 237, 310, 573, 585, 596, 635,                                                                                                                                                                                                                                          |
|                                   | Bipolar             | <b>211 - GLOSS</b>        | <a href="#">211</a> , <a href="#">485</a> , <a href="#">580</a> , 590                                                                                                                                                                                                         |

Possible links to other fields:

Meteorology and Climate: 179 605

Legacy = observing systems (blue) [35](#), [98](#), [120](#), [139](#), [182](#), [211](#), [304](#), [324](#), [485](#), [522](#), [578](#), [580](#), [688](#), [761](#),

## EOI CLUSTERING 6

| Major Research Areas/Missions                                                                                                                                           | Suggested Synchronizing of Eol's                                         | Other Eols                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------|
| <b>1. CHANGE: ADAPTATION AND VULNERABILITY; COUPLED HUMAN-ENVIRONMENT SYSTEMS</b><br>☐Link to Climate, Oceanography, Sea Ice, Weather, Biodiversity                     | 454, 435, 793, 71, 215, 336, 466 496, 498, 513, 521, 531, 541, 694, 620, | 218, 455, 482, 570, 854                              |
| <b>2. NORTHERN RESOURCES</b><br>(Economies, Sustainability, Resource Management)<br>☐Link to Biodiversity                                                               | 66, 100, 176, 478, 503, 218, 519? 614, 782, 177, 636,                    | 263, 282? 298, 338,                                  |
| <b>3. NEW RISKS AND STRESSES</b><br>(Health, Contaminants, Nutrition, Living Conditions, Social Risks)<br>☐Link to Biodiversity, Air and Ocean Chemistry, Ozone Studies | 181, 473, 742, 538, 523, 524, 710, 516, 791, 495, 760, 518, 742          | 483, 494                                             |
| <b>4. TRANSITIONS AND BORDERZONES</b><br>(Social Change, Globalization, Languages, Cultural Heritage)<br>☐Prospective link to Biodiversity                              | 467, 747, 759, 214, 694,751, 783, 899                                    | 5, 142, 208, 447, 450, 453, 488, 504, 506, 514, 625, |
| <b>5. RAPID CHANGE – SOCIETAL RESPONSES</b><br>(Communities, Wellness)                                                                                                  | 749,                                                                     | 23, 1, 476, 493, 845                                 |
| <b>6. LOCAL AND INDIGENOUS VISIONS</b><br>(Local Observations and Local Knowledge)<br>☐Link to Data Management                                                          | 332, 520, 510, 643,715                                                   | 128,                                                 |
| <b>7. PRESERVATION OF THE IPYS LEGACIES</b> (Early IPYs and IPY 2007)<br>☐ Link to EOC                                                                                  | 76, 238                                                                  | 7,8,                                                 |
| <b>8. SCIENCE INFRASTRUCTURE,</b><br>(Research Logistics, Meetings, Support)                                                                                            | 315, 416, 861                                                            | 420, 510                                             |
|                                                                                                                                                                         |                                                                          |                                                      |

### EoI Clustering 7 – Space-related

| Topic              | Region  | Potential Lead EoI's | Other EoI's                                                                                                 |
|--------------------|---------|----------------------|-------------------------------------------------------------------------------------------------------------|
| ICESTAR/IHY        | BIPOLAR | 172, 554             | 11, 12, 14, 31, 72, 99, 118, 159, 163, 250, 274, 352, 355, 422, 547, 550, 551, 555, 587, 603, 615, 648, 803 |
| IPY ASTRONOMY      | BIPOLAR |                      | 25, 84, 155, 195, 261, 348, 389, 549, 559, 588, 628, 795                                                    |
| IPY Space Snapshot | BIPOLAR | 197, 501             | 308, 592, 594, 608, 867, 869, 870, 871, 368, 623, 868                                                       |
| IPY SPARC          | BIPOLAR | 807                  | 27, 425                                                                                                     |

The Data Sub-committee is yet to meet to discuss the data proposals in more detail.

### EoI Clustering 8 - DATA

|                  |         |                 |                                                                      |
|------------------|---------|-----------------|----------------------------------------------------------------------|
| IPY Data         | BIPOLAR | <b>150, 409</b> | 169, 265, 275, 317, 342, 398, 443, 445, 462, 507, 571, 572, 750, 830 |
| EOC related Data |         |                 | 358, 480, 451, 457, 475, 515, 645, 879                               |

### EoI Clustering 9 - Education and Outreach

There will be an EOC sub-committee that will consider these proposals in more detail. Most of the proposals are not international as drafted. However, some of them have potential for becoming international by linking them together. Proposals in bold are at present the most promising. Those listed under other topics have been redistributed from other Science clusters and are still to be tentatively sorted.

| Topic                     | Lead EoI        | Other EoI's                                                                                                                                         |
|---------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Education                 | <b>404, 415</b> | 19, <b>32</b> , 36, 44, 81, 266, <b>267</b> , 273, 278, 281, 296, 311, 448, 458, 459, 468, 471, <b>509</b> , 517, 534, 609, 683, 685, 776, 802, 842 |
| History                   |                 | <b>26</b> , 413, 610, 640,                                                                                                                          |
| Publications              |                 | 162, 247, 303, 469,                                                                                                                                 |
| Social Science            |                 | <b>135</b> , 686, 743                                                                                                                               |
| Exhibitions/Communication |                 | 188, 235, 341, 474, 612, 781                                                                                                                        |
| Policy                    |                 | 262                                                                                                                                                 |
| Other topics              |                 | 88, 160, 196, 345, 346, 361, 370, 444, 449, 461, 470, 477, 489, 647, 650, 745, 767, 800, 841, 843, 866, 886, 889, 898                               |

### **EoI Clustering 10 – Potential LEGACY Projects**

These projects stand independently of other clusterings and do not necessarily fit easily into all the IPY criteria. They will be encouraged to develop their proposals further.

| <b>ID</b> | <b>Topic</b>                                                                                              |           | <b>Status</b>  |
|-----------|-----------------------------------------------------------------------------------------------------------|-----------|----------------|
| 123       | Integrated International Stations in Dronning Maud Land                                                   | Antarctic | International  |
| 372       | New International Research Ice-breaking facility for the Polar Oceans                                     | Bipolar   | International  |
| 373       | New Explorers of the 21 <sup>st</sup> Century: Autonomous Vehicles                                        | Bipolar   | International  |
| 597       | Enhancing Svalbard as a research base                                                                     | Arctic    | International  |
| 671       | Upgrading and networking of Northern Research facilities                                                  | Arctic    | National       |
| 673       | The Canadian Research Icebreaker Amundsen                                                                 | Arctic    | International  |
| 697       | NWT Environmental Sciences Centre of Excellence                                                           | Arctic    | National       |
| 700       | Development of a Legacy Research and Outreach Centre in the Yukon                                         | Arctic    | National       |
| 702       | Beringia – Research and Monitoring in a Northern Crossroads                                               | Arctic    | National       |
| 809       | A US Federal Land Grant Act to create the Toolik Arctic Observatory in Arctic Alaska                      | Arctic    | National       |
| 888       | Concordia – a new facility for international and long term scientific activities on the Antarctic Plateau | Antarctic | International  |
| 887       | A clean station for atmospheric chemistry in Svalbard                                                     | Arctic    | International? |